Government Gazette
Staatskoerant

REPUBLIC OF SOUTH AFRICA
REPUBLIEK VAN SUID AFRIKA

Vol. 663 18 September / September 2020 No. 43726

PART 1 OF 5

ISSN 1682-5843

9 771682 584003 43726

IMPORTANT NOTICE OF OFFICE RELOCATION

government printing
Department:
Government Printing Works
REPUBLIC OF SOUTH AFRICA

Private Bag X85, PRETORIA, 0001 149 Bosman Street, PRETORIA
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URGENT NOTICE TO OUR VALUED CUSTOMERS: PUBLICATIONS OFFICE'S RELOCATION HAS BEEN TEMPORARILY SUSPENDED.

Please be advised that the GPW Publications office will no longer move to 88 Visagie Street as indicated in the previous notices.

The move has been suspended due to the fact that the new building in 88 Visagie Street is not ready for occupation yet.

We will later on issue another notice informing you of the new date of relocation.

We are doing everything possible to ensure that our service to you is not disrupted.

As things stand, we will continue providing you with our normal service from the current location at 196 Paul Kruger Street, Masada building.

Customers who seek further information and or have any questions or concerns are free to contact us through telephone 012 748 6066 or email Ms Maureen Toka at Maureen.Toka@gpw.gov.za or cell phone at 082 859 4910.

Please note that you will still be able to download gazettes free of charge from our website www.gpwonline.co.za.

We apologies for any inconvenience this might have caused.

Issued by GPW Communications

For purposes of reference, all Proclamations, Government Notices, General Notices and Board Notices published are included in the following table of contents which thus forms a weekly index. Let yourself be guided by the gazette numbers in the righthand column:

Weekly Index

No.		Page No.	Gazette No.
	GOVERNMENT NOTICE		
Agriculture, Land Reform and Rural Development, Department of			
956	Restitution of Land Rights Act (22/1994) as amended :Portion 2 of Glen Grey Farm 53, in Lady Frere, in the Emalahleni Local Municipality in the Chris Hani District, District Municipality, in the Eastern Cape Province	19	43686
957	Restitution of Land Rights Act (22/1994) as amended :Ntabelanga Mabhongo (Mabhongo Family)	20	43686
958	Restitution of Land Rights Act (22/1994) (as amended) :Portion of Farm No. 1 D-T, Bizana, Alfred Nzo District Municipality, in the Eastern Cape Province	21	43686
959	Restitution of Land Rights Act (22/1994) as amended :Pullens Hope 155 IS: Withdrawal Notice	22	43686
960	Restitution of Land Rights Act (22/1994) :Pullens Hope 155 IS	26	43686
Correctional Services, Department of			
967	Disaster Management act (57/2002) :Directions for Alert Level 2, issued in terms of regulation 4(2), read with regulation 58(a) and (b) of the Regulations under the Act: Measures to address, prevent and combat the spread of COVID-19 in all correctional centres and remand detention facilities in the Republic of South Africa	3	43688
Employment and Labour, Department of			
R.965	Labour Relations Act (66/1995) :Hairdressing Council: Amendments to Main Collective Agreement	14	43687
R.968	Disaster Management Act (57/2002) :COVID-19 Temporary Employee/Employer Relief Scheme (C19 TERS) Direction, 2020	3	43693
Environment, Forestry and Fisheries, Department of			
961	National Environmental Management: Biodiversity Act (10/2004) :Proposed emergency intervention in terms of section 105A	27	43686
970	Disaster Management Act (57/2002) :Directions regarding measures to address, prevent and combat the spread of COVID-19 regulation to National Environmental Management permits and licences	3	43696

Alle Proklamasies, Goewermentskennisgewings, Algemene Kennisgewings en Raadskennisgewings gepubliseer, word vir verwysingsdoeleindes in die volgende Inhoudopgawe ingesluit wat dus weeklikse indeks voorstel. Laat uself deur die Koerantnommers in die regterhandse kolom lei:

Weeklikse Indeks

No.		Bladsy No.	Koerant No.
	GOEWERMENTSKENNISGEWINGS		
Landbou, Grondhervorming en Landelike Ontwikkeling, Departement van			
956	Restitution of Land Rights Act (22/1994) as amended :Portion 2 of Glen Grey Farm 53, in Lady Frere, in the Emalahleni Local Municipality in the Chris Hani District, District Municipality, in the Eastern Cape Province	19	43686
957	Restitution of Land Rights Act (22/1994) as amended :Ntabelanga Mabhongo (Mabhongo Family)	20	43686
958	Restitution of Land Rights Act (22/1994) (as amended) :Portion of Farm No. 1 D-T, Bizana, Alfred Nzo District Municipality, in the Eastern Cape Province	21	43686
959	Restitution of Land Rights Act (22/1994) as amended :Pullens Hope 155 IS: Withdrawal Notice	22	43686
960	Restitution of Land Rights Act (22/1994) :Pullens Hope 155 IS	26	43686
Korrektiewe Dienste, Departement van			
967	Disaster Management act (57/2002) :Directions for Alert Level 2, issued in terms of regulation 4(2), read with regulation 58(a) and (b) of the Regulations under the Act: Measures to address, prevent and combat the spread of COVID-19 in all correctional centres and remand detention facilities in the Republic of South Africa	3	43688
Indiensneming en Arbeid, Departement van			
R.965	Labour Relations Act (66/1995) :Hairdressing Council: Amendments to Main Collective Agreement	14	43687
R.968	Disaster Management Act (57/2002) :COVID-19 Temporary Employee/Employer Relief Scheme (C19 TERS) Direction, 2020	3	43693
Omgewingsake, Bosbou en Visserye, Departement van			
961	National Environmental Management: Biodiversity Act (10/2004) :Proposed emergency intervention in terms of section 105A	27	43686
970	Disaster Management Act (57/2002) :Directions regarding measures to address, prevent and combat the spread of COVID-19 regulation to National Environmental Management permits and licences	3	43696

No.		Page No.	Gazette No.
972	National Forest Act (84/1998) :Consultation on the intention to declare the Grey Dell and Fort Grey Forests Areas a controlled forest area under section 17(2) of the Act.....	3	43699
973	National Forest Act (84/1998) :Consultation on intention to declare the Grey Dell and Fort Grey Forests Areas as natural forest under section 7(2) of the Act.....	3	43700
Health, Department of			
962	Medical Schemes Act (131/1998) :Call for nominations of suitable candidates to serve as members of the Council for Medical Schemes in terms of the Act	31	43686
963	Health Professions Act (56/1974) :Regulations defining the scope of the profession of Clinical Technology.....	32	43686
964	Health Professions Act (56/1974) :Regulations relating to the qualifications for the registration of Environmental Health Practitioners.....	35	43686
Home Affairs, Department of			
971	Electoral Communications Act (51/1996) :Summary of Electoral Laws Amendment Bill, 2020.....	3	43697
South African Revenue Service			
R.955	Customs and Excise Act, 1964 :Amendment of Schedule No. 1 (No. 1/1/1646).....	3	43683
Transport, Department of			
R.966	Civil Aviation Act (13/2009) :Civil Aviation Regulations, 2011	21	43687
969	Disaster Management Act (57/2002) :Amendment of directions on Air Services: Measures to address, prevent and combat the spread of COVID-19	3	43695
GENERAL NOTICE			
Agriculture, Land Reform and Rural Development, Department of			
471	Restitution of Land Rights Act (22/1994) :Magingiza Mtolo on behalf of the Mtolo Family	37	43686
472	Restitution of Land Rights Act (22/1994) :Portion 1 of the Farm Express No. 625....	38	43686
473	Restitution of Land Rights Act (22/1994) :Portion 43 of the farm Uitkomst & Doornrug No. 852	39	43686
474	Restitution of Land Rights Act (22/1994) :The farm Glenora No. 10187.....	40	43686
475	Restitution of Land Rights Act (22/1994) :Portion 0 of the farm Singleton No. 9574; Portion 0 of the farm Silverstream No. 5055 and Portion 0 of the farm Silverstream No. 3 No. 7852	41	43686

No.		Page No.	Gazette No.
972	National Forest Act (84/1998) :Consultation on the intention to declare the Grey Dell and Fort Grey Forests Areas a controlled forest area under section 17(2) of the Act.....	3	43699
973	National Forest Act (84/1998) :Consultation on intention to declare the Grey Dell and Fort Grey Forests Areas as natural forest under section 7(2) of the Act.....	3	43700
Gesondheid, Departement van			
962	Medical Schemes Act (131/1998) :Call for nominations of suitable candidates to serve as members of the Council for Medical Schemes in terms of the Act	31	43686
963	Health Professions Act (56/1974) :Regulations defining the scope of the profession of Clinical Technology.....	32	43686
964	Health Professions Act (56/1974) :Regulations relating to the qualifications for the registration of Environmental Health Practitioners.....	35	43686
Binnelandse Sake, Departement van			
971	Electoral Communications Act (51/1996) :Summary of Electoral Laws Amendment Bill, 2020.....	3	43697
Suid-Afrikaanse Inkomstediens			
R.955	Doeane- en Aksynswet, 1964 :Wysiging van Bylae No. 1 (No. 1/1/1646)	4	43683
Vervoer, Departement van			
R.966	Civil Aviation Act (13/2009) :Civil Aviation Regulations, 2011	21	43687
969	Disaster Management Act (57/2002) :Amendment of directions on Air Services: Measures to address, prevent and combat the spread of COVID-19	3	43695
ALGEMENE KENNISGEWINGS			
Landbou, Grondhervorming en Landelike Ontwikkeling, Departement van			
471	Restitution of Land Rights Act (22/1994) :Magingiza Mtolo on behalf of the Mtolo Family	37	43686
472	Restitution of Land Rights Act (22/1994) :Portion 1 of the Farm Express No. 625....	38	43686
473	Restitution of Land Rights Act (22/1994) :Portion 43 of the farm Uitkomst & Doornrug No. 852	39	43686
474	Restitution of Land Rights Act (22/1994) :The farm Glenora No. 10187.....	40	43686
475	Restitution of Land Rights Act (22/1994) :Portion 0 of the farm Singleton No. 9574; Portion 0 of the farm Silverstream No. 5055 and Portion 0 of the farm Silverstream No. 3 No. 7852	41	43686

No.		Page No.	Gazette No.
476	Restitution of Land Rights Act (22/1994) :Remainder of Portion 1 of the farm Van Vuuren's Post No. 942	43	43686
477	Restitution of Land Rights Act (22/1994) :Portion 7 and Portion 9 of the farm Waterval No. 148	44	43686
478	Restitution of Land Rights Act (22/1994) :Remainder of Erf 1000 Pietermaritzburg .	45	43686
479	Restitution of Land Rights Act (22/1994) :The farm Juluku No. 7179.....	46	43686
480	Restitution of Land Rights Act (22/1994) :Portion of Durban commonly known as 78 Mgenge, Cato Manor.....	47	43686
481	Restitution of Land Rights Act (22/1994) :Remainder of Portion 1 of the Farm Hlatenkunga No. 2151	48	43686
482	Restitution of Land Rights Act (22/1994) :Fanyana E. Mthimkhulu	49	43686
483	Restitution of Land Rights Act (22/1994) :Zwelibanzi Msawenkosi Mchunu	50	43686
484	Restitution of Land Rights Act (22/1994) as amended :Various applications.....	51	43686
485	Restitution of Land Rights Act (22/1994) :Inkosi Mthiyane on behalf of the Mthiyane Tribe (Mandlazini)	54	43686
486	Restitution of Land Rights Act (22/1994) :Portion 3 of the farm Uitvlugt No. 17096..	56	43686
487	Restitution of Land Rights Act (22/1994) :Remainder of Portion 5 of the Farm Umhlateen No. 1006; Portion 7 of Portion 6 of the Farm Umhlateen No. 1006, Portion 13 of the Farm Umhlateen No. 1006; Remainder of the Farm Doom Kloof No. 1301 and the Farm Vinks Rivier No. 1057	57	43686
Parliament of the Republic of South Africa			
470	Electoral Act (Act 73 of 1998) :Publication of reviewed lists of candidates.....	3	43685
494	Electoral Act (Act 73 of 1998) :Publication of reviewed lists of candidates.....	3	43694
South African Reserve Bank			
469	Currency and Exchanges Act (9/1933) :Notice and Order Forfeiture: Ms Monase Granny Morojele (Identity Number 8207280408082.....	3	43684
488	Currency and Exchanges Act (9/1933), as amended :Full Swing Trading 177 Close Corporation.....	59	43686
495	Currency and Exchanges Act (9/1933), as amended :Notice and Order of Forfeiture: Mr Uguochukwu Collins Igbonekwu	3	43698
Statistics South Africa			
489	Statistics South Africa :Consumer Price Index: July 2020.....	60	43686

No.		Page No.	Gazette No.
476	Restitution of Land Rights Act (22/1994) :Remainder of Portion 1 of the farm Van Vuuren's Post No. 942	43	43686
477	Restitution of Land Rights Act (22/1994) :Portion 7 and Portion 9 of the farm Waterval No. 148	44	43686
478	Restitution of Land Rights Act (22/1994) :Remainder of Erf 1000 Pietermaritzburg .	45	43686
479	Restitution of Land Rights Act (22/1994) :The farm Juluku No. 7179.....	46	43686
480	Restitution of Land Rights Act (22/1994) :Portion of Durban commonly known as 78 Mgenge, Cato Manor.....	47	43686
481	Restitution of Land Rights Act (22/1994) :Remainder of Portion 1 of the Farm Hlatenkunga No. 2151	48	43686
482	Restitution of Land Rights Act (22/1994) :Fanyana E. Mthimkhulu	49	43686
483	Restitution of Land Rights Act (22/1994) :Zwelibanzi Msawenkosi Mchunu	50	43686
484	Restitution of Land Rights Act (22/1994) as amended :Various applications.....	51	43686
485	Restitution of Land Rights Act (22/1994) :Inkosi Mthiyane on behalf of the Mthiyane Tribe (Mandlazini)	54	43686
486	Restitution of Land Rights Act (22/1994) :Portion 3 of the farm Uitvlugt No. 17096..	56	43686
487	Restitution of Land Rights Act (22/1994) :Remainder of Portion 5 of the Farm Umhlateen No. 1006; Portion 7 of Portion 6 of the Farm Umhlateen No. 1006, Portion 13 of the Farm Umhlateen No. 1006; Remainder of the Farm Doom Kloof No. 1301 and the Farm Vinks Rivier No. 1057	57	43686
Parlement van die Republiek van Suid-Afrika			
470	Electoral Act (Act 73 of 1998) :Publication of reviewed lists of candidates.....	4	43685
494	Kieswet (Wet 73 van 1998) :Publikasie van hersiene lyste van candidate.....	3	43694
Suid-Afrikaanse Reserwebank			
469	Currency and Exchanges Act (9/1933) :Notice and Order Forfeiture: Ms Monase Granny Morojele (Identity Number 8207280408082.....	3	43684
488	Currency and Exchanges Act (9/1933), as amended :Full Swing Trading 177 Close Corporation.....	59	43686
495	Currency and Exchanges Act (9/1933), as amended :Notice and Order of Forfeiture: Mr Uguochukwu Collins Igbonekwu	3	43698
Statistieke Suid-Afrika			
489	Statistics South Africa :Consumer Price Index: July 2020.....	60	43686

No.		Page No.	Gazette No.
Trade, Industry and Competition, Department of			
490	Standards Act (8/2008) :Standard Matters	61	43686
491	Liquor Act, (27 /1989) :Notice of application for liquor licenses: Free State.....	40	43689
492	Liquor Act, (27 /1989) :Notice of applications for the removal of licenses: North West	49	43689
493	Lotteries Act (57/1997) (the Act), as amended :Call for nominations for positions as Chairperson of National Lotteries Commission (NLC) and as Non-Executive Members of the NLC	3	43682
	BOARD NOTICE		
102	Architectural Profession Act (44/2000) :Guilty of Contravention: Andrew F. Shephard	65	43686
103	Architectural Profession Act (44/2000) :Guilty of Contravention: Carlos M. Batist .	66	43686
104	Architectural Profession Act (44/2000) :Guilty of Contravention: Hayden Thumbasamy	67	43686
105	Architectural Profession Act (44/2000) :Guilty of Contravention: Johannes J. Taljaard.....	68	43686
106	Architectural Profession Act (44/2000) :Guilty of Contravention: Louis F. Swart	69	43686
107	Architectural Profession Act (44/2000) :Guilty of Contravention: Masoto E. Ralekgokgo	70	43686
108	Architectural Profession Act (44/2000) :Guilty of Contravention: Andre Vercueil ...	71	43686
109	Architectural Profession Act (44/2000) :Guilty of Contravention: Quinton C. Fisher	72	43686
110	Architectural Profession Act (44/2000) :Guilty of Contravention: Vera-ann M. Platt	73	43686
111	Architectural Profession Act (44/2000) :Guilty of Contravention: Jeremy York Crosskill	74	43686
112	Architectural Profession Act (44/2000) :Guilty of Contravention: Johannes Snyman.....	75	43686
113	Architectural Profession Act (44/2000) :Guilty of Contravention: Sphelele L. Mavundla	76	43686
114	South African Council for the Architectural Profession Act (44/2000) :Guilty of Contravention: Jean-Pierre Du Toit, D1742.....	77	43686
115	Architectural Profession Act (44/2000) :Guilty of Contravention: Johan O. Kriel, CAD21549	78	43686

No.		Page No.	Gazette No.
Handel, Nywerheid en Kompetisie, Departement van			
490	Standards Act (8/2008) :Standard Matters	61	43686
491	Drankwet, (27 /1989) :Kennisgewing van aansoeke om dranklisensies: Vrystaat	40	43689
492	Drankwet, (27 /1989) :Kennisgewing van aansoek om die verplasing van Lisensies: Noordwes	49	43689
493	Lotteries Act (57/1997) (the Act), as amended :Call for nominations for positions as Chairperson of National Lotteries Commission (NLC) and as Non-Executive Members of the NLC	3	43682
	RAADSKENNISGEWINGS		
102	Architectural Profession Act (44/2000) :Guilty of Contravention: Andrew F. Shephard	65	43686
103	Architectural Profession Act (44/2000) :Guilty of Contravention: Carlos M. Batist .	66	43686
104	Architectural Profession Act (44/2000) :Guilty of Contravention: Hayden Thumbasamy	67	43686
105	Architectural Profession Act (44/2000) :Guilty of Contravention: Johannes J. Taljaard.....	68	43686
106	Architectural Profession Act (44/2000) :Guilty of Contravention: Louis F. Swart	69	43686
107	Architectural Profession Act (44/2000) :Guilty of Contravention: Masoto E. Ralekgokgo	70	43686
108	Architectural Profession Act (44/2000) :Guilty of Contravention: Andre Vercueil ...	71	43686
109	Architectural Profession Act (44/2000) :Guilty of Contravention: Quinton C. Fisher	72	43686
110	Architectural Profession Act (44/2000) :Guilty of Contravention: Vera-ann M. Platt	73	43686
111	Architectural Profession Act (44/2000) :Guilty of Contravention: Jeremy York Crosskill	74	43686
112	Architectural Profession Act (44/2000) :Guilty of Contravention: Johannes Snyman.....	75	43686
113	Architectural Profession Act (44/2000) :Guilty of Contravention: Sphelele L. Mavundla	76	43686
114	South African Council for the Architectural Profession Act (44/2000) :Guilty of Contravention: Jean-Pierre Du Toit, D1742.....	77	43686
115	Architectural Profession Act (44/2000) :Guilty of Contravention: Johan O. Kriel, CAD21549	78	43686

No.		Page No.	Gazette No.
116	Architectural Profession Act (44/2000) :Guilty of Contravention: Hendrik K. Willemse	79	43686
117	Architectural Profession Act (44/2000) :Guilty of Contravention: Dimapo W. Phahlane	80	43686
118	Architectural Profession Act (44/2000) :Guilty of Contravention: Andre C. Kruger.	81	43686

No.		Page No.	Gazette No.
116	Architectural Profession Act (44/2000) :Guilty of Contravention: Hendrik K. Willemse	79	43686
117	Architectural Profession Act (44/2000) :Guilty of Contravention: Dimapo W. Phahlane	80	43686
118	Architectural Profession Act (44/2000) :Guilty of Contravention: Andre C. Kruger.	81	43686

Contents

No.		Gazette No.	Page No.
GOVERNMENT NOTICES • GOEWERMENTSKENNISGEWINGS			
Agriculture, Land Reform and Rural Development, Department of/ Landbou, Grondhervorming en Landelike Ontwikkeling, Departement van			
1000	Land Claims Court: Amendment: Government Gazette Number 1779 of 2006 and 811 of 2007: Batau Ba Seloane Community	43726	20
1001	Restitution of Land Rights Act (22/1994), as amended: Portion 16 of the Farm Groenfontein 526 JR	43726	28
1002	Restitution of Land Rights Act (22/1994), as amended: Portion 1 of Erf 128, Nylstroom Town	43726	30
Environment, Forestry and Fisheries, Department of/ Omgewingsake, Bosbou en Visserye, Departement van			
1003	National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004): Alien and Invasive Species Lists, 2020	43726	31
Human Settlements, Department of/ Menslike Nedersettings, Departement van			
1004	Guidelines and Social Housing Act (16/2008): Public information of the following additional Restructuring Zones in terms of the Housing Policy	43726	78
Parliament of the Republic of South Africa/ Parlement van die Republiek van Suid-Afrika			
1007	National Gambling Act, 2004: Application for National Licence	43726	80
Water and Sanitation, Department of/ Water en Sanitasie, Departement van			
1008	National Water Act (36/1998): Determination of classes of water resources and resource quality objectives for the Breede-Gouritz Water Management Area	43726	81
1008	Nasionale Waterwet (36/1998): Voorgestelde klasse van waterhulpbronne en hulpbrongehaltedoelwitte vir die Breede-Gouritz Waterbestuursgebied	43726	204
1009	National Water Act (36/1998): Proposed Reserve determination for water resources of the Mokolo and Matlabas catchments	43726	493
1010	National Water Act (36/1998): Install water measuring devices for water taken for irrigation purposes in all water management areas	43726	527
GENERAL NOTICES • ALGEMENE KENNISGEWINGS			
Parliament of the Republic of South Africa/ Parlement van die Republiek van Suid-Afrika			
504	Pension Funds Amendment Bill, 2020: Notice of intention to introduce a Private Member's Bill into Parliament and invitation for public comment thereon	43726	528
Public Works and Infrastructure, Department of/ Openbare Werke en Infrastruktuur, Departement van			
505	Construction Industry Development Board Act, 2000 (Act No. 38 of 2000) (the Act): CIDB Best Practice Project Assessment Scheme	43726	529
South African Reserve Bank/ Suid-Afrikaanse Reserwebank			
506	Insurance Act (18/2017): Withdrawal of license in terms of sections 29(1)(b)(iii)	43726	539
Trade, Industry and Competition, Department of/ Handel, Nywerheid en Kompetisie, Departement van			
507	Competition Act (89/1998): Competition Tribunal: Notification of Decision to approve Merger	43726	539
508	International Trade Administration Commission: Investigation into alleged dumping of Pasta	43726	540
Transport, Department of/ Vervoer, Departement van			
509	Air Service Licensing Act (115/1990): Application for the grant or amendment of domestic air service licence	43726	547
510	International Air Service Act (60/1993): Grant/Amendment of International Air Service License	43726	549
BOARD NOTICES • RAADSKENNISGEWINGS			
120	Road Accident Fund Act (56/1996), as amended: Adjustment of statutory limit in respect of claims for loss of income and loss of support	43726	550
120	Padongelukfondswet (56/1996): Aanpassing van statutêre limiet ten opsigte van eise vir verlies aan inkomste en		

	onderhoud	43726	550
121	Allied Health Professions Act (63/1982): Safety Guidelines: Chiropractic and Osteopathy: Dry Needling	43726	551

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REPUBLIC OF SOUTH AFRICA

HIGH ALERT: SCAM WARNING!!!

TO ALL SUPPLIERS AND SERVICE PROVIDERS OF THE GOVERNMENT PRINTING WORKS

It has come to the attention of the *GOVERNMENT PRINTING WORKS* that there are certain unscrupulous companies and individuals who are defrauding unsuspecting businesses disguised as representatives of the *Government Printing Works* (*GPW*).

The scam involves the fraudsters using the letterhead of *GPW* to send out fake tender bids to companies and requests to supply equipment and goods.

Although the contact person's name on the letter may be of an existing official, the contact details on the letter are not the same as the *Government Printing Works*'. When searching on the Internet for the address of the company that has sent the fake tender document, the address does not exist.

The banking details are in a private name and not company name. Government will never ask you to deposit any funds for any business transaction. *GPW* has alerted the relevant law enforcement authorities to investigate this scam to protect legitimate businesses as well as the name of the organisation.

Example of e-mails these fraudsters are using:

PROCUREMENT@GPW-GOV.ORG

Should you suspect that you are a victim of a scam, you must urgently contact the police and inform the *GPW*.

GPW has an official email with the domain as **@gpw.gov.za**

Government e-mails DO NOT have org in their e-mail addresses. All of these fraudsters also use the same or very similar telephone numbers. Although such number with an area code 012 looks like a landline, it is not fixed to any property.

GPW will never send you an e-mail asking you to supply equipment and goods without a purchase/order number. *GPW* does not procure goods for another level of Government. The organisation will not be liable for actions that result in companies or individuals being resultant victims of such a scam.

Government Printing Works gives businesses the opportunity to supply goods and services through RFQ / Tendering process. In order to be eligible to bid to provide goods and services, suppliers must be registered on the National Treasury's Central Supplier Database (CSD). To be registered, they must meet all current legislative requirements (e.g. have a valid tax clearance certificate and be in good standing with the South African Revenue Services - SARS).

The tender process is managed through the Supply Chain Management (SCM) system of the department. SCM is highly regulated to minimise the risk of fraud, and to meet objectives which include value for money, open and effective competition, equitability, accountability, fair dealing, transparency and an ethical approach. Relevant legislation, regulations, policies, guidelines and instructions can be found on the tender's website.

Fake Tenders

National Treasury's CSD has launched the Government Order Scam campaign to combat fraudulent requests for quotes (RFQs). Such fraudulent requests have resulted in innocent companies losing money. We work hard at preventing and fighting fraud, but criminal activity is always a risk.

How tender scams work

There are many types of tender scams. Here are some of the more frequent scenarios:

Fraudsters use what appears to be government department stationery with fictitious logos and contact details to send a fake RFQ to a company to invite it to urgently supply goods. Shortly after the company has submitted its quote, it receives notification that it has won the tender. The company delivers the goods to someone who poses as an official or at a fake site. The Department has no idea of this transaction made in its name. The company is then never paid and suffers a loss.

OR

Fraudsters use what appears to be government department stationery with fictitious logos and contact details to send a fake RFQ to Company A to invite it to urgently supply goods. Typically, the tender specification is so unique that only Company B (a fictitious company created by the fraudster) can supply the goods in question.

Shortly after Company A has submitted its quote it receives notification that it has won the tender. Company A orders the goods and pays a deposit to the fictitious Company B. Once Company B receives the money, it disappears. Company A's money is stolen in the process.

Protect yourself from being scammed

- If you are registered on the supplier databases and you receive a request to tender or quote that seems to be from a government department, contact the department to confirm that the request is legitimate. Do not use the contact details on the tender document as these might be fraudulent.
- Compare tender details with those that appear in the Tender Bulletin, available online at **www.gpwonline.co.za**
- Make sure you familiarise yourself with how government procures goods and services. Visit the tender website for more information on how to tender.
- If you are uncomfortable about the request received, consider visiting the government department and/or the place of delivery and/or the service provider from whom you will be sourcing the goods.
- In the unlikely event that you are asked for a deposit to make a bid, contact the SCM unit of the department in question to ask whether this is in fact correct.

Any incidents of corruption, fraud, theft and misuse of government property in the *Government Printing Works* can be reported to:

Supply Chain Management: Ms. Anna Marie Du Toit, Tel. (012) 748 6292.
Email: **Annamarie.DuToit@gpw.gov.za**

Marketing and Stakeholder Relations: Ms Bonakele Mbhele, at Tel. (012) 748 6193.
Email: **Bonakele.Mbhele@gpw.gov.za**

Security Services: Mr Daniel Legoabe, at tel. (012) 748 6176.
Email: **Daniel.Legoabe@gpw.gov.za**

Closing times for **ORDINARY WEEKLY** *GOVERNMENT GAZETTE* 2020

*The closing time is **15:00** sharp on the following days:*

- **24 December 2019,** Tuesday for the issue of Friday **03 January 2020**
- **03 January,** Friday for the issue of Friday **10 January 2020**
- **10 January,** Friday for the issue of Friday **17 January 2020**
- **17 January,** Friday for the issue of Friday **24 January 2020**
- **24 January,** Friday for the issue of Friday **31 January 2020**
- **31 February,** Friday for the issue of Friday **07 February 2020**
- **07 February,** Friday for the issue of Friday **14 February 2020**
- **14 February,** Friday for the issue of Friday **21 February 2020**
- **21 February,** Friday for the issue of Friday **28 February 2020**
- **28 February,** Friday for the issue of Friday **06 March 2020**
- **06 March,** Friday for the issue of Friday **13 March 2020**
- **13 March,** Thursday for the issue of Friday **20 March 2020**
- **20 March,** Friday for the issue of Friday **27 March 2020**
- **27 March,** Friday for the issue of Friday **03 April 2020**
- **02 April,** Thursday for the issue of Thursday **09 April 2020**
- **08 April,** Wednesday for the issue of Friday **17 April 2020**
- **17 April,** Friday for the issue of Friday **24 April 2020**
- **22 April,** Wednesday for the issue of Thursday **30 April 2020**
- **30 April,** Thursday for the issue of Friday **08 May 2020**
- **08 May,** Friday for the issue of Friday **15 May 2020**
- **15 May,** Friday for the issue of Friday **22 May 2020**
- **22 May,** Friday for the issue of Friday **29 May 2020**
- **29 May,** Friday for the issue of Friday **05 June 2020**
- **05 June,** Friday for the issue of Friday **12 June 2020**
- **11 June,** Thursday for the issue of Friday **19 June 2020**
- **19 June,** Friday for the issue of Friday **26 June 2020**
- **26 June,** Friday for the issue of Friday **03 July 2020**
- **03 July,** Friday for the issue of Friday **10 July 2020**
- **10 July,** Friday for the issue of Friday **17 July 2020**
- **17 July,** Friday for the issue of Friday **24 July 2020**
- **24 July,** Friday for the issue of Friday **31 July 2020**
- **31 July,** Thursday for the issue of Friday **07 August 2020**
- **06 August,** Thursday for the issue of Friday **14 August 2020**
- **14 August,** Friday for the issue of Friday **21 August 2020**
- **21 August,** Friday for the issue of Friday **28 August 2020**
- **28 August,** Friday for the issue of Friday **04 September 2020**
- **04 September,** Friday for the issue of Friday **11 September 2020**
- **11 September,** Friday for the issue of Friday **18 September 2020**
- **17 September,** Thursday for the issue of Friday **25 September 2020**
- **25 September,** Friday for the issue of Friday **02 October 2020**
- **02 October,** Friday for the issue of Friday **09 October 2020**
- **09 October,** Friday for the issue of Friday **16 October 2020**
- **16 October,** Friday for the issue of Friday **23 October 2020**
- **23 October,** Friday for the issue of Friday **30 October 2020**
- **30 October,** Friday for the issue of Friday **06 November 2020**
- **06 November,** Friday for the issue of Friday **13 November 2020**
- **13 November,** Friday for the issue of Friday **20 November 2020**
- **20 November,** Friday for the issue of Friday **27 November 2020**
- **27 November,** Friday for the issue of Friday **04 December 2020**
- **04 December,** Friday for the issue of Friday **11 December 2020**
- **10 December,** Thursday for the issue of Friday **18 December 2020**
- **17 December,** Thursday for the issue of Friday **24 December 2020**
- **23 December,** Wednesday for the issue of Friday **31 December 2020**

LIST OF TARIFF RATES

FOR PUBLICATION OF NOTICES

COMMENCEMENT: 1 APRIL 2018

NATIONAL AND PROVINCIAL

Notice sizes for National, Provincial & Tender gazettes 1/4, 2/4, 3/4, 4/4 per page. Notices submitted will be charged at R1008.80 per full page, pro-rated based on the above categories.

Pricing for National, Provincial - Variable Priced Notices		
Notice Type	**Page Space**	**New Price (R)**
Ordinary National, Provincial	1/4 - Quarter Page	252.20
Ordinary National, Provincial	2/4 - Half Page	504.40
Ordinary National, Provincial	3/4 - Three Quarter Page	756.60
Ordinary National, Provincial	4/4 - Full Page	1008.80

EXTRA-ORDINARY

All Extra-ordinary National and Provincial gazette notices are non-standard notices and attract a variable price based on the number of pages submitted.

The pricing structure for National and Provincial notices which are submitted as **Extra ordinary submissions** will be charged at R**3026.32** per page.

GOVERNMENT PRINTING WORKS - BUSINESS RULES

The **Government Printing Works** (**GPW**) has established rules for submitting notices in line with its electronic notice processing system, which requires the use of electronic *Adobe* Forms. Please ensure that you adhere to these guidelines when completing and submitting your notice submission.

CLOSING TIMES FOR ACCEPTANCE OF NOTICES

1. The *Government Gazette* and *Government Tender Bulletin* are weekly publications that are published on Fridays and the closing time for the acceptance of notices is strictly applied according to the scheduled time for each gazette.

2. Please refer to the Submission Notice Deadline schedule in the table below. This schedule is also published online on the Government Printing works website www.gpwonline.co.za

   All re-submissions will be subject to the standard cut-off times.
   All notices received after the closing time will be rejected.

Government Gazette Type	Publication Frequency	Publication Date	Submission Deadline	Cancellations Deadline
National Gazette	Weekly	Friday	Friday 15h00 for next Friday	Tuesday, 15h00 - 3 working days prior to publication
Regulation Gazette	Weekly	Friday	Friday 15h00 for next Friday	Tuesday, 15h00 - 3 working days prior to publication
Petrol Price Gazette	Monthly	Tuesday before 1st Wednesday of the month	One day before publication	1 working day prior to publication
Road Carrier Permits	Weekly	Friday	Thursday 15h00 for next Friday	3 working days prior to publication
Unclaimed Monies (Justice, Labour or Lawyers)	January / September 2 per year	Last Friday	One week before publication	3 working days prior to publication
Parliament (Acts, White Paper, Green Paper)	As required	Any day of the week	None	3 working days prior to publication
Manuals	Bi- Monthly	2nd and last Thursday of the month	One week before publication	3 working days prior to publication
State of Budget (National Treasury)	Monthly	30th or last Friday of the month	One week before publication	3 working days prior to publication
Extraordinary Gazettes	As required	Any day of the week	*Before 10h00 on publication date*	*Before 10h00 on publication date*
Legal Gazettes A, B and C	Weekly	Friday	One week before publication	Tuesday, 15h00 - 3 working days prior to publication
Tender Bulletin	Weekly	Friday	Friday 15h00 for next Friday	Tuesday, 15h00 - 3 working days prior to publication
Gauteng	Weekly	Wednesday	Two weeks before publication	3 days **after** submission deadline
Eastern Cape	Weekly	Monday	One week before publication	3 working days prior to publication
Northern Cape	Weekly	Monday	One week before publication	3 working days prior to publication
North West	Weekly	Tuesday	One week before publication	3 working days prior to publication
KwaZulu-Natal	Weekly	Thursday	One week before publication	3 working days prior to publication
Limpopo	Weekly	Friday	One week before publication	3 working days prior to publication
Mpumalanga	Weekly	Friday	One week before publication	3 working days prior to publication

Government Gazette Type	Publication Frequency	Publication Date	Submission Deadline	Cancellations Deadline
Gauteng Liquor License Gazette	Monthly	Wednesday before the First Friday of the month	Two weeks before publication	3 working days **after** submission deadline
Northern Cape Liquor License Gazette	Monthly	First Friday of the month	Two weeks before publication	3 working days **after** submission deadline
National Liquor License Gazette	Monthly	First Friday of the month	Two weeks before publication	3 working days **after** submission deadline
Mpumalanga Liquor License Gazette	Bi-Monthly	Second & Fourth Friday	One week before publication	3 working days prior to publication

Extraordinary Gazettes

3. *Extraordinary Gazettes* can have only one publication date. If multiple publications of an *Extraordinary Gazette* are required, a separate Z95/Z95Prov *Adobe* Forms for each publication date must be submitted.

Notice Submission Process

4. Download the latest *Adobe* form, for the relevant notice to be placed, from the **Government Printing Works** website www.gpwonline.co.za.

5. The *Adobe* form needs to be completed electronically using *Adobe Acrobat* / *Acrobat Reader*. Only electronically completed *Adobe* forms will be accepted. No printed, handwritten and/or scanned *Adobe* forms will be accepted.

6. The completed electronic *Adobe* form has to be submitted via email to submit.egazette@gpw.gov.za. The form needs to be submitted in its original electronic *Adobe* format to enable the system to extract the completed information from the form for placement in the publication.

7. Every notice submitted **must** be accompanied by an official **GPW** quotation. This must be obtained from the *eGazette* Contact Centre.

8. Each notice submission should be sent as a single email. The email **must** contain **all documentation relating to a particular notice submission**.

   8.1. Each of the following documents must be attached to the email as a separate attachment:

      8.1.1. An electronically completed *Adobe* form, specific to the type of notice that is to be placed.

         8.1.1.1. For National *Government Gazette* or *Provincial Gazette* notices, the notices must be accompanied by an electronic Z95 or Z95Prov *Adobe* form

         8.1.1.2. The notice content (body copy) **MUST** be a separate attachment.

      8.1.2. A copy of the official **Government Printing Works** quotation you received for your notice. *(Please see Quotation section below for further details)*

      8.1.3. A valid and legible Proof of Payment / Purchase Order: **Government Printing Works** account customer must include a copy of their Purchase Order**. Non-Government Printing Works** account customer needs to submit the proof of payment for the notice

      8.1.4. Where separate notice content is applicable (Z95, Z95 Prov and TForm 3, it should **also** be attached as a separate attachment. *(Please see the Copy Section below, for the specifications)*.

      8.1.5. Any additional notice information if applicable.

9. The electronic *Adobe* form will be taken as the primary source for the notice information to be published. Instructions that are on the email body or covering letter that contradicts the notice form content will not be considered. The information submitted on the electronic *Adobe* form will be published as-is.

10. To avoid duplicated publication of the same notice and double billing, Please submit your notice **ONLY ONCE.**

11. Notices brought to **GPW** by "walk-in" customers on electronic media can only be submitted in *Adobe* electronic form format. All "walk-in" customers with notices that are not on electronic *Adobe* forms will be routed to the Contact Centre where they will be assisted to complete the forms in the required format.

12. Should a customer submit a bulk submission of hard copy notices delivered by a messenger on behalf of any organisation e.g. newspaper publisher, the messenger will be referred back to the sender as the submission does not adhere to the submission rules.

QUOTATIONS

13. Quotations are valid until the next tariff change.

    13.1. ***Take note:*** **GPW**'s annual tariff increase takes place on ***1 April*** therefore any quotations issued, accepted and submitted for publication up to ***31 March*** will keep the old tariff. For notices to be published from 1 April, a quotation must be obtained from **GPW** with the new tariffs. Where a tariff increase is implemented during the year, **GPW** endeavours to provide customers with 30 days' notice of such changes.

14. Each quotation has a unique number.

15. Form Content notices must be emailed to the *eGazette* Contact Centre for a quotation.

    15.1. The *Adobe* form supplied is uploaded by the Contact Centre Agent and the system automatically calculates the cost of your notice based on the layout/format of the content supplied.

    15.2. It is critical that these *Adobe* Forms are completed correctly and adhere to the guidelines as stipulated by **GPW**.

16. **APPLICABLE ONLY TO GPW ACCOUNT HOLDERS**:

    16.1. **GPW** Account Customers must provide a valid **GPW** account number to obtain a quotation.

    16.2. Accounts for **GPW** account customers **must** be active with sufficient credit to transact with **GPW** to submit notices.

        16.2.1. If you are unsure about or need to resolve the status of your account, please contact the **GPW** Finance Department prior to submitting your notices. (If the account status is not resolved prior to submission of your notice, the notice will be failed during the process).

17. **APPLICABLE ONLY TO CASH CUSTOMERS:**

    17.1. Cash customers doing **bulk payments** must use a **single email address** in order to use the **same proof of payment** for submitting multiple notices.

18. The responsibility lies with you, the customer, to ensure that the payment made for your notice(s) to be published is sufficient to cover the cost of the notice(s).

19. Each quotation will be associated with one proof of payment / purchase order / cash receipt.

    19.1. This means that **the quotation number can only be used once to make a payment.**

COPY (SEPARATE NOTICE CONTENT DOCUMENT)

20. Where the copy is part of a separate attachment document for Z95, Z95Prov and TForm03

20.1. Copy of notices must be supplied in a separate document and may not constitute part of any covering letter, purchase order, proof of payment or other attached documents.

The content document should contain only one notice. (You may include the different translations of the same notice in the same document).

20.2. The notice should be set on an A4 page, with margins and fonts set as follows:

Page size = A4 Portrait with page margins: Top = 40mm, LH/RH = 16mm, Bottom = 40mm; Use font size: Arial or Helvetica 10pt with 11pt line spacing;

Page size = A4 Landscape with page margins: Top = 16mm, LH/RH = 40mm, Bottom = 16mm; Use font size: Arial or Helvetica 10pt with 11pt line spacing;

CANCELLATIONS

21. Cancellation of notice submissions are accepted by **GPW** according to the deadlines stated in the table above in point 2. Non-compliance to these deadlines will result in your request being failed. Please pay special attention to the different deadlines for each gazette. Please note that any notices cancelled after the cancellation deadline will be published and charged at full cost.

22. Requests for cancellation must be sent by the original sender of the notice and must accompanied by the relevant notice reference number (N-) in the email body.

AMENDMENTS TO NOTICES

23. With effect from 01 October 2015, **GPW** will not longer accept amendments to notices. The cancellation process will need to be followed according to the deadline and a new notice submitted thereafter for the next available publication date.

REJECTIONS

24. All notices not meeting the submission rules will be rejected to the customer to be corrected and resubmitted. Assistance will be available through the Contact Centre should help be required when completing the forms. (012-748 6200 or email info.egazette@gpw.gov.za). Reasons for rejections include the following:

24.1. Incorrectly completed forms and notices submitted in the wrong format, will be rejected.

24.2. Any notice submissions not on the correct *Adobe* electronic form, will be rejected.

24.3. Any notice submissions not accompanied by the proof of payment / purchase order will be rejected and the notice will not be processed.

24.4. Any submissions or re-submissions that miss the submission cut-off times will be rejected to the customer. The Notice needs to be re-submitted with a new publication date.

APPROVAL OF NOTICES

25. Any notices other than legal notices are subject to the approval of the Government Printer, who may refuse acceptance or further publication of any notice.

26. No amendments will be accepted in respect to separate notice content that was sent with a Z95 or Z95Prov notice submissions. The copy of notice in layout format (previously known as proof-out) is only provided where requested, for Advertiser to see the notice in final Gazette layout. Should they find that the information submitted was incorrect, they should request for a notice cancellation and resubmit the corrected notice, subject to standard submission deadlines. The cancellation is also subject to the stages in the publishing process, i.e. If cancellation is received when production (printing process) has commenced, then the notice cannot be cancelled.

GOVERNMENT PRINTER INDEMNIFIED AGAINST LIABILITY

27. The Government Printer will assume no liability in respect of—

27.1. any delay in the publication of a notice or publication of such notice on any date other than that stipulated by the advertiser;

27.2. erroneous classification of a notice, or the placement of such notice in any section or under any heading other than the section or heading stipulated by the advertiser;

27.3. any editing, revision, omission, typographical errors or errors resulting from faint or indistinct copy.

LIABILITY OF ADVERTISER

28. Advertisers will be held liable for any compensation and costs arising from any action which may be instituted against the Government Printer in consequence of the publication of any notice.

CUSTOMER INQUIRIES

Many of our customers request immediate feedback/confirmation of notice placement in the gazette from our Contact Centre once they have submitted their notice – While **GPW** deems it one of their highest priorities and responsibilities to provide customers with this requested feedback and the best service at all times, we are only able to do so once we have started processing your notice submission.

GPW has a 2-working day turnaround time for processing notices received according to the business rules and deadline submissions.

Please keep this in mind when making inquiries about your notice submission at the Contact Centre.

29. Requests for information, quotations and inquiries must be sent to the Contact Centre ONLY.

30. Requests for Quotations (RFQs) should be received by the Contact Centre at least **2 working days** before the submission deadline for that specific publication.

GOVERNMENT PRINTING WORKS - BUSINESS RULES

Payment of cost

31. The Request for Quotation for placement of the notice should be sent to the Gazette Contact Centre as indicated above, prior to submission of notice for advertising.

32. Payment should then be made, or Purchase Order prepared based on the received quotation, prior to the submission of the notice for advertising as these documents i.e. proof of payment or Purchase order will be required as part of the notice submission, as indicated earlier.

33. Every proof of payment must have a valid **GPW** quotation number as a reference on the proof of payment document.

34. Where there is any doubt about the cost of publication of a notice, and in the case of copy, an enquiry, accompanied by the relevant copy, should be addressed to the Gazette Contact Centre, **Government Printing Works**, Private Bag X85, Pretoria, 0001 email: info.egazette@gpw.gov.za before publication.

35. Overpayment resulting from miscalculation on the part of the advertiser of the cost of publication of a notice will not be refunded, unless the advertiser furnishes adequate reasons why such miscalculation occurred. In the event of underpayments, the difference will be recovered from the advertiser, and future notice(s) will not be published until such time as the full cost of such publication has been duly paid in cash or electronic funds transfer into the **Government Printing Works** banking account.

36. In the event of a notice being cancelled, a refund will be made only if no cost regarding the placing of the notice has been incurred by the **Government Printing Works**.

37. The **Government Printing Works** reserves the right to levy an additional charge in cases where notices, the cost of which has been calculated in accordance with the List of Fixed Tariff Rates, are subsequently found to be excessively lengthy or to contain overmuch or complicated tabulation.

Proof of publication

38. Copies of any of the *Government Gazette* or *Provincial Gazette* can be downloaded from the **Government Printing Works** website www.gpwonline.co.za free of charge, should a proof of publication be required.

39. Printed copies may be ordered from the Publications department at the ruling price. The **Government Printing Works** will assume no liability for any failure to post or for any delay in despatching of such *Government Gazette*(s)

GOVERNMENT PRINTING WORKS CONTACT INFORMATION

Physical Address:	**Postal Address:**	**GPW Banking Details:**
Government Printing Works	Private Bag X85	**Bank:** ABSA Bosman Street
149 Bosman Street	Pretoria	**Account No.:** 405 7114 016
Pretoria	0001	**Branch Code:** 632-005

For Gazette and Notice submissions: Gazette Submissions:	**E-mail:** submit.egazette@gpw.gov.za
For queries and quotations, contact: Gazette Contact Centre:	**E-mail:** info.egazette@gpw.gov.za
	Tel: 012-748 6200
Contact person for subscribers: Mrs M. Toka:	**E-mail:** subscriptions@gpw.gov.za
	Tel: 012-748-6066 / 6060 / 6058
	Fax: 012-323-9574

GOVERNMENT NOTICES • GOEWERMENTSKENNISGEWINGS

DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

NO. 1000 **18 SEPTEMBER 2020**

NOTICE OF AMENDMENT OF GOVERNMENT GAZETTE NOTICES NUMBER 1779 OF 2006 AND 811 OF 2007 PUBLISHED IN GOVERNMENT NOTICES NUMBER 29533 AND 30022, RESPECTIVELY, AS PER THE ORDER OF THE LAND CLAIMS COURT OF 29 APRIL 2013, UNDER CASE NO LCC176/2011 IN RESPECT OF BATAU BA SELOANE COMMUNITY.

Notice is hereby given of amendment of the above-mentioned Government Gazette Notices as per the order of Land Claims Court granted on the 29 April 2013 under case No. LCC176/2011, by inclusion of certain farms mentioned therein which were claimed by Nwganamohube Dina Seloane and Phasoane Solomon Seloane on behalf of Batau Ba Seloane Tribe and which were omitted from the said gazette notices.

Details of the claimed properties are described in the table below.

FARM NAME AND PORTION	CURRENT OWNER	TITLE DEED NUMBER	EXTENT IN HECTARES	ENDORSEMENT / ENCUMBRANCES	HOLDER	NAME OF THE CLAIMANT/S
Remaining Extent of the farm Grootoklip 760 KS	National Government of the Republic of South Africa	T67/1963PTA	558.1912 H	C3876/963-767/65T-WATPTA	ER-COURT	Seloane Ngwanamohube Dina (KRP 1500
				C943/1965-2278/38TPTA	-	
				KS, 760PTA	-	&
		T600858/2016		K5481/2001RMPTA	ANGLO OPERATIONS PTY LTD	Phasoane Solomon Seloane (KRP 1837)
				CONVERTED FROM PTA	-	KRP 2401
Portion 1 of the farm Grootoklip 760 KS	National Government of the Republic of South Africa	T6397/1963PTA	558.1912 H	C376/963-767/65T-WATPTA	ER-COURT	Seloane Ngwanamohube Dina (KRP 1500 2)
				C943/1965-2278/38TPTA	-	
		T20817/2016PTA		KS, 760, 1PTA	-	&
				VA2842/2016PTA	NATIONAL GOVERNMENT OF THE REPUBLIC OF SOUTH AFRICA	Phasoane Solomon Seloane (KRP 1837)
				CONVERTED FROM PTA	-	KRP 2401
Remaining Extent of	National Government of the	T13634/1963PTA	727.3806 H	1-12922/2012PTA	-	Seloane

FARM NAME AND PORTION	CURRENT OWNER	TITLE DEED NUMBER	EXTENT IN HECTARES	ENDORSEMENT / ENCUMBRANCES	HOLDER	NAME OF THE CLAIMANT/S
the farm Riet Valley 572 KS	Republic of South Africa	T73494/2011PTA		KS,572PTA CONVETED FROM PTA LEBOWA	- - -	Ngwanamohube Dina (KRP 1500) & Phasoane Solomon Seloane (KRP 1837) KRP 2401
Portion 1 (Remaining Extent of the farm Riet Valley 572 KS	National Government of the Republic of South Africa	T13098/1963PTA T3563/2018	363.6903 H	KS, 527, 1PTA K1248/200RMPTA CONVETED FROM PTA	- LEBOWA MINERAL TRUST -	Seloane Ngwanamohube Dina (KRP 1500) & Phasoane Solomon Seloane (KRP 1837) KRP 2401
Portion 2 of the farm Riet Valley 572 KS	National Government of the Republic of South Africa	T13097/1963PTA T10201/2017PTA	363.6903 H	KS, 572,2PTA K7127/2000RMPTA CONVETED FROM PTA	- LEBOWA MINERAL TRUST -	Seloane Ngwanamohube Dina (KRP 1500) & Phasoane Solomon Seloane (KRP 1837) KRP 2401
Remaining Extent of the farm Klipheuvel 573 KS	National Government of the Republic of South Africa	T27097/1963PTA	727.5509 H	1-12922/2012CPTA KS, 573PTA K1293/200RMPTA	- - LEBOWA	Seloane Ngwanamohube Dina (KRP 1500) &

FARM NAME AND PORTION	CURRENT OWNER	TITLE DEED NUMBER	EXTENT IN HECTARES	ENDORSEMENT / ENCUMBRANCES	HOLDER	NAME OF THE CLAIMANT/S
		T73494/2011PTA			MINERAL TRUST	Phasoane Solomon Seloane (KRP 1837) KRP 2401
Portion 1 of the farm Klipheuvel 573 KS	National Government of the Republic of South Africa	T16144/2013PTA	727.5486 H	C709/1963-15340/49TPTA	-	Seloane Ngwanamohube Dina (KRP 1500) & Phasoane Solomon Seloane (KRP 1837) KRP 2401
				KS,573,1PTA K1294/2000RMPTA	- LEBOWA MINERAL TRUST	
				CONVETED FROM PTA	-	
Portion 1 of the farm Byldrift 170 KS	National Government of the Republic of South Africa	T8670/194PTA	1771.8621 H	C943/965-WATER-COURTPTA	-	Seloane Ngwanamohube Dina (Krp 1500) & Phasoane Solomon Seloane (KRP 1837) KRP 2401
				1-12922/2012CPTA	-	
				KS,170, 2PTA	-	
				K157/1948RMPTA	-	
				K4828/2001RMPTA	ANGLO OPERATIONS PTY LTD	
				VA6884/1997PTA	T8670/1948	
				CONVETED FROM PTA	-	
				LEBOWA	-	
				RELEASED – AREA	-	
Portion 2 of the farm Byldrift 170 KS	National Government of the Republic of South Africa	T8670/1948PTA	1771.8621 H	C943/965-WATER-COURTPTA	-	Seloane Ngwanamohube Dina (KRP 1500)
				1-12922/2012CPTA	-	
				KS,170, 2PTA	-	

FARM NAME AND PORTION	CURRENT OWNER	TITLE DEED NUMBER	EXTENT IN HECTARES	ENDORSEMENT / ENCUMBRANCES	HOLDER	NAME OF THE CLAIMANT/S
				K157/1948RMPTA	-	&
				K4828/2001RMPTA	ANGLO OPERATIONS PTY LTD	Phasoane Solomon Seloane (KRP 1837) KRP 2401
				VA6884/1997PTA	T8670/1948	
				CONVETED FROM PTA	-	
				LEBOWA	-	
				RELEASED – AREA	-	
The farm Doornpoort 578 KS	National Government of the Republic of South Africa	T22321/ 1963PTA	1489.3350	CONVERTED FROM PTA	-	
		T75073/2012				
The farm Andriaansdraai 759 KS	National Government of the Republic of South Africa	T533/1971PTA	1589.7305 H	C943/1965-5095/55TPTA	-	Seloane Ngwanamohube Dina (KRP 1500) & Phasoane Solomon Seloane (KRP1837) KRP 2401
				1-12922/2012CPTA	-	
				1-376/965-WATER-COURPTA	T	
	National Government of the Republic of South Africa	T63121/2009PTA		K3975/1998RMPTA	O'DYER PATRICIA MARY	
				VA7350/1998PTA	-	
				VA83/2017PTA	LIMPOPO PROVINCIAL GOVERNMENT	
				CONVERTED FROM PTA	-	
				RELEASED – AREA	-	
Remaining Extent of the farm Bellevue 577	National Government of the Republic of South Africa	T7533/1971PTA	555.5852 H	1-12922/2012CPTA	-	Phasoane Solomon Seloane
				KS,577PTA	-	

FARM NAME AND PORTION	CURRENT OWNER	TITLE DEED NUMBER	EXTENT IN HECTARES	ENDORSEMENT / ENCUMBRANCES	HOLDER	NAME OF THE CLAIMANT/S
KS		T63121/2009PTA		VA83/2017	LIMPOPO PROVINCIAL GOVERNMENT	(KRP 1837) KRP 2401
				CONVERTED FROM PTA	-	
				LEBOWA	-	
Remaining Extent of the Elandskraal 644 KS	National Government of the Republic of South Africa	T51117/1987	1112.9370 H	1-12922/2012CPTA	-	Phasoane Solomon Seloane (KRP 1837) KRP 2401
				KK2014/1981PCPTA	-	
				K1686/1981PCPTA	-	
				K2338/1982RMPTA	LOUW SUSANNA CATHARINA	
				K2548/1974SPTA	-	
				K3052/1981RMPTA	SMIT ELSIE JOHANNA	
				K330/1980SPTA	-	
				K377/1981RMPTA	AS JEANETTA HENDIETTA MARTHINA VAN	
				K3779/1981RMPTA	AS JEANETTA HENDIETTA MARTHINA VAN	
				K544/1992RMPTA	WALT ANNA JOHANNA VAN DER	
				VA4967/2001PTA CONVERTED FROM PTA	SUID-AFRIKAANSE ONTWIKKELING STRUST -	
				FROM –PTN 2&4-11,KS, 64	2	
				FROM-PTN3-5&7-8,643	KS&R/E, KS,643, KS	
				FROM- R/E, PTN 1&3 KS,6	43,KS	

FARM NAME AND PORTION	CURRENT OWNER	TITLE DEED NUMBER	EXTENT IN HECTARES	ENDORSEMENT / ENCUMBRANCES	HOLDER	NAME OF THE CLAIMANT/S
				FROM-R/E,PTN1&3,KS,6	42&R/E, KS,642	
		T74050/200PTA		VORIGE GROOTTE-2763	6089 H	
Remaining extent of the farm Zebedielas location 123 KS	National Government of the Republic of South Africa	T22924/1961PTA	33101.4517 H	C376/965-WATER COURTPTA	-	Seloane Ngwanamohube Dina (KRP 1500) & Phasoane Solomon Seloane (KRP 1837) KRP 2401
		T88306/1999PTA		C943/1965-22924/611PTA	-	
				K5057/2001RMPTA	LEBOWA MINERAL TRUST	
				K5058/2001RMPTA	MESSINA PLATINUM MINES LTD	
				VA3900/199PTA	NATIONAL GOVERNMENT OF THE REPUBLIC OF SOUTH AFRICA	
				CONVERTED FROM PTA	-	
				LEBOWA	-	
Portion 1 of the farm Zebedielas Location 123 KS	High –Mast Prop 13 PTY LTD	T1584/2013pta	8.5653 H	K4184/1999RMPTA	LEBOPWA TRUST	Seloane Ngwanamohube Dina (KRP 1500) & Phasoane Solomon Seloane (KRP 1837) KRP 2401
				CONVERTED FROM PTA	-	
				LEBOWA	-	

FARM NAME AND PORTION	CURRENT OWNER	TITLE DEED NUMBER	EXTENT IN HECTARES	ENDORSEMENT / ENCUMBRANCES	HOLDER	NAME OF THE CLAIMANT/S
Portion 3 of the farm Zebedielas Location 123 KS	National Government of the Republic of South Africa	T31487/2014PTA	5.4300 H	B18602/2014PTA	NEDBANK LTD	Seloane Ngwanamohube Dina (KRP 1500) & Phasoane Solomon Seloane (KRP 1837) KRP 2401
				K2632/2014LPTA	MASINGITA PROP INV HOLDINGS PTY LTD	
				CONVERTED FROM PTA	-	
Portion 33 of the farm Zebedielas Location 123 KS	MG SEBOTHOMA'S BUSINESS ENTERPRISES PTY LTD	T580442016 PTA	2.1343 H	CONVERTED FROM PTA	-	Seloane Ngwanamohube Dina (KRP 1500) & Phasoane Solomon Seloane (KRP 1837) KRP 2401
Remaining extent of the farm Globe 579 KS	National Government of the Republic of South Africa	T34204/1963	448.4587 H	K1429/1994RMPTA	-	Phasoane Solomon Seloane (KRP 1837)
				K2373/1994RMPTA	SAMANCOR LTD	
		T95881/2015		CONVERTED FROM PTA	-	
				LEBOWA	-	
Portion 1 of the farm Globe 579 KS	National Government of the Republic of South Africa	T30908/1963PTA	8565.0000 SQM	CONVERTED FROM PTA	-	Phasoane Solomon Seloane (KRP 1837) KRP 2401
				WA	-	
		T62460/2015PTA				

Take further notice any person who is aggrieved by the publication of this notice may bring an application in the Land Claims Court for rescission of the said order within the time frames set out in the Rules of the Land Claims Court.

FARM NAME AND PORTION	CURRENT OWNER	TITLE DEED NUMBER	EXTENT IN HECTARES	ENDORSEMENT / ENCUMBRANCES	HOLDER	NAME OF THE CLAIMANT/S

The Regional Land Claims Commissioner: Limpopo OR
Private Bag X9552
POLOKWANE
0700

First Floor, 96 Kagiso House
Corner Rissik & Schoeman Streets
POLOKWANE
0700

MR. L. MAPHUTHA
REGIONAL LAND CLAIMS COMMISSIONER
DATE: 31/08/2020

DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

NO. 1001 **18 SEPTEMBER 2020**

NOTICE OF INTENTION TO WITHDRAW THE GAZETTE NOTICE IN TERMS OF SECTION 11A (2) OF THE RESTITUTION OF LAND RIGHTS ACT, NO. 22 OF 1994 (AS AMENDED).

WHEREAS a land claim was lodged by Mr. Josiah Moses Malobola, which claim was published in terms of Section 11(1) of the Restitution of Land Rights Act, No. 22 of 1994 (as amended), hereinafter referred to as "the Act".

and

WHEREAS during further investigation of the land claim in so far as it relates to the property referred to below, the Regional Land Claims Commissioner, has reason to believe that the criteria set out in Section 11(1) (b) of the Act, has not been met.

NOW THEREFORE NOTICE is hereby given in terms of Section 11A (2) of the Act that at the expiry of 90 days from the date of the publication of this notice in the Government Gazette, the notice of the claim previously published in terms of section 11(1) (b) of the Act in Gazette No. 36146, under Notice 105 of 2013, dated 15 February 2013 will be withdrawn unless cause to the contrary is shown to the satisfaction of the Regional Land Claims Commissioner.

The details of the Gazette No. 36146, under Notice 105 of 2013, dated 15th of February 2013, relevant for this notice include the following:

Reference No: **Z 0090**

Claimant: **Mr. Josiah Moses Malobola**

Property Description: **See below**

Total extent: **See below**

Owner: **See below**

Date Submitted: **31 December 1998**

No.	Property Description	Extent Ha	Land Owner
1.	Portion 16 of farm Groenfontein 526 JR	21.4986	Intaba Estates PTY LTD

The reasons the Regional Land Claims Commissioner believes that the criteria in section 11(1) of the Act may not have been met, is that:

(a) The claimed land does not extend to portion 16 of the farm Groenfontein 526 JR; and/or

(b) The ascendants of the claimants did not have rights in land (as defined in the Act) on the property listed above; and

(c) The claimed land only affects portions 12, 13, 14, 20, 21 ad 60 of the farm Groenfontein 526 JR.

Any party who may have an interest in the above-mentioned land claim is hereby invited to make representations, within 90 days from the publication of this notice, as to why the claim should not be withdrawn in terms of section 11A (3) of the Act.

The representations must be forwarded to the Regional Land Claims Commissioner

MR L H MAPHUTHA
The Regional Land Claims Commissioner
Private Bag X 03
ARCADIA
0007
Tel: (012) 310-6500
Fax: (012) 323-2961

DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

NO. 1002 **18 SEPTEMBER 2020**

GENERAL NOTICE OF AMENDMENT IN TERMS OF SECTION 11A (4) OF THE RESTITUTION OF LAND RIGTHS ACT, 1994 (ACT NO. 22 OF 1994), AS AMENDED

Notice is hereby given that at the expiry of **30 (Thirty) Days** from the date of publication hereof, and unless cause to the contrary is shown to the satisfaction of the Regional Land Claims Commissioner, that **Gazette Notice No. 40965,** published under **Government Gazette No. 645 on 07/07/2017**, shall be amended in terms of Section 11A (4) of the above-mentioned Act by omitting/deleting the under-mentioned property from the said government notice.

PROPERTY	OWNER	TITLE DEED NUMBER	EXTENT (ha)	ENDORSEMENTS	HOLDER	CLAIMANT
PORTION 1 OF ERF 128, NYLSTROOM TOWN	ESSOP FATIMA BERA CHARITABLE TRUST	T85520/1995	1933.0000 SQM	NYLSTROOM 128	NONE	ABDUL HAMID MOSAM

Any party that may be aggrieved by this publication may submit his/ her objection thereof to the Office of the Regional Land Claims Commissioner: Limpopo, within **30 (thirty)** days of publication.

Submission may also be delivered to:

Office of the Regional Land Claims Commissioner: Limpopo
Private Bag X 9552
Polokwane
0700

First Floor, 96 Kagiso House
Corner Rissik & Schoeman Street
Polokwane
0700

LEBJANE MAPHUTHA
REGIONAL LAND CLAIMS COMMISSIONER
DATE: 2020/08/31

DEPARTMENT OF ENVIRONMENT, FORESTRY AND FISHERIES

NO. 1003 **18 SEPTEMBER 2020**

NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT, 2004 (ACT NO. 10 OF 2004)

ALIEN AND INVASIVE SPECIES LISTS, 2020

I, Barbara Dallas Creecy, Minister of Forestry, Fisheries and the Environment, hereby publish the following Alien and Invasive Species lists in terms of sections 66(1), 67(1), 70(1)*(a)*, 71(3) and 71A of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) as set out in the Schedule hereto.

BARBARA DALLAS CREECY
MINISTER OF FORESTRY, FISHERIES AND THE ENVIRONMENT

NOTICES AND LISTS IN TERMS OF SECTIONS 66(1), 67(1), 70(1)(a), 71(3) and 71A

Notice 1: Notice in respect of Categories 1a, 1b, 2 and 3, Listed Invasive Species, in terms of which certain Restricted Activities are prohibited in terms of section 71A(1); exempted in terms of section 71(3); require a Permit in terms of section 71(1)

Notice 2: Exempted Alien Species in terms of section 66(1).

Notice 3: National Lists of Invasive Species in terms section 70(1).

List 1:	National List of Invasive Terrestrial and Fresh-water Plant Species	
List 2:	National List of Invasive Marine Plant Species	
List 3:	National List of Invasive Mammal Species	
List 4:	National List of Invasive Bird Species	
List 5:	National List of Invasive Reptile Species	
List 6:	National List of Invasive Amphibian Species	
List 7:	National List of Invasive Fresh-water Fish Species	
	National List of Invasive Marine Fish Species	
List 8:	National List of Invasive Terrestrial Invertebrate Species	
List 9:	National List of Invasive Fresh-water Invertebrate Species	
List 10:	National List of Invasive Marine Invertebrate Species	
List 11:	National List of Invasive Microbial Species	

These notices must be read together with the Alien and Invasive Species Regulations. Any word or phrase defined in the Alien and Invasive Species Regulations shall have the same meaning in these notices.

These notices shall take effect 30 days from date of publication in the Gazette.

These notices replace and repeal any Alien and Invasive Species lists published under the Act including Government Gazette 40166 Notice 864 of 29 July 2016.

NOTICE 1:

NOTICE IN RESPECT OF CATEGORIES 1a, 1b, 2 AND 3 LISTED INVASIVE SPECIES, IN TERMS OF WHICH CERTAIN RESTRICTED ACTIVITIES ARE PROHIBITED IN TERMS OF SECTION 71A(1); EXEMPTED IN TERMS OF SECTION 71(3); REQUIRE A PERMIT IN TERMS OF SECTION 71(1)

Where the scientific name of any listed species changes or there is a spelling error in the scientific name, the common name of the species takes precedence and determines whether a particular species is listed or not.

In respect of Categories 1a, 1b, 2 and 3 Listed Invasive Species, certain Restricted Activities are—
(a) Prohibited in terms of section 71A(1);
(b) exempted in terms of section 71(3); or
(c) require a Permit in terms of Chapter 7,
and must be read with the lists in Notice 3.

"**catchment**", in relation to a watercourse or watercourses or part of a watercourse, means the area from which any rainfall will drain into the watercourse or watercourses or part of a watercourse, through surface flow to a common point or common points;

"**cultivation**", in relation to land, means any act by means of which the topsoil is disturbed mechanically;

"**discrete catchment systems**" means all inland water bodies, whether fresh or saline, including rivers, lakes, dams, wetlands and estuaries, that are within a catchment that is separated from other catchments;

"**untransformed land**" means land that has not been altered from its natural state, or land that is used for natural grazing, and includes land in its natural state that has been degraded by factors such as soil erosion, over-grazing, over-burning, flooding, invasive species and bush encroachment; and

"watercourse" shall have the meaning assigned to it in the National Water Act, 1998 (Act No. 36 of 1998).

General exemption of listed invasive species:

1. All dead specimens of any listed invasive species are exempted from requiring a Permit for any restricted activity.

2. Notwithstanding any prohibition in Notice 1 or Notice 3 below, but subject to paragraph 1 above, any person in possession of a listed invasive plant species which is being utilised as biomass is hereby exempted from requiring a permit for and may undertake the restricted activities of—
   (a) conveying, moving or otherwise translocating any specimen of a listed invasive plant species; and
   (b) selling or otherwise trading in, buying, receiving, giving, donating or accepting as a gift, or in any way acquiring or disposing of any specimen of a listed invasive plant species,
   on the condition that the person complies with any norms and standards relating to biomass, published in terms of the Act.

3. Notwithstanding any prohibition in Notice 1 or Notice 3, any person conveying, moving or otherwise translocating any specimen of a listed invasive plant species for disposal or treatment as waste, is hereby exempted from requiring a permit for and may undertake such restricted activity, provided such person complies with any norms and standards relating to disposal of listed invasive species, published in terms of the Act.

4. Notwithstanding any prohibition in Notice 1 or Notice 3 below, any authorised official, is hereby exempted from requiring a permit for and may undertake any restricted activity necessary to perform their functions in terms of the Act or the National Environmental Management Act.

5. An extension to a plantation is exempted from undertaking a risk assessment in terms of section 71(2) of the Act, prior to applying for a permit in terms of the Act and Alien and Invasive Species Regulations, 2020, provided the application for an environmental authorisation in terms of the National Environmental Management Act included an invasive species risk assessment.

Note that the species-specific exemptions and prohibitions in Notice 3 take precedence over Notice 1, in the event of any conflict.

Restricted Activities as defined in the Act	Category 1a	Category 1b	Category 2	Category 3
a. Importing into the Republic, including introducing from the sea, any specimen of a listed invasive species.	Prohibited	Prohibited	Permit Required	Prohibited
b. Having in possession or exercising physical control over any specimen of a listed invasive species.	Exempted	Exempted	Permit Required	Exempted
c. Growing, breeding or in any other way propagating any specimen of a listed invasive species, or causing it to multiply.	Prohibited	Prohibited	Permit Required	Prohibited
d. Conveying, moving or otherwise translocating any specimen of a listed invasive species.	Prohibited	Prohibited	Permit Required	Prohibited
e. Selling or otherwise trading in, buying, receiving, giving, donating or accepting as a gift, or in any way acquiring or disposing of any specimen of a listed invasive species.	Prohibited	Prohibited	Permit Required	Prohibited
Restricted Activities as defined in Regulation 6				
f. Spreading or allowing the spread of any specimen of a listed invasive species.	Prohibited	Prohibited	Permit Required	Prohibited
g. Releasing any specimen of a listed invasive species.	Prohibited	Prohibited	Permit Required	Prohibited
h. The transfer or release of a specimen of a listed invasive fresh-water species from one discrete catchment system in which it occurs, to another discrete catchment system in which it does not occur; or, from	Prohibited	Prohibited	Permit Required	Prohibited

within a part of a discrete catchment system where it does occur to another part where it does not occur as a result of a natural or artificial barrier.				
i. Discharging of or disposing into any waterway or the ocean, water from an aquarium, tank or other receptacle that has been used to keep a specimen of an alien or a listed invasive species.	Prohibited	Prohibited	Permit Required	Prohibited
j. Catch and release of a specimen of a listed invasive fresh-water fish or listed invasive fresh-water invertebrate species.	Prohibited	See Notice 3	See Notice 3	See Notice 3
k. The introduction of a specimen of an alien or a listed invasive species to off-shore islands.	Prohibited	Prohibited	Prohibited	Prohibited
l. The release of a specimen of a listed invasive fresh-water fish species, or of a listed invasive fresh-water invertebrate species, into a discrete catchment system in which it already occurs.	See Notice 3	See Notice 3	See Notice 3	See Notice 3

NOTICE 2:

NOTICE IN TERMS OF SECTION 66(1) – EXEMPTED ALIEN SPECIES

1. The following categories of alien species that are within the Republic when this Notice comes into effect, are exempted from the provisions of section 65(1) of the Act:
   a. Dead specimens of any alien species, including:
      (i) dead specimens imported, kept, or removed from one area to another as taxonomic reference specimen; and
      (ii) dead specimens used as derivatives in products, including food, cosmetics and detergents.
   b. Subject to e, any alien species that has been legally introduced into the Republic, or was introduced into the Republic prior to any legal requirement for such introduction, for agricultural purposes, and any new cultivar, variety, or hybrid of any species legally imported for agricultural purposes (excluding those which are already listed as invasive).
   c. Subject to e, any alien species, other than an alien species introduced for agricultural purposes as contemplated in paragraph (b) above, that has been legally introduced into the Republic, or was introduced into the Republic prior to any legal requirement for such introduction, prior to the commencement of this Notice.
   d. Any invasive species listed in terms of section 70(1)(a) of the Act.
   e. All alien fresh-water fish, except for the release of alien freshwater fish into rivers, wetlands, natural lakes and estuaries.

2. The exemptions in paragraph 1 above, do not apply to the *Diceros bicornis michaeli* (Zukowsky, 1965) (common name, Eastern Black Rhinoceros (Kenya)) and the provisions of section 65(1) of the Act apply, until the species is listed as a protected species with the commencement of Government Notice 627 in *Government Gazette* 43386 of 3 June 2020.

3. The following categories of alien species that are not within the Republic when this Notice comes into effect and comes into the Republic from outside of the Republic are exempted from the provisions of section 65(1) of the Act:
   a. Any alien species that-
      (i) has been subjected to a risk assessment and authorised for importation in terms of the Act; and
      (ii) is listed in a register of alien species legally imported into the Republic for the first time after the date of publication of the Alien and Invasive Species Regulations, 2014 and this Notice, which register is established and maintained by the Institute.
   b. Dead specimens of any alien species including:
      (i) dead specimens imported, kept, or removed from one area to another as taxonomic reference specimens; and
      (ii) dead specimens used as derivates in products, including food, cosmetics and detergents.
   c. Any invasive species listed in terms of section 70(1)(a) of the Act.

NOTICE 3:

NATIONAL LIST OF INVASIVE SPECIES IN TERMS SECTION 70(1)(a)

In this Notice and where elsewhere referred to in this Government Notice:

"dormant plantation" means a plantation that has not been operational, functioning as a plantation or does not have a valid authorisation in terms of section 22(1)(a) or (b) of the National Water Act, 1998 (Act No. 36 of 1998) for a period of 10 years and where no reasonable attempt has been made to clear any listed invasive species from that location;

"exempted for an existing plantation" means an existing plantation is exempted from requiring a permit for that specific species for any restricted activity in terms of the Act or the Alien and Invasive Species Regulations, 2014;

"existing plantation" means any plantation which was operational, functioning and authorised to grow a specific listed invasive species in terms of section 22(1)(a) or (b) of the National Water Act, 1998 (Act No. 36 of 1998) when this Notice comes into effect and does not include:

(a) any extension to a plantation;
(b) any new plantation; or
(c) any dormant plantation,

which is established or recommissioned after the commencement of this Notice;

"extension to a plantation" means the increase of the area of a plantation beyond the limits, area or location specified in—

(a) a permit issued in terms of the Act or the Alien and Invasive Species Regulations, 2014; or
(b) an authorisation in terms of section 22(1)(a) or (b) of the National Water Act, 1998 (Act No. 36 of 1998); and
(c) the size of such extension will trigger the requirement to obtain an environmental authorisation in terms of the National Environmental Management Act; and

"urban area" means the area within the proclaimed urban edge, as delineated in the Municipal Spatial Development Framework in terms of the Spatial Land Use Management Act, 2013 (Act No. 16 of 2013).

List 1: National list of Invasive Terrestrial and Fresh-water Plant Species

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
1.	*Acacia adunca* A.Cunn. ex G.Don	Cascade wattle, Wallangarra wattle	1a	
2.	*Acacia baileyana* F.Muell.	Bailey's wattle	3	
3.	*Acacia cyclops* A.Cunn. ex G.Don	Red eye	1b	
4.	*Acacia dealbata* Link	Silver wattle	2	
5.	*Acacia decurrens* Willd. and hybrids, varieties and selections	Green wattle	2	Exempted for an existing plantation.

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
6.	*Acacia elata* A.Cunn. ex Benth. (*Acacia terminalis* (Salisb.) misapplied in South Africa)	Pepper tree wattle	1b	
7.	*Acacia fimbriata* A.Cunn. ex G.Don	Fringed wattle, Brisbane wattle	1a	
8.	*Acacia implexa* Benth.	Screw pod wattle	1a	
9.	*Acacia longifolia* (Andrews) Willd.	Long-leaved wattle	1b	
10.	*Acacia mearnsii* De Wild. and hybrids, varieties and selections	Black wattle	2	Exempted for an existing plantation.
11.	*Acacia melanoxylon* R.Br. and hybrids, varieties and selections	Australian blackwood	2	Exempted for an existing plantation.
12.	*Acacia paradoxa* DC. (= *A. armata* R.Br.)	Kangaroo thorn, Kangaroo wattle	1a	
13.	*Acacia podalyriifolia* A.Cunn. ex G.Don	Pearl acacia	1b	
14.	*Acacia pycnantha* Benth.	Golden wattle	1b	
15.	*Acacia saligna* (Labill.) H.L.Wendl.	Port Jackson, Port Jackson willow	1b	
16.	*Acacia stricta* (Andrews) Willd.	Hop wattle	1a	
17.	*Acer buergerianum* Miq.	Chinese maple	a. 3 in Eastern Cape, KwaZulu-Natal, Limpopo, Mpumalanga, North-West, Northern Cape and Western Cape. b. Not listed in urban areas in the Eastern Cape, KwaZulu-Natal, Limpopo, Mpumalanga, North-West, Northern Cape and Western Cape. c. Not listed elsewhere.	
18.	*Acer negundo* L.	Ash-leaved maple, Box elder	a. 3 b. Sterile cultivars or hybrids are not listed.	
19.	*Agave americana* L. subsp. *americana* var. *expansa* (Jacobi) Gentry	Spreading century-plant	a. 3 in Western Cape. b. Not listed elsewhere.	
20.	*Agave sisalana* Perrine	Sisal hemp, Sisal	2	
21.	*Ageratina adenophora* (Spreng.) R.M.King & H.Rob. (= *Eupatorium adenophorum* Spreng.)	Crofton weed	1b	
22.	*Ageratina riparia* (Regel) R.M.King & H.Rob. (= *Eupatorium riparium* Regel)	Mistflower	1b	
23.	*Ageratum conyzoides* L.	Invading ageratum	1b	
24.	*Ageratum houstonianum* Mill.	Mexican ageratum	a. 1b b. Sterile cultivars or hybrids are not listed.	
25.	*Agrimonia procera* Wallr.	Scented agrimony	1b	

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
	(= *A. odorata* Mill.)			
26.	*Agrostis castellana* Boiss. & Reut.	Bent grass	a. 1a Prince Edward Island. b. 1b Marion Island. c. Not listed on mainland or other off-shore islands.	.
27.	*Agrostis gigantea* Roth	Black bent grass, Redtop	a. 1a Prince Edward and Marion Islands. b. Not listed on mainland or other off-shore islands.	
28.	*Agrostis stolonifera* L.	Creeping bent grass	a. 1a Prince Edward Island. b. 1b Marion Island. c. Not listed on mainland or other off-shore islands.	
29.	*Ailanthus altissima* (Mill.) Swingle	Tree-of-heaven	1b	
30.	*Albizia lebbeck* (L.) Benth.	Lebbeck tree	1b	
31.	*Albizia procera* (Roxb.) Benth.	False lebbeck	1b	
32.	*Alhagi maurorum* Medik. (= *A. camelorum* Fisch.)	Camel thorn bush	1b	
33.	*Alisma plantago-aquatica* L.	Mud plantain, Water alisma	1b	
34.	*Alopecurus geniculatus* L. (= *A. australis* Nees)	Marsh foxtail, Water foxtail	a. 1a Prince Edward and Marion Islands. b. Not listed on mainland or other off-shore islands.	
35.	*Alpinia zerumbet* (Pers.) B.L.Burtt & R.M.Sm. (= *A. speciosa* (J.C.Wendl.) Schum.)	Shell ginger, Pink porcelain lily	3	
36.	*Ammophila arenaria* (L.) Link	Marram grass	a. 2 in Western Cape b. Not listed elsewhere	
37.	*Anredera cordifolia* (Ten.) Steenis (*A. baselloides* misapplied in South Africa)	Madeira vine, Bridal wreath	1b	
38.	*Antigonon leptopus* Hook. & Arn.	Coral creeper	1b	
39.	*Araujia sericifera* Brot.	Moth catcher	1b	
40.	*Ardisia crenata* Sims (*Ardisia crispa* misapplied in South Africa)	Coralberry tree, Coral Bush	1b	
41.	*Ardisia elliptica* Thunb. (= *A. humilis* Vahl)	Shoebutton ardisia	1b	
42.	*Argemone mexicana* L.	Yellow-flowered Mexican poppy	1b	
43.	*Argemone ochroleuca* Sweet	White-flowered Mexican poppy	1b	
44.	*Aristolochia elegans* Mast.	Dutchman's pipe	1b	
45.	*Arundo donax* L.	Giant reed, Spanish reed	1b	
46.	*Atriplex inflata* F.Muell. (= *A. lindleyi* Moq. subsp. *inflata*	Sponge-fruit saltbush	1b	

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
	(F.Muell.) Paul G.Wilson)			
47.	*Atriplex nummularia* Lindl. subsp. *Nummularia*	Old man saltbush	2	
48.	*Austrocylindropuntia cylindrica* (Juss. ex Lam.) Backeberg.	Cane cactus	1a	
49.	*Austrocylindropuntia subulata* (Muehlenpf.) Backeb. subsp. *exaltata* (A.Berger) D.R.Hunt (= *Opuntia exaltata* A.Berger)	Long spine cactus	1b	
50.	*Azolla cristata* Kaulf. (= *A. microphylla* Kaulf.)	Tropical red water fern	1b	
51.	*Azolla filiculoides* Lam.	Azolla, Red water fern	1b	
52.	*Azolla pinnata* R.Br. subsp. *asiatica* R.M.K.Saunders & K.Fowler (= *A. imbricata* (Roxb. ex Griff.) Nakai	Mosquito fern	1b	
53.	*Bartlettina sordida* (Less.) R.M. King & H.Rob. (= *Eupatorium atrorubens* (Lem.) G.Nicholson, *E. sordidum* Less.)	Bartlettina	1b	
54.	*Bauhinia purpurea* L.	Butterfly orchid tree	a. 1b in Eastern Cape, KwaZulu-Natal, Limpopo and Mpumalanga. b. 3 in Free State, Gauteng, North-West, Northern Cape and Western Cape.	
55.	*Bauhinia variegata* L.	Orchid tree	a. 1b in Eastern Cape, KwaZulu-Natal, Limpopo and Mpumalanga. b. 3 in Free State, Gauteng, North-West, Northern Cape and Western Cape.	
56.	*Berberis thunbergii* DC.	Japanese barberry	a. 3 b. Sterile cultivars or hybrids are not listed.	
57.	*Billardiera heterophylla* (Lindl.) L.W.Cayzer & Crisp (= *Sollya heterophylla* Lindl.)	Bluebell creeper	1a	
58.	*Bryophyllum delagoense* (Eckl. & Zeyh.) Schinz (= *B. tubiflorum* Harv., *Kalanchoe tubiflora* (Harv.) Raym.-Hamet, *K. delagoensis* Eckl. & Zeyh.)	Chandelier plant	1b	
59.	*Bryophyllum pinnatum* (Lam.) Oken	Cathedral bells	1b	
60.	*Bryophyllum proliferum* Bowie ex Hook.	Green mother of millions	1b	

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
	(= *Kalanchoe prolifera* (Bowie) Raym.-Hamet)			
61.	*Buddleja davidii* Franch.	Chinese sagewood, Summer lilac	a. 3 b. Sterile cultivars or hybrids are not listed.	
62.	*Buddleja madagascariensis* Lam.	Madagascar sagewood	3	
63.	*Cabomba caroliniana* A.Gray	Cabomba, Carolina fanwort	1a	
64.	*Caesalpinia decapetala* (Roth) Alston (= *C. sepiaria* Roxb.)	Mauritius thorn	1b	
65.	*Caesalpinia gilliesii* (Hook.) D.Dietr.	Bird-of-paradise flower	1b	
66.	*Callisia repens* (Jacq.) L.	Creeping inch plant	1b	
67.	*Callistemon citrinus* (Curtis) Skeels (= *Melaleuca citrina* (Curtis) Dum.Cours.)	Lemon bottlebrush	3	
68.	*Callistemon rigidus* R.Br.	Stiff-leaved bottlebrush	a. 1b in Eastern Cape and Western Cape. b. 3 in Free State, Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga, North-West and Northern Cape.	
69.	*Callistemon viminalis* (Sol. ex Gaertn.) G.Don	Weeping bottlebrush	a. 1b in Eastern Cape, KwaZulu-Natal, Limpopo and Mpumalanga. b. 3 in Free State, Gauteng, North-West, Northern Cape and Western Cape. c. Sterile cultivars or hybrids are not listed.	
70.	*Calotropis procera* (Aiton) W.T.Aiton	Calotropis, Giant- milkweed	1b	
71.	*Campuloclinium macrocephalum* (Less.) DC. (= *Eupatorium macrocephalum* Less.)	Pompom weed	1b	
72.	*Canna indica* L.	Indian shot	1b	
73.	*Cardiospermum grandiflorum* Sw.	Balloon vine	1b	
74.	*Cardiospermum halicacabum* L.	Lesser balloon vine	3	
75.	*Carduus nutans* L. (= *C. macrocephalus* Desf.)	Nodding thistle	1b	
76.	*Casuarina cunninghamiana* Miq.	Beefwood	a. 2 b. 1b within 100 metres of riparian areas or untransformed land.	
77.	*Casuarina equisetifolia* L.	Horsetail tree	2	
78.	*Catharanthus roseus* (L.) G.Don	Madagascar periwinkle	a. 1b b. Sterile cultivars or hybrids are not listed.	
79.	*Celtis australis* L.	Nettle tree, European hackberry	3	
80.	*Celtis occidentalis* L.	Common hackberry	3	
81.	*Centranthus ruber* (L.) DC.	Red valerian, Devil's beard	a. 1b in Western Cape	

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
			b. Not listed elsewhere	
82.	*Cerastium fontanum* Baumg.	Common mouse-ear chickweed	a. 1b Prince Edward and Marion Islands b. Not listed on mainland or other off-shore islands.	
83.	*Cereus hexagonus* (L.) Mill.,	Queen of the night	1b	
84.	*Cereus hildmannianus* K. Schum.(= *C. peruvianus* auct. pl., *C. uruguayanus* R.Kiesling)	Queen of the night	1b	
85.	*Cereus jamacaru* DC.	Queen of the night	1b	
86.	*Cestrum aurantiacum* Lindl.	Orange cestrum	1b	
87.	*Cestrum elegans* (Brongn.) Schltdl. (= *C. purpureum* (Lindl.) standl.)	Crimson cestrum	1b	
88.	*Cestrum laevigatum* Schltdl.	Inkberry	1b	
89.	*Cestrum parqui* L'Hér.	Chilean cestrum	1b	
90.	*Cestrum* species not specifically listed	Cestrum species	3	
91.	*Chondrilla juncea* L.	Skeleton weed	1a	
92.	*Chromolaena odorata* (L.) R.M.King & H.Rob. (= *Eupatorium odoratum* L.)	Triffid weed, Chromolaena	1b	
93.	*Cinnamomum camphora* (L.) J.Presl	Camphor tree	a. 1b in Eastern Cape, KwaZulu-Natal, Limpopo and Mpumalanga. b. 3 in Western Cape. c. National Heritage Trees or National Monument Trees in terms of the National Heritage Resources Act, 1999, (Act No. 25 of 1999) in Eastern Cape, KwaZulu-Natal, Limpopo, Mpumalanga and the Western Cape, are not listed. d. Not listed elsewhere.	.
94.	*Cirsium vulgare* (Savi) Ten. (= *C. lanceolatum* (L.) Scop.)	Spear thistle, Scotch thistle	1b	
95.	*Convolvulus arvensis* L.	Field bindweed, Wild morning-glory	1b	
96.	*Coreopsis lanceolata* L.	Tickseed	1b	
97.	*Cortaderia jubata* (Lemoine ex Carrière) Stapf	Pampas grass	1b	
98.	*Cortaderia selloana* (Schult.) Asch. & Graebn.	Pampas grass	1b	
99.	*Cotoneaster franchetii* Bois	Cotoneaster	1b	
100.	*Cotoneaster glaucophyllus* Franch.	Late cotoneaster	1b	
101.	*Cotoneaster pannosus* Franch.	Silver leaf cotoneaster	1b	

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
102.	*Cotoneaster salicifolius* Franch.	Willow-leaved showberry	1b	
103.	*Cotoneaster simonsii* Baker	Himalayan cotoneaster, Simon's cotoneaster	1b	
104.	*Crotalaria agatiflora* Schweinf.	Canarybird bush, Bird flower	1b	
105.	*Cryptostegia grandiflora* R.Br.	Rubber vine	1b	
106.	*Cryptostegia madagascariensis* Bojer ex Decne.	Madagascar rubber vine	1b	
107.	*Cuscuta campestris* Yunck.	Common dodder	1b	
108.	*Cuscuta suaveolens* Ser.	Lucerne dodder	1b	
109.	*Cylindropuntia fulgida* (Engelm.) F.M.Knuth var. *fulgida* (= *Opuntia fulgida* Engelm.) (*O. rosea* DC. misapplied in South Africa).	Chain-fruit cholla (previously known as rosea cactus)	1b	
110.	*Cylindropuntia fulgida* (Engelm.) F.M.Knuth var. *mamillata* (Schott ex Engelm.) Backeb. .	Boxing-glove cactus, Mamillate cactus	1b	
111.	*Cylindropuntia imbricata* (Haw.) F.M.Knuth (= *Opuntia imbricata* (Haw.) DC.	Imbricate cactus, Imbricate prickly pear	1b	
112.	*Cylindropuntia leptocaulis* (DC.) F.M.Knuth	Pencil cactus	1b	
113.	*Cylindropuntia pallida* (Rose) F.M.Knuth	Pink-flowered sheathed cholla	1a	
114.	*Cylindropuntia spinosior* (Englem.) F.M.Knuth	Cane cholla, Spiny cholla	1a	
115.	*Cytisus scoparius* (L.) Link (= *Genista scoparia* (L.) Lam.)	Scotch broom	1a	
116.	*Datura ferox* L.	Large thorn apple	1b	
117.	*Datura innoxia* Mill.	Downy thorn apple	1b	
118.	*Datura stramonium* L.	Common thorn apple	1b	
119.	*Diplocyclos palmatus* (L.) C.Jeffrey	Lollipop-climber	1a	
120.	*Dolichandra unguis-cati* (L.) L. G. Lohmann (= *Macfadyena unguis-cati* (L.) A.H.Gentry	Cat's claw creeper	1b	
121.	*Duchesnea indica* (Andrews) Focke	Wild strawberry	1b	
122.	*Duranta erecta* L. (= *D. repens* L., *D. plumieri* Jacq.)	Forget-me-not-tree, Pigeon berry	a. 3 in Gauteng, Kwazulu-Natal, Limpopo, Mpumalanga and North-West. b. 2 for breeding in nurseries in Gauteng, Kwazulu-Natal, Limpopo, Mpumalanga and North-West, but may not be transferred within these Provincial boundaries.	

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
			c. Not listed elsewhere. d. Sterile cultivars or hybrids are not listed. e. "Sheena's Gold" cultivar is not listed.	
123.	*Echinodorus cordifolius* (L.) Griseb.	Creeping burhead	1b	
124.	*Echinodorus tenellus* (Mart. ex Schult.f.) Buchenau	Amazon sword plant	1b	
125.	*Echium plantagineum* L. (= *E. lycopsis* L.)	Patterson's curse	1b	
126.	*Echium vulgare* L.	Blue echium	1b	
127.	*Egeria densa* Planch. (= *Elodea densa* (Planch.) Casp.)	Dense water weed	1b	
128.	*Eichhornia crassipes* (Mart.) Solms	Water hyacinth	1b	
129.	*Elodea canadensis* Michx.	Canadian water weed	1b	
130.	*Elytrigia repens* (L.) Desv. ex Nevski (= *Agropyron repens* (L.) P. Beauv., *Elymus repens* (L.) Gould)	Couch grass	a. 1a Prince Edward and Marion Islands. b. Not listed on mainland or other off-shore islands.	
131.	*Equisetum hyemale* L.	Rough horsetail, Common scouring-rush	1a	
132.	*Eriobotrya japonica* (Thunb.) Lindl.	Loquat	a. 1b in Western Cape and Forest biome. b. Not listed in urban areas in Western Cape. c. Not listed elsewhere. d. The fruit of the loquat is not listed if used for human consumption.	
133.	*Eucalyptus camaldulensis* Dehnh. and hybrids, varieties and selections	River red gum	a. Category 1b within- (i) riparian areas; (ii) a Protected Area declared in terms of the Protected Areas Act; or, (iii) within a Listed Ecosystem or an ecosystem identified for conservation in terms of a Bioregional Plan or Biodiversity Management Plans published under the Act. b. Not listed within Nama-Karoo, Succulent Karoo and Desert biomes, excluding within any area mentioned in (a) above. c. Category 1b in Fynbos, Grassland, Savanna, Albany Thicket,	Exempted for an existing plantation.
134.	*Eucalyptus cladocalyx* F.Muell. and hybrids, varieties and selections	Sugar gum		
135.	*Eucalyptus conferruminata* D.J.Carr & S.G.M.Carr and hybrids, varieties and	Spider gum		

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
	selections (*E. lehmannii* misapplied in South Africa)		Forest and Indian Ocean Coastal Belt biomes, but- (i) Category 2 for plantations, woodlots, bee-forage areas, wind-rows and the lining of avenues. (ii) Not listed within cultivated land that is at least 50 metres away from untransformed land, but excluding within any area in (a) above. (iii) Not listed within 50 metres of the main house on a farm, but excluding in (a) above. (iv) Not listed in urban areas for trees with a diameter of more than 400 mm at 1000 mm height at the time of publishing of this Notice, but excluding in (a) above.	
136.	*Eucalyptus diversicolor* F.Muell. and hybrids, varieties and selections	Karri		
137.	*Eucalyptus grandis* W.Hill ex Maiden (*E. saligna* Sm. in part) and hybrids, varieties and selections	Saligna gum, Rose gum		
138.	*Eucalyptus tereticornis* Sm. and hybrids, varieties and selections	Forest red gum		
139.	*Eugenia uniflora* L.	Pitanga, Surinam cherry	1b	
140.	*Euphorbia esula* L. (= *E. xpseudovirgata* (Schur) Soó, *E. tommasiniana* Bertol., *E. virgata* Waldst. & Kit.)	Leafy spurge	1a	
141.	*Euphorbia leucocephala* Lotsy	White poinsettia	1b	
142.	*Fallopia sachalinensis* (F.Schmidt) Ronse Decr. (= *Polygonum sachalinense* F.Schmidt, *Reynoutria sachalinensis* (F.Schmidt) Nakai	Giant knotweed	1a	
143.	*Festuca rubra* L.	Creeping red fescue	a. 1a Prince Edward and Marion Islands. b. Not listed on mainland or other off-shore islands.	
144.	*Flaveria bidentis* (L.) Kuntze	Smelter's-bush	1b	
145.	*Fraxinus americana* L.	American ash, white ash	a. 3 in Eastern Cape, KwaZulu-Natal, Limpopo, Mpumalanga and Western Cape. b. Not listed elsewhere.	
146.	*Fraxinus angustifolia* Vahl	Algerian ash	a. 3 in Eastern Cape, KwaZulu-Natal, Limpopo, Mpumalanga and Western Cape. b. Not listed elsewhere.	
147.	*Furcraea foetida* (L.) Haw.	Mauritian hemp	1a	
148.	*Genista monspessulana* (L.) L.A.S.Johnson (= *Cytisus monspessulanus* L., *C.*	Montpellier broom	1a	

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
	candicans (L.) DC.)			
149.	*Gleditsia triacanthos* L.	Honey locust	1b	
150.	*Glyceria maxima* (Hartm.) Holmb. (= *Poa aquatica* L., *Glyceria aquatica* (L.) Wahlb.)	Reed meadow grass, Reed sweet grass	a. 1b in Protected Areas and wetlands. b. Not listed elsewhere.	
151.	*Grevillea banksii* R.Br.	Australian crimson oak, Red flowering silky oak	1b	
152.	*Grevillea robusta* A.Cunn. ex R.Br.	Australian silky oak	3	
153.	*Grevillea rosmarinifolia* A.Cunn.	Rosemary grevillea	3	
154.	*Hakea drupacea* (C.F.Gaertn.) Roem. & Schult. (= *H. suaveolens* R.Br.)	Sweet hakea	1b	
155.	*Hakea gibbosa* (Sm.) Cav.	Rock hakea	1b	
156.	*Hakea salicifolia* (Vent.) B.L.Burtt	Willow hakea	a. 1b in Western Cape. b. Not listed elsewhere.	
157.	*Hakea sericea* Schrad. & J.C.Wendl.	Silky hakea	1b	
158.	*Harrisia balansae* (K.Schum.) N.P.Taylor & Zappi	Strangler prickly apple	1a	
159.	*Harrisia martinii* (Labour.) Britton (= *Eriocereus martinii* (Labour.) Riccob.)	Moon cactus	1b	
160.	*Harrisia pomanensis* (F.A.C.Weber) Britton & Rose	Midnight lady, Devil's rope cactus	1a	
161.	*Harrisia tortuosa* (J.Forbes ex Otto & A.Dietr.) Britton & Rose	Spiny snake cactus	1b	
162.	*Hedera canariensis* Willd. (= *Hedera helix* L. subsp. *canariensis* (Willd.) Cout.)	Canary ivy, Madeira ivy, Algerian ivy	a. 3 b. Sterile cultivars or hybrids are not listed.	
163.	*Hedera helix* L. (= *Hedera helix* L. subsp. *helix*)	English ivy	a. 3 b. Sterile cultivars or hybrids are not listed.	
164.	*Hedychium coccineum* Buch.-Ham. ex Sm.	Red ginger lily	1b	
165.	*Hedychium coronarium* J.König	White ginger lily	1b	
166.	*Hedychium flavescens* Carey ex Roscoe	Yellow ginger lily	1b	
167.	*Hedychium gardnerianum* Sheppard ex Ker Gawl.	Kahili ginger lily	1b	
168.	*Homalanthus populifolius* Graham	Bleeding-heart tree	1b	
169.	*Houttuynia cordata* Thunb.	Chameleon plant	3	
170.	*Hydrilla verticillata* (L.f.) Royle	Hydrilla	1a	

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
171.	*Hydrocleys nymphoides* (Humb. & Bonpl. ex Willd.) Buchenau	Water poppy	1a	
172.	*Hylocereus undatus* (Haw.) Britton & Rose	Night-blooming cereus, Dragon fruit, Pitahaya	a. 2 b. The fruit of night-blooming cactus is not listed if used for human consumption.	
173.	*Hypericum androsaemum* L.	Tutsan	1b	
174.	*Hypericum perforatum* L.	St. John's wort, Tipton weed	2	
175.	*Ipomoea alba* L.	Moonflower	1b	
176.	*Ipomoea carnea* Jacq. subsp. *fistulosa* (Mart. ex Choisy) D.F.Austin (= *I. fistulosa* Mart. ex Choisy)	Morning-glory bush	1b	
177.	*Ipomoea indica* (Burm.) Merr. (= *I. congesta* R.Br.)	Blue morning glory	1b	
178.	*Ipomoea purpurea* (L.) Roth	Purple morning glory	1b	
179.	*Iris pseudacorus* L.	Yellow flag	1a	
180.	*Jacaranda mimosifolia* D.Don	Jacaranda	a. 1b in Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga and North-West. b. Not listed for urban areas in Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga and North-West. c. Not listed within 50 metres of the main house on a farm in Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga and North-West, for trees with a diameter of more than 400 mm at 1000 mm height at the time of publishing of this Notice, provided such tress are located outside riparian areas. d. Not listed elsewhere.	
181.	*Jatropha curcas* L.	Physic nut	2	
182.	*Jatropha gossypiifolia* L.	Cotton-leaf physic nut	1b	
183.	*Juniperus virginiana* L.	Red cedar	a. 3 in Eastern Cape and Free State. b. Not listed elsewhere.	
184.	*Kunzea ericoides* (A.Rich.) Joy Thomps. (= *Leptospermum ericoides* A. Rich.)	Burgan, White teatree	1a	
185.	*Lantana* – all seed-producing species or seed-producing hybrids that are non-indigenous to South Africa	Lantana, Tickberry, Cherry pie	1b	
186.	*Lepidium draba* L. (= *Cardaria draba* (L.) Desv.)	Hoary cardaria	1b	
187.	*Leptospermum laevigatum* (Gaertn.) F.Muell.	Australian myrtle	1b	

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
188.	*Leucaena leucocephala* (Lam.) de Wit (= *L. glauca* Benth.)	Leucaena	2	
189.	*Ligustrum japonicum* Thunb.	Japanese wax-leaved privet	a. 1b in Eastern Cape, KwaZulu-Natal, Limpopo, Mpumalanga, North-West and Western Cape. b. 3 in Free State, Gauteng and Northern Cape.	
190.	*Ligustrum lucidum* W.T.Aiton	Chinese wax-leaved privet	a. 1b in Eastern Cape, KwaZulu-Natal, Limpopo, Mpumalanga, North-West and Western Cape. b. 3 in Free State, Gauteng and Northern Cape.	.
191.	*Ligustrum ovalifolium* Hassk.	Californian privet	a. 1b in Eastern Cape, KwaZulu-Natal, Limpopo, Mpumalanga, North-West and Western Cape. b. 3 in Free State, Gauteng and Northern Cape. c. Sterile cultivars or hybrids are not listed.	
192.	*Ligustrum sinense* Lour.	Chinese privet	a. 1b in Eastern Cape, KwaZulu-Natal, Limpopo, Mpumalanga, North-West and Western Cape. b. 3 in Free State, Gauteng and Northern Cape.	
193.	*Ligustrum vulgare* L.	Common privet	a. 1b in Eastern Cape, KwaZulu-Natal, Limpopo, Mpumalanga, North-West and Western Cape. b. 3 in Free State, Gauteng and Northern Cape.	
194.	*Lilium formosanum* Wallace (= *L. longiflorum* Thunb. var. *formosanum* Baker)	Formosa lily	1b	
195.	*Limonium sinuatum* (L.) Mill.	Statice, Sea lavender	a. 1b in Northern Cape and Western Cape. b. Not listed elsewhere.	
196.	*Linaria dalmatica* (L.) Mill. (= *Antirrhinum dalmaticum* L., *Linaria genistifolia* subsp. *dalmatica* (L.) Maire & Petitm.	Dalmatian toadflax, Broadleaf toadflax	1b	
197.	*Linaria vulgaris* Mill.	Common toadflax, Butter-and-eggs	1b	
198.	*Litsea glutinosa* (Lour.) C.B.Rob. (= *Litsea sebifera* Pers.)	Indian laurel	1b	
199.	*Lonicera japonica* Thunb. 'Halliana'	Japanese or Hall's honeysuckle	3	
200.	*Ludwigia peruviana* (L.) H. Hara	Water-primrose, Peruvian primrosebush	1a	
201.	*Luzula multiflora* (Ehrh.) Lej.	Woodrush	a. 1a Prince Edward and Marion Islands. b. Not listed on mainland or other off-shore islands.	
202.	*Lythrum hyssopifolia* L.	Hyssop loosestrife	1b	

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
203.	*Lythrum salicaria* L.	Purple loosestrife	1a	
204.	*Malva dendromorpha* M.F.Ray (= *Lavatera arborea* L.)	Tree mallow	1b	
205.	*Malva verticillata* L.	Mallow	1b	
206.	*Malvastrum coromandelianum* (L.) Garcke	Prickly malvastrum	1b	
207.	*Marsilea mutica* Mett.	Nardoo, Australian water-clover	1a	
208.	*Melaleuca hypericifolia* Sm.	Red-flowering tea tree	1a	
209.	*Melaleuca quinquenervia* (Cav.) S.T. Blake	Bottle brush tree, Broadleaf paperbark tree	a. 1b b. National Heritage Trees or National Monument Trees in terms of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), are not listed.	
210.	*Melia azedarach* L.	Syringa	a. 1b b. 3 in urban areas.	
211.	*Metrosideros excelsa* Sol. ex Gaertn. (= *M. tomentosa* A.Rich.)	New Zealand Christmas tree	a. 1a in the Overstrand District. b. Not listed elsewhere.	
212.	*Mimosa pigra* L.	Giant sensitive plant	1b	
213.	*Mirabilis jalapa* L.	Four-o'clock, Marvel-of -Peru	1b	
214.	*Montanoa hibiscifolia* Benth.	Tree daisy	1b	
215.	*Morus alba* L.	White mulberry, Common mulberry	a. 3 b. The fruit of the white mulberry is not listed if used for human consumption.	
216.	*Murraya paniculata* (L.) Jack. (= *M. exotica* L.)	Orange Jessamine	a. 1b in KwaZulu-Natal, Limpopo and Mpumalanga. b. 2 for breeding in nurseries in KwaZulu-Natal, Limpopo and Mpumalanga, but may not be transferred within these Provincial boundaries. c. Not listed elsewhere. d. Sterile cultivars or hybrids are not listed.	
217.	*Myoporum insulare* R.Br.	Manatoka, Boobyalla	3	
218.	*Myoporum laetum* G.Forst.	New Zealand manatoka	3	
219.	*Myoporum montanum* R.Br. (= *Myoporum tenuifolium* G.Forst.)	Manatoka	3	
220.	*Myriophyllum aquaticum* (Vell.) Verdc.	Parrot's feather	1b	
221.	*Myriophyllum spicatum* L.	Spiked water-milfoil	1b	
222.	*Myrtillocactus geometrizans* (Mart.) Console	Bilberry cactus	1a	

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
223.	*Nassella tenuissima* (Trin.) Barkworth (= *Stipa tenuissima* Trin.)	White tussock	1b	
224.	*Nassella trichotoma* (Nees) Hack. ex Arechav. (= *Stipa trichotoma* Nees)	Nassella tussock	1b	
225.	*Nasturtium officinale* R.Br. (= *Rorippa nasturtium- aquaticum* (L.) Hayek)	Watercress	2	
226.	*Nephrolepis cordifolia* (L.) C.Presl (= *Polypodium cordifolium* L.)	Erect sword fern, Ladder sword fern	a. 1b in Eastern Cape, KwaZulu-Natal, Mpumalanga, Limpopo and Western Cape. b. 3 in Free State, Gauteng, North-West and Northern Cape.	
227.	*Nephrolepis exaltata* (L.) Schott (= *Polypodium exaltatum* L.)	Sword fern, Boston sword fern	a. 1b in Eastern Cape, KwaZulu-Natal, Mpumalanga, Limpopo and Western Cape. b. 3 in Free State, Gauteng, North-West and Northern Cape. c. Sterile cultivars or hybrids are not listed.	
228.	*Nerium oleander* L.	Oleander	1b	
229.	*Nicandra physalodes* (L.) Gaertn.	Apple-of-Peru	1b	
230.	*Nicotiana glauca* Graham	Wild tobacco	1b	
231.	*Nuphar lutea* (L.) Sm. (= *N. minor* Dumort., *N. sericea* Láng, *N. spathulifera* Rchb., *N. tenella* Rchb., *Nymphaea lutea* L., *N. umbilicalis* Salisb., *Nymphozanthus luteus* (L.) Fernald, *N. sericeus* (Láng) Fernald, *N. vulgaris* Rich.)	Yellow water-lily	1a	
232.	*Nymphaea mexicana* Zucc.	Yellow water lilies	1b	
233.	*Nymphoides peltata* (S.G.Gmel.) Kuntze (= *Limnanthemum peltatum* S.G.Gmel.)	Gringed waterlily, Yellow floating-heart	1a	
234.	*Oenothera sinuosa W.L.Wagner & Hoch* (= *Gaura sinuata* Nutt. ex Ser.)	Wavy-leaf gaura	3	
235.	*Opuntia aurantiaca* Lindl.	Jointed cactus	1b	
236.	*Opuntia elata* Link & Otto ex Salm-Dyck	Orange tuna	1b	
237.	*Opuntia engelmannii* Salm-Dyck ex Engelm. (= *O. lindheimeri* Engelm., *O. tardospina* Griffiths)	Small round-leaved prickly pear	1b	
238.	*Opuntia ficus-indica* (L.) Mill. (= *O. megacantha* Salm-Dyck)	Mission prickly pear, Sweet prickly pear	a. 1b b. Spineless cactus pear cultivars and selections are not listed. c. The fruit of the sweet prickly pear is not listed if used for human consumption.	

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
239.	*Opuntia humifusa* (Raf.) Raf. (*O. compressa* misapplied in South Africa)	Large-flowered prickly pear, Creeping prickly pear	1b	
240.	*Opuntia leucotricha* DC.	Aaron's-beard prickly-pear	1b	
241.	*Opuntia microdasys* (Lehm.) Pfeiff.	Yellow bunny-ears, Teddy-bear cactus	1b	
242.	*Opuntia monacantha* Haw. (*O. vulgaris* misapplied in South Africa)	Cochineal prickly pear, Drooping prickly pear	1b	
243.	*Opuntia pubescens* J.C.Wendl. ex Pfeiff. (= *O. pestifer* Britton & Rose)	Velvet bur cactus	1a	
244.	*Opuntia robusta* H.L.Wendl. ex Pfeiff.	Blue-leaf cactus	a. 1a b. Spineless cultivars and selections are not listed.	
245.	*Opuntia salmiana* J. Parm. ex Pfeiff.	Bur cactus	1a	
246.	*Opuntia spinulifera* Salm-Dyck	Saucepan cactus, Large roundleaved prickly pear	1b	
247.	*Opuntia stricta* (Haw.) Haw. var. *stricta* and var. *dillenii* (Ker Gawl.) L.D.Benson (= *O. dillenii* (Ker Gawl.)Haw.)	Pest pear of Australia	1b	
248.	*Opuntia tomentosa* Salm-Dyck	Velvet opuntia, Velvet tree-pear	1b	
249.	*Orobanche minor* Sm.	Lesser broomrape, Clover broomrape	1b	
250.	*Orobanche ramosa* L.	Blue broomrape, Branched broomrape	1b	
251.	*Paraserianthes lophantha* (Willd.) I.C.Nielsen (= *Albizia lophantha* (Willd.) Benth.)	Australian albizia, Stink bean	1b	
252.	*Parkinsonia aculeata* L.	Jerusalem thorn	1b	
253.	*Parthenium hysterophorus* L.	Famine weed	1b	
254.	*Paspalum quadrifarium* Lam.	Tussock paspalum	1a	
255.	*Passiflora caerulea* L.	Blue passion flower	1b	
256.	*Passiflora edulis* Sims	Purple granadilla, Passion fruit	a. 2 in Eastern Cape, Gauteng, KwaZulu-Natal, Mpumalanga, Limpopo and North-West. b. Not listed in urban areas in Eastern Cape, Gauteng, KwaZulu-Natal, Mpumalanga, Limpopo and North-West. c. Not listed elsewhere. d. The fruit of the purple granadilla is not listed if used for human consumption.	
257.	*Passiflora tripartita* (Juss.) Poir. var.	Banana poka, Bananadilla	1b	

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
	mollissima (Kunth) Holm-Niels. & P.Jorg. (= *P. mollissima* (Kunth) L.H.Bailey			
258.	*Passiflora suberosa* L.	Devil's pumpkin, Indigo berry	1b	
259.	*Passiflora subpeltata* Ortega	Granadina	1b	
260.	*Paulownia tomentosa* (Thunb.) Steud. (= *Paulownia imperialis* Siebold & Zucc.)	Empress tree, Princess tree, Royal Paulownia	1a	
261.	*Peniocereus serpentinus* (Lag. & Rodr.) N.P.Taylor (= Nyctocereus serpentinus) Britton & Rose	Serpent cactus, Snake cactus	1b	
262.	*Pennisetum clandestinum* Hochst. ex Chiov.	Kikuyu grass	a. 1b in Protected Areas and wetlands in which it does not already occur. b. Not listed elsewhere.	
263.	*Pennisetum purpureum* Schumach.	Elephant grass, Napier grass	2	
264.	*Pennisetum setaceum* (Forssk.) Chiov.	Fountain grass	a. 1b b. Sterile cultivars or hybrids are not listed.	
265.	*Pennisetum villosum* R.Br. ex Fresen.	Feathertop	1b	
266.	*Pereskia aculeata* Mill.	Pereskia, Barbados gooseberry	1b	
267.	*Persicaria capitata* (Buch.-Ham. ex D.Don) H.Gross (= *Polygonum capitatum* Buch.-Ham. ex D.Don)	Knotweed	1b	
268.	*Phytolacca americana* L. (= *P. decandra* L.)	American pokeweed	1b	
269.	*Phytolacca dioica* L.	Belhambra	3	
270.	*Phytolacca octandra* L.	Forest inkberry	1b	
271.	*Pinus canariensis* C.Sm.	Canary pine	3	
272.	*Pinus elliotti* Engelm. and hybrids, varieties and selections	Slash pine	2	Exempted for an existing plantation of sterile specimens.
273.	*Pinus halepensis* Mill.	Aleppo pine	a. 3 in Eastern Cape, Free State and Western Cape. b. Not listed elsewhere.	
274.	*Pinus patula* Schiede ex Schltdl. & Cham. and hybrids, varieties and selections	Patula pine	2	Exempted for an existing plantation.
275.	*Pinus pinaster* Aiton and hybrids, varieties and selections	Cluster pine	a. 2 for plantations and wind-rows. b. 1b elsewhere. c. National Heritage Trees or National Monument Trees in terms of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), are not listed. d. Except for "a" above, specimens with a circumference greater	Exempted for an existing plantation outside of the Western Cape. Existing plantations in the Western Cape are exempted from undertaking a risk assessment in terms of section

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
			than 1.256 m at a height of 1000 mm at the date of the first publication of this Notice (August 2014) are not listed for urban areas in Cape Town, the Overberg District Council and Winelands District Council, except i. when in a riparian area, or ii. when in a protected area or any property directly abutting a protected area, or iii. where they are ruled to pose a wildfire risk, where they remain listed as Category 1b. e. All specimens with a smaller circumference are Category 1b.	71(2) of the Act prior to applying for a permit.
276.	*Pinus radiata* D.Don and hybrids, varieties and selections	Radiata pine, Monterey pine	a. 2 for plantations and wind-rows. b. 1b elsewhere. c. National Heritage Trees or National Monument Trees in terms of the National Heritage Resources Act, 1999 (Act No. 25 of 1999), are not listed. d. Except for "a" above, specimens with a circumference greater than 1.256 m at a height of 1000 mm at the date of the first publication of this Notice (August 2014) are not listed for urban areas in Cape Town, the Overberg District Council and Winelands District Council, except i. when in a riparian area, or ii. when in a protected area or any property directly abutting a protected area, or iii. where they are ruled to pose a wildfire risk, where they remain listed as Category 1b. e. All specimens with a smaller circumference are Category 1b.	Exempted for an existing plantation outside of the Western Cape. Existing plantations in the Western Cape are exempted from undertaking a risk assessment in terms of section 71(2) of the Act prior to applying for a permit.
277.	*Pinus roxburghii* Sarg. and hybrids, varieties and selections (= *P. longifolia* Roxb. ex Lamb.)	Chir pine, Longifolia pine	2	Exempted for an existing plantation.
278.	*Pinus taeda* L. and hybrids, varieties and selections	Loblolly pine	2	Exempted for an existing plantation.
279.	*Pistia stratiotes* L.	Water lettuce	1b	
280.	*Pittosporum crassifolium* Banks & Sol. ex A.Cunn.	Karo, Stiff-leaved cheesewood	3	
281.	*Pittosporum undulatum* Vent.	Australian cheesewood, Sweet pittosporum	1b	
282.	*Plectranthus barbatus* var. *grandis* (= *P. comosus* Sims)	'Abyssinian' coleus, Woolly plectranthus	1b	

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
283.	*Poa pratensis* L.	Kentucky bluegrass	a. 1a Prince Edward Island. b. 1b Marion Island. c. Not listed on mainland or other off-shore islands.	
284.	*Polypodium aureum* (L.) J.Sm.	Rabbits-foot fern	a. 3 in Eastern Cape, KwaZulu-Natal, Limpopo and Mpumalanga. b. Not listed elsewhere.	
285.	*Pontederia cordata* L.	Pickerel weed	1b	
286.	*Populus alba* L.	White poplar	2	
287.	*Populus* × *canescens* (Aiton) Sm.	Grey poplar, Matchwood poplar	2	
288.	*Prosopis glandulosa* Torr. var. *torreyana* (L.D. Benson) M.C. Johnst. and hybrids	Honey mesquite	a. 1b in Eastern Cape, Free State, North-West and Western Cape. b. 3 in Northern Cape. c. The utilisation of the pods for fodder is not listed in the Northern Cape, Eastern Cape, Free State, North-West and Western Cape. d. Not listed elsewhere.	
289.	*Prosopis velutina* Wooton and hybrids	Velvet mesquite	a. 1b in Eastern Cape, Free State, North-West and Western Cape. b. 3 in Northern Cape. c. The utilisation of the pods for fodder is not listed in the Northern Cape, Eastern Cape, Free State, North-West and Western Cape. d. Not listed elsewhere.	
290.	*Prunus serotina* Ehrh.	Black cherry	1b	
291.	*Psidium cattleianum* Sabine (= *P. littorale* Raddi var. *longipes* (O.Berg.) Fosberg	Strawberry guava	1b	
292.	*Psidium guajava* L.	Guava	a. 2 for plantations in Eastern Cape, KwaZulu-Natal, Limpopo, Mpumalanga and North-West. b. 3 elsewhere in Eastern Cape, Kwazulu-Natal, Limpopo, Mpumalanga and North-West. c. The fruit of the guava is not listed if used for human consumption. d. Not listed elsewhere.	
293.	*Psidium guineense* Sw.	Brazilian guava	1b	
294.	*Psidium* × *durbanensis* Baijnath ined.	Durban guava	1b	
295.	*Pueraria montana* (Lour.) Merr. var. *lobata* (Willd.) Maesen & S.M.Almeida (= *P. lobata* (Willd.) Ohwi)	Kudzu vine	1a	

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
296.	*Pyracantha angustifolia* (Franch.) C.K.Schneid.	Yellow firethorn	1b	
297.	*Pyracantha coccinea* M.Roem.	Red firethorn	1b	
298.	*Pyracantha crenatoserrata* (Hance) Rehder (= *P. fortuneana* misapplied)	Chinese firethorn, Broad leaf firethorn	1b	
299.	*Pyracantha crenulata* (D.Don) M.Roem; including var. *rogersiana* (= *P. rogersiana* (A.B.Jacks.) Chitt.)	Himalayan firethorn	1b	
300.	*Pyracantha koidzumii* (Hayata) Rehder	Formosa firethorn	1b	
301.	*Rhus glabra* L.	Scarlet sumach, Vinegar bush	3	
302.	*Ricinus communis* L.	Castor-oil plant	2	
303.	*Rivina humilis* L.	Rivina, Bloodberry	1b	
304.	*Robinia pseudoacacia* L.	Black locust	1b	
305.	*Rosa rubiginosa* L. (= *R. eglanteria* L.)	Eglantine, Sweetbriar	1b	
306.	*Rubus cuneifolius* Pursh and hybrid *R.* × *proteus* C.H.Stirt.	American bramble	1b	
307.	*Rubus ellipticus* Sm.	Asian wild raspberry, Yellow Himalayan raspberry	1a	
308.	*Rubus flagellaris* Willd.	Bramble	1b.	.
309.	*Rubus fruticosus* L. agg.	European blackberry	a. 2 b. The fruit of the European blackberry is not listed if used for human consumption.	
310.	*Rubus immixtus* Gust.	Hogsback raspberry	1b	
311.	*Rubus niveus* Thunb.	Ceylon raspberry, Mysore raspberry	1b	
312.	*Rumex acetosella* L.	Sheep sorrel, Red sorrel	a. 1a Prince Edward and Marion Islands. b. Not listed on mainland or other off-shore islands.	
313.	*Rumex usambarensis* (Dammer) Dammer (= *R. nervosus* Vahl var. *usambarensis* Dammer)	East African dock	1b	
314.	*Sagina procumbens* L.	Birdeye pearlwort	a. 1b Prince Edward and Marion Islands. b. Not listed on mainland or other off-shore islands.	
315.	*Sagittaria platyphylla* (Engelm.) J.G.Sm.	Delta arrowhead, Slender arrowhead	1a	
316.	*Salsola kali* L.	Tumbleweed	1b	
317.	*Salsola tragus* L.	Russian tumbleweed	1b	

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
	(= *S. australis* R.Br.)			
318.	*Salvia tiliifolia* Vahl	Lindenleaf sage	1b	
319.	*Salvinia minima* Baker	Small salvinia	1b	
320.	*Salvinia molesta* D.S.Mitch. and other species of the Family Salviniaceae	Kariba weed, Salvinia	1b	
321.	*Sambucus canadensis* L. (= *S. nigra* L. subsp. *canadensis* (L.) Bolli	Canadian elder	1b	
322.	*Sambucus nigra* L.	European elder	1b	
323.	*Sasa ramosa* (Makino) Makino & Shibata (= *Arundinaria vagans* Gamble)	Dwarf yellow-striped bamboo	3	
324.	*Schefflera actinophylla* (Endl.) Harms	Australian cabbage tree, Queensland umbrella tree	a. 1b in Eastern Cape, KwaZulu-Natal, Limpopo and Mpumalanga. b. Not listed elsewhere.	
325.	*Schefflera arboricola* (Hayata) Merr.	Dwarf umbrella tree	a. 3 in Eastern Cape, KwaZulu-Natal, Limpopo and Mpumalanga. b. Not listed elsewhere.	
326.	*Schefflera elegantissima* (hort. Veitch ex Mast.) Lowry & Frodin (= *Dizygotheca elegantissima* (hort. Veitch ex Mast.) R.Vig. & Guillaumin	False aralia	a. 3 in Eastern Cape, KwaZulu-Natal, Limpopo and Mpumalanga. b. Not listed elsewhere.	
327.	*Schinus terebinthifolius* Raddi	Brazilian pepper tree	a. 1b in Eastern Cape, KwaZulu-Natal, Limpopo and Mpumalanga. b. 3 in Free State, Gauteng, North-West, Northern Cape and Western Cape.	
328.	*Senna bicapsularis* (L.) Roxb. (= *Cassia bicapsularis* L.)	Rambling cassia	1b	
329.	*Senna didymobotrya* (Fresen.) H.S.Irwin & Barneby (= *Cassia didymobotrya* Fresen.)	Peanut butter cassia	a. 1b in Eastern Cape, KwaZulu-Natal, Limpopo, Mpumalanga and Western Cape. b. Not listed elsewhere.	
330.	*Senna hirsuta* (L.) H.S.Irwin & Barneby (= *Cassia hirsuta* L.)	Hairy senna, Woolly senna	1b	
331.	*Senna occidentalis* (L.) Link (= *Cassia occidentalis* L.)	Stinking weed, Wild coffee	1b	
332.	*Senna pendula* (Willd.) H.S.Irwin & Barneby var. *glabrata* (Vogel) H.S.Irwin & Barneby (= *Cassia coluteoides* Collad.)	Climbing cassia, Easter cassia	1b	
333.	*Senna septemtrionalis* (Viv.) H.S.Irwin & Barneby (= *Cassia floribunda* sensu Brenan, *C.*	Arsenic bush, Smooth senna	1b	

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
	laevigata Willd.)			
334.	*Sesbania punicea* (Cav.) Benth.	Red sesbania	1b	
335.	*Solanum betaceum* Cav. (= *Cyphomandra betacea* (Cav.) Sendtn.)	Tree tomato	a. 3 in Eastern Cape, KwaZulu-Natal, Limpopo and Mpumalanga. b. The fruit of the tree tomato is not listed if used for human consumption, in the Eastern Cape, KwaZulu-Natal, Limpopo and Mpumalanga. c. Not listed elsewhere.	
336.	*Solanum chrysotrichum* Schltdl. (*S. hispidum* misapplied in South Africa)	Giant devil's fig	1b	
337.	*Solanum elaeagnifolium* Cav.	Silver-leaf bitter apple	1b	
338.	*Solanum mauritianum* Scop.	Bugweed	1b	
339.	*Solanum pseudocapsicum* L.	Jerusalem cherry	1b	
340.	*Solanum seaforthianum* Andrews	Potato creeper	1b	
341.	*Solanum sisymbriifolium* Lam.	Wild tomato, Dense- thorned bitter apple	1b	
342.	*Sorghum halepense* (L.) Pers.	Johnson grass, Aleppo grass	2	
343.	*Spartina alterniflora* Loisel.	Smooth cordgrass, Salt-water cordgrass	1a	
344.	*Spartium junceum* L.	Spanish broom	a. 1b in Eastern Cape and Western Cape. b. 3 in Free State, Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga. North-West and Northern Cape.	
345.	*Spathodea campanulata* P.Beauv.	African flame tree	a. 3 in Eastern Cape, KwaZulu-Natal, Limpopo and Mpumalanga. b. Not listed elsewhere.	
346.	*Sphagneticola trilobata* (L.) Pruski (= *Thelechitonia trilobata* (L.) H.Rob. & Cuatrec., *Wedelia trilobata* (L.) Hitchc.)	Singapore daisy	a. 1b in Eastern Cape, KwaZulu-Natal, Limpopo and Mpumalanga. b. 3 in Free State, Gauteng, North-West, Northern Cape and Western Cape.	
347.	*Stachytarpheta cayennensis* (Rich.) Vahl (= *S. urticifolia* Sims)	Blue snakeweed, Cayenne snakeweed	3	
348.	*Stachytarpheta mutabilis* (Jacq.) Vahl	Pink snakeweed	3	
349.	*Stellaria media* (L.) Vill.	Common chickweed	a. 1a Prince Edward Island. b. 1b Marion Island. c. Not listed on mainland or other off-shore islands.	
350.	*Syngonium podophyllum* Schott	Goose foot, Arrow- head vine	a. 1b in Eastern Cape, KwaZulu-Natal, Limpopo and Mpumalanga. b. 2 for breeding in nurseries in in Eastern Cape, KwaZulu-Natal, Limpopo and Mpumalanga, but may not be transferred within these Provincial boundaries. c. Not listed elsewhere.	.

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
351.	*Syzygium cumini* (L.) Skeels	Jambolan	a. 1b b. The fruit of the jambolan is not listed if used for human consumption.	
352.	*Syzygium jambos* (L.) Alston	Rose apple	3	
353.	*Tamarix aphylla* (L.) H.Karst. Not to be confused with indigenous *Tamarix usneoides* E.Mey. ex Bunge	Athel tree, Desert tamarisk	1b	
354.	*Tamarix chinensis* Lour. Not to be confused with indigenous *Tamarix usneoides* E.Mey. ex Bunge	Chinese tamarisk	1b	
355.	*Tamarix gallica* L. Not to be confused with indigenous *Tamarix usneoides* E.Mey. ex Bunge	French tamarisk	1b	
356.	*Tamarix ramosissima* Ledeb. Not to be confused with indigenous *Tamarix usneoides* E.Mey. ex Bunge	Pink tamarisk	1b	
357.	*Tecoma stans* (L.) Juss. ex Kunth	Yellow bells	1b	
358.	*Tephrocactus articulatus* (Pfeiff.) Backeb. (= *Opuntia articulata* (Pfeiff.) D.R.Hunt	Pine cone cactus, Paper-spine cholla	1a	
359.	*Thevetia peruviana* (Pers.) K.Schum. (= *T. neriifolia* Juss. ex Steud.)	Yellow oleander	1b	
360.	*Tipuana tipu* (Benth.) Kuntze (= *T. speciosa* Benth.)	Tipu tree	3	
361.	*Tithonia diversifolia* (Hemsl.) A.Gray	Mexican sunflower	1b	
362.	*Tithonia rotundifolia* (Mill.) S.F.Blake	Red sunflower	1b	
363.	*Toona ciliata* M.Roem. (= *Cedrela toona* Roxb. ex Willd.)	Toon tree	3	
364.	*Toxicodendron succedaneum* (L.) Kuntze (= *Rhus succedanea* L.)	Wax tree	1b	
365.	*Tradescantia fluminensis* Vell.	Wandering Jew	1b	
366.	*Tradescantia zebrina* hort. ex Bosse (= *Zebrina pendula* Schnizl.)	Wandering Jew	1b	
367.	*Trichocereus spachianus* Riccob. (= *Echinopsis spachiana)*	Torch cactus	1b	
368.	*Triplaris americana* L.	Ant tree, Triplaris	1a	
369.	*Tropaeolum speciosum* Poepp. & Endl.	Chilean flame creeper, Flame nasturtium	3	
370.	*Ulex europaeus* L.	European gorse	1a	
371.	*Verbena bonariensis* L.	Wild verbena, Tall verbena,	1b	

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
		Purple top		
372.	*Verbena brasiliensis* Vell.	Brazilian verbena	1b	
373.	*Verbena rigida* Spreng. (= *V. venosa* Gillies & Hook.)	Veined verbena	1b	
374.	*Vinca major* L.	Greater periwinkle	1b	
375.	*Vinca minor* L.	Lesser periwinkle	a. 1b b. Sterile cultivars or hybrids are not listed.	
376.	*Vitex trifolia* L.	Indian three-leaf vitex	1b	
377.	*Wigandia urens* (Ruiz & Pav.) Kunth var. *caracasana* (Kunth) D.N.Gibson (= *W. caracasana* Kunth)	Wigandia	3	
378.	*Xanthium spinosum* L.	Spiny cocklebur	1b	
379.	*Xanthium strumarium* L.	Large cocklebur	1b	

List 2: National List of Invasive Marine Plant Species

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
1.	*Asparagopsis armata* Harvey	Harpoon weed	3	
2.	*Asparagopsis taxiformis* (Delile) Trevisan de Saint-Léon	Pleasing seaweed	3	
3.	*Schimmelmannia elegans* Baardseth	Red algae	1b	
4.	*Undaria pinnatifida* (Harvey) Suringar	Asian kelp	1b	

List 3: National List of Invasive Mammal Species

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
1.	*Addax nasomaculatus* (de Blainville, 1816)	Addax	2	
2.	*Aepyceros melampus petersi* Bocage, 1879	Black-faced impala	2	
3.	*Ammotragus lervia* (Pallas, 1777)	Barbary sheep	2	
4.	*Antilope cervicapra* (Linneaus, 1758)	Indian blackbuck	2	
5.	*Axis axis* (Erxleben, 1777)	Axis deer (Chital)	2	
6.	*Axis porcinus* (Zimmermann, 1780)	Hog deer	2	
7.	*Bos frontalis* Lambert, 1804	Gaur	2	
8.	*Boselaphus tragocamelus* (Pallas, 1766)	Nilgai	2	
9.	*Capra hircus* Linnaeus, 1758	Feral goat	a. 1a for off-shore islands. b. Not listed elsewhere.	
10.	*Cervus elaphus* Linnaeus, 1758	Red deer	2	
11.	*Cervus nippon* Temminick, 1838	Sika deer	2	
12.	*Dama dama* (Linnaeus, 1758)	Fallow deer	2	
13.	*Elaphurus davidianus* Milne-Edwards, 1866	Père David's deer	2	
14.	*Erythrocebus patas* (Schreber, 1775)	Patas monkey	a. 1a in KwaZulu-Natal. b. 1b elsewhere. c. 2 if bred for export.	
15.	*Felis catus* Linnaeus, 1758	Domestic cat	a. 1a for off-shore islands. b. Not listed elsewhere.	
16.	*Giraffa camelopardalis* (Linnaeus, 1758) (all subspecies with the exception of *giraffa*)	Giraffe (except the South African giraffe)	2	
17.	*Hemitragus jemlahicus* (C.H. Smith, 1826)	Himalayan tahr	1b	
18.	*Hippotragus equinus koba* (Gray, 1872)	Western roan	2	
19.	*Hippotragus niger* Harris, 1838 (all subspecies except of *H. n. niger*)	Sable	2	
20.	*Hydrochoerus hydrochaeris* (Linnaeus, 1766)	Capybara	2	Prohibited for Restricted Activity (c): "Growing, breeding or in any other way propagating any specimen of a listed invasive species, or causing it to multiply."
21.	*Kobus leche kafuensis* Haltenorth, 1963	Kafue lechwe	2	
22.	*Kobus ellipsiprymnus crawshayi* (P. L. Sclater, 1894)	Crawshay's waterbuck (Zambia)	2	

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
23.	*Kobus ellipsiprymnus defassa* (Rüppell, 1835).	Defassa waterbuck (Kenya)	2	
24.	*Kobus leche leche* Gray, 1850	Red lechwe	2	
25.	*Kobus vardonii* (Livingstone, 1857)	Puku	2	
26.	*Madoqua kirkii* Günther, 1880	Damara dik-dik	3	
27.	*Macaca fascicularis* Raffles, 1821	Crab-eating macaque	2	
28.	*Mus musculus* Linnaeus, 1758	House mouse	a. 1a for Marion Island b. 1b for off-shore islands. c. Not listed elsewhere.	
29.	*Myocastor coypus* (Molina, 1782)	Coypu	2	Prohibited for Restricted Activity (c): "Growing, breeding or in any other way propagating any specimen of a listed invasive species, or causing it to multiply."
30.	*Oryctolagus cuniculus* (Linnaeus, 1758)	European rabbit	a. 1b for off-shore islands. b. Not listed elsewhere.	
31.	*Oryx dammah* (Cretzschmar, 1827)	Oryx, scimitar-horned	2	
32.	*Ovis aries musimon* Pallas, 1762	Mouflon	2	
33.	*Rattus norvegicus* (Berkenhout, 1769)	Brown rat	a. 1b for off-shore islands. b. Not listed elsewhere.	
34.	*Rattus rattus* (Linnaeus, 1758)	House rat	a. 1b for off-shore islands. b. Not listed elsewhere.	
35.	*Rattus tanezumi* Temminck, 1844	Asian house rat	a. 1b for off-shore islands. b. Not listed elsewhere.	
36.	*Rusa unicolor* (Kerr, 1792)	Sambar deer	2	
37.	*Sciurus carolinensis* Gmelin, 1788	Grey squirrel	a. 1a in KwaZulu-Natal. b. 3 elsewhere.	
38.	*Sus scrofa* Linnaeus, 1758	Wild boar	a. 1b b. Not listed when not feral.	
39.	*Tragelaphus derbianus* (Gray, 1847)	Derby eland	2	
40.	*Tragelaphus euryceros* (Ogilby, 1837)	Bongo	1a	
41.	*Tragelaphus imberbis* (Blyth, 1869)	Lesser kudu	1a	
42.	*Tragelaphus spekii* P.L. Sclater, 1863	Sitatunga	2	
43.	All hybrids of mammal species or sub-species listed in this Notice		a. 1a b. 2 for hybrids of western roan for back-breeding purposes.	

List 4: National List of Invasive Bird Species

NO.	SPECIES	COMMON NAME	CATEGORY	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
1.	*Acridotheres tristis* (Linnaeus, 1766)	Indian mynah	3	
2.	*Alectoris chukar* (J. E. Gray, 1830)	Chukar partridge	2 on mainland. 1b on off-shore islands.	
3.	*Anas platyrhynchos* (Mallard)	Mallard duck	2	
4.	*Columba livia* (Gmelin, 1789)	Rock dove/pigeon	a. 3 b. 2 for all restricted activities relating to racing and showing of pigeons.	Any person undertaking pigeon racing or pigeon showing registered with the relevant industry Association is exempted from requiring a permit for all restricted activities, provided such Association is in possession of a valid permit in terms of the Act or the Alien and Invasive Species Regulation, 2014 for any restricted activity relating to pigeon racing or pigeon showing and provided such person complies with all permit conditions in the relevant Association's permit. The above exemption does not apply to restricted activity "a" in Notice 1: "Importing into the Republic, including introducing from the sea, any specimen of a listed invasive species" and any person engaging in this activity must apply for a permit from the Issuing Authority.
5.	*Corvus splendens* Vieillot, 1817	Indian house crow	1a	
6.	*Fringilla coelebs* Linnaeus, 1758	Chaffinch	2	
7.	*Numida meleagris galeata* (Pallas, 1767)	West African helmeted guineafowl	3	
8.	*Oxyura jamaicensis* (Gmelin, 1789)	Northern ruddy duck	2	
9.	*Passer domesticus* (Linnaeus, 1758)	House sparrow	3	
10.	*Psittacula krameri (Scopoli, 1769)*	Rose-ringed parakeet	2	Any person undertaking rose-ringed parakeet breeding registered with the relevant industry Association is exempted from requiring a permit for all restricted activities, provided such Association is in possession of a valid permit in terms of the Act or the Alien and Invasive Species Regulation, 2014 for any restricted activity relating to rose-ringed parakeet breeding and provided such person complies with all permit conditions in the

NO.	SPECIES	COMMON NAME	CATEGORY	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
				relevant Association's permit. The above exemption does not apply to restricted activity "a" in Notice 1: "Importing into the Republic, including introducing from the sea, any specimen of a listed invasive species" and any person engaging in this activity must apply for a permit from the Issuing Authority.
11.	*Pycnonotus cafer* (Linnaeus, 1766)	Red-vented bulbul	2	
12.	*Streptopelia picturata* (Temminck, 1813)	Madagascar (Malagasy) turtle-dove	2	
13.	*Struthio camelus molybdophanes* Reichenow, 1883	North African (Somali) ostrich	2	
14.	*Sturnus vulgaris* Linnaeus, 1758	Eurasian/Common starling	3	
15.	All hybrids between indigenous and alien (excluding extra-limital) species		1a	

List 5: National List of Invasive Reptile Species

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
1.	*Anolis carolinensis* Voigt, 1832	Green anole	a. 2 in Eastern Cape, KwaZulu-Natal, Limpopo and Mpumalanga. b. Not listed elsewhere.	
2.	*Apalone* species Rafinesque, 1832	Soft-shell terrapins	2	
3.	*Basiliscus plumifrons* (Cope, 1876)	Plumed basilisk ,Green baslisk	a. 2 in Eastern Cape, KwaZulu-Natal, Limpopo and Mpumalanga. b. Not listed elsewhere.	
4.	*Bitis gabonica (*A.M.C. Duméril, Bibron & A.H.A. Duméril, 1854) *x Bitis* sp.	Gaboon adder x Any other *Bitis* species	1b	
5.	*Basiliscus vittatus* Wiegmann, 1828	Basilisk, Brown basilisk	2	
6.	*Bitis nasicornis* (Shaw, 1792)	Rhinoceros viper, River jack	a. 2 in KwaZulu-Natal, Mpumalanga, Eastern Cape and Limpopo. b. Not listed elsewhere.	
7.	*Bitis rhinoceros* (Schlegel, 1855)	Rhinocerhos viper	a. 2 in KwaZulu-Natal, Mpumalanga, Eastern Cape, and Limpopo. b. Not listed elsewhere.	
8.	*Boa constrictor* Linnaeus, 1758	Common boa	a. 2 in KwaZulu-Natal, Mpumalanga, Eastern Cape and Limpopo. b. Not listed elsewhere.	
9.	*Calotes versicolor* (Daudin, 1802)	Changeable lizard	1b	
10.	*Centrochelys sulcata* Gray, 1873	Spur-thighed tortoise, African spurred tortoise	2	
11.	*Chelydra serpentina* (Linnaeus, 1758)	Common snapping turtle	2	
12.	*Cuora* species Gray, 1856	Chinese/ Asian box terrapins	1b	
13.	*Emys orbicularis* (Linnaeus, 1758	European pond turtle	1b	
14.	*Furcifer oustaleti* (Mocquard, 1894)	Oustalet's chameleon	2	
15.	*Furcifer pardalis* (Cuvier, 1829	Panther chameleon	2	
16.	*Gehyra mutilata* (Wiegmann, 1834)	Stump-tailed gecko	3	
17.	*Gekko gecko* (Linnaeus, 1758)	Tokay gecko	2	
18.	*Iguana iguana* (Linnaeus, 1758)	Green iguana	a. 1b in KwaZulu-Natal and Northern Cape b. 2 in Mpumalanga, Eastern Cape and Limpopo.	

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
			c. Not listed elsewhere.	
19.	*Lepidodactylus lugubris* (Duméril and Bibron, 1836)	Mourning gecko; Common smooth-scaled gecko	1b	
20.	*Macrochelys temminckii* Troost in Harlan, 1835)	Alligator snapper turtle	2	
21.	*Morelia amethistina* (Schneider, 1801)	Amethistine python	a. 2 in Eastern Cape, KwaZulu-Natal, Limpopo and Mpumalanga. b. Not listed elsewhere.	
22.	*Morelia spilota* (Lacépède, 1804)	Carpet/diamond python	2	
23.	*Pelodiscus* species (Wiegmann, 1835)	Chinese softshell terrapins	1b	
24.	*Python bivittatus* (Kuhl, 1820)	Burmese python	2	
25.	*Python natalensis* x *Python molurus*	Southern African python x Burmese python	1a	
26.	*Trachemys* species	Turtles / Sliders native to the Americas	2	Restrcited activities “a”, “c” and “e” to “l” in Notice 1 are prohibited.
27.	*Trioceros (Chamaeleo) jacksonii* (Boulenger, 1896)	Jackson’s chameleon	a. 2 in Eastern Cape, KwaZulu-Natal, Limpopo and Mpumalanga. b. Not listed elsewhere.	
28.	*Trioceros (Chamaeleo) melleri* (Gray, 1865)	Meller’s chameleon	a. 2 in Eastern Cape, KwaZulu-Natal, Limpopo and Mpumalanga. b. Not listed elsewhere.	
29.	*Varanus salvator* (Laurenti, 1768)	Indonesian/Common water monitor	3	
30.	Unless otherwise listed, all hybrids between indigenous and introduced species of reptiles		1b	

List 6: National List of Invasive Amphibian Species

NO.	SPECIES	COMMON NAME	CATEGORY / AREAS	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
1.	*Amietophrynus gutturalis* (Power, 1927)	Guttural (African common) toad	a. 1b in Western Cape. b. Not listed elsewhere.	
2.	*Dendrobatidae* species	Poison arrow (or dart) frogs	2	
3.	*Hyperolius marmoratus* Rapp, 1842	Painted reed frog	a. 3 in Western Cape. b. Not listed elsewhere.	
4.	*Pelophylax* species	Marsh frog; Edible frog; Pool frog	1b	
5.	*Triturus carnifex* (Laurenti, 1768)	Italian crested newt	1b	
6.	*Xenopus laevis* Daudin, 1802 x *Xenopus gilli Rose & Hewitt, 1927*	African clawed toad x Cape (Gill's) platanna	1b	
7.	Unless otherwise listed, all hybrids between indigenous and introduced species of amphibians		1b	

List 7: National List of Invasive Fresh-water Fish Species

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
1.	*Arapaima gigas* (Schinz, 1822)	Arapaima	3	
2.	*Cichla* species	Peacock cichlid/Bass	3	
3.	*Clarias gariepinus (Burchell, 1822)*	African sharptooth catfish	a. 2 in Northern Cape, Western Cape and Eastern Cape b. Not listed elsewhere	
4.	*Colossoma* species	Pacu	3	
5.	*Ctenopharyngodon idella* (Valenciennes, 1844)	Grass carp	a. 1b in National Parks, Provincial Reserves, Mountain Catchment Areas and Forestry Reserves declared in terms of the Protected Areas Act. b. 2 for breeding of triploid grass carp. c. 3 in all other discrete catchment systems in which it occurs.	a. The transfer or release of a specimen of grass carp from one discrete catchment system in which it occurs, to another discrete catchment system in which it does not occur; or, from within a part of a discrete catchment system where it does occur to another part where it does not occur as a result of a natural or artificial barrier, is prohibited. b. Catch and release of grass carp is exempted in discrete catchment systems in which it occurs.
6.	*Ctenopharyngodon idella* (Valenciennes in Cuvier & Valenciennes, 1844)	Triploid grass carp	a. Triploid grass carp is not listed for dams within discrete catchment systems in which it occurs. b. 2 for release of triploid grass carp into dams in discrete catchment systems in which it does not occur. c. 2 for release of triploid grass carp into rivers, wetlands, lakes and estuaries in which it occurs. d. 3 in all rivers, wetlands, lakes and estuaries in which it occurs.	a. The transfer or release of a specimen of triploid grass carp from one discrete catchment system in which it occurs, to a river, wetland, lake or estuary in another discrete catchment system in which it does not occur; or, from within a part of a discrete catchment system where it does occur to a river, wetland, lake or estuary in another part where it does not occur as a result of a natural or artificial barrier, is prohibited. b. Triploid grass carp listed as Category 2 are exempted for a period of two years from the date upon which this notice takes effect, from requiring a Permit for any restricted activity in terms of the Act or Alien and Invasive Species Regulations, 2014, provided a person is in possession of a valid Provincial Permit issued in terms of Provincial legislation where required for triploid grass carp. c. Catch and release of triploid grass carp is exempted in discrete catchment systems in which it occurs.
7.	*Cyprinus carpio* (Linnaeus, 1758)	Common carp	a. 1b in National Parks, Provincial Reserves, Mountain Catchment Areas and Forestry Reserves declared in terms of the Protected Areas Act. b. 2 for release into a dam within a discrete catchment system in which it does not occur.	a. The transfer or release of a specimen of common carp from one discrete catchment system in which it occurs, to another discrete catchment system in which it does not occur; or, from within a part of a discrete catchment system where it does occur to another part where it does not occur as a result of a natural or artificial barrier, is prohibited. b. Release of Common carp in National Parks, Provincial Reserves, Mountain Catchment Areas and Forestry Reserves declared in terms of the Protected Areas Act is prohibited. c. Release of Common carp in any rivers, wetlands, natural lakes and estuaries is

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
			c. 3 in all rivers, wetlands, natural lakes and estuaries in which it occurs. d. Subject to b above, common carp is not listed for dams within discrete catchment systems in which it occurs.	prohibited. d. Common carp are exempted where listed as Category 2 for a period of two years from the date upon which this notice takes effect, from requiring a Permit for any restricted activity in terms of the Act or Alien and Invasive Species Regulations, 2014, provided a person is in possession of a valid Provincial Permit issued in terms of Provincial legislation where required for common carp. e. Except for those areas detailed in b above, catch and release of common carp is exempted in discrete catchment systems in which it occurs. f. Ornamental koi carp are exempt from requiring a permit for all restricted activities except for restricted activity 'g' in Notice 1: "Releasing any specimen of a listed invasive species."
8.	*Electrophorus electricus* (Linnaeus, 1766)	Electric eel	3	
9.	*Gambusia affinis* (Baird and Girard, 1853)	Mosquito-fish	a. 1b in National Parks, Provincial Reserves, Mountain Catchment Areas and Forestry Reserves declared in terms of the Protected Areas Act. b. 3 for all other discrete catchment systems in which it occurs. c. 2 for breeding for the purpose of feeding stock for zoos and animal breeders.	a. The transfer or release of a specimen of mosquito-fish from one discrete catchment system in which it occurs, to another discrete catchment system in which it does not occur; or, from within a part of a discrete catchment system where it does occur to another part where it does not occur as a result of a natural or artificial barrier, is prohibited. b. Catch and release of mosquito-fish is exempted in discrete catchment systems in which it occurs.
10.	*Hypophthalmichthys molitrix* (Valenciennes, 1844)	Silver carp	a. 1b in National Parks, Provincial Reserves, Mountain Catchment Areas and Forestry Reserves declared in terms of the Protected Areas Act. b. 3 in all other discrete catchment systems in which it occurs.	a. The transfer or release of a specimen of silver carp from one discrete catchment system in which it occurs, to another discrete catchment system in which it does not occur; or, from within a part of a discrete catchment system where it does occur to another part where it does not occur as a result of a natural or artificial barrier, is prohibited. b. Catch and release of silver carp is exempted in discrete catchment systems in which it occurs.
11.	Lates calcarifer (Blotch, 1790)	Barramundi	2	
12.	*Lepomis macrochirus (*Rafinesque, 1819)	Bluegill	a. 1b in National Parks, Provincial Reserves, Mountain Catchment Areas and Forestry Reserves declared in terms of the Protected Areas Act. b. 3 for all other discrete catchment systems in which it occurs.	a. The transfer or release of a specimen of bluegill from one discrete catchment system in which it occurs, to another discrete catchment system in which it does not occur; or, from within a part of a discrete catchment system where it does occur to another part where it does not occur as a result of a natural or artificial barrier, is prohibited. b. Catch and release of bluegill is exempted in discrete catchment systems in which it occurs.

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
13.	*Micropterus dolomieu* (Lacepède, 1802)	Small-mouth bass	a. 1b in National Parks, Provincial Reserves, Mountain Catchment Areas and Forestry Reserves declared in terms of the Protected Areas Act. b. 2 for release into dams within discrete catchment systems in which it occurs c. 3 in all rivers, wetlands, lakes and estuaries in which it occurs. d. Subject to (b), each listed bass species is not listed for dams within discrete catchment systems in which it (the specific listed bass species) occurs.	a. The transfer or release of a specimen of a listed bass species from one discrete catchment system in which it occurs, to another discrete catchment system in which it does not occur; or, from within a part of a discrete catchment system where it does occur to another part where it does not occur as a result of a natural or artificial barrier, is prohibited. b. The release of the listed bass species in National Parks, Provincial Reserves, Mountain Catchment Areas and Forestry Reserves declared in terms of the Protected Areas Act is prohibited. c. The release of the listed bass species in any rivers, wetlands, lakes and estuaries is prohibited. d. Each listed bass species listed as Category 2 is exempted for a period of two years from the date upon which this notice takes effect, from requiring a Permit for any restricted activity in terms of the Act or Alien and Invasive Species Regulations, 2014, provided a person is in possession of a valid Provincial Permit issued in terms of Provincial legislation where required for the specific listed bass species. e. Catch and release of the listed bass species is exempted in discrete catchment systems in which they occur.
14.	*Micropterus floridanus* (Lesueur, 1822)	Florida bass		
15.	*Micropterus floridanus* (Lesueur, 1822) *x Micropterus salmoides* (Lacepède, 1802)	Hybrids of the Florida bass and the large-mouth bass		
16.	*Micropterus punctulatus* (Rafinesque, 1819)	Spotted bass		
17.	*Micropterus salmoides* (Lacepède, 1802)	Large-mouth bass	a. 2 in National Parks, Provincial Reserves, Mountain Catchment Areas and Forestry Reserves declared in terms of the Protected Areas Act. b. 3 in all rivers, wetlands, lakes and estuaries in which it occurs. c. Large-mouth bass is not listed for dams (including for release in dams) within discrete catchment systems in which it occurs.	a. The transfer or release of a specimen of large-mouth bass from one discrete catchment system in which it occurs, to another discrete catchment system in which it does not occur; or, from within a part of a discrete catchment system where it does occur to another part where it does not occur as a result of a natural or artificial barrier, is prohibited. b. The release of Large-mouth bass in any rivers, wetlands, lakes and estuaries is prohibited. c. Large-mouth bass listed as category 2 are exempted for a period of two years from the date upon which this notice takes effect, from requiring a Permit for any restricted activity in terms of the Act or Alien and Invasive Species Regulations, 2014, provided a person is in possession of a valid Provincial Permit issued in terms of Provincial legislation where required for large-mouth bass. d. Catch and release of large-mouth bass is exempted in discrete catchment systems in which it occurs.
18.	*Myleus* species	Brown metynnis	3	
19.	*Oncorhynchus kisutch* (Walbaum, 1792)	Coho salmon	2	
20.	*Oncorhynchus mykiss* (Walbaum, 1792)	Rainbow Trout	2	a. All persons are exempted from requiring a permit for restricted activities “b” and “j” in Notice 1.
21.	*Oncorhynchus tshawytscha* (Walbaum, 1792)	King salmon	2	

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
22.	*Oreochromis species* excluding *Oreochromis mossambicus* and *Oreochromis placidus*	Tilapia	a. 3 b. 2 for permittied aquaculture facilities	a. Catch and release of tilapia b. Hybrids of tilapia species are treated as the listed tilapia species. c. The sale and transport of live tilapia is prohibited, except from accredited hatcheries. d. The import of live tilapia is prohibited, except by hatcheries with a permit, or from international hatcheries accredited by the Department of Agriculture, Forestry and Fisheries.
23.	*Perca fluviatilis* (Linnaeus, 1758)	Perch	a. 1b in National Parks, Provincial Reserves, Mountain Catchment Areas and Forestry Reserves declared in terms of the Protected Areas Act. b. 3 for all other discrete catchment systems in which it occurs.	a. The transfer or release of a specimen of perch from one discrete catchment system in which it occurs, to another discrete catchment system in which it does not occur; or, from within a part of a discrete catchment system where it does occur to another part where it does not occur as a result of a natural or artificial barrier, is prohibited. b. Catch and release of perch is exempted in discrete catchment systems in which it occurs.
24.	*Pterygoplichthys disjunctivus (*Weber, 1991)	Vermiculated sailfin catfish	a. 1b in National Parks, Provincial Reserves, Mountain Catchment Areas and Forestry Reserves declared in terms of the Protected Areas Act. b. 3 for all other discrete catchment systems in which it occurs.	a. The transfer or release of a specimen of vermiculated sailfin catfish from one discrete catchment system in which it occurs, to another discrete catchment system in which it does not occur; or, from within a part of a discrete catchment system where it does occur to another part where it does not occur as a result of a natural or artificial barrier, is prohibited. b. Catch and release of vermiculated sailfin catfish is exempted in discrete catchment systems in which it occurs.
25.	*Pygocentrus* species	Piranha	3	
26.	*Rooseveltiella* species	Piranha	3	
27.	*Schilbe species (except those that are indigenous to South Africa*	Schilbid catfish	3	
28.	*Serrasalmus species*	Piranha	3	
29.	*Salmo trutta (Linneaus, 1758)*	Brown Trout	2	a. All persons are exempted from requiring a permit for restricted activities “b” and “j” in Notice 1.
30.	*Tinca tinca* (Linnaeus, 1758)	Tench	a. 1b in National Parks, Provincial Reserves, Mountain Catchment Areas and Forestry Reserves declared in terms of the Protected Areas Act. b. 3 for all other discrete catchment systems in which it occurs.	a. The transfer or release of a specimen of tench from one discrete catchment system in which it occurs, to another discrete catchment system in which it does not occur; or, from within a part of a discrete catchment system where it does occur to another part where it does not occur as a result of a natural or artificial barrier, is prohibited. b. Catch and release of tench is exempted in discrete catchment systems in which it occurs.

List 8: National List of Terrestrial Invasive Invertebrate Species

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
1.	*Acarapis woodi* (Rennie, 1921)	Tracheal mite	1b	
2.	*Achatina fulica Bowdich, 1822*	Giant African snail	3	
3.	*Anoplolepis gracilipes* (Smith, 1857)	Crazy ant	1b	
4.	*Bactrocera dorsalis* (Hendel, 1912)	Oriental fruit fly	1a	
5.	*Bemisia tabaci* (Gennadius, 1889)	Sweet potato whitefly	1b	
6.	*Cinara cupressi* (Buckton, 1881)	Cypress aphid	1b	
7.	*Coptotermes formosanus* (Shiraki, 1909)	Formosan subterranean termite	1b	
8.	*Cosmopolites sordidus* (Germar, 1824)	Banana root borer	1b	
9.	*Dirofilaria immitis* Leidy, 1856	Heartworm nematode	1b	
10.	*Ditylenchus destructor* Thorne, 1945	Potato rot nematode	1b	
11.	*Ditylenchus dipsaci* (Kühn, 1857) Filip'ev, 1936	Stem and bulb nematode	1b	
12.	*Globodera rostochiensis* (Wollenweber, 1923), Behrens, 1975	Golden cyst nematode; potato cyst nematode	1b	
13.	*Harmonia axyridis* (Pallas, 1773)	Asian ladybeetle	1b	
14.	*Linepithema humile* (Mayr, 1868)	Argentine ant	1b	
15.	*Meloidogyne partityla* Kleynhans, 1986	"Pecan nut" nematode	1b	
16.	*Phasmatodea* species (Jacobson and Blanchi, 1902)	Stick insect	1b	
17.	*Polistes dominula* (Christ, 1791)	European Paper Wasp	1b	
18.	*Prostephanus truncatus* (Horn, 1878)	Larger grain borer	1a	
19.	*Phenacoccus madeirensis* (Green, 1925)	Madeira mealybug	1b	
20.	*Pseudococcus calceolariae* (Maskell, 1879)	Citrophilus mealybug	1b	
21.	*Radopholus similis* (Cobb, 1893) Thorne, 1949	Burrowing nematode	1b	
22.	*Trogoderma granarium* (Everts, 1899)	Khapra beetle	1b	
23.	*Varroa destructor* Anderson & Trueman, 2000	Varroa mite	1b	
24.	*Vespula germanica* (Fabricius, 1793)	European wasp, German wasp, German yellow-jacket	1b	

List 9: National List of Invasive Fresh-water Invertebrate Species

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
1.	*Aedes albopictus* (Skuse, 1895)	Asian tiger mosquito	1b	
2.	*Aplexa marmorata* (Guilding, 1828)	Marbled tadpole snail/ Slender bladder snail	1b	
3.	*Astacus leptodactylus* (Eschscholtz, 1823)	Danube/Galician/Turkish/Narrow-clawed crayfish	1a	Catch and release is prohibited
4.	*Cherax destructor* Clark, 1936	Yabby	1a	Catch and release is prohibited
5.	*Cherax quadricarinatus* (Von Martens, 1868)	Redclaw crayfish/Tropical blue crayfish	1b	Catch and release is prohibited
6.	*Cherax cainii* (Austin & Ryan, 2002)	Smooth marron	2	Catch and release is prohibited
7.	*Cherax tenuimanus* (Smith, 1912)	Hairy marron	2	Catch and release is prohibited
8.	*Lymnaea columella* (Say, 1817)	Amphibious pond snail	1b	
9.	*Orconectes limosus* (Rafinesque, 1817)	North American spiny cheek crayfish	1a	
10.	*Orconectes rusticus* (Girard, 1852)	Rusty crayfish	1a	
11.	*Pacifastacus leniusculus* (Dana, 1852)	North American signal crayfish	1a	
12.	*Tarebia granifera* (Lamarck, 1822)	Quilted melania snail	1b	

List 10: National List of Invasive Marine Invertebrate Species

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
1.	*Balanus glandula* (Darwin 1854)	Pacific barnacle	3	
2.	*Boccardia proboscidea* Hartman, 1940	Shell worm	1b	
3.	*Carcinus maenas* (Linnaeus, 1758)	European shore crab/ Green crab	1b	
4.	*Ciona intestinalis* (Linnaeus, 1767)	Sea vase, Ascidian	3	
5.	*Crassostrea gigas* (Thunberg, 1793)	Japanese oyster, Pacific oyster	2	a. Aquaculture facilities within the following areas are exempted from requiring a Permit for all restricted activities except for restricted activity "a" in Notice 1; provided they have a valid Permit from the Department responsible for Fisheries: i. Algoa Bay: landwards of a straight boundary line with endpoints at the GPS coordinates 33°51'24.82"S 25°38'11.01"E and 33°59'20.68"S 25°40'26.31"E. ii. Upstream of the mouth of the Keisikamma River at the the GPS coordinates 33°16'54.26"S 27°29'26.35"E. iii. Kleinzee: land-based operations with water outflows on the stretch of coast marked in the North by GPS coordinates 29°39'13.44"S 17°02'20.15"E and in the South 29°40'15.12"S 17°02'40.18"E. iv. Knysna River: upstream of the mouth at GPS 34° 4'55.64"S 23° 3'36.39"E v. Within the Marina Martinique, landwards of the mouth of the Marina marked as by the GPS coordinates 34°04'37.23"S 24°55'21.13"E vi. Paternoster: land-based operation with water outflows on the stretch of coast marked in the North by GPS coordinates 32°46'41.56"S 17°54'28.37"E and in the South by 32°47'14.33"S 17°54'27.75"E. vii. Port Alfred: Kowie River, upstreamof GPS coordinates 33°36'21.59"S 26°53'50.20"E. viii. Saldanha Bay: within the Bay, north-eastward of a straight boundary line with endpoints at the GPS coordinates 33°02'59.26"S 17°54'41.34"E and 33°06'17.54"S 17°57'09.53"E ix. Hamburg 33°17'0.78"S; 27°28'52.20"E. All other persons including all aquaculture facilities whether located inside or outside the areas identified in (a) above are: b. exempted from restricted activity (i) in Notice 1: "Discharging of or disposing into any waterway or the ocean, water from an aquarium, tank or other receptacle that has been used to keep a prohibited alien species or a listed invasive species." c. exempted from restricted activity (e) in Notice 1: "Selling or otherwise trading in, buying, receiving, giving, donating or accepting as a gift, or in any way acquiring or disposing of any live specimen of a listed invasive species."

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
6.	*Discinisca tenuis* (Sowerby)	Disc lamp shell	1b	
7.	*Dodecacerea fewkesi* Berkeley & Berkeley, 1954	Black coral worm	1b	
8.	*Fenneropenaeus indicus* (H. Milne Edwards, 1837)	Indian/White prawn	a. 2 in all provinces except KwaZulu-Natal. b. Indigenous to KwaZulu-Natal, and therefore not listed there.	
9.	*Ficopomatus enigmaticus* (Fauvel, 1923)	Estuarine tube-worm	1b	
10.	*Litopenaeus vannamei* (Boone, 1931)	White shrimp, Whiteleg shrimp	2	a. Exempted from requiring a Permit for all restricted activities for existing aquaculture facilities that have a valid Permit from the Department of Agriculture, Forestry and Fisheries. b. Exempted from restricted activity (i) in Notice 1: "Discharging of or disposing into any waterway or the ocean, water from an aquarium, tank or other receptacle that has been used to keep a prohibited alien species or a listed invasive species."
11.	*Metridium senile* (Linnaeus, 1761)	Feather-duster anemone, Plumose anemone	3	
12.	*Mytilus galloprovincialis (Lamarck, 1819)*	Mediterranean mussel, Blue mussel	2	a. Aquaculture facilities are exempted from requiring a Permit for all restricted activities except for restricted activities a, f, g, and k in Notice 1. All other persons are: b. Exempted from restricted activity (i) in Notice 1: "Discharging of or disposing into any waterway or the ocean, water from an aquarium, tank or other receptacle that has been used to keep a prohibited alien species or a listed invasive species." c. Exempted from restricted activity (e) in Notice 1: "Selling or otherwise trading in, buying, receiving, giving, donating or accepting as a gift, or in any way acquiring or disposing of any live specimen of a listed invasive species."
13.	*Ostrea edulis* Linnaeus, 1758	European flat oyster	3	
14.	*Penaeus monodon* Fabricius, 1798	Giant tiger prawn/Tiger prawn	a. 2 in all provinces except KwaZulu-Natal. b. Indigenous to KwaZulu-Natal, and therefore not listed there.	a. Exempted from requiring a Permit for all restricted activities for existing aquaculture facilities outside of KwaZulu-Natal that have a valid Permit from the Department of Agriculture, Forestry and Fisheries. b. Exempted from restricted activity (i) in Notice 1: "Discharging of or disposing into any waterway or the ocean, water from an aquarium, tank or other receptacle that has been used to keep a prohibited alien species or a listed invasive species."
15.	*Sagartia ornata* (Holdsworth, 1855)	Brooding sea anemone	3	
16.	*Semimytilus algosus* (Gould, 1850)	Pacific mussel	1b	

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
17.	*Tetrapygus niger* (Molina, 1782)	Black sea-urchin	1a	

List 11: National List of Invasive Microbial Species

NO.	SPECIES	COMMON NAME	CATEGORY / AREA	SCOPE OF EXEMPTION FROM THE PROVISIONS OF SECTION 71(3) / PROHIBITION IN TERMS OF SECTION 71A(1)
1.	*Kirramyces destructans*		1b	
2.	*Kirramyces eucalypti* (Cooke & Massee) J. Walker, B. Sutton & Pascoe 1992		1b	
3.	*Phytophthora kernoviae*	Fungus-like pathogen	1b	
4.	*Phytophthora pinifolia* Alv. Durán, Gryzenh. & M.J. Wingf.	Fungus-like pathogen	1b	
5.	*Phytophthora cinnamomi*	Fungus-like pathogen	1b	
6.	*Teratosphaeria cryptica*	Eucalyptus leaf blotch pathogen	1b	
7.	*Fusarium circinatum* genotypes		1b	

DEPARTMENT OF HUMAN SETTLEMENTS

NO. 1004 **18 SEPTEMBER 2020**

The Department of Human Settlements hereby publishes for the public information the following additional Restructuring Zones in terms of the Social Housing Policy, the Guidelines and Social Housing Act, 2008 (Act no 16 of 2008)

Province	No.	Area	Town/Township	Description/ Restructuring Zone
GAUTENG	1.	From University of Pretoria to Menlyn to Donneboom Station	BRT LINE2B BRT LINE 2C BRT LINE 2D	Integration Zone2
	2.	From Pretoria Central to Hatfield to Menlyn via Pretoria Central	BRT LINE 2A BRT LINE1A	Integration Zone1
	3.	From Wonderboom to Akasia and from Akasia to Kopanong	BRT LINE 1B BRT LINE1C	Integration Zone2
	4.	From CBD of Tshwane towards Atteridgeville	BRTLINE3	Integration Zone 4
	5.	From Wonderboom through the Metropolitan node of Magalieskruin,thro ugh to Deneboom station	BRT LINE4	Integration Zone5
	6.	From Mahube Valley to Garsfontuin and	BRT LINE5 a Brtline11	Integration Zone6

		Menlyn to Garsfontuin		
	7.	From Garsfontuin to Centurion CBD	BRT LINE 5b	Integration Zone7
	8.	From the CBD of Tshwane to Olievenhoutbosch	BRT LINE6	Integration Zone8
	9.	Hamanskraal /Temb	Hamanskraal /Temba	Hamanskraal Urban core
	10.	Garankuwa	Garankuwa	Garankuwa urban core
	11.	Ekangala	Ekangala	Ekangangala urban core
	12.	Refilwe	Refilwe	Refilwe urban core
	13.	Zithobeni	Zithoben	Zithobeni urban core

Province	No	Area	Town/Township	Description/ Restructuring zone
NORTH WEST	1.	Greater Taung	Taung	Taung RZ
	2.	Mahikeng	Mahikeng	Mahikeng Urban Edge RZ
	3.	Ditsbotla	Lichtenburg	Lichtenburg
	4.	Madibeng	Lethlabile	Letlhabile RZ
			Platinum Heights	Platinum Heights RZ
			Sunway	Sunway RZ
			Brits, Oukasie & Mothutlung	Brits, Oukasie & Mothutlung RZ
	5.	Moses Kotana	Pilanesburg	Pilanesburg RZ Corridor

PARLIAMENT OF THE REPUBLIC OF SOUTH AFRICA

NO. 1007 **18 SEPTEMBER 2020**

NATIONAL GAMBLING ACT, 2004

APPLICATION FOR NATIONAL LICENCE

Notice is hereby given that Effective Intel (PTY) Ltd of 3373 San Marino Crescent, Cosmo City, Randburg, 2188 intends to apply to the Gauteng Gambling Board for a national licence as a manufacturer, provider in terms of section 38(2)(a) of the National Gambling Act 7 of 2004, read with regulation 20 of the National Gambling Regulations, 2004. The application will be open for public inspection at the offices of the board from 1 October 2020.

Attention is directed to the provisions of Section 20 of the Gauteng Gambling Act, 1995 which makes provision for written representations in respect of the application.

Such representations should be lodged with the Acting Chief Executive Officer, Gauteng Gambling Board, Private Bag X125, Corlett Drive, Bramley , 2018, within one month from 28 July 2020. Any person submitting representations should state in such representation whether or not they wish to make oral representations at the hearing of the application.

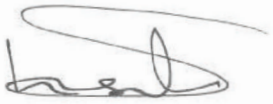
DEPARTMENT OF WATER AND SANITATION

NO. 1008 **18 SEPTEMBER 2020**

NATIONAL WATER ACT, 1998
(ACT NO. 36 OF 1998)

DETERMINATION OF CLASSES OF WATER RESOURCES AND RESOURCE QUALITY OBJECTIVES FOR THE BREEDE-GOURITZ WATER MANAGEMENT AREA

I, Lindiwe Sisulu, Minister of Human Settlements, Water and Sanitation, hereby, in terms of section 13(1) of the National Water Act, 1998 (Act No. 36 of 1998), determine the classes of water resources and the resource quality objectives, as set out in the Schedule.



L N SISULU, MP
MINISTER OF HUMAN SETTLEMENTS, WATER AND SANITATION

DATE:

ce110319

SCHEDULE

DESCRIPTION OF THE WATER RESOURCE

The proposed classes of water resources and resource quality objectives are determined for all or part of every significant water resource, as set out below:

Water Management Area:	Breede-Gouritz
Drainage Region:	G40-G50, H10- H90, J10-J40, K10-K70 Tertiary Drainage Region
River(s):	Breede Overberg Area: Breede River, Rivieronderend River, Overberg River, as well as other smaller coastal rivers. Gouritz Coastal Area: Gouritz River, Buffels River, Touws River, Groot River, Gamka River, Olifants River, Kammanassie River, and smaller coastal rivers.

A. PROPOSED WATER RESOURCE CLASSES AS REQUIRED IN TERMS OF SECTION 13(4)*(a)*(i)*(aa)* OF THE NATIONAL WATER ACT, 1998

(i) The proposed water resource classes for Breede-Gouritz Water Management Area are listed in Table 1 according to the overall class per integrated unit of analysis (IUA), indicated in Figure 1 for Breede Overberg Area and indicated in Figure 2 for Gouritz Coastal Area.

(ii) IUAs are classified in terms of their extent of permissible utilisation and protection as either Class I: indicating high environmental protection and minimal utilisation, Class II: indicating moderate protection and moderate utilisation or Class III: indicating sustainable minimal protection and high utilisation.

(iii) Table 1 provides the IUA, its water resource class and its respective catchment configuration. The catchment configuration consists of a number of biophysical nodes representing river reaches or resource units (RUs). The ecological category to be maintained for each RU in the IUA is provided.

B. RESOURCE QUALITY OBJECTIVES OF WATER RESOURCES AS REQUIRED IN TERMS OF SECTION 13(4)*(a)*(i)*(bb)* OF THE NATIONAL WATER ACT, 1998

(i) Resource Quality Objectives (RQOs) are defined for each prioritised RU for every IUA in terms of water quantity, water quality, habitat and biota. Prioritised RUs for the Breede Overberg Area are indicated in Figure 3. Prioritised RUs for the Gouritz Coastal Area are indicated in Figure 4.

(ii) Table 2 to Table 17 provide the RQOs for RIVERS in priority RUs.

(iii) Table 18 to Table 26 provide the RQOs for ESTUARIES in priority RUs.

(iv) Table 27 provides the RQOs for GROUNDWATER in priority RUs.

(v) RQOs will apply from the date signed off as determined in terms of Section 13(1) of the National Water Act, 1998, unless otherwise specified by the Minister.

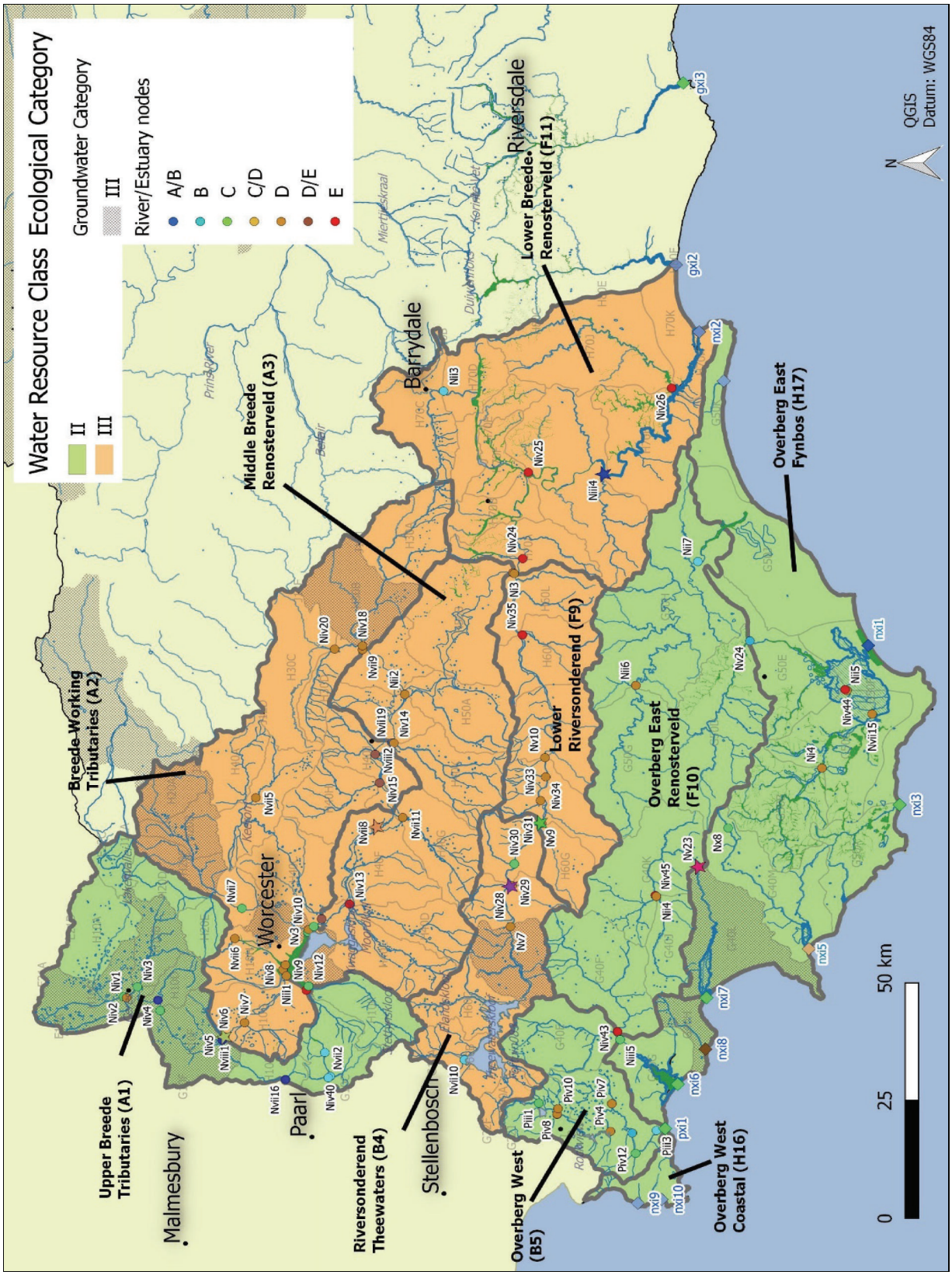


Figure 1: Proposed Water Resource Classes for the Breede Overberg Area

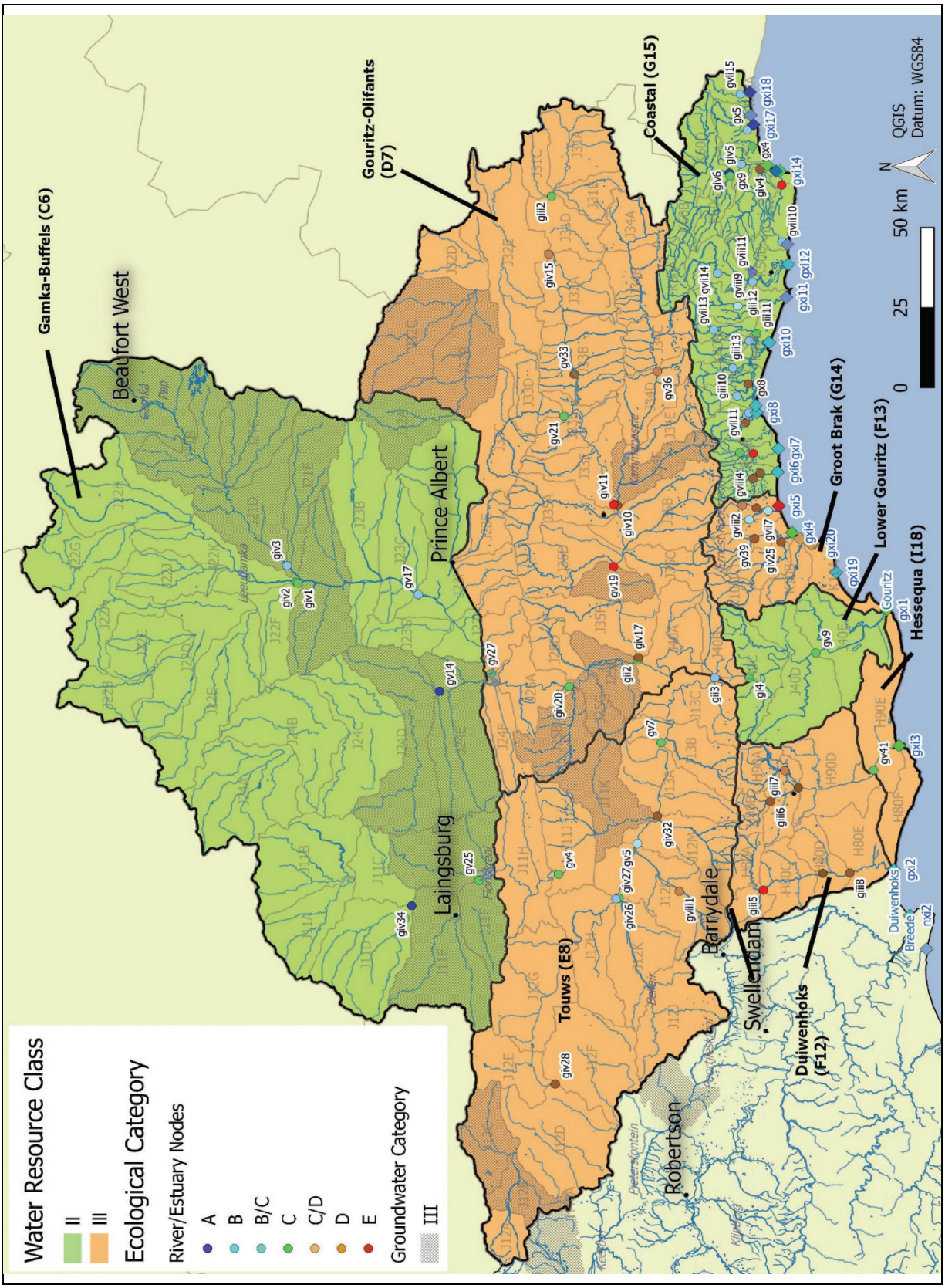


Figure 2: Proposed Water Resource Classes for the Gouritz Coastal Area

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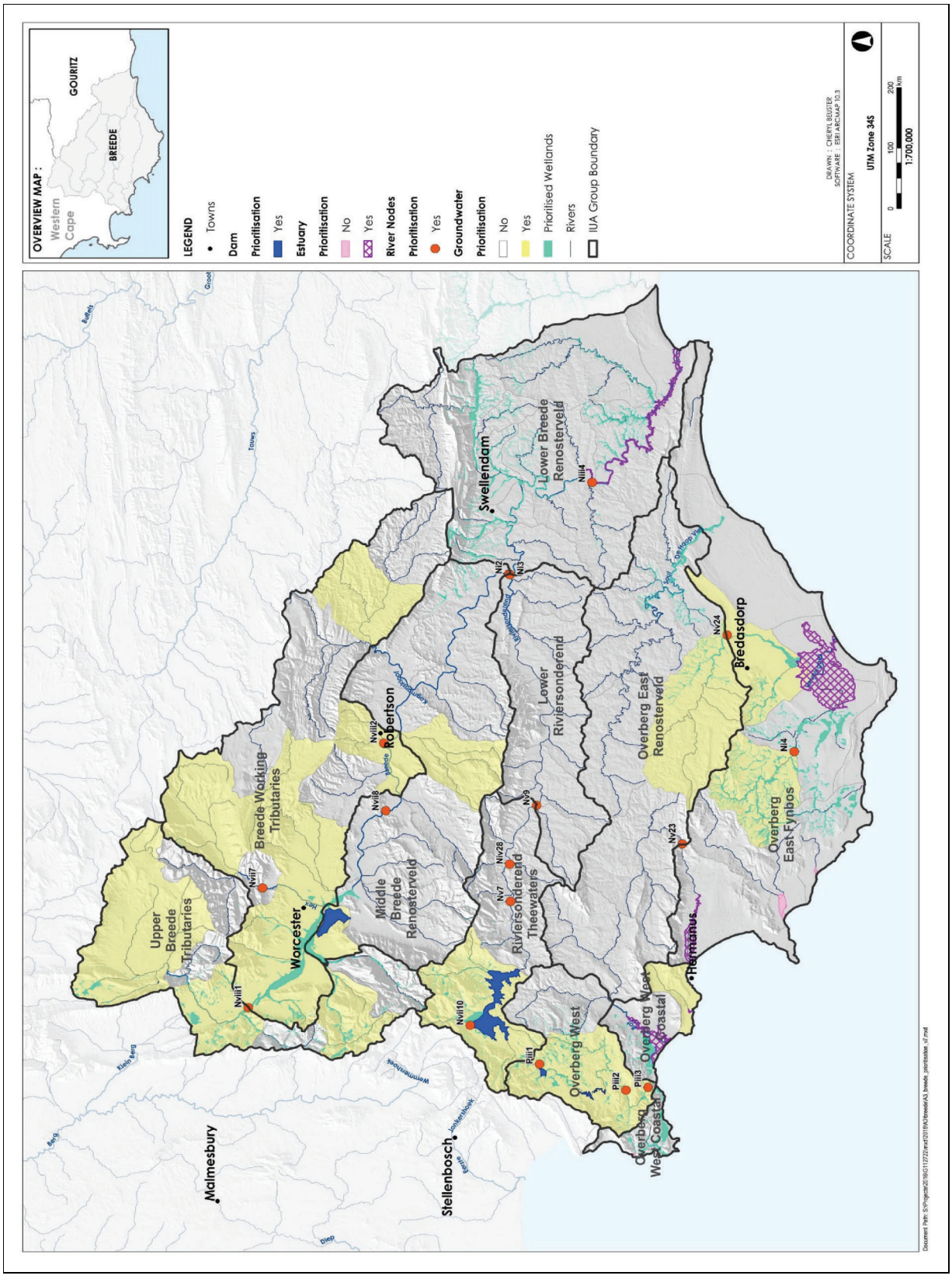

Figure 3: Proposed Priority Resource Units for the Breede Overberg Area

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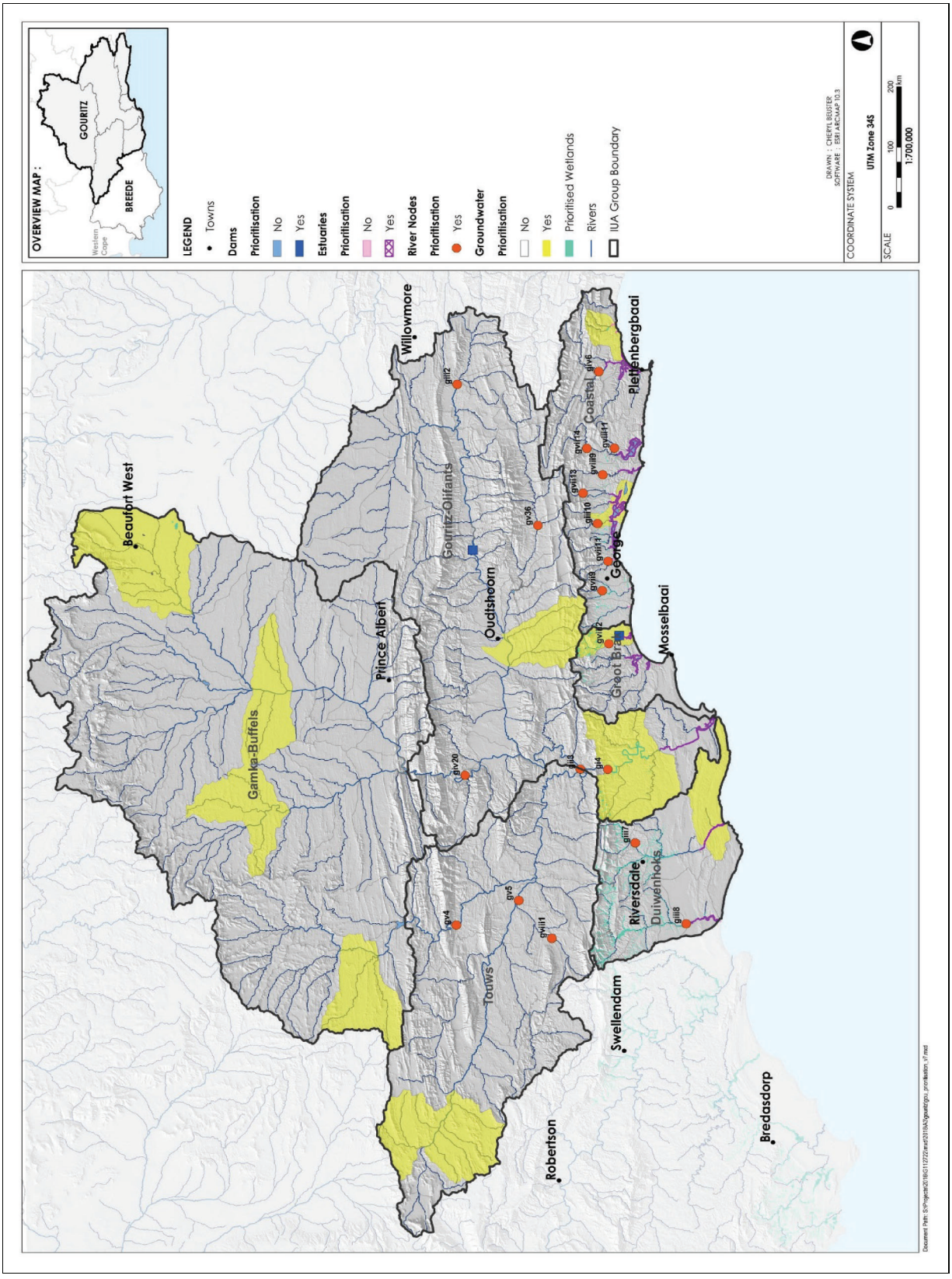

Figure 4: Proposed Priority Resource Units for the Gouritz Coastal Area

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Table 1: Summary of Water Resource Classes per Integrated Unit of Analysis and Ecological Categories

Integrated Unit of Analysis (IUA)	Water Resource Class for IUA	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Natural MAR (million m^3/a)
A1 Upper Breede Tributaries	II	H10B		Titus River	Niv3	C	21.45
		H10C		Koekedou River	Niv1	D	18.80
		H10C		Dwars River	Niv2	C	74.90
		H10C		Breede River	nvi4	C	126.90
		H10D		Witels River	Niv4	A	84.30
		H10D		Breede River	Nvi3	C	252.80
		H10E		Witte River	Nvii16	A	42.50
		H10F		Witte River	Niv5	A	141.70
		H10F		Wabooms River	Niv6	D	7.40
		H10F	A1-R01	Breede River	Nviii1	D	434.90
		H10J		Elands River	Niv40	B	58.10
		H10J		Krom River	Niv41	B	8.90
		H10J	A1-R02	Molenaars River	Nvii2	B	105.60
A2 Breede Woring tributaries	III	H10G		Slanghoek River	Niv7	D	32.60
		H10G		Breede River	Niii1	D	497.60
		H10J		Smalblaar River	Niv42	E	191.20
		H10H		Jan du Toit River	Niv8	D	17.90
		H10H		Hartbees River	Nvii6	D	4.00
		H10H		Hartbees River	Niv9	D	10.30
		H10K		Holsloot River	Niv12	C	119.60
		H10H		Breede River	Nv3	C	850.90
		H20F		Hex River	Nv18	D	10.90
		H20G	A2-R03	Hex River	Nvii7	C	102.80
		H20H		Hex River	Niv10	D	107.10
		H40C		Breede River	Nii1	C	957.90
		H40B		Koo River	Nvii5	D	0.90
		H40C		Nuy River	Niv11	D/E	29.30
		H30B		Kingna River	Niv18	D	27.80
		H30C		Pietersfontein River	Niv20	D	17.30
		H30D		Keisie River	Nvii9	D	21.10

Integrated Unit of Analysis (IUA)	Water Resource Class for IUA	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Natural MAR (million m^3/a)
A3 Middle Breede Renosterveld	III	H40D		Doring River	Niv13	E	47.50
		H40F	A3-R04	Breede River	Nvii8	C/D	1042.80
		H40F		Breede River	Ni1	A/B	1043.40
		H40G		Poesjenels River	Nvii11	D	16.10
		H40H		Vink River	Niv15	D/E	15.60
		H40J		Willem Nels River	Nviii2	D/E	5.20
		H40J		Breede River	Nvii19	A/B	1081.90
		H40K		Keisers River	Nvii12	D	7.10
		H40K		Keisers River	Niv14	D	12.60
		H40L		Breede River	Nvi1	D	1099.90
		H30E		Kogmanskloof River	Nii2	D	52.00
		H50A		Breede River	Niii3	D	1153.40
		H50B	A3-R05	Breede River	Ni2	D	1170.10
B4 Upper Riversonderend	III	H60B	B4-R06	Du Toits River	Nvii10	B	43.90
		H60D	B4-R07	Riviersonderend River	Nv7	C	370.20
		H60E	B4-R08	Baviaans River	Niv28	B	7.90
		H60E		Sersants River	Niv29	D	4.50
		H60F		Gobos River	Niv30	C	12.40
		H60F	B4-R09	Riviersonderend River	Nv9	D	413.70
F9 Lower Riversonderend	III	H60G		Kwartel River	Niv31	D	10.70
		H60H		Soetmelksvlei River	Niv33	D	4.00
		H60H		Slang River	Niv34	D	2.10
		H60H		Riviersonderend River	Nv10	D	442.90
		H60J		Riviersonderend River	Nv11	D	463.10
		H60K		Kwassadie River	Niv35	E	5.90
		H60K		Riviersonderend River	Nv12	D	474.50
		H60L	F9-R10	Riviersonderend River	Ni3	D	483.80

Integrated Unit of Analysis (IUA)	Water Resource Class for IUA	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Natural MAR (million m³/a)
B5 Overberg West	II	G40C	B5-R11	Palmiet River	Piii1	C	250.40
		G40C		Witklippieskloof River	Piv10	D	15.10
		G40C		Palmiet River	Piv9	D	78.70
		G40C		Palmiet River	Pvi1	D	100.50
		G40C		Klipdrif River	Piv8	D	13.60
		G40D		Klein-Palmiet River	Piv4	D	13.70
		G40D		Krom/Ribbok River	Piv7	D	27.50
		G40D	B5-R12	Palmiet River	Piii2	B/C	206.70
		G40D		Dwars/Louws River	Piv12	C	25.20
		G40D	B5-R13	Palmiet River	Piii3	B	250.50
		G40D	B5-E01	Palmiet Estuary	Pxi1	B/C	173.44
H16 Overberg West Coastal	II	G40B	H16-E02	Buffels Estuary	Bxi1	B	8.80
		G40B	H16-E03	Rooiels Estuary	Bxi2	A	9.44
		G40F		Swart River	Niv43	E	42.10
		G40E		Bot River	Niii5	C	74.10
		G40G	H16-E04	Bot Estuary	Nxi6	B	77.67
		G40H	H16-E05	Onrus Estuary	Nxi8	D	4.75
F10 Overberg East Renosterveld	II	G40J		Hartbees River	Nii4	D	18.40
		G40K		Steenbok River	Niv45	E	10.80
		G40K	F10-R14	Klein River	Nv23	C/D	38.38
		G50G		Sout River	Nii6	D	4.20
		G50H		DeHoopVlei River	Nii7	B	27.10
H17 Overberg East Fynbos	II	G40L	H17-E06	Klein Estuary	Nxi7	B	51.21
		G40M		Uilkraal River	Nx8	C	2.40
		G40M	H17-E07	Uilkraal Estuary	Nxi5	C	6.28
		G50A	H17-E08	Ratel Estuary	Nxi3	B	3.42
		G50B	H17-R15	Nuwejaar River	Ni4	C/D	12.50
		G50C		Heuningnes River	Nvii15	C/D	17.80
		G50C		Heuningnes River	Niv44	C/D	18.80
		G50D	H17-R16	Kars River	Nv24	B/C	15.40
		G50E		Kars River	Nii5	E	21.60
		G50F	H17-E09	Heuningnes Estuary	Nxi1	B	30.56
		G50K	H17-E10	Klipdrifsfontein Estuary	Bxi3	A	0.75

Integrated Unit of Analysis (IUA)	Water Resource Class for IUA	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Natural MAR (million m^3/a)
F11 Lower Breede Renosterveld	II	H70A		Leeu River	Niv24	E	5.80
		H70B		Klip River	Niv24a	E	24.50
		H70B		Breede River	Nv2	C	1701.40
		H70C		Huis River	Nvii14	C	3.20
		H70C		Tradouw River	Nii3	B	19.40
		H70F		Buffeljags River	Niv25	E	119.40
		H70G	F11-R17	Breede River	Niii4	C	1832.70
		H70H		Breede River	Nviii3	B	1841.20
		H70J		Slang River	Niv26	E	10.00
		H70K	F11-E11	Breede Estuary	Nxi2	B	1022.56
C6 Gamka Buffels	II	J11C		Buffels River	giv34	A	13.10
		J11F		Buffels River	gv25	C	24.30
		J21A		Gamka River	gv18	B	26.70
		J21D		Gamka River	giv3	B	31.90
		J22F		Koekemoers River	giv1	C	7.40
		J22K		Leeu River	giv2	C	17.10
		J23C		Gamka River	gv17	B	58.20
		J23F		Gamka River	giv21	B	68.00
		J23J		Gamka River	gv27	C	69.60
		J24D		Dwyka River	gv14	A	4.00
E8 Touws	III	J12C		Ysterdams River	giv30	D	2.80
		J12B		Donkies River	giv31	D	6.90
		J12D		Touws River	giv28	D	16.40
		J12H		Touws River	giv27	B	26.40
		J12K		Brak River	giv26	C	2.90
		J12L	E8-R18	Doring River	gviii1	C/D	2.90
		J12L	E8-R19	Touws River	gv5	B/C	33.50
		J11H	E8-R20	Buffels River	gv4	C	27.40
		J11J	E8-R21	Groot River	gv6	D	29.70
		J11K		Groot River	giv32	D	30.50
		J13A		Groot River	gv7	C	77.70
		J13C	E8-R22	Groot River	gii3	B	78.10

Integrated Unit of Analysis (IUA)	Water Resource Class for IUA	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Natural MAR (million m^3/a)
D7 Gouritz-Olifants; Lower Gouritz	III	J25A	D7-R23	Gamka River	giv20	C	79.80
		J25D		Nels River	giv18	E	10.90
		J25E		Gamka River	gii2	C	111.80
		J31C	D7-R24	Olifants River	giii2	C	11.80
		J32E		Traka River	giv15	C/D	2.80
		J33B		Olifants River	gv33	D	25.00
		J33D		Meirings River	gv21	C	21.40
		J33F		Olifants River	giv11	E	79.90
		J34C	D7-R25	Kammanassie River	gv36	C/D	41.20
		J34F		Kammanassie River	giv10	D	59.20
		J35A		Grobbelaars River	gvii2	C	16.90
		J35A		Grobbelaars River	giv9	E	30.70
		J35D		Olifants River	gv19	E	224.50
		J35F		Olifants River	giv17	D	253.40
F13 Lower Gouritz	II	J40A		Gouritz River	giv16	C	394.90
		J40B	F13-R26	Gouritz River	gi4	C	489.10
		J40C		Gouritz River	gv28	D	21.40
		J40D		Gouritz River	gv9	C	571.80
		J40E	F13-E12	Gouritz Estuary	Gxi1	C	294.69
F12 Duiwenhoks	III	H80B		Duiwenhoks River	giii5	E	62.50
		H80C		Duiwenhoks River	gv11	D	75.10
		H80D	F12-R27	Duiwenhoks River	giii8	D	83.30
		H80E	F12-E13	Duiwenhoks Estuary	Gxi2	B	73.65
I18 Hessequa	III	H90B		Korinte River	giii6	D	34.20
		H90A	I18-R28	Goukou River	giii7	C/D	50.90
		H90C		Goukou River	gv10	D	92.90
		H90D		Goukou River	gv41	C	104.90
		H90E	I18-E14	Goukou Estuary	Gxi3	B/C	89.94

Integrated Unit of Analysis (IUA)	Water Resource Class for IUA	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Natural MAR (million m^3/a)
G14 Groot Brak	III	K10D		Brandwag River	giv25	D	17.90
		K10E		Moordkuil River	gv39	D	15.70
		K10F	G14-E15	Klein-Brak estuary	Gxi4	C	39.10
		K20A	G14-R29	Groot-Brak River	gviii2	B/C	15.30
		K20A		Varing River	gviii12	C/D	6.00
		K20A		Varing River	gviii3	D	8.40
		K20A		Groot-Brak River	gvii7	B/C	27.00
		K20A	G14-E16	Groot-Brak estuary	Gxi5	D	16.77
		K10A	G14-E17	Blinde estuary	Gxi19	B	0.90
		K10A	G14-E18	Tweekuilen estuary	Gxi20	D	0.94
		K10A	G14-E19	Gericke estuary	Gxi21	C	0.29
		K10B	G14-E20	Hartenbos estuary	Gxi22	C	4.15
G15 Coastal	II	K30A		Maalgate River	gviii4	D	15.30
		K30A		Maalgate River	gvii8	D	22.84
		K30A	G15-E21	Maalgate Estuary	Gxi6	B	29.81
		K30B	G15-R30	Malgas River	gvii9	C	8.16
		K30B		Gwaing River	gviii6	E	13.92
		K30B	G15-E22	Gwaing Estuary	Gxi7	B	22.64
		K30C		Swart River	gviii7	D	16.10
		K30C	G15-R31	Kaaimans River	gvii11	B	17.53
		K30C		Silver River	gviii8	B	14.90
		K30C	G15-E23	Kaaimans Estuary	Gxi8	B	35.32
		K30D		Touws River	gvii12	B	16.70
		K30D		Klein River	gx8	D	2.50
		K30D	G15-E24	Wilderness Estuary	Gxi9	B	29.01
		K40A	G15-R32	Diep River	giii10	B	12.40
		K40B		Hoekraal River	giii13	B	27.90
		K40C	G15-R33	Karatara River	gvii13	B	11.20
		K40C		Karatara River	giii11	B	33.90
		K40D	G15-E25	Swartvlei Estuary	Gxi10	B	87.60
		K40E	G15-R34	Goukamma River	gviii9	B/C	30.40
		K40E	G15-E26	Goukamma Estuary	Gxi11	A/B	46.25
		K50A	G15-R35	Knysna River	gvii14	B	26.50
		K50A		Knysna River	giii12	B	46.60

Integrated Unit of Analysis (IUA)	Water Resource Class for IUA	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Natural MAR (million m^3/a)
		K50B	G15-R36	Gouna River	gviii11	A/B	27.60
		K50B	G15-E27	Knysna Estuary	Gxi12	B	68.83
		K60G		Noetzie River	gviii10	B	4.80
		K60G	G15-E28	Noetsie estuary	Gxi13	B	3.59
		K60G		Piesang River	gx3	E	7.30
		K60G	G15-E29	Piesang Estuary	Gxi14	C	5.12
		K60C	G15-R37	Keurbooms River	giv6	C	46.10
		K60D		Palmiet River	giv5	A	42.10
		K60E		Keurbooms River	gx9	B	91.30
		K60F		Bitou River	giv4	C	23.60
		K60G	G15-E30	Keurbooms Estuary	Gxi15	A/B	131.60
		K70A		Buffels River	gx4	B/C	1.80
		K70A	G15-E31	Matjies Estuary	Gxi16	A/B	3.25
		K70A		Sout River	gx5	B	3.80
		K70A	G15-E32	Sout(Oos) Estuary	Gxi17	A	5.99
		K70A	G15-E33	Groot(Wes) Estuary	Gxi23	B	11.10
		K70B		Bloukrans River	gvii15	B	31.20
		K70B	G15-E34	Bloukrans Estuary	Gxi18	A	11.10

14

Table 2: Resource Quality Objectives for RIVERS in priority Resource Units in the Integrated Unit of Analysis A1 Upper Breede Tributaries

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Months		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
											Maintenance flows (million cubic metres)	High	1.651	0	1.651	0	0	0	0	0	5.502	0	32.397	13.009
												Low	6.667	4.007	2.105	1.93	1.268	1.754	2.343	3.544	6.452	7.719	10.526	7.81
A1 Upper Breede Tributaries	II	H10F	A1-R01	Breede River	nviii1	D	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Breede River in a condition equal to or better than a D category.	≤ 0.075 milligrams/litre (50th percentile) ≤ 1.75 milligrams/litre (50th percentile)													
							Quality	Nutrients	Phosphate (PO_4-P)	River nutrient levels must be maintained in a mesotrophic or better condition.													
									Total inorganic nitrogen (TIN)														
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained at levels that do not adversely affect aquatic ecosystems	≤ 55 milliSiemens/metre EC (95th percentile)												
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)												
									Dissolved oxygen		DO ≥ 6 milligrams/litre (5th percentile)												
								Toxins	Ammonia	Toxicity levels must not pose a threat to aquatic ecosystems.	≤ 0.073 milligrams/litre (95th percentile)												
									Atrazine		≤ 0.079 milligrams/litre (95th percentile)												
									Endosulfan		≤ 0.0013 milligrams/litre (95thpercentile)												
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.	≤ 165 counts/100ml (95th percentile)												
							Habitat	Geomorphology	GAI score	GAI score should be within D category (42-57%).	D category (42-57%)												
								Riparian vegetation	VEGRAI score	VEGRAI level 3 should be within a D category (42-57%).	D category (42-57%)												
									Marginal zone cover abundance		No exotic species, no terrestrial woody species												
									Lower zone cover abundance		No exotic species, no terrestrial woody species												
									Upper zone cover abundance		Exotic species < 5%, terrestrial woody species > 50%												
								Fish	FRAI score	FRAI should be within a D category (42-57%).	D category (42-57%)												
							Biota	Invertebrates	MIRAI score	MIRAI score to be within D	D category (42-57%)												

15

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
A1 Upper Breede Tributaries	II	H10J	A1-R02	Molenaars River	nvii2	B	Quantity		Invertebrate diversity	category (42-57%)	SASS score > 70, ASPT > 5.0												
									Number of families		> 15 families at abundances A - C												
								Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Molenaars River in a condition equal to or better than a B category.	Maintenance flows (million cubic metres)	Months	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
												Low	3.381	2.506	1.584	1.022	0.869	0.909	1.356	2.479	3.588	4.149	4.39	4.002
												High	3.434	0.454	0	0	0.454	0	0.454	1.797	1.797	8.005	3.434	3.434
								Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at an oligotrophic condition.	≤ 0.025 milligrams/litre (50th percentile)												
									Total inorganic nitrogen (TIN)		≤ 0.70 milligrams/litre (50th percentile)												
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained at levels that do not adversely affect aquatic ecosystems	≤ 30 milliSiemens/metre (95th percentile)												
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	4.5 ≥ pH ≤ 7.5 (5th and 95th percentiles)												
									Dissolved oxygen		≥ 8 milligrams/litre (5th percentile)												
								Toxins	Ammonia	Toxicity levels must not pose a threat to aquatic ecosystems.	≤ 0.073 milligrams/litre (95th percentile)												
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Ideal category for full contact recreation.	≤ 130 counts/100ml (95th percentile)												
							Habitat	Geomorphology	GAI score	GAI score should be within B category (42-57%).	B category (82-87%)												
								Riparian vegetation	VEGRAI score	VEGRAI level 3 should be within a B category (82-87%)	B category (82-87%)												
									Marginal zone cover abundance		No exotic species, no terrestrial woody species												
									Lower zone cover abundance		No exotic species, no terrestrial woody species												
							Biota	Fish	FRAI score	FRAI should be within a E category (22-37%).	E category (22-37%)												

Table 3: Resource Quality Objectives for RIVERS in priority Resource Units in the Integrated Unit of Analysis A2 Breede Working Tributaries

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Months		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
											Maintenance flows (million cubic metres)	Low	2.998	0.649	1.888	1.18	1.066	0.943	1.142	1.652	2.26	3.067	3.54	3.333
												High	0.387	0.395	0	0	0	0	0	1.137	1.098	6.801	2.797	2.803
A2 Breede Working Tributaries	III	H20G	A2-R03	Hex River	nvii7	C	Quantity	Low flows High flows	Flows shall be sufficient to maintain the Hex River in a condition equal to or better than a C category.	Maintenance low flows Maintenance high flows	≤ 0.075 milligrams/litre (50th percentile)													
								Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.													
									Total inorganic nitrogen (TIN)		≤ 1.75 milligrams/litre (50th percentile)													
							Quality	Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained at levels that do not adversely affect aquatic ecosystems	≤ 55 milliSiemens/metre (95th percentile)													
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)													
									Dissolved oxygen		≥ 8 milligrams/litre (5th percentile)													
								Toxins	Ammonia	Toxicity levels must not pose a threat to aquatic ecosystems.	≤ 0.073 milligrams/litre (95th percentile)													
									Atrazine		≤ 0.079 milligrams/litre (95th percentile)													
									Endosulfan		≤ 0.0013 milligrams/litre (95thpercentile)													
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.	≤ 165 counts/100ml (95th percentile)													
							Habitat	Geomorphology	GAI score	GAI score should be within a C/D category (57-62%).	C/D category (57-62%)													
								Riparian vegetation	VEGRAI score	VEGRAI level 3 should be within a D category (42-57%).	D category (42-57%)													
									Marginal zone cover abundance		No exotic species, no terrestrial woody species													
									Lower zone cover abundance		No exotic species, no terrestrial woody species													
								Fish	FRAI score	FRAI should be within a D category (42-57%).	D category (42-57%)													
							Biota	Invertebrates	MIRAI score	MIRAI score to be within C category (62-77%).	C category (62-77%)													
									Invertebrate diversity		SASS score > 100, ASPT > 6.3													

17

Table 4: Resource Quality Objectives for RIVERS in priority Resource Units in the Integrated Unit of Analysis A3 Middle Breede Renosterveld

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric											
											Months		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
											Maintenance flows (million cubic metres)	Low	14.575	8.743	3.449	4.796	1.461	3.181	4.262	11.161	22.326	36.912	33.451	26.791
												High	3.704	0	0	0	0	0	0	16.107	32.902	76.916	31.869	18.949
A3 Middle Breede Renosterveld	III	H40F	A3-R04	Breede River	nvii8	C/D	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Breede River in a condition equal to or better than a C/D category.	≤ 0.075 milligrams/litre (50th percentile) ≤ 1.75 milligrams/litre (50th percentile)													
							Quality	Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.														
									Total inorganic nitrogen (TIN)															
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained at levels that do not adversely affect aquatic ecosystems	≤ 55 milliSiemens/metre (95th percentile)												
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)												
									Dissolved oxygen		≥ 6 milligrams litre (5th percentile)												
								Toxins	Ammonia	Toxicity levels must not pose a threat to aquatic ecosystems.	≤ 0.073 milligrams/litre (95th percentile)												
									Atrazine		≤ 0.079 milligrams/litre (95th percentile)												
									Endosulfan		≤ 0.0013 milligrams/litre (95thpercentile)												
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.	≤ 165 counts/100ml (95th percentile)												
							Habitat	Geomorphology	GAI score	GAI score should be within C category (52-67%).	C category (62-77%)												
								Riparian vegetation	VEGRAI score	VEGRAI level 3 should be within a C category (52-67%).	C category (62-77%)												
									Marginal zone cover abundance		No exotic species, no terrestrial woody species												
									Lower zone cover abundance		No exotic species, no terrestrial woody species												
									Upper zone cover abundance		Exotic species < 5%, terrestrial woody species > 30%												
							Biota	Fish	FRAI score	FRAI should be within a D category (42-57%).	D category (42-57%)												
								Invertebrates	MIRAI score	MIRAI score to be within D	D category (42-57%)												

18

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
A3 Middle Breede Renosterveld	III	H50B	A3-R05	Breede River	ni2	D	Quantity	Low flows High flows	Invertebrate diversity	category (42-57%).	SASS score < 45, ASPT > 4.3												
									Number of families		> 14 families at A - C abundance												
									Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Breede River in a condition equal to or better than a D category.	Maintenance flows (million cubic metres)	Months	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
												High	0	3.227	0	0	0	0	0	37.538	7.323	36.389	16.731	0
												Low	13.406	8.861	3.095	2.454	2.911	1.301	3.367	4.395	9.942	13.992	19.944	17.315
									Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.	≤ 0.075 milligrams/litre (50th percentile)												
								Nutrients	Total inorganic nitrogen (TIN)		≤ 1.75 milligrams/litre (50th percentile)												
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained at present state levels.	95%tile ≤ 220 milliSiemens/metre EC												
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)												
									Dissolved oxygen		≥ 6 milligrams litre (5th percentile)												
									Water temperature		No more than 2°C change in natural monthly range (minimum and maximum)												
								Toxins	n/a	Toxicity levels must not pose a threat to aquatic ecosystems.	n/a												
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.	95%tile ≤ 165 cfu/100ml Escherichia coli												

19

Table 5: Resource Quality Objectives for RIVERS in priority Resource Units in the Integrated Unit of Analysis B4 Riversonderend Theewaters

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Months		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
											Maintenance flows (million cubic metres)	Low	1.406	1.041	0.658	0.425	0.362	0.376	0.564	1.032	1.491	1.725	1.825	1.663
												High	0.369	0.122	0	0	0	0	0	1.794	2.585	3.218	0.54	1.081
B4 Riversonderend Theewaters	III	H60B	B4-R06	Du Toits River	nvii10	B	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Du Toits River in a condition equal to or better than a B category.	≤ 0.025 milligrams/litre (50th percentile)														
							Quality	Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river in an oligotrophic condition	≤ 0.70 milligrams/litre (50th percentile)													
									Total inorganic nitrogen (TIN)																
								Salts	Electrical conductivity (EC)	Salt concentrations must be maintained in an Ideal category	≤ 30 milliSiemens/metre (95th percentile)													
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)													
									Dissolved oxygen		≥ 8 milligrams/litre (5th percentile)													
								Toxins	Atrazine	Toxicity levels must not pose a threat to aquatic ecosystems.	≤ 0.079 milligrams/litre (95th percentile)													
									Endosulfan		≤ 0.0013 milligrams/litre (95thpercentile)													
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Ideal category for full contact recreation.	≤ 130 counts/100ml (95th percentile)													
B4 Riversonderend Theewaters	III	H60D	B4-R07	Riviersonderend River	nv7	C	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Riviersonderend River in a condition equal to or better than a D category.	≤ 0.075 milligrams/litre (50th percentile)														
							Quality	Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.	≤ 1.75 milligrams/litre (50th percentile)													
									Total inorganic nitrogen (TIN)																
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained at levels that do not adversely affect aquatic ecosystems	≤ 55 milliSiemens/metre (95th percentile)													
								System	pH range	pH, temperature, and	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)													

20

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								variables	Dissolved oxygen	dissolved oxygen are important for the maintenance of ecosystem health.	≥ 6 milligrams litre (5^{th} percentile)
								Toxins	Atrazine	Toxicity levels must not pose a threat to aquatic ecosystems.	≤ 0.079 milligrams/litre (95^{th} percentile)
									Endosulfan		≤ 0.0013 milligrams/litre (95^{th} percentile)
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.	≤ 165 counts/100ml (95^{th} percentile)
B4 Riversonderend Theewaters	III	H60E	B4-R08	Baviaans River	niv28	B	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Baviaans River in a condition equal to or better than a B category.	Maintenance flows (million cubic metres) Months: Low / High Oct: 0.292 / 0.026 Nov: 0.24 / 0 Dec: 0.109 / 0 Jan: 0.117 / 0 Feb: 0.059 / 0.026 Mar: 0.029 / 0 Apr: 0.049 / 0.026 May: 0.029 / 0.068 Jun: 0.092 / 0.068 Jul: 0.153 / 0.127 Aug: 0.197 / 0.296 Sep: 0.247 / 0.127
								Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at an oligotrophic condition.	≤ 0.025 milligrams/litre PO_4-P
									Total inorganic nitrogen (TIN)		≤ 0.70 milligrams/litre TIN
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained in an Ideal category for aquatic ecosystems	≤ 30 milliSiemens/metre (95^{th} percentile)
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	4.5 ≥ pH ≤ 7.0 (5^{th} and 95^{th} percentiles)
									Dissolved oxygen		≥ 8 milligrams/litre (5^{th} percentile)
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Ideal category for full contact recreation.	≤ 130 counts/100ml (95^{th} percentile)
								Geomorphology	GAI score	GAI score should be within B category (82-87%).	B category (82-87%)
							Habitat	Riparian vegetation	VEGRAI score	VEGRAI level 3 should be within a B category (82-87%).	B category (82-87%)
									Marginal zone cover abundance		No exotic species, no terrestrial woody species
									Lower zone cover abundance		No exotic species, no terrestrial woody species

21

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
									Upper zone cover abundance		Exotic species < 5%, terrestrial woody species > 20%
							Biota	Fish	FRAI score	FRAI should be within an A/B category (87-92%).	A/B category (87-92%)
								Invertebrates	MIRAI score	MIRAI score to be within A/B category (87-92%).	A/B category (87-92%)
									Invertebrate diversity		SASS score > 160, ASPT > 7.5
									Number of families		> 15 families at abundances A - C
							Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Riversonderend River in a condition equal to or better than a D category.	Maintenance flows (million cubic metres) Months: Low / High Oct: 0 / 4.019 Nov: 0.726 / 3.087 Dec: 0 / 1.053 Jan: 0.488 / 0.893 Feb: 0 / 0.663 Mar: 0 / 0.606 Apr: 0 / 2.593 May: 3.442 / 3.19 Jun: 3.334 / 7.717 Jul: 8.86 / 11.163 Aug: 22.114 / 12.12 Sep: 3.334 / 12.038
								Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.	≤ 0.075 milligrams/litre (50th percentile)
									Total inorganic nitrogen (TIN)		≤ 1.75 milligrams/litre (50th percentile)
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained at levels that do not adversely affect aquatic ecosystems	≤ 55 milliSiemens/metre (95th percentile)
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	4.5 ≥ pH ≤ 7.5 (5th and 95th percentiles)
									Dissolved oxygen		≥ 6 milligrams litre (5th percentile)
								Toxins	Atrazine	Toxicity levels must not pose a threat to aquatic ecosystems.	≤ 0.079 milligrams/litre (95th percentile)
									Endosulfan		≤ 0.0013 milligrams/litre (95thpercentile)
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.	≤ 165 counts/100ml (95th percentile)
								Geomorphology	GAI score	GAI score should be within D category (42-57%).	D category (42-57%)
							Habitat	Riparian vegetation	VEGRAI score	VEGRAI level 3 should be within a D category (42-57%).	D category (42-57%)
									Marginal zone cover abundance		No exotic species, no terrestrial woody species
									Lower zone cover abundance		No exotic species, no terrestrial woody species
B4 Riversonderend Thewaters	III	H60F	B4-R09	Riviersonderend River	nv9	D					

22

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
							Biota		Upper zone cover abundance		Exotic species < 5%, terrestrial woody species > 30%
								Fish	FRAI score	FRAI should be within a D category (42-57%).	D category (42-57%)
								Invertebrates	MIRAI score	MIRAI score to be within C/D category (57-62%).	C/D category (57-62%)
									Invertebrate diversity		SASS score > 40, ASPT score > 4.3
									Number of families		> 25 families at abundance A - C

Table 6: Resource Quality Objectives for RIVERS in priority Resource Units in the Integrated Unit of Analysis F9 Lower Breede Renosterveld

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric													
											Months	Maintenance flows (million cubic metres)		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
												High	Low											
F9 Lower Breede Renosterveld	III	H60L	F9-R10	Riviersonderend River	ni3	D	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Riviersonderend River in a condition equal to or better than a D category.				4.699	3.609	1.231	1.044	0.775	0.709	3.032	3.73	9.023	13.054	14.173	14.076
												0	0.849	0	0.571	0	0	0	4.024	3.899	10.36	25.859	3.899	
							Quality	Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.	≤ 0.075 milligrams/litre (50th percentile)													
									Total inorganic nitrogen (TIN)		≤ 1.75 milligrams/litre (50th percentile)													
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained at levels that do not adversely affect aquatic ecosystems	95th %tile ≤ 85 milliSiemens/metre EC													
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)													
									Dissolved oxygen		≥ 6 milligrams litre (5th percentile)													
								Toxins	Atrazine	Toxicity levels must not pose a threat to aquatic ecosystems.	≤ 0.079 milligrams/litre (95thpercentile)													
									Endosulfan		≤ 0.0013 milligrams/litre (95thpercentile)													
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.	≤ 165 counts/100ml (95th percentile)													

23

Table 7: Resource Quality Objectives for RIVERS in priority Resource Units in the Integrated Unit of Analysis B5 Overberg West

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric		
											Maintenance flows (million cubic metres)	Months	
												Low	High
												1.438	0.413	Oct
												1.054	0.093	Nov
												0.56	0	Dec
												0.267	0	Jan
												0.179	0	Feb
												0.169	0	Mar
												0.266	0	Apr
												0.604	0.723	May
												1.127	1.413	Jun
												1.523	2.17	Jul
												1.73	0.435	Aug
												1.69	0.871	Sep
B5 Overberg West	II	G40C	B5-R11	Palmiet River	piii1	C	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Palmiet River in a condition equal to or better than a B category.			
							Quality	Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river in an oligotrophic condition.	≤ 0.025 milligrams/litre PO_4-P		
									Total inorganic nitrogen (TIN)		≤ 0.70 milligrams/litre TIN		
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained at levels that do not adversely affect aquatic ecosystems	≤ 30 milliSiemens/metre (95th percentile)		
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	4.5 ≥ pH ≤ 7.0 (5th and 95th percentiles)		
									Dissolved oxygen		≥ 8 milligrams/litre (5th percentile)		
								Toxins	Atrazine	Toxicity levels must not pose a threat to aquatic ecosystems.	≤ 0.079 milligrams/litre (95th percentile)		
									Endosulfan		≤ 0.0013 milligrams/litre (95thpercentile)		
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.	≤ 130 counts/100ml (95th percentile)		
							Habitat	Geomorphology	GAI score	GAI score should be within D category (42-57%).	B category (82-87%)		
								Riparian vegetation	VEGRAI score	VEGRAI level 3 should be within a B/C category (77-82%).	B/C category (77-82%)		
							Biota	Fish	FRAI score	FRAI should be within an E category (22-37%).	E category (22-37%)		
								Invertebrates	MIRAI score	MIRAI score to be within B/C category (77-82%).	B/C category (77-82%)		
									Invertebrate diversity		SASS score > 110, ASPT > 6.5		
									Number of families		Five families, *Corydalidae, Elmidae, Hydropsychidae, Cordulidae, Chlorocyphidae*		

24

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Maintenance flows (million cubic metres)		Months										
													Low	High	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
B5 Overberg West	II	G40D	B5-R12	Palmiet River	piii2	B/C	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Palmiet River in a condition equal to or better than a B/C category.													
							Quality	Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.	≤ 0.075 milligrams/litre (50th percentile)												
									Total inorganic nitrogen (TIN)		≤ 1.75 milligrams/litre (50th percentile)												
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained at levels that do not adversely affect aquatic ecosystems	≤ 55 milliSiemens/metre (95th percentile)												
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)												
									Dissolved oxygen		≥ 6 milligrams litre (5th percentile)												
								Toxins	Atrazine	Toxicity levels must not pose a threat to aquatic ecosystems.	≤ 0.079 milligrams/litre (95th percentile)												
									Endosulfan		≤ 0.0013 milligrams/litre (95thpercentile)												
									Iron (Fe)		≤ 0.1 milligrams/litre (95th percentile)												
									Manganese (Mn)		≤ 0.15 milligrams/litre (95th percentile)												
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.	≤ 165 counts/100ml (95th percentile)												
							Habitat	Geomorphology	GAI score	GAI score should be within B category (82-87%).	B category (82-87%)												
								Riparian vegetation	VEGRAI score	VEGRAI level 3 should be within a B/C category (77-82%).	B/C category (77-82%)												
							Biota	Fish	FRAI score	FRAI should be within an E category (23-37%).	E category (22-37%)												
								Invertebrates	MIRAI score	MIRAI score to be within B/C category (77-82%).	B/C category (77-82%)												
									Invertebrate diversity		SASS score > 110, ASPT > 6.5												
									Number of families		Five families, *Corydalidae, Elmidae, Hydropsychidae, Cordulidae, Chlorocyphidae*												

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Months		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
											Maintenance flows (million cubic metres)	Low	10.02	4.71	2.463	1.955	1.118	1.488	2.142	3.016	11.08	12.83	13.49	12.78
												High	0.049	0.097	1.907	0.954	0.954	0.954	0.954	8.623	2.385	8.302	14.21	0.049
B5 Overberg West	II	G40D	B5-R13	Palmiet River	piii3	B	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Palmiet River in a condition equal to or better than a B category.	≤ 0.025 milligrams/litre (50th percentile)													
							Quality	Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.														
									Total inorganic nitrogen (TIN)		≤ 0.70 milligrams/litre (50th percentile)													
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained at levels that do not adversely affect aquatic ecosystems	≤ 30 milliSiemens/metre (95th percentile)												
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	5.0 ≥ pH ≤ 7.5 (5th and 95th percentiles)												
									Dissolved oxygen		≥ 8 milligrams/litre (5th percentile)												
								Toxins	Atrazine	Toxicity levels must not pose a threat to aquatic ecosystems.	≤ 0.079 milligrams/litre (95th percentile)												
									Endosulfan		≤ 0.0013 milligrams/litre (95thpercentile)												
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.	≤ 130 counts/100ml (95th percentile)												
							Habitat	Geomorphology	GAI score	GAI score should be within a B category (82-87%).	B category (82-87%)												
								Riparian vegetation	VEGRAI score	VEGRAI level 3 should be within a B category (82-87%).	B category (82-87%)												
							Biota	Fish	FRAI score	FRAI should be within an A category (92-100%).	A category (92-100%)												
								Invertebrates	MIRAI score	MIRAI score to be within a B category (82-87%).	B category (82-87%)												
									Invertebrate diversity		SASS score > 110, ASPT > 7.0												
									Number of families		9 families, *Ephemerellidae, Leptophlebidae, Heptageniidae, Tricorythidae, Elmidae, Corydalidae, Trichoptera cased caddis 2 or > types, Pyraustidae, Athericidae*												

25

26

Table 8: Resource Quality Objectives for RIVERS in priority Resource Units in the Integrated Unit of Analysis F10 Overberg East Renosterveld

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Maintenance flows (million cubic metres)		Months										
											Low	High	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
F10 Overberg East Renosterveld	II	G40K	F10-R14	Klein River	nv23	C/D	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Klein River in a condition equal to or better than a C/D category.	0.465	0.358	0.398	0.179	0.199	0.091	0.065	0.064	0.126	0.196	0.293	0.413	0.603	0.541
							Quality	Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.	≤ 0.075 milligrams/litre (50th percentile)												
									Total inorganic nitrogen (TIN)		≤ 1.75 milligrams/litre (50th percentile)												
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained at present day levels.	≤ 180 milliSiemens/metre (95th percentile)												
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)												
									Dissolved oxygen		≥ 6 milligrams litre (5th percentile)												
								Toxins	Atrazine	Toxicity levels must not pose a threat to aquatic ecosystems.	≤ 0.079 milligrams/litre (95th percentile)												
									Endosulfan		≤ 0.0013 milligrams/litre (95thpercentile)												
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.	≤ 165 counts/100ml (95th percentile)												
							Habitat	Geomorphology	GAI score	GAI score should be within C category (62-77%).	C category (62-77%)												
								Riparian vegetation	VEGRAI score	VEGRAI level 3 should be within a D category (42-57%).	D category (42-57%)												
							Biota	Fish	FRAI score	FRAI should be within a E category (22-37%).	E category (22-37%)												
								Invertebrates	MIRAI score	MIRAI score to be within C category (62-77%).	C category (62-77%)												

27

Table 9: Resource Quality Objectives for RIVERS in priority Resource Units in the Integrated Unit of Analysis H17 Overberg East Fynbos

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric											
											Months	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
H17 Overberg East Fynbos	II	H17	H17-R15	Nuwejaar River	ni4	C/D	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Nuwejaars River in a condition equal to or better than a C/D category.	Maintenance flows (million cubic metres) Low	0.055	0.046	0.03	0.022	0.022	0.02	0.03	0.035	0.049	0.056	0.065	0.059
											Maintenance flows (million cubic metres) High	0.115	0.052	0	0	0	0	0	0.129	0.232	0.108	0.393	0.108
							Quality	Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.	≤ 0.075 milligrams/litre (50th percentile)												
									Total inorganic nitrogen (TIN)		≤ 1.75 milligrams/litre (50th percentile)												
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained at present day levels.	≤ 170 milliSiemens/metre (95th percentile)												
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)												
									Dissolved oxygen		≥ 6 milligrams litre (5th percentile)												
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.	≤ 165 counts/100ml (95th percentile)												
							Habitat	Geomorphology	GAI score	GAI score should be within a D category (42-57%).	D category (42-57%)												
								Riparian vegetation	VEGRAI score	VEGRAI level 3 should be within an E category (22-37%).	E category (22-37%)												
							Biota	Fish	FRAI score	FRAI should be within a E category (22-37%).	E category (22-37%)												
								Invertebrates	MIRAI score	MIRAI score to be within D category (42-57%).	D category (42-57%)												
H17 Overberg East Fynbos	II	G50D	H17-R16	Kars River	nv24	B/C	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Kars River in a condition equal to or better than a B/C category.	Maintenance flows (million cubic metres) Low	0.322	0.282	0.168	0.121	0.109	0.119	0.191	0.204	0.25	0.255	0.304	0.283
											Maintenance flows (million cubic metres) High	0.301	0.157	0	0	0	0	0	0.268	0.349	0.17	0.651	0.17
							Quality	Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.	≤ 0.075 milligrams/litre (50th percentile)												
									Total inorganic nitrogen (TIN)		≤ 1.75 milligrams/litre (50th percentile)												

28

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained at present day levels.	≤ 310 milliSiemens/metre (95th percentile)
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)
									Dissolved oxygen		≥ 6 milligrams litre (5th percentile)
								Toxins	Ammonia	Toxicity levels must not pose a threat to aquatic ecosystems.	≤ 0.073 milligrams/litre (95th percentile)
									Atrazine		≤ 0.079 milligrams/litre (95th percentile)
									Endosulfan		≤ 0.0013 milligrams/litre (95thpercentile)
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.	≤ 165 counts/100ml (95th percentile)
							Habitat	Geomorphology	GAI score	GAI score should be within B category (82-87%).	B category (82-87%)
								Riparian vegetation	VEGRAI score	VEGRAI level 3 should be within a B category (82-87%).	B category (82-87%)
								Fish	FRAI score	FRAI should be within a E category (22-37%).	E category (22-37%)
							Biota	Invertebrates	MIRAI score	MIRAI score to be within B category (82-87%).	B category (82-87%)

Table 10: Resource Quality Objectives for RIVERS in priority Resource Units in the Integrated Unit of Analysis F11 Lower Breede Renosterveld

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Maintenance flows (million cubic metres)		Months	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
											High	Low													
F11 Lower Breede Renosterveld	III	H70G	F11-R17	Breede River	niii4	C	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Breede River in a condition equal to or better than a B/C category.	42.827	10.237		0	5.055	0	0	0	0	5.055	0	11.469	56.997	26.206	0
							Quality	Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.	≤ 0.075 milligrams/litre (50th percentile)														
									Total inorganic nitrogen (TIN)		≤ 1.75 milligrams/litre (50th percentile)														
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained in a Tolerable category for Irrigation water supply.	≤ 270 milliSiemens/metre (95th percentile)														
								System variables	pH range	pH, temperature, and dissolved oxygen are	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)														
									Dissolved oxygen		≥ 6 milligrams litre (5th percentile)														

29

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
									Water temperature	important for the maintenance of ecosystem health.	No more thatn2°C change in natural monthly range (minimum and maximum)
								Toxins	Ammonia	Toxicity levels must not pose a threat to aquatic ecosystems.	≤ 0.073 milligrams/litre (95th percentile)
									Atrazine		≤ 0.079 milligrams/litre (95th percentile)
									Endosulfan		≤ 0.0013 milligrams/litre (95thpercentile)
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.	≤ 165 counts/100ml (95th percentile)
							Habitat	Geomorphology	GAI score	GAI score should be within B category (82-87%).	B category (82-87%)
								Riparian vegetation	VEGRAI score	VEGRAI level 3 should be within a C category (62-77%).	C category (62-77%)
									Marginal zone cover abundance		No exotic species, no terrestrial woody species
									Lower zone cover abundance		No exotic species, no terrestrial woody species
									Upper zone cover abundance		Exotic species < 5%, terrestrial woody species > 30%
							Biota	Fish	FRAI score	FRAI should be within a C category (62-77%).	C category (62-77%)
								Invertebrates	MIRAI score	MIRAI score to be within D category (42-57%).	D category (42-57%)
									Invertebrate diversity		SASS score > 40, ASPT score > 4.3
									Number of families		> 15 families at abundances A - C

Table 11: Resource Quality Objectives for RIVERS in priority Resource Units in the Integrated Unit of Analysis E8 Touws

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Months	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
											Maintenance flows (million cubic metres)												
											High	0.031	0.031	0	0.031	0	0	0.079	0	0	0	0	0
											Low	0.017	0.021	0.019	0.012	0.009	0.015	0.016	0.017	0.013	0.01	0.012	0.012
E8 Touws	III	J12L	E8-R18	Doring River	gviii1	C/D	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Doring River an ecological condition that is equal to or better than the ecological condition in summer 2014 (Category C/D).	≤ 0.075 milligrams/litre (50th percentile)												
							Quality	Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.	≤ 1.75 milligrams/litre (50th percentile)												
									Total inorganic nitrogen (TIN)														
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained at present day levels.	≤ 1500 milliSiemens/metre (95th percentile)												

30

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
E8 Touws	III	J12L	E8-R19	Touws River	gv5	B/C	Habitat	System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	6.5 ≥ pH ≤ 8.5 (5^{th} and 95^{th} percentiles)
									Dissolved oxygen		≥ 6 milligrams litre (5^{th} percentile)
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.	≤ 165 counts/100ml (95^{th} percentile)
								Geomorphology	GAI score	GAI score should equate to a C/D.	C/D category (57-62%)
								Riparian vegetation	VEGRAI score	VEGRAI level 4 of at ~58% for the riparian zone.	C/D category (57-62%)
									Marginal zone cover abundance		No exotic species, no terrestrial woody species
									Lower zone cover abundance		Exotic species < 5%, terrestrial woody species < 10%
									Upper zone cover abundance		Exotic species < 10%, terrestrial woody species < 15%
							Biota	Fish	FRAI score	FRAI shall yield a C/D (58.3%).	C/D category (57-62%)
								Invertebrates	MIRAI score	MIRAI score to be within D (40-59%) Category	D category (42-57%)
									Invertebrate diversity		SASS score > 90, ASPT score > 4.5
									Number of families		> 15 families at abundances A - C
							Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Touws River an ecological condition that is equal to or better than the ecological condition in summer 2014 (Category C).	Maintenance flows (million cubic metres)
											Months: Low / High
											Oct: 0.125 / 0.183
											Nov: 0.164 / 0.354
											Dec: 0.139 / 0.274
											Jan: 0.124 / 0.246
											Feb: 0.119 / 0.407
											Mar: 0.108 / 0.204
											Apr: 0.163 / 1.37
											May: 0.178 / 0.446
											Jun: 0.235 / 0
											Jul: 0.201 / 0
											Aug: 0.195 / 0.433
											Sep: 0.129 / 0.175
								Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.	≤ 0.075 milligrams/litre (50^{th} percentile)
									Total inorganic nitrogen (TIN)		≤ 1.75 milligrams/litre (50^{th} percentile)
							Quality	Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained at present day levels.	≤ 1500 milliSiemens/metre (95^{th} percentile)
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	6.5 ≥ pH ≤ 8.5 (5^{th} and 95^{th} percentiles)
									Dissolved oxygen		≥ 6 milligrams litre (5^{th} percentile)

31

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
E8 Touws	III	J11H	E8-R20	Buffels River	gv4	C	Habitat	Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.	≤ 165 counts/100ml (95th percentile)
								Geomorphology	GAI score	GAI score should equate to a B	B category (82-87%)
								Riparian vegetation	VEGRAI score	VEGRAI level 4 of at least 78% % for the riparian zone.	B/C category (77-82%)
									Marginal zone cover abundance		No exotic species, no terrestrial woody species
									Lower zone cover abundance		Exotic species < 5%, terrestrial woody species < 5%
									Upper zone cover abundance		Exotic species < 5%, terrestrial woody species < 5%
							Biota	Fish	FRAI score	FRAI shall yield a C/D (59%).	C/D category (57-62%)
								Invertebrates	MIRAI score	MIRAI score to be within B/C (78 - 82%) Category	B/C category (77-82%)
									Invertebrate diversity		SASS score > 45, ASPT?>4.0
									Number of families		> 10 families, 5 with SASS score > 5, abundance A-C
							Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Buffels River an ecological condition that is equal to or better than the ecological condition in summer 2014 (Category C).	Maintenance flows (million cubic metres)
											Months: Low / High
											Oct: 0.068 / 0.517
											Nov: 0.075 / 1.588
											Dec: 0.078 / 0.517
											Jan: 0.07 / 1.588
											Feb: 0.057 / 0
											Mar: 0.083 / 0
											Apr: 0.097 / 0
											May: 0.113 / 0
											Jun: 0.111 / 0
											Jul: 0.11 / 0
											Aug: 0.105 / 0
											Sep: 0.073 / 0
							Quality	Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.	≤ 0.075 milligrams/litre (50th percentile)
									Total inorganic nitrogen (TIN)		≤ 1.75 milligrams/litre (50th percentile)
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained at present day levels.	≤ 320 milliSiemens/metre (95th percentile)
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)
									Dissolved oxygen		≥ 6 milligrams litre (5th percentile)
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.	≤ 165 counts/100ml (95th percentile)

32

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
							Habitat	Geomorphology	GAI score	GAI score should equate to a D	D category (42-57%)												
								Riparian vegetation	VEGRAI score	VEGRAI level 4 of at ~57% for the riparian zone.	D category (42-57%)												
									Marginal zone cover abundance		No exotic species, no terrestrial woody species												
									Lower zone cover abundance		Exotic species < 5%, terrestrial woody species < 5%												
									Upper zone cover abundance		Exotic species < 10%, terrestrial woody species < 30%												
								Fish	FRAI score	FRAI shall yield a B/C (79%).	B/C category (77-82%)												
								Invertebrates	MIRAI score	MIRAI score to be within C Category	C category (62-77%)												
									Invertebrate diversity		SASS score > 90, ASPT > 5.0												
									Number of families		> 15 families, 7 with SASS score > 6, abundances A - C												
							Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Groot River an ecological condition that is equal to or better than the ecological condition in summer 2014 (Category D).	Maintenance flows (million cubic metres)	Months	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
												High	0.559	1.719	0.559	1.719	0	0	0	0	0	0	0
												Low	0.016	0.018	0.019	0.016	0.015	0.022	0.024	0.027	0.029	0.027	0.018
								Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.	≤ 0.075 milligrams/litre (50th percentile)												
									Total inorganic nitrogen (TIN)		≤ 1.75 milligrams/litre (50th percentile)												
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained at present day levels.	≤ 320 milliSiemens/metre (95th percentile)												
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)												
									Dissolved oxygen		≥ 6 milligrams litre (5th percentile)												
								Toxins	Atrazine	Toxicity levels must not pose a threat to aquatic ecosystems.	≤ 0.079 milligrams/litre (95th percentile)												
									Endosulfan		≤ 0.0013 milligrams/litre (95th percentile)												
EB Touws	III	J13C	EB-R22	Groot River	gii3	B	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Groot River an ecological condition that is equal to or better than the ecological condition in summer 2014 (Category D).	Maintenance flows (million cubic metres)	Months	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
												High	0.603	1.092	1.123	1.121	1.178	0.589	3.765	1.208	0	0	1.118	0.532
												Low	0.583	0.746	0.752	0.732	0.637	0.593	0.852	0.803	0.903	0.791	0.808	0.587
EB Touws	III	J11J	EB-R21	Groot River	gv6	D	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Groot River an ecological condition that is equal to or better than the ecological condition in summer 2014 (Category D).	Maintenance flows (million cubic metres)	Months	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
												High	0.559	1.719	0.559	1.719	0	0	0	0	0	0	0	0
												Low	0.016	0.018	0.019	0.016	0.015	0.022	0.024	0.027	0.029	0.027	0.027	0.018
								Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.	≤ 0.075 milligrams/litre (50th percentile)												
									Total inorganic nitrogen (TIN)		≤ 1.75 milligrams/litre (50th percentile)												
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained at present day levels.	≤ 320 milliSiemens/metre (95th percentile)												
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)												
									Dissolved oxygen		≥ 6 milligrams litre (5th percentile)												
								Toxins	Atrazine	Toxicity levels must not pose a threat to aquatic ecosystems.	≤ 0.079 milligrams/litre (95th percentile)												
									Endosulfan		≤ 0.0013 milligrams/litre (95th percentile)												

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
							Quality	Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.	≤ 0.075 milligrams/litre (50th percentile)
									Total inorganic nitrogen (TIN)		≤ 1.75 milligrams/litre (50th percentile)
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained at present day levels.	≤ 620 milliSiemens/metre (95th percentile)
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)
									Dissolved oxygen		≥ 6 milligrams litre (5th percentile)

Table 12: Resource Quality Objectives for RIVERS in priority Resource Units in the Integrated Unit of Analysis D7 Gouritz-Olifants

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Months	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
											Maintenance flows (million cubic metres) High	0.342	0.94	2.707	0.94	0.94	2.707	0.94	0	0	0	0	0.342
											Maintenance flows (million cubic metres) Low	0.192	0.232	0.262	0.232	0.241	0.487	0.382	0.22	0.16	0.162	0.157	0.167
D7 Gouritz-Olifants	III	J25A	D7-R23	Gamka River	giv20	C	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Gamka River an ecological condition that is equal to or better than the ecological condition in summer 2014 (Category C).	≤ 0.075 milligrams/litre (50th percentile)													
							Quality	Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.	≤ 1.75 milligrams/litre (50th percentile)												
									Total inorganic nitrogen (TIN)														
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained at present day levels.	≤ 90 milliSiemens/metre (95th percentile)												
								System variables	pH	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)												
									Dissolved oxygen		≥ 6 milligrams litre (5th percentile)												
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.	≤ 165 counts/100ml (95th percentile)												
							Habitat	Geomorphology	GAI score	GAI score should equate to a C	C category (62-77%)												
								Riparian vegetation	VEGRAI score	VEGRAI level 4 of at least 61% for the riparian zone.	C category (62-77%)												
									Marginal zone cover abundance		No exotic species, no terrestrial woody species												
									Lower zone cover abundance		Exotic species < 10%, terrestrial woody species < 5%												

34

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
									Upper zone cover abundance		Exotic species < 10%, terrestrial woody species < 15%
								Fish	FRAI score	FRAI shall yield a C (71.6%).	C category (62-77%)
							Biota	Invertebrates	MIRAI score	MIRAI score to be within B/C (78 - 82%) Category	B/C category (77-82%)
									Invertebrate diversity		SASS score > 100, ASPT > 5.5
									Number of families		> 15 families, 5 with SASS score > 5, abundance A - C
D7 Gourtiz-Olifants	III	J31C	D7-R24	Olifants River	giii2	C	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Olifants River an ecological condition that is equal to or better than the ecological condition in summer 2014 (Category C/D).	Maintenance flows (million cubic metres) — Months: Low / High: Oct 0.035 / 0.046; Nov 0.055 / 0.13; Dec 0.057 / 0.137; Jan 0.05 / 0.107; Feb 0.079 / 0.127; Mar 0.109 / 0.548; Apr 0.068 / 0.127; May 0.053 / 0.097; Jun 0.036 / 0; Jul 0.037 / 0; Aug 0.046 / 0.083; Sep 0.035 / 0.04
								Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.	≤ 0.075 milligrams/litre (50th percentile)
									Total inorganic nitrogen (TIN)		≤ 1.75 milligrams/litre (50th percentile)
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained at present day levels.	≤ 680 milliSiemens/metre (95th percentile)
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)
									Dissolved oxygen		≥ 6 milligrams litre (5th percentile)
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.	≤ 165 counts/100ml (95th percentile)
							Habitat	Geomorphology	GAI score	GAI score should equate to a C/D	C/D category (57-62%)
								Riparian vegetation	VEGRAI score	VEGRAI level 4 of at ~70% for the riparian zone.	C category (62-77%)
									Marginal zone cover abundance		No exotic species, no terrestrial woody species
									Lower zone cover abundance		No exotic species, no terrestrial woody species
									Upper zone cover abundance		No exotic species, no terrestrial woody species
							Biota	Invertebrates	MIRAI score	MIRAI score should equate to a C	C category (62-77%)

35

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Months	Maintenance flows (million cubic metres)	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
												High	0.435	0.218	0	1.091	0.218	0	0	0	0	0	0	0
												Low	0.431	0.218	0.327	0.252	0.179	0.182	0.182	0.215	0.239	0.311	0.381	0.353
D7 Gourtiz-Olifants	III	J34C	D7-R25	Kammanassie River	gv36	C/D	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Kammanassie River an ecological condition that is equal to or better than the ecological condition in summer 2014 (Category C/D).		≤ 0.075 milligrams/litre (50th percentile)												
								Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.		≤ 1.75 milligrams/litre (50th percentile)												
							Quality		Total inorganic nitrogen (TIN)															
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained in a D class for aquatic ecosystems.		≤ 85 milliSiemens/metre (95th percentile)											
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.		6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)											
									Dissolved oxygen			≥ 6 milligrams litre (5th percentile)												
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.		≤ 165 counts/100ml (95th percentile)											
							Habitat	Riparian vegetation	VEGRAI score	VEGRAI level 4 of at ~58% for the riparian zone.		C/D category (57-62%)											
									Marginal zone cover abundance			No exotic species, no terrestrial woody species											
									Lower zone cover abundance			Exotic species < 5%, terrestrial woody species < 5%											
									Upper zone cover abundance			Exotic species < 10%, terrestrial woody species < 20%											
							Biota	Fish	FRAI score	FRAI shall yield a D (46.9%).		D category (42-57%)											
								Invertebrates	MIRAI score	MIRAI score to be within C/D (58-62%) Category		C/D category (57-62%)											
									Invertebrate diversity			SASS score > 90, ASPT > 4.5											
									Number of families			> 17 families, 2 or more baetids, abundance A - C											

Table 13: Resource Quality Objectives for RIVERS in priority Resource Units in the Integrated Unit of Analysis F13 Lower Gouritz

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Months	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
F13 Lower Gouritz	II	J34C	D7-R25	Kammanassie River	gi4	C	Quantity																

36

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	Maintenance flows (million cubic metres)		RQO Numeric											
											Low	High	Months	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
								Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Gouritz River an ecological condition that is equal to or better than the ecological condition in summer 2014 (Category C).	2.752	4.818													
											2.474	2.398													
											2.267	4.818													
											1.804	2.398													
											1.627	2.398													
											2.223	9.926													
											2.134	9.926													
											2.041	9.926													
											2.021	0													
											2.137	0													
											2.213	0													
											2.213	0													
											2.213	0													
								Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Gouritz River an ecological condition that is equal to or better than the ecological condition in summer 2014 (Category C).														
								Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.			≤ 0.075 milligrams/litre (50th percentile)											
									Total inorganic nitrogen (TIN)				≤ 1.75 milligrams/litre (50th percentile)											
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained at present day levels.			≤ 600 milliSiemens/metre (95th percentile)											
							Quality	System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.			6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)											
									Dissolved oxygen				≥ 6 milligrams litre (5th percentile)											
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.			≤ 165 counts/100ml (95th percentile)											
								Geomorphology	GAI score	GAI score should equate to a B			B category (82-87%)											
								Riparian vegetation	VEGRAI score	VEGRAI level 4 of at ~57% for the riparian zone.			B/C category (77-82%)											
									Marginal zone cover abundance				No exotic species, no terrestrial woody species											
							Habitat		Lower zone cover abundance				No exotic species, no terrestrial woody species											
									Upper zone cover abundance				Exotic species < 15%, terrestrial woody species < 40%											
								Fish	FRAI score	FRAI shall yield a D (50.1%).			D category (42-57%)											
								Invertebrates	MIRAI score	MIRAI score to be within C (60-79%) Category			C category (62-77%)											
							Biota		Invertebrate diversity				SASS score > 90, ASPT > 5.0											
									Number of families				> 19 families, 7 with SASS score > 7, abundance A - C											

Table 14: Resource Quality Objectives for RIVERS in priority Resource Units in the Integrated Unit of Analysis F12 Duiwenhoks

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric													
											Months	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep

37

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric		
											Maintenance flows (million cubic metres)	Low	High
								Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Duiwenhoks River an ecological condition that is equal to or better than the ecological condition in summer 2014.	1.775 1.676 1.151 0.648 0.489 0.781 0.861 0.981 1.014 1.207 1.426 1.522	0.418 0 0 0 0 0.418 0 0 0.418 0 2.649 0	
							Quality	Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.	≤ 0.075 milligrams/litre (50th percentile)		
									Total inorganic nitrogen (TIN)		≤ 1.75 milligrams/litre (50th percentile)		
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained in a Tolerable category for irrigation.	≤ 270 milliSiemens/metre (95th percentile)		
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)		
									Dissolved oxygen		≥ 6 milligrams litre (5th percentile)		
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.	≤ 165 counts/100ml (95th percentile)		
							Habitat	Geomorphology	GAI score	GAI score should equate to a D	D category (42-57%)		
								Riparian vegetation	VEGRAI score	VEGRAI level 4 of at least 61% for the riparian zone.	C/D category (57-62%)		
									Marginal zone cover abundance		No exotic species, no terrestrial woody species		
									Lower zone cover abundance		Exotic species < 5%, terrestrial woody species < 5%		
									Upper zone cover abundance		Exotic species < 10%, terrestrial woody species < 20%		
							Biota	Fish	FRAI score	FRAI shall yield a D in the Duiwenhoks River	D category (42-57%)		
								Invertebrates	MIRAI score	MIRAI (40 - 59%) shall yield a D in the Duiwenhoks River.	D category (42-57%)		
									Invertebrate diversity		SASS score > 60, ASPT score > 5		
									Number of families		> 10 families, abundance A - C, presence of Emlidae, Simulidae, Ancylidae		

38

Table 15: Resource Quality Objectives for RIVERS in priority Resource Units in the Integrated Unit of Analysis I18 Hessequa

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Months		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
											Maintenance flows (million cubic metres)	Low	0.794	0.764	0.171	0	0.139	0.688	0.688	0.653	0.598	0.567	0.691	0.654
												High	1.734	1.734	0	1.025	0.381	0	0	0	0	0	0	1.025
I18 Hessequa							Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Duiwenhoks River an ecological condition that is equal to or better than the ecological condition in summer 2014 (Category C/D).													
							Quality	Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.	≤ 0.075 milligrams/litre (50th percentile)												
									Total inorganic nitrogen (TIN)		≤ 1.75 milligrams/litre (50th percentile)												
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained an Acceptable category for ecosystem health.	≤ 130 milliSiemens/metre (95th percentile)												
								System variables	pH	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)												
									Dissolved oxygen		≥ 6 milligrams litre (5th percentile)												
								Toxins	Atrazine	Toxicity levels must not pose a threat to aquatic ecosystems.	≤ 0.079 milligrams/litre (95thpercentile)												
									Endosulfan		≤ 0.0013 milligrams/litre (95thpercentile)												
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.	≤ 165 counts/100ml (95th percentile)												
							Habitat	Geomorphology	GAI score	GAI score should equate to a D	D category (42-57%)												
								Riparian vegetation	VEGRAI score	VEGRAI level 4 of at least 71% for the riparian zone.	C category (62-77%)												
									Marginal zone cover abundance		No exotic species, no terrestrial woody species												
									Lower zone cover abundance		Exotic species < 5%, terrestrial woody species < 5%												
									Upper zone cover abundance		Exotic species < 10%, terrestrial woody species < 10%												
							Biota	Fish	FRAI score	FRAI shall yield a D (50.8%).	D category (42-57%)												
								Invertebrates	MIRAI score	MIRAI score to be within the D EC (40 - 59%) Category	D category (42-57%)												
									Invertebrate diversity		SASS score > 90, ASPT score > 5.8												
									Number of families		> 12 families, 5 with SASS score > 8, abundance A - C												

39

Table 16: Resource Quality Objectives for RIVERS in priority Resource Units in the Integrated Unit of Analysis G14 Groot Brak

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Months		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
											Maintenance flows (million cubic metres)	Low	0.112	0.299	0.287	0.199	0.141	0.134	0.257	0.068	0.087	0.112	0.134	0.151
												High	1.171	0.073	0.147	0	0.147	0.533	0	0	0	0	0	0
G14 Groot Brak	III	K20A	G14-R29	Groot Brak River	gviii2	B/C	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Groot Brak River in an ecological condition that is equal to or better than Category B/C.	≤ 0.025 milligrams/litre (50th percentile)													
								Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at an oligotrophic condition.													
									Total inorganic nitrogen (TIN)		≤ 0.70 milligrams/litre (50th percentile)													
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained in a B class for aquatic ecosystem health.	≤ 55 milliSiemens/metre (95th percentile)												
							Quality	System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)												
									Dissolved oxygen		≥ 8 milligrams litre (5th percentile)												
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation in the downstream Wolwedans Dam.	≤ 165 counts/100ml (95th percentile)												
							Habitat	Geomorphology	GAI score	GAI score should equate to a B	B category (82-87%)												
									Sediment particle size		D16 = 1mm, D50 = 32mm, D84 = 128 mm												
								Riparian vegetation	VEGRAI score	VEGRAI level 4 of Category B.	B category (82-87%)												
									Marginal zone cover abundance		No exotic species, no terrestrial woody species												
									Lower zone cover abundance		Exotic species <5%, terrestrial woody species < 15%												
									Upper zone cover abundance		Exotic species < 30%, terrestrial woody species > 40%												
								Fish	FRAI score	FRAI shall yield a B (82-87%).	B category (82-87%)												
							Biota	Invertebrates	MIRAI score	MIRAI score to be within A (92-100%).	A category (92-100%)												
									Invertebrate diversity		SASS score > 170, ASPT > 7.9												

40

Table 17: Resource Quality Objectives for RIVERS in priority Resource Units in the Integrated Unit of Analysis G15 Coastal

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Months		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
											Maintenance flows (million cubic metres)	High	1.218	1.044	0.219	0.219	0.219	0.812	0	0	0	0	0	0
												Low	0.296	0.081	0.042	0.042	0.077	0.085	0.123	0.211	0.204	0.169	0.211	0.204
G15 Coastal	II	K30B	G15-R30	Malgas River	gvii9	C	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Malgas in an ecological condition that is equal to or better than Category C.	≤ 0.075 milligrams/litre (50th percentile) ≤ 1.75 milligrams/litre (50th percentile)												
							Quality	Nutrients	Phosphate (PO_4-P) Total inorganic nitrogen (TIN)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.													
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained in B class for aquatic ecosystems.	≤ 55 milliSiemens/metre (95th percentile)												
								System variables	pH range Dissolved oxygen	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	5.0 ≥ pH ≤ 7.5 (5th and 95th percentiles) ≥ 6 milligrams litre (5th percentile)												
								Toxins	Ammonia Atrazine Endosulfan	Toxicity levels must not pose a threat to aquatic ecosystems.	≤ 0.073 milligrams/litre (95thpercentile) ≤ 0.079 milligrams/litre (95thpercentile) ≤ 0.0013 milligrams/litre (95thpercentile)												
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.	≤ 165 counts/100ml (95th percentile)												
							Habitat	Geomorphology	GAI score Sediment particle size	GAI score should equate to a B/C	B/C category (77-82%) D16 = 2mm, D50 = 4 mm, D84 = 32mm												
								Riparian vegetation	VEGRAI score Marginal zone cover abundance Lower zone cover abundance Upper zone cover abundance	VEGRAI level 4 of Category D	D category (42-57%) No exotic species, no terrestrial woody species Exotic species < 5%, terrestrial woody species < 15% Exotic species < 30%, terrestrial woody species > 50%												
							Biota	Fish	FRAI score	FRAI shall yield a C/D (57-62%).	C/D category (57-62%)												
								Invertebrates	MIRAI score Invertebrate diversity	MIRAI score to be within A	A category (92-100%) SASS score > 160, ASPT > 8												

41

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Months		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
											Maintenance flows (million cubic metres)	High	0.592	0.538	0.445	0.371	0.335	0.445	0.538	0.483	0.359	0.371	0.371	0.359
												Low	0.249	1.052	0.775	0	0	1.828	0.249	0	0	0	0	0
G15 Coastal	II	K30C	G15-R31	Kaaimans River	gvii11	B	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Kaaimans River in an ecological condition that is equal to or better than Category B.	≤ 0.025 milligrams/litre (50th percentile)													
								Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at an oligotrophic condition.	≤0.70 milligrams/litre (50th percentile)												
									Total inorganic nitrogen (TIN)														
							Quality	Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained in an Ideal category for aquatic ecosystems.	≤ 30 milliSiemens/metre (95th percentile)												
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	4.5 ≥ pH ≤ 7.5 (5th and 95th percentiles)												
									Dissolved oxygen		≥ 8 milligrams/litre (5th percentile)												
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Ideal category for full contact recreation.	≤ 130 counts/100ml (95th percentile)												
							Habitat	Geomorphology	GAI score	GAI score should equate to a B/C	B/C category (77-82%)												
									Sediment particle size		D16 = 2mm, D50 = 16 mm, D84 = 64 mm												
								Riparian vegetation	VEGRAI score	VEGRAI level 4 of Category A.	A category (92-100%)												
									Marginal zone cover abundance		No exotic species, no terrestrial woody species												
									Lower zone cover abundance		Exotic species < 5%, terrestrial woody species < 15%												
									Upper zone cover abundance		Exotic species < 5%, terrestrial woody species < 5%												
							Biota	Fish	FRAI score	FRAI shall yield a B.	B category (82-87%)												
								Invertebrates	MIRAI score	MIRAI score to be within A Category.	A category (92-100%)												
									Invertebrate diversity		SASS score > 160, ASPT > 8												

42

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Months		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
											Maintenance flows (million cubic metres)	High	0.412	0.107	0	0.021	0	0.412	0.107	0	0	0	0	0
												Low	0.331	0.344	0.237	0.18	0.173	0.206	0.199	0.201	0.176	0.173	0.213	0.252
G15 Coastal	II	K40A	G15-R32	Diep River	giii10	B	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Upper Diep River in an ecological condition that is equal to or better than Category B.	≤ 0.025 milligrams/litre (50th percentile)													
							Quality	Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at an oligotrophic condition.	≤ 0.70 milligrams/litre (50th percentile)													
									Total inorganic nitrogen (TIN)															
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained in an Ideal category for aquatic ecosystems.	≤ 30 milliSiemens/metre (95th percentile)												
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	5 ≥ pH ≤ 7 (5th and 95th percentiles)												
									Dissolved oxygen		≥ 8 milligrams/litre (5th percentile)												
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.	≤ 165 counts/100ml (95th percentile)												
							Habitat	Geomorphology	GAI score	GAI score should equate to a B.	B category (82-87%)												
									Sediment particle size		D16 = 10mm, D50 = 100 mm, D84 = 300 mm												
								Riparian vegetation	VEGRAI score	VEGRAI level 4 of Category A/B.	A/B category (87-92%)												
									Marginal zone cover abundance		No exotic species, no terrestrial woody species												
									Lower zone cover abundance		Exotic species < 20%, terrestrial woody species < 5%												
									Upper zone cover abundance		Exotic species < 5%, terrestrial woody species < 5%												
							Biota	Fish	FRAI score	FRAI shall yield a B.	B category (82-87%)												
								Invertebrates	MIRAI score	MIRAI score to be within B Category (80-90%).	B category (82-87%)												
									Invertebrate diversity		SASS score > 190, ASPT > 7												

43

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Months		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
											Maintenance flows (million cubic metres)	High	0.471	0.283	0	0	0	0.283	0.029	0	0	0	0	0
												Low	0.188	0.192	0.169	0.149	0.144	0.169	0.16	0.153	0.129	0.12	0.149	0.17
G15 Coastal	II	K40C	G15-R33	Karatara River	gvii13	B	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Karatara River in an ecological condition that is equal to or better than Category A/B.	≤ 0.025 milligrams/litre (50th percentile)													
											≤ 0.70 milligrams/litre (50th percentile)													
							Quality	Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at an oligotrophic condition.													
									Total inorganic nitrogen (TIN)														
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained in an Ideal category for aquatic ecosystems.	≤ 30 milliSiemens/metre (95th percentile)												
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	4.0 ≥ pH ≤ 7.0 (5th and 95th percentiles)												
									Dissolved oxygen		≥ 8 milligrams/litre (5th percentile)												
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Ideal category for full contact recreation.	≤ 130 counts/100ml (95th percentile)												
							Habitat	Geomorphology	GAI score	GAI score should equate to a A.	A category (92-100%)												
									Sediment particle size		D16 = 30mm, D50 = 80 mm, D84 = 200 mm												
								Riparian vegetation	VEGRAI score	VEGRAI level 4 of Category A/B.	A/B category (87-92%)												
									Marginal zone cover abundance		No exotic species, no terrestrial woody species												
									Lower zone cover abundance		Exotic species < 10%, terrestrial woody species < 5%												
									Upper zone cover abundance		Exotic species < 10%, terrestrial woody species < 5%												
							Biota	Fish	FRAI score	FRAI shall yield a B.	B category (82-87%)												
								Invertebrates	MIRAI score	MIRAI score to be within A.	A category (92-100%)												
									Invertebrate diversity		SASS score > 120, ASPT > 7												

44

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Months		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
											Maintenance flows (million cubic metres)	High	0.645	0.821	0.821	0.445	0.445	0.445	0.445	0	0	0	0	0
												Low	1.124	0.821	0.821	0.445	0.445	0.445	0.445	0	0	0	0	0
G15 Coastal	II	K40E	G15-R34	Goukamma	g viii9	B/C	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Goukamma River in an ecological condition that is equal to or better than Category B/C.															
							Quality	Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at a mesotrophic or better condition.	≤ 0.075 milligrams/litre (50th percentile)													
									Total inorganic nitrogen (TIN)		≤ 1.75 milligrams/litre (50th percentile)													
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained in an Acceptable category for aquatic ecosystems.	≤ 55 milliSiemens/metre (95th percentile)													
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	4 ≥ pH ≤ 7 (5th and 95th percentiles)													
									Dissolved oxygen		≥ 6 milligrams litre (5th percentile)													
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation.	≤ 165 counts/100ml (95th percentile)													
							Habitat	Geomorphology	GAI score	GAI score should equate to a B.	B category (82-87%)													
									Sediment particle size		D16 = 2mm, D50 = 24 mm, D84 = 128 mm													
								Riparian vegetation	VEGRAI score	VEGRAI level 4 of Category B.	B category (82-87%)													
									Marginal zone cover abundance		No exotic species, no terrestrial woody species													
									Lower zone cover abundance		Exotic species < 5%, terrestrial woody species < 15%													
									Upper zone cover abundance		Exotic species < 5%, terrestrial woody species < 5%													
							Biota	Fish	FRAI score	FRAI shall yield a C.	C category (62-77%)													
								Invertebrates	MIRAI score	MIRAI score to be within A.	A category (92-100%)													
									Invertebrate diversity		SASS score > 100, ASPT > 7.4													

45

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Months		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
											Maintenance flows (million cubic metres)	Low	0.686	0.664	0.546	0.437	0.411	0.441	0.441	0.476	0.447	0.474	0.579	0.644
												High	0.478	0.837	0	0	0.239	0.239	0.478	0	0	0	0	0
G15 Coastal	II	K50A	G15-R35	Knysna River	gvii14	B	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Knysna River in an ecological condition that is equal to or better than Category B.	≤ 0.025 milligrams/litre (50th percentile)													
											≤ 0.70 milligrams/litre (50th percentile)													
							Quality	Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at an oligotrophic condition.													
									Total inorganic nitrogen (TIN)														
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained in an Ideal category for aquatic ecosystem health.	≤ 30 milliSiemens/metre (95th percentile)												
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	4.5 ≥ pH ≤ 7.0 (5th and 95th percentiles)												
									Dissolved oxygen		≥ 8 milligrams/litre (5th percentile)												
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Ideal category for full contact recreation.	≤ 130 counts/100ml (95th percentile)												
							Habitat	Geomorphology	GAI score	GAI score should equate to a A/B.	A/B category (87-92%)												
									Sediment particle size		D16 = 30mm, D50 = 120 mm, D84 = 300 mm												
								Riparian vegetation	VEGRAI score	VEGRAI level 4 of Category A/B.	A/B category (87-92%)												
									Marginal zone cover abundance		No exotic species, no terrestrial woody species												
									Lower zone cover abundance		Exotic species < 20%, terrestrial woody species < 5%												
									Upper zone cover abundance		Exotic species < 40%, terrestrial woody species < 5%												
								Fish	FRAI score	FRAI shall yield a B.	B category (82-87%)												
							Biota	Invertebrates	MIRAI score	MIRAI score to be within B Category.	B category (82-87%)												
									Invertebrate diversity		SASS score > 150, ASPT > 6.7												

46

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Maintenance flows (million cubic metres)		Months										
											High	Low	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
G15 Coastal	II	K50B	G15-R36	Gouna River	gviii11	A/B	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Gouna River in an ecological condition that is equal to or better than Category A/B.	1.328 0.692	1.44 0.898	0.342 0.342	1.197 0	0 0	0 0	0 0	0.684 0	0.342 0	0 0	0 0	0 0	0 0	0 0
							Quality	Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at an oligotrophic condition.	≤ 0.025 milligrams/litre (50th percentile)												
									Total inorganic nitrogen (TIN)		≤ 0.70 milligrams/litre (50th percentile)												
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained in an Ideal category for aquatic ecosystem health.	≤ 30 milliSiemens/metre (95th percentile)												
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	4.0 ≥ pH ≤ 7.0 (5th and 95th percentiles)												
									Dissolved oxygen		≥ 8 milligrams/litre (5th percentile)												
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Ideal category for full contact recreation.	≤ 130 counts/100ml (95th percentile)												
							Habitat	Geomorphology	GAI score	GAI score should equate to a A/B.	A/B category (87-92%)												
									Sediment particle size		D16 = 10mm, D50 = 50 mm, D84 = 200 mm												
								Riparian vegetation	VEGRAI score	VEGRAI level 4 of Category A/B.	A/B category (87-92%)												
									Marginal zone cover abundance		No exotic species, no terrestrial woody species												
									Lower zone cover abundance		Exotic species < 10%, terrestrial woody species < 5%												
									Upper zone cover abundance		Exotic species < 10%, terrestrial woody species < 5%												
							Biota	Fish	FRAI score	FRAI shall yield a B.	B category (82-87%)												
								Invertebrates	MIRAI score	MIRAI score to be within B	B category (82-87%)												
									Invertebrate diversity		SASS score > 120, ASPT > 7.5												

CONTINUES ON PAGE 130 - PART 2

Government Gazette
Staatskoerant

REPUBLIC OF SOUTH AFRICA
REPUBLIEK VAN SUID AFRIKA

Vol. 663 18 September / September 2020 No. 43726

PART 2 OF 5

ISSN 1682-5843

9 771682 584003 43726

47

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Months		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
											Maintenance flows (million cubic metres)	Low	1.697	1.448	1.157	0.788	0.508	0.627	0.669	0.833	0.875	1.123	1.395	1.448
												High	0.758	0	0.758	0	0	0	0	0.758	0	0	0.758	3.389
G15 Coastal	II	K60C	G15-R37	Keurbooms River	giv9	C	Quantity	Low flows High flows	Maintenance low flows Maintenance high flows	Flows shall be sufficient to maintain the Keurbooms River an ecological condition that is equal to or better than the ecological condition in summer 2014 (Category B).	≤ 0.025 milligrams/litre (50th percentile)													
							Quality	Nutrients	Phosphate (PO_4-P)	Nutrient levels must be maintained in the river at an oligotrophic condition.													
									Total inorganic nitrogen (TIN)		≤ 0.70 milligrams/litre (50th percentile)												
								Salts	Electrical conductivity (EC)	Salt concentrations need to be maintained in an Ideal category for aquatic ecosystem health.	≤ 30 milliSiemens/metre (95th percentile)												
								System variables	pH range	pH, temperature, and dissolved oxygen are important for the maintenance of ecosystem health.	5.5 ≥ pH ≤ 8.0 (5th and 95th percentiles)												
									Dissolved oxygen		≥ 8 milligrams/litre (5th percentile)												
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Ideal category for full contact recreation.	≤ 130 counts/100ml (95th percentile)												
							Habitat	Geomorphology	GAI score	GAI score should equate to a B.	B category (82-87%)												
								Riparian vegetation	VEGRAI score	VEGRAI level 4 of at ~58% for the riparian zone.	B/C category (77-82%)												
									Marginal zone cover abundance		No exotic species, no terrestrial woody species												
									Lower zone cover abundance		Exotic species < 5%, terrestrial woody species < 15%												
									Upper zone cover abundance		Exotic species < 30%, terrestrial woody species < 20%												
								Fish	FRAI score	FRAI shall yield a B	B category (82-87%)												
							Biota	Invertebrates	MIRAI score	MIRAI score to be within B	B category (82-87%)												
									Invertebrate diversity		SASS score > 180, ASPT > 6.5												
									Number of families		> 15 families, 2 with SASS scores > 12, abundance A - C												

Table 18: Resource Quality Objectives for ESTUARIES in priority Resource Units in the Integrated Unit of Analysis B5 Overberg West

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Months	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Annual
											MMR/MAR (% Nat)	76.6	49.2	39.1	48.2	43.6	43.0	41.1	46.4	57.3	74.4	86.6	90.5	70.1
B5 Overberg West	II	G40D	B5-E01	Palmiet Estuary	pxi1	B/C	Quality	Quantity	Flow	MMR/MAR (% Nat)	Maintain a flow regime to create the required habitat for birds, fish, macrophytes, microalgae and water quality.	River inflow: Average DIN concentration >100 µg/l (dry season) or >500 µg/l (wet season)												
								Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	Estuary: Average DIN concentrations in freshwater section >100 µg/l (dry season) (marine waters may have higher concentrations linked to upwelling) and >500 µg/l (wet season)												
									DIP		River inflow: Average DIP concentration >10 µg/l (dry season) and >50 µg/l (wet season)												
											Estuary: Average DIP concentrations >10 µg/l (dry season) (marine waters may have higher concentrations linked to upwelling) and >50 µg/l (wet season).												
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	Salinity must not drop below 10 for longer than three months in a year												
								System variables	Temperature	System variables not to exceed TPCs for biota	River inflow: Summer temperature <20 °C												
									pH		<8												
									Dissolved oxygen		>4 mg/												
									Secchi depth		>2 m												
								Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml) (90^{th} percentile)												
									Escherichia coli		≤500 E. coli/100 ml (90^{th} percentile)												
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Estuary mouth permanently open												
									Tidal variation		Average tidal amplitude near the mouth during low flows (summer) must not change by >10% from established baseline.												
								Sediments	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline												

49

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Maintain low phytoplankton biomass; maintain microalgal group diversity as measured for the baseline survey; phytoplankton biomass should not increase by more than 20% above baseline concentrations; phytoplankton group diversity should not change by more 20% from baseline conditions
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Area covered by different plant community types should not change by more than 20% from baseline open and closed mouth conditions, no invasive species should be present, prevent excessive filamentous macroalgal growth, area covered should be less than 50 % of the open water surface area, macroalgae cover should not exceed 50% in 1 m^2 quadrats or occupy more than 50% of the open water surface area in the eastern channel and above sand bank in the lower reaches of the estuary, macroalgal wet biomass should remain below 500 g m^{-2}
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Density of sandprawn burrow openings should exceed 75 per m^2 in the highest density areas in the lower estuary; amphipods should numerically dominate the benthic fauna (*Grandidierella* sp.and *Corophium triaenonyx*) living on the sediment surface in the middle and upper estuarine reaches respectively; in the zooplankton, the density of *Pseudodiaptomus hessei* should range between 100 and 5000 m^3 in the summer in the mid-estuary region
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Retain the following fish assemblages in the estuary (based on abundance): estuarine species (10-20%); estuarine associated marine species (80-90%); and indigenous freshwater species (~1%); all numerically dominant species should be represented by 0+ juveniles.
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	Retain regular representation of waders, gulls, and terns, and overall waterbird species richness of seven or more species; estuary should not be regularly used by waterfowl species such as Redknobbed Coot; waders or terns should not be absent from the estuary for >5 consecutive counts

50

Table 19: Resource Quality Objectives for ESTUARIES in priority Resource Units in the Integrated Unit of Analysis H16 Overberg West Coastal

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric		
											Months	MMR/MAR (% Nat)	
													Oct	84.4
													Nov	69.5
													Dec	28.7
													Jan	11.2
													Feb	8.9
													Mar	13.4
													Apr	35.3
													May	64.3
													Jun	87.8
													Jul	91.2
													Aug	91.7
													Sep	89.8
													Annual	81.9
H16 Overberg West Coastal							Quantity	Flow	MMR/MAR (% Nat)	Maintain at least present-day base flows	<100µg/ℓ		
	II	G40B	H16-E02	Buffels Estuary	bxi1	B	Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	<10 µg/ℓ		
									DIP				
								System variables	Dissolved oxygen	System variables not to exceed TPCs for biota	>6 milligrams/litre		
								Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml) (90th percentile)		
									Escherichia coli		≤500 E. coli/100 ml (90th percentile)		
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Closed mouth state should not increase by >10% from established baseline		
								Sediments	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline		
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	<20 µg l-1		
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Area occupied by different macrophyte groups should no change by >20 % change in the area covered by habitats, submerged macrophytes such as pondweed *(Potamogeton pectinatus)* should be present during low flow conditions		

51

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Estuary should have viable populations of *Callianassa kraussi* in sandy zones and *Upogebia africana* in muddy zones.
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Maintain fish assemblage that includes at least 2 estuarine breeding species (Category I), 3 estuary dependent marine species (Category IIa & IIb) and 1 indigenous catadromous species (Category V). Estuarine residents should dominate numerically, but the proportion of estuary dependent marine species (based on abundance) should not fall below 2%.
H16 Overberg West Coastal	II	G40B	H16-E03	Rooiels Estuary	bxi2	A	Quantity	Flow	MMR/MAR (% Nat)	Maintain at least present-day base flows	Months / MMR/MAR (% Nat): Oct 99.0; Nov 98.9; Dec 98.4; Jan 98.0; Feb 98.3; Mar 98.0; Apr 98.1; May 98.3; Jun 98.5; Jul 98.6; Aug 98.6; Sep 98.8; Annual 98.6
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	<100µg/ℓ
									DIP		<10 µg/ℓ
								System variables	Dissolved oxygen	System variables not to exceed TPCs for biota	>6 milligrams/litre
								Pathogens	Escherichia coli	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤ 130 counts/100ml (95th percentile)
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Closed mouth state should not increase by >10% from established baseline
								Sediments	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline

52

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	<20 µg l^{-1}
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Area occupied by different macrophyte groups should no change by >20 % change in the area covered by habitats, submerged macrophytes such as pondweed *(Potamogeton pectinatus)* should be present during low flow conditions
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Estuary should have viable populations of *Callianassa kraussi* in sandy zones and *Upogebia africana* in muddy zones.
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Maintain fish assemblage that includes at least 2 estuarine breeding species (Category I), 3 estuary dependent marine species (Category IIa & IIb) and 1 indigenous catadromous species (Category V). Estuarine residents should dominate numerically, but the proportion of estuary dependent marine species (based on abundance) should not fall below 2%.
H16 Overberg West Coastal	II	G40G	H16-E04	Bot Estuary	9ixn	B	Quantity	Flow	MMR/MAR (% Nat)	Maintain a flow regime to create the required habitat for birds, fish, macrophytes, microalgae and water quality	Months / MMR/MAR (% Nat): Oct 80.2; Nov 75.7; Dec 63.9; Jan 58.2; Feb 60.3; Mar 63.7; Apr 75.5; May 80.9; Jun 83.8; Jul 85.8; Aug 87.7; Sep 85.0; Annual 81.8
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	River inflow (low flows): DIN <100 µg/l; River inflow high flows): DIN <300 µg/l; Estuary (low flows): DIN <100 µg/l (except during upwelling events); Estuary (high flows): DIN <300 µg/l in Zones A & B (upper reaches) and <100 µg/l in Zones C & D (lower reaches) (except during upwelling events)
									DIP		River inflow (low flows): DRP <50 µg/l; River inflow high flows): DRP <80 µg/l; Estuary (low flows): DRP <50 µg/l (except during upwelling events); Estuary (high flows): DRP <80 µg/l in Zones A & B (upper reaches) and <50 µg/l in Zones C & D (lower reaches) (except during upwelling events)

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	Summer: 8<Salinity<40
								System variables	pH	System variables not to exceed TPCs for biota	6 < pH < 8.5
									Dissolved oxygen		>4 milligrams/litre
								Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml) (90th percentile)
									Escherichia coli		≤500 E. coli/100 ml (90th percentile)
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Closed mouth state should not increase by >10% from established baseline
								Sediments	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Maintain low phytoplankton biomass (< 6 ug l^{-1}); phytoplankton biomass should not rise above 10 ug l^{-1} for greater than 6 months; maintain microalgal group diversity as measured for the baseline survey (an increase in Cyanophytes (blue greens) would be a cause for concern); phytoplankton group diversity should not decrease below 20% of that found for baseline conditions; maintain present benthic microalgal biomass (< 4 ug g^{-1}); benthic microalgal biomass should not rise above 10 ug g^{-1} for greater than 6 months
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain the present area (2011) covered by the macrophyte habitats: submerged macrophytes (476 ha); reeds and sedges (60 ha); salt marsh (69 ha); and macroalgae (238 ha); prevent excessive filamentous macroalgal growth; the present ratio of macroalgae to submerged macrophytes must be maintained (i.e. 50%).

54

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Zooplankton: Density of *Pseudodiaptomus hessei* should range between 100 and 5000 m^3 in the summer in the mid-estuary region; Benthic macrofauna: density of sandprawn *Callianassa kraussi* burrow openings should exceed 75 per m^2 in the highest density areas in the lower estuary, burrow density in the lower estuary should not drop below 50 counts per m^2 in the highest density areas, all size classes of sand prawn should be present in the population
								Fish	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Fish community composition, abundance and richness	Juvenile estuary dependant marine fish should not be absent from the estuary for more than two years in a row; % contribution by juvenile estuary dependant marine fish to assemblage by number should not drop to <60% of residents; Alien species abundance should remain below 5 % of biomass in main body of estuary; % contribution of adult & sub-adult estuary-dependent fish to assemblage by number should not drop below 15%
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	Number of non-passerine waterbird species recorded in counts should not decrease by more than 10% over a five-year period; overall numbers of waders, wading birds or gulls & terns, or numbers of any of the species in these groups should not decrease relative to the baseline average by more than 10% over a five-year period, after correcting for regional/global population changes; total summer numbers of waterfowl should not exceed 15 000 for more than 4 years.
H16 Overberg West Coastal	II	G40H	H16-E05	Onrus Estuary	nxi8	D	Quantity	Flow	MMR/MAR (% Nat)	Maintain a flow regime to create the required habitat for birds, fish, macrophytes, microalgae and water quality	Months / MMR/MAR (% Nat): Oct 55.6, Nov 54.2, Dec 53.8, Jan 52.9, Teb 51.2, Mar 50.2, Apr 49.7, May 49.0, Jun 50.0, Jul 49.8, Aug 51.7, Sep 54.8, Annual 51.8
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	Entire estuary and river inflow: DIN <300µg/ℓ
									DIP		Entire estuary and river inflow: DIP < 25 µg/ℓ
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	5 < Salinity <40

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								System variables	Dissolved oxygen	System variables not to exceed TPCs for biota	Entire estuary and river inflow: DO >5 mg/ℓ
									Turbidity		Turbidity <5 NTU
								Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml (90th percentile)
									Escherichia coli		≤500 E. coli/100 ml (90th percentile)
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Closed mouth state should not increase by >10% from established baseline
								Sediments	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Control nutrient input from sewage spills to prevent microalgal blooms (> 20 µg l^{-1}) and the occurrence of harmful algal bloom species; maintain the distribution of different phytoplankton groups (diverse community composition) and prevent dominance of Cyanophytes (blue-green algae) that occur under nutrient rich, freshwater conditions
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain the present area (2014) covered by the macrophyte habitats: open surface water area: 2.59, sand and mudflats: 1.86, area covered by reeds should be managed and maintained within an approved environmental management plan, further spread of reeds by reducing nutrient input and occurrence of aquatic invasive such as water fern *Azolla* should be prevented; prevent further disturbance and development in the riparian zone; remove alien plants from the riparian zone and control the spread of garden invasive

IUA Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
						Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	The estuary should have viable populations of *Callianassa kraussi* in sandy zones and *Upogebia africana* in muddy zones. Breeding in both species ceases at salinities lower than 17 ppt during prolonged mouth phase. In *U. africana* and export of larvae into marine and postlarvae back to estuary ceases; prolonged mouth closure should be avoided as this will result in a loss of marine species (e.g. *Pseudodiaptomus* sp.) from the zooplankton community
						Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Maintain fish assemblage that includes at least 2 estuarine breeding species (Category I), 2 estuary dependent marine species (Category II), 1 indigenous catadromous species (Category V) and two freshwater indigenous species (Category IV). Estuarine residents should dominate numerically (>50%), but estuary dependent marine species, indigenous catadromous and freshwater species should be present

Table 20: Resource Quality Objectives for ESTUARIES in priority Resource Units in the Integrated Unit of Analysis H17 Overberg East Fynbos

IUA Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric		
H17 Overberg East Fynbos	II	G40L	H17-E06	Klein Estuary	nxi7	B	Quantity	Flow	MMR/MAR (% Nat)	Flood and breaching regimes to maintain the sediment distribution patterns and aquatic habitat (instream physical habitat) so as not to exceed TPCs for biota	Months	MMR/MAR (% Nat)
											Oct	84.2
											Nov	83.1
											Dec	85.5
											Jan	73.7
											Feb	69.4
											Mar	78.8
											Apr	78.0
											May	83.9
											Jun	82.3
											Jul	86.9
											Aug	89.7
											Sep	90.3
											Annual	85.6
								DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	Entire estuary and river inflow: DIN <300µg/ℓ		
							Nutrients	DIP		Entire estuary and river inflow: DIP <25 µg/ℓ		
							Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	5 < Salinity <40		
							System variables	Dissolved oxygen	System variables not to exceed TPCs for biota	Entire estuary and river inflow: DO >5mg/ℓ, turbidity < 5 NTU		
								Turbidity		Turbidity <5 NTU		
							Pathogens	Enterococci	Concentrations of	≤185 Enterococci/100 ml) (90th percentile)		

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
									Escherichia coli	waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤500 E. coli/100 ml (90th percentile)
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Closed mouth state should not increase by >10% from established baseline
								Sediments	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Phytoplankton biomass, measured as water column chlorophyll-a should not exceed 10 µg l^{-1}; maintain high subtidal benthic microalgae biomass during the closed mouth phase and high intertidal benthic microalgae biomass during the open phase; phytoplankton biomass should not exceed 10 µg $l^{-1;}$ benthic microalgae biomass should not deviate more than 20 % compared with Present State concentrations; no brackish epipelic diatoms should be found during the closed phase
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain the present area (2014) covered by the macrophyte habitats: open surface water area: 741.6 ha; sand and mud banks: 79 ha; submerged macrophytes: 92 ha; salt marsh: 170 ha; reeds and sedges: 127 ha; floodplain: 280 ha (mostly intact) and 110 ha (disturbed); maintain the distribution of plant community types i.e. submerged macrophyte, *Ruppia cirrhosa* beds during closed mouth brackish conditions, salt marsh, *Salicornia meyeriana* marsh during open mouth conditions, *Phragmites australis* stands in the middle / upper reaches and salt marsh grasses indicative of brackish conditions

58

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Benthic invertebrates: The estuary should have viable populations of *Callianassa kraussi* in sandy zones and *U. Africana* in muddy zones. Breeding in both species ceases at salinities lower than 17 ppt during prolonged mouth phase. In *U. africana* and export of larvae into marine and postlarvae back to estuary ceases; abundance of *C. kraussi* and *U. africana* should not drop below 50% of recorded total abundances in each season; recruits should be recorded in population (Identify zones where these are abundant from the baseline study and these would be where the above would be assessed); Zooplankton: Prolonged close mouth would result in a loss of marine species (e.g. *Pseudodiaptomus sp.)* from the zooplankton community; abundance of indicator marine species (e.g. *Pseudodiaptomus sp.)* should not change by more than 50% of current levels.
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Retain the following fish assemblages in the estuary (based on abundance): estuarine species (20-30%), estuarine associated marine species (60-70%) and indigenous freshwater species (<1%). All numerically dominant species are represented by 0+ juveniles. abundance of estuary associated marine species should not drop below 50% of total abundance; abundance of estuarine species should not increase above 50% of total abundance.; alien freshwater species should not be present in the estuary; 0+ juveniles of all of the dominant fish species should be present
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	The estuary should contain a rich avifaunal community that includes representatives of all the original groups, significant numbers of migratory waders and terns, as well as a healthy breeding population of resident waders; the estuary should support thousands of birds in summer and hundreds in winter; numbers of waterfowl should not drop below 600, waders below 100 in summer, and terns below 250; overall numbers of bird species should not drop below 1000 for 3 consecutive counts

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Months	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Annual
H17 Overberg East Fynbos	II	G40M	H17-E07	Uilkraal Estuary	nxi5	C	Quantity	Flow	MMR/MAR (% Nat)	Maintain a flow regime to create the required habitat for birds, fish, macrophytes, microalgae and water quality	MMR/MAR (% Nat)	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	Entire estuary and river inflow: DIN <300µg/ℓ												
									DIP		Entire estuary and river inflow: DIP <25 µg/ℓ												
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	10 < Salinity <40												
								System variables	Dissolved oxygen	System variables not to exceed TPCs for biota	Entire estuary and river inflow: DO > 6 mg/ℓ												
									Turbidity		Turbidity < 5 NTU												
								Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml) (90th percentile)												
									Escherichia coli		≤500 E. coli/100 ml (90th percentile)												
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Closed mouth state should not increase by >10% from established baseline												
								Sediments	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline												
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Phytoplankton biomass, measured as water column chlorophyll-a should not exceed 10 ug l^{-1}; maintain high subtidal benthic microalgal biomass during the closed mouth phase and high intertidal benthic microalgal biomass during the open phase												

59

60

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
H17 Overberg East Fynbos	II	G50A	H17-E08	Rietel Estuary	nxi3	B	Quality	Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain the distribution of plant community types i.e. submerged macrophyte, *Ruppia cirrhosa* beds during closed mouth brackish conditions, salt marsh, *Salicornia meyeriana* marsh during open mouth conditions, *Phragmites australis* stands in the middle / upper reaches and salt marsh grasses indicative of brackish conditions.
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	The estuary should have viable populations of *Callianassa kraussi* in sandy zones and U. Africana in muddy zones
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Retain the following fish assemblages in the estuary (based on abundance): estuarine species (30-40%), estuarine associated marine species (60-70%) and indigenous freshwater species (<1%). All numerically dominant species are represented by 0+ juveniles
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	The estuary should contain a rich avifaunal community that includes representatives of all the original groups, significant numbers of migratory waders and terns, as well as a healthy breeding population of resident waders; the estuary should support thousands of birds in summer and hundreds in winter
							Quantity	Flow	MMR/MAR (% Nat)	Maintain at least present-day base flows	Months: Oct / Nov / Dec / Jan / Feb / Mar / Apr / May / Jun / Jul / Aug / Sep / Annual MMR/MAR (% Nat): 90.0 / 90.0 / 90.1 / 90.3 / 90.2 / 90.2 / 90.0 / 90.0 / 90.0 / 90.0 / 90.0 / 90.0 / 90.0
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	Entire estuary and river inflow: DIN <300µg/ℓ
									DIP		Entire estuary and river inflow: DIP <25 µg/ℓ
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	10 < Salinity <40
								System variables	Dissolved oxygen	System variables not to exceed TPCs for biota	Entire estuary and river inflow: DO > 6 mg/ℓ
									Turbidity		Turbidity < 5 NTU
								Pathogens	Enterococci	Concentrations of	≤185 Enterococci/100 ml) (90th percentile)

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
									Escherichia coli	waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤500 E. coli/100 ml (90th percentile)
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Closed mouth state should not increase by >10% from established baseline
								Sediments	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Maintain the distribution of different phytoplankton groups and low biomass (< 20 µg l-1)
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain the distribution of current macrophyte habitats, <20 % change in the area covered by different macrophyte habitats (accounts for natural changes due to the dynamic nature of estuaries); submerged macrophytes such as pondweed (*Potamogeton pectinatus*) should be present during low flow conditions
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	The estuary should have viable populations of *Callianassa kraussi* in sandy zones and *Upogebia africana* in muddy zones
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Maintain fish assemblage that includes at least 2 estuarine breeding species (Category I), 3 estuary dependent marine species (Category IIa & IIb) and 1 indigenous catadromous species (Category V); estuarine residents should dominate numerically, but the proportion of estuary dependent marine species (based on abundance) should not fall below 2%.

62

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric		
											Months	MMR/MAR (% Nat)	
H17 Overberg East Fynbos	II	G50F	H17-E09	Heuningnes Estuary	nxi1	B	Quantity	Flow	MMR/MAR (% Nat)	Flood and breaching regimes to maintain the sediment distribution patterns and aquatic habitat (instream physical habitat) so as not to exceed TPCs for biota	Oct	79.6	Entire estuary and river inflow: DIN <300µg/ℓ
											Nov	77.5	
											Dec	73.1	
											Jan	71.5	
											Feb	72.5	
											Mar	76.2	
											Apr	79.1	
											May	79.2	
											Jun	79.0	
											Jul	78.4	
											Aug	78.7	
											Sep	78.2	
											Annual	78.2	
								Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae			
									DIP				Entire estuary and river inflow: DIP <25 µg/ℓ
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae			Average salinity in the estuary is artificially elevated at present due to reduced freshwater inflow, target levels for the various zones are as follows: Zone A: 30, Zone B: 14, Zone C: 6, Zone D: 2
								System variables	Dissolved oxygen	System variables not to exceed TPCs for biota			Entire estuary and river inflow: DO >5 mg/ℓ
									pH				8< pH <9
								Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation			≤185 Enterococci/100 ml) (90th percentile)
									Escherichia coli				≤500 E. coli/100 ml (90th percentile)
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary			Closed mouth state should not increase by >10% from established baseline
								Sediments	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics			Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline
								Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass			Phytoplankton biomass, measured as water column chlorophyll-a should not exceed 10 µg l^{-1} in both the estuary and Soetendalsvlei (Zone D); maintain diversity of phytoplankton groups i.e. diatoms abundant during marine phase.

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Area covered by different macrophyte habitats particularly intertidal and supratidal salt marsh should be allowed to revert to a more natural state through restoration of a more natural flow regime (particularly summer base flows) and by allowing mouth operate normally as far as possible (minimum height for artificial breaching to be increased to 2.5 m) breaching which will increase backflooding and soil salinity; present area (2014) covered by the macrophyte habitats is as follows: Open surface water area :907.92, Sand and mudflats :43.35, Submerged macrophytes :10.17, Reeds and sedges:1154.98, Intertidal salt marsh :16.18 , Supratidal salt marsh:942.4
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Benthic invertebrates: Abundance of *C. kraussi* and *U. Africana* should not drop below 50% of recorded total abundances in each season, recruits should be recorded in population (Identify zones where these are abundant from the baseline study and these would be where the above would be assessed; Zooplankton: Prolonged close mouth would result in a loss of marine species (e.g. *Pseudodiaptomus sp.)* from the zooplankton community, abundance of indicator marine species (e.g. *Pseudodiaptomus sp.)* should not change by more than 50% of current levels
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Retain the following fish assemblages in the estuary (based on abundance): estuarine species (20-30%), estuarine associated marine species (60-70%) and indigenous freshwater species (<1%); all numerically dominant species are represented by 0+ juveniles; abundance of estuary associated marine species should not drop below 50% of total abundance; abundance of estuarine species should not increase above 50% of total abundance; alien freshwater species should not be present in the estuary; 0+ juveniles of all of the dominant fish species should be present

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	The estuary should contain a rich avifaunal community that includes representatives of all the original groups, significant numbers of migratory waders and terns, as well as a healthy breeding population of resident waders. The estuary should support thousands of birds in summer and hundreds in winter; numbers of waterfowl should not drop below 600, waders below 100 in summer, and terns below 250; overall numbers of bird species should not drop below 1000 for 3 consecutive counts
H17 Overberg East Fynbos	II	G50K	H17-E10	Klipdrifsfontein Estuary	bxi3	A	Quantity	Flow	MMR/MAR (% Nat)	Maintain at least present-day base flows	Months: Oct 62.5, Nov 68.0, Dec 63.3, Jan 58.4, Feb 58.3, Mar 65.7, Apr 68.6, May 64.4, Jun 60.2, Jul 61.2, Aug 66.8, Sep 64.3, Annual 64.8 MMR/MAR (% Nat): Entire estuary and river inflow: DIN <300µg/ℓ
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	Entire estuary and river inflow: DIP <25 µg/ℓ
									DIP		
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	10 < Salinity <40
								System variables	Dissolved oxygen	System variables not to exceed TPCs for biota	Entire estuary and river inflow: DO > 6 mg/ℓ
									Turbidity		Turbidity < 5 NTU
								Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml) (90^{th} percentile)
									Escherichia coli		≤500 E. coli/100 ml (90^{th} percentile)
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Closed mouth state should not increase by >10% from established baseline
								Sediments	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline

65

IUA Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
						Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Maintain the distribution of different phytoplankton groups and low biomass (< 20 µg l-1)
							Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain the distribution of current macrophyte habitats, <20 % change in the area covered by different macrophyte habitats (accounts for natural changes due to the dynamic nature of estuaries); submerged macrophytes such as pondweed (*Potamogeton pectinatus*) should be present during low flow conditions
							Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	The estuary should have viable populations of *Callianassa kraussi* in sandy zones and *Upogebia africana* in muddy zones
							Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Maintain fish assemblage that includes at least 2 estuarine breeding species (Category I), 3 estuary dependent marine species (Category IIa & IIb) and 1 indigenous catadromous species (Category V); estuarine residents should dominate numerically, but the proportion of estuary dependent marine species (based on abundance) should not fall below 2%.

Table 21: Resource Quality Objectives for ESTUARIES in priority Resource Units in the Integrated Unit of Analysis F11 Lower Breede Renosterveld

IUA Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric													
F11 Lower Breede Renosterveld	H70K	F11-E11	Breede Estuary	nxi2	B	Quantity	Flow	MMR/MAR (% Nat)	Maintain flow regime as per recommended ecological flow	Months	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Annual
										MMR/MAR (% Nat)	57.6	50.1	34.0	33.0	34.6	41.7	59.7	56.6	61.2	47.6	51.3	27.3	47.2
						Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	Entire estuary and river inflow: DIN <300µg/ℓ														
								DIP		Entire estuary and river inflow: DIP <25 µg/ℓ													
							Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	Zone A (0-15 km upstream of mouth): 40> Salinity >20, Zone B (15-30 km): 30> Salinity >10, Zone C (30-40 km): 20> Salinity >5, Zone D (40-50 km): <10													

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								System variables	Dissolved oxygen	System variables not to exceed TPCs for biota	Entire estuary and river inflow: DO >5 mg/ℓ
								Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml) (90th percentile)
									Escherichia coli		≤500 E. coli/100 ml (90th percentile)
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment	Estuary mouth permanently open
									Tidal variation		Average tidal amplitude near the mouth during low flows (summer) must not change by >10% from established baseline.
								Sediments	Sediment characteristics, Channel shape/size	Flood regime to maintain natural bathymetry and the sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Median phytoplankton chlorophyll *a* (minimum 5 sites) not to exceed 3.5 µg/ℓ; prevent formation of localised phytoplankton blooms; maintain a high median intertidal benthic microalgal biomass; median intertidal benthic chlorophyll a (minimum 5 sites) not to exceed 42 mg/m$^{2;}$ ^{s}ite specific chlorophyll a concentration not to exceed 20 µg/ℓ and cell density not to exceed 10 000 cells/ℓ.
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain the present area (2014) covered by the macrophyte habitats: intertidal salt marsh: 20.5 ha, supratidal salt marsh: 29.55 ha, submerged macrophytes: 6 ha, reeds & sedges: 4.8 ha, sand/mud banks: 136 ha; maintain the integrity of the remaining supratidal salt marsh; maintain the reed and sedge stands in the upper reaches of the estuary; rehabilitate 20% of the floodplain habitat by removing any agricultural berms and invasive plants; maintain the integrity of the riparian zone.; invasive plants (e.g. *Eucalyptus*, prickly pear, *Tamarix*) cover not to exceed 5% of total floodplain area

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Maintain rich populations of the mudprawn *Upogebia africana* on mudbanks in the middle estuary (Zone B); maintain rich invertebrate communities associated with the REI zone in the upper estuary (zooplankton and benthos); mudprawn density should not deviate from average baseline levels by more than 25% in each season; dominant species in the zone (zooplankton and benthos) should not deviate from average baseline levels by more than 40% in each season
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Fish assemblage should comprise the 5 estuarine association categories in similar proportions (diversity and abundance) to that under the reference (see 2015 EWR report); numerically assemblage should comprise: Ia estuarine residents (50-80% of total abundance), Ib marine and estuarine breeders (10-20%), IIa obligate estuarine-dependent (10-20%), IIb estuarine associated species (5-15%), IIc marine opportunists (20-80%), III marine vagrants (not more than 5%), IV indigenous fish (1-5%), V catadromous species (1-5%); Category Ia species should contain viable populations of at least 4 species; Category IIa obligate dependents should be well represented by large exploited species
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	The estuary should contain a diverse avifaunal community that includes representatives of all the original taxonomic groups (see 2015 EWR report).; tern roosts should be seen at the estuary on a regular basis; apart from gulls, terns and regionally increasing species such as Egyptian Goose, the estuary should generally support more than 200 birds; numbers of birds other than gulls, terns and regionally increasing species should not fall below 120 for three consecutive counts; numbers of waterbird species drop should not below 15 for 3 consecutive counts

Table 22: Resource Quality Objectives for ESTUARIES in priority Resource Units in the Integrated Unit of Analysis F13 Lower Gouritz

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
												Months	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Annual
												MMR/MAR (% Nat)	53.2	59.8	53.5	46.4	53.3	59.7	61.8	66.7	62.2	62.8	74.1	57.8	59.7
F13 Lower Gouritz	II	J40E	F13-E12	Gouritz Estuary	gxi1	C	Quantity	Flow	MMR/MAR (% Nat)	Maintain flow regime as per recommended ecological flow	River inflow: NOx-N not to exceed 100 µg/ℓ over 2 consecutive months, NH_3-N not to exceed 20 µg/ℓ over 2 consecutive months; Estuary (except during upwelling or floods): average NOx-N not to exceed 100 µg/ℓ, no single measurement to exceed 150 µg/ℓ, average NH_3-N not to exceed 20 µg/ℓ during survey, no single measurement to exceed 100 µg/ℓ													
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae														
									DIP		River inflow: PO_4-P not to exceed 20 µg/ℓ over 2 consecutive months; Estuary (except during upwelling or floods): average PO_4-P not to exceed 20 µg/ℓ during survey, no single measurement to exceed 50 µg/ℓ													
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	Salinity should not exceed 0 at head of estuary, average salinity in Zone C < 20, Average salinity 11 km upstream from mouth > 20 for no more than 3 months of the year, salinity <40 in saltmarsh sediments													
								System variables	Dissolved oxygen	System variables not to exceed TPCs for biota	Entire estuary and river inflow: DO >5 mg/ℓ													
								Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml) (90^{th} percentile)													
									Escherichia coli		≤500 E. coli/100 ml (90^{th} percentile)													
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment	Estuary mouth permanently open													
									Tidal variation		Average tidal amplitude near the mouth during low flows (summer) must not change by >10% from established baseline.													
								Sediments	Sediment characteristics, Channel shape/size	Flood regime to maintain natural bathymetry and the sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline													

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Median phytoplankton chlorophyll a (minimum 5 sites) should not exceed 3.5 µg/ℓ; prevent formation of localised phytoplankton blooms; site specific *chlorophyll a concentration exceeds 20 µg/ℓ and cell density exceeds 10 000 cells/ mℓ ; M*edian intertidal benthic chlorophyll a (minimum 5 sites) exceeds 42 mg/m^2
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain the present area (2013) covered by the macrophyte habitats: surface water area: 298.04 ha, sand and mud banks : 81.02 ha, reeds and sedges 6.72 ha, floodplain (supratidal salt marsh): 137.77 ha; Maintain the integrity of the remaining supratidal salt marsh; maintain the reed and sedge stands in the upper reaches of the estuary; rehabilitate 20% of the floodplain habitat by removing any agricultural berms and invasive plants; maintain the integrity of the riparian zone; change in the area covered by salt marsh, reeds and sedges not to exceed 20% from baseline; invasive plants (e.g. Eucalyptus, prickly pear, Tamarix) cover not to exceed 5% of total floodplain area
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Maintain rich populations of the mudprawn *Upogebia africana* on mudbanks in the middle estuary (Zones A and B); mudprawn density should not deviate from average baseline levels by more than 25% in each season; maintain rich invertebrate communities associated with the REI zone in the upper estuary (zooplankton and benthos); the dominant species in the zone (zooplankton and benthos) should not deviate from average baseline levels by more than 40% in each season

70

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Fish assemblage should comprise the 5 estuarine association categories in similar proportions (diversity and abundance) to that under the reference (see 2015 EWR report); numerically assemblage should comprise: Ia estuarine residents (50-80% of total abundance), Ib marine and estuarine breeders (10-20%), IIa obligate estuarine-dependent (10-20%), IIb estuarine associated species (5-15%), IIc marine opportunists (20-80%), III marine vagrants (not more than 5%), IV indigenous fish (1-5%), V catadromous species (1-5%); Category Ia species should contain viable populations of at least 4 species; Category IIa obligate dependents should be well represented by large exploited species
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	The estuary should contain a diverse avifaunal community that includes representatives of all the original taxonomic groups (see 2015 EWR report).; tern roosts should be seen at the estuary on a regular basis; apart from gulls, terns and regionally increasing species such as Egyptian Goose, the estuary should generally support more than 200 birds; numbers of birds other than gulls, terns and regionally increasing species should not fall below 120 for three consecutive counts; numbers of waterbird species drop should not below 15 for 3 consecutive counts

Table 23: Resource Quality Objectives for ESTUARIES in priority Resource Units in the Integrated Unit of Analysis F12 Duiwenhoks

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
F12 Duiwenhoks	III	H80E	F12-E13	Duiwenhoks Estuary	gxi2	B	Quantity	Flow	MMR/MAR (% Nat)	Maintain flow regime as per TEC	Months	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Annual
											MMR/MAR (% Nat)	92.2	92.0	87.7	84.0	84.7	90.7	92.9	93.5	93.5	93.8	94.4	93.5	91.9
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	River inflow: NOx-N not to exceed 100 µg/ℓ over 2 consecutive months, NH_3-N not to exceed 20 µg/ℓ over 2 consecutive months; Estuary (except during upwelling or floods): average NOx-N not to exceed 100 µg/ℓ, no single measurement to exceed 150 µg/ℓ, average NH_3-N not to exceed 20 µg/ℓ during survey, no single measurement to exceed 100 µg/ℓ												

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
									DIP		River inflow: PO_4-P not to exceed 20 µg/ℓ over 2 consecutive months; Estuary (except during upwelling or floods): average PO_4-P not to exceed 20 µg/ℓ during survey, no single measurement to exceed 50 µg/ℓ
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	Salinity should not exceed 0 at head of estuary, average salinity in Zone C < 20, Average salinity 11 km upstream from mouth > 20 for no more than 3 months of the year
								System variables	Dissolved oxygen	System variables not to exceed TPCs for biota	Entire estuary and river inflow: DO >5 mg/ℓ
								Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml) (90th percentile)
									Escherichia coli		≤500 E. coli/100 ml (90th percentile)
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Estuary mouth permanently open
									Tidal variation		Average tidal amplitude near the mouth does not change more than 30% from present during low flows (summer).
								Sediment	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >10% from established baseline
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Median phytoplankton chlorophyll *a* (minimum 5 sites) not to exceed 3.5 µg/ℓ; prevent formation of localised phytoplankton blooms; maintain a high median intertidal benthic microalgal biomass; median intertidal benthic chlorophyll a (minimum 5 sites) not to exceed 42 mg/m$^{2;}$ ^{s}ite specific chlorophyll a concentration not to exceed 20 µg/ℓ and cell density not to exceed 10 000 cells/ℓ.

72

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
							Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain the present area (2013) covered by the macrophyte habitats: surface water area: 40 ha, Sand and mud banks : 29 ha, Salt marsh: 26 ha, Reeds and sedges 3 ha, Floodplain: 6 ha; Invasive plants (e.g. black wattle, prickly pear, Tamarix) cover must remain < 5% of total floodplain area; maintain the integrity of the salt marsh; maintain the reed and sedge stands in the middle and upper reaches of the estuary; rehabilitate 10% of the floodplain habitat by removing any agricultural berms and invasive plants; maintain the integrity of the riparian zone
							Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Maintain rich populations of the mudprawn *Upogebia africana* on mudbanks in the middle estuary (Zones A and B); mudprawn density should not deviate from average baseline levels by more than 25% in each season; maintain rich invertebrate communities associated with the REI zone in the upper estuary (zooplankton and benthos); the dominant species in the zone (zooplankton and benthos) should not deviate from average baseline levels by more than 40% in each season
							Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Fish assemblage should comprise the 5 estuarine association categories in similar proportions (diversity and abundance) to that under the reference (see 2015 EWR report); numerically assemblage should comprise: Ia estuarine residents (50-80% of total abundance), Ib marine and estuarine breeders (10-20%), IIa obligate estuarine-dependent (10-20%), IIb estuarine associated species (5-15%), IIc marine opportunists (20-80%), III marine vagrants (not more than 5%), IV indigenous fish (1-5%), V catadromous species (1-5%); Category Ia species should contain viable populations of at least 4 species; Category IIa obligate dependents should be well represented by large exploited species
							Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	The estuary should contain a diverse avifaunal community that includes representatives of all the original taxonomic groups (see 2015 EWR report).; tern roosts should be seen at the estuary on a regular basis; apart from gulls, terns and regionally increasing species such as Egyptian Goose, the estuary should generally support more than 200 birds; numbers of birds other than gulls, terns and regionally increasing species should not fall below 120 for three consecutive counts; numbers of waterbird species drop should not below 15 for 3 consecutive counts

73

Table 24: Resource Quality Objectives for ESTUARIES in priority Resource Units in the Integrated Unit of Analysis I18 Hesequa

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric	
I18 Hesequa	III	H90E	I18-E14	Goukou Estuary	gxi3	B/C	Quantity	Flow	MMR/MAR (% Nat)	Maintain flow regime as per recommended ecological flow Ensure the persistence of freshwater seepage sites in the lower and middle reaches of the estuary. River inflow should not drop Maintain water levels in fountains (determine trough baseline study)	Months	MMR/MAR (% Nat)
											Oct	81.7
											Nov	81.4
											Dec	72.8
											Jan	70.0
											Feb	71.2
											Mar	81.9
											Apr	85.0
											May	85.0
											Jun	84.1
											Jul	84.5
											Aug	85.7
											Sep	83.8
											Annual	81.4
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	River inflow: NOx-N not to exceed 100 µg/ℓ over 2 consecutive months, NH_3-N not to exceed 20 µg/ℓ over 2 consecutive months; Estuary (except during upwelling or floods): average NOx-N not to exceed 100 µg/ℓ, no single measurement to exceed 150 µg/ℓ, average NH_3-N not to exceed 20 µg/ℓ during survey, no single measurement to exceed 100 µg/ℓ	
									DIP		River inflow: PO_4-P not to exceed 20 µg/ℓ over 2 consecutive months; Estuary (except during upwelling or floods): average PO_4-P not to exceed 20 µg/ℓ during survey, no single measurement to exceed 50 µg/ℓ	
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	Salinity should not exceed 0 at head of estuary, average salinity in Zone C < 20, Average salinity 11 km upstream from mouth > 20 for no more than 3 months of the year, salinity <40 in saltmarsh sediments	
								System variables	Dissolved oxygen	System variables not to exceed TPCs for biota	Entire estuary and river inflow: DO >5 mg/ℓ	
									pH		6.0 < pH > 8.0 (black water system)	
								Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml) (90^{th} percentile)	
									Escherichia coli		≤500 E. coli/100 ml (90^{th} percentile)	
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with	Estuary mouth permanently open	

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
									Tidal variation	marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Average tidal amplitude near the mouth during low flows (summer) must not change by >10% from established baseline.
								Sediment	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Median phytoplankton chlorophyll *a* (minimum 5 sites) not to exceed 3.5 µg/ℓ; prevent formation of localised phytoplankton blooms; maintain a high median intertidal benthic microalgal biomass; median intertidal benthic chlorophyll a (minimum 5 sites) not to exceed 42 mg/m$^{2;s}$ite specific chlorophyll a concentration not to exceed 20 µg/ℓ and cell density not to exceed 10000 cells/ℓ.
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain the present area (2014) covered by the macrophyte habitats: Open surface water area: 206, Sand and mud banks: 35, Submerged macrophytes: 5, Salt marsh: 57, Reeds and sedges: 21; maintain pockets of reeds in lower and middle reaches (linked to freshwater seepage sites); maintain the reed and sedge stands in the upper reaches of the estuary; rehabilitate 20% of the floodplain habitat by removing agriculture and invasive plants; maintain the integrity of the riparian zone
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Maintain rich populations of the mudprawn *Upogebia africana* on mudbanks in the middle estuary (Zones A and B); mudprawn density should not deviate from average baseline levels by more than 25% in each season; maintain rich invertebrate communities associated with the REI zone in the upper estuary (zooplankton and benthos); the dominant species in the zone (zooplankton and benthos) should not deviate from average baseline levels by more than 40% in each season

75

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Fish assemblage should comprise the 5 estuarine association categories in similar proportions (diversity and abundance) to that under the reference (see 2015 EWR report); numerically assemblage should comprise: Ia estuarine residents (50-80% of total abundance), Ib marine and estuarine breeders (10-20%), IIa obligate estuarine-dependent (10-20%), IIb estuarine associated species (5-15%), IIc marine opportunists (20-80%), III marine vagrants (not more than 5%), IV indigenous fish (1-5%), V catadromous species (1-5%); Category Ia species should contain viable populations of at least 4 species (; Category IIa obligate dependents should be well represented by large exploited species
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	The estuary should contain a diverse avifaunal community that includes representatives of all the original taxonomic groups (see 2015 EWR report).; tern roosts should be seen at the estuary on a regular basis; apart from gulls, terns and regionally increasing species such as Egyptian Goose, the estuary should generally support more than 200 birds; numbers of birds other than gulls, terns and regionally increasing species should not fall below 120 for three consecutive counts; numbers of waterbird species drop should not below 15 for 3 consecutive counts

Table 25: Resource Quality Objectives for ESTUARIES in priority Resource Units in the Integrated Unit of Analysis G14 Groot-Brak

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric		
G14 Groot-Brak	III	K10F	G14-E15	Klein-Brak Estuary	gxi4	C	Quantity	Flow	MMR/MAR (% Nat)	Maintain a flow regime to create the required habitat for birds, fish, macrophytes, microalgae and water quality	Months	Oct	77.4
												Nov	77.4
												Dec	75.1
												Jan	71.7
												Feb	70.2
												Mar	75.8
												Apr	77.9
												May	78.5
												Jun	78.0
												Jul	78.1
												Aug	79.5
												Sep	78.8
											MMR/MAR (% Nat)	Annual	77.0
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	River inflow: NOx-N not to exceed 100 µg/ℓ over 2 consecutive months, NH_3-N not to exceed 20 µg/ℓ over 2 consecutive months; Estuary (except during upwelling or floods): average NOx-N not to exceed 100 µg/ℓ, no single measurement to exceed 150 µg/ℓ, average NH_3-N not to exceed 20 µg/ℓ during survey, no single measurement to exceed 100 µg/ℓ		

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
									DIP		River inflow: PO_4-P not to exceed 20 µg/ℓ over 2 consecutive months; Estuary (except during upwelling or floods): average PO_4-P not to exceed 20 µg/ℓ during survey, no single measurement to exceed 50 µg/ℓ
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	A salinity gradient should always be present in the upper reaches of the estuary (Zone D and F), an REI zone should always be present in the upper reaches of the estuary (Zone D and F), salinity should not exceed 35
								System variables	Dissolved oxygen	System variables not to exceed TPCs for biota	Entire estuary and river inflow: DO >5 mg/ℓ
									TSS		TSS <5 mg/ ℓ (low flow)
									pH		7.0 < pH > 8.5
								Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml) (90th percentile)
									Escherichia coli		≤500 E. coli/100 ml (90th percentile)
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Closed mouth state should not increase by >10% from established baseline
								Sediment	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Maintain low/median phytoplankton/benthic microalgae biomass: phytoplankton not to exceed 3.5 µg/ℓ (median), phytoplankton not to exceed 20 µg/ℓ and/or cell density not to exceed 10 000 cells/ml (once-off); benthic microalgae not to exceed 23 mg/m^2 (median); prevent formation of phytoplankton blooms
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain distribution of macrophyte habitats; prevent the spread of reeds into open water; prevent an increase in nutrients and macroalgal blooms; prevent the spread of invasive trees (e.g. *Acacia* spp.) in the riparian zone

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Maintain rich populations of the mudprawn *Upogebia africana* on mudbanks in the middle estuary (Zones A and B); mudprawn density should not deviate from average baseline levels by more than 25% in each season; maintain rich invertebrate communities associated with the REI zone in the upper estuary (zooplankton and benthos); the dominant species in the zone (zooplankton and benthos) should not deviate from average baseline levels by more than 40% in each season
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Fish assemblage should comprise the 5 estuarine association categories in similar proportions (diversity and abundance) to that under the reference (see 2015 EWR report); numerically assemblage should comprise: Ia estuarine residents (50-80% of total abundance), Ib marine and estuarine breeders (10-20%), IIa obligate estuarine-dependent (10-20%), IIb estuarine associated species (5-15%), IIc marine opportunists (20-80%), III marine vagrants (not more than 5%), IV indigenous fish (1-5%), V catadromous species (1-5%); Category Ia species should contain viable populations of at least 4 species ; Category IIa obligate dependents should be well represented by large exploited species
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	Estuary should contain a diverse avifaunal community that includes representatives of all the original groups. Saltmarsh/wetlands in the floodplain should be rich in birdlife. Intertidal areas should have a good density and diversity of both larger and smaller waders; numbers of waterbirds on the entire system should not drop below 30 species or below 250 birds for three consecutive counts; numbers of waterbirds in the lower estuary should not drop below 10 species or 50 birds (excluding terns and gulls) for three consecutive counts

78

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric											
											Months	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Annual
											MMR/MAR (% Nat)	62.2	67.3	55.3	48.2	43.4	55.7	49.2	54.9	38.3	43.7	63.4	63.8	56.2
G14 Groot-Brak	III	K20A	G14-E16	Groot-Brak Estuary	gxi5	D	Quantity	Flow	MMR/MAR (% Nat)	Maintain a flow regime to create the required habitat for birds, fish, macrophytes, microalgae and water quality.	River inflow: NOx-N not to exceed 100 µg/ℓ over 2 consecutive months, NH_3-N not to exceed 20 µg/ℓ over 2 consecutive months; Estuary (except during upwelling or floods): average NOx-N not to exceed 100 µg/ℓ, no single measurement to exceed 150 µg/ℓ, average NH_3-N not to exceed 20 µg/ℓ during survey, no single measurement to exceed 100 µg/ℓ												
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae													
									DIP		River inflow: PO_4-P not to exceed 20 µg/ℓ over 2 consecutive months; Estuary (except during upwelling or floods): average PO_4-P not to exceed 20 µg/ℓ during survey, no single measurement to exceed 50 µg/ℓ												
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	A salinity gradient should always be present in the upper reaches of the estuary (Zone D and F), an REI zone should always be present in the upper reaches of the estuary (Zone D and F), salinity should not exceed 35												
								System variables	Dissolved oxygen	System variables not to exceed TPCs for biota	Entire estuary and river inflow: DO >5 mg/ℓ												
									pH		6 < pH > 8.5 in estuary												
								Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml (90^{th} percentile)												
									Escherichia coli		≤500 E. coli/100 ml (90^{th} percentile)												
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Closed mouth state should not increase by >10% from established baseline												
								Sediment	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline												

79

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Maintain low phytoplankton biomass. Maintain microalgal group diversity as measured for the baseline survey; phytoplankton biomass should not increase by more than 20% above baseline concentrations; phytoplankton group diversity to should not change more than 20% from baseline conditions; maintain high subtidal benthic microalgal biomass during the closed mouth phase and low intertidal benthic microalgal biomass during the open phase; Epipelic diatoms indicative of brackish conditions should be found during the closed phase.
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain distribution of macrophyte habitats as for present (2013): Submerged macrophyte, *Ruppia cirrhosa* beds: ~5 ha, *Zostera capensis* present during open mouth conditions, intertidal salt marsh: ~13 ha, supratidal and floodplain salt marsh: ~26.6 ha), Reed (*Phragmites australis*) and sedge stands in the middle / upper reaches: ~2.5 ha); prevent excessive filamentous macroalgal growth. Area covered should be half that covered by submerged macrophytes and less than 50 % of the open water surface area; maintain the zonation of salt marsh and distribution of different species along an elevation gradient. Ensure the long-term persistence of intertidal salt marsh species such as *Triglochin* spp. and *Cotula coronopifolia*; prevent hypersaline sediment and groundwater conditions in the salt marsh. Sediment electrical conductivity should be approximately 30 mS and similar to groundwater values.
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Density of mudprawns should exceed 100 – 150 burrow counts per m2 in the highest density areas; in the zooplankton, the density of Pseudodiaptomus hessei should exceed levels of about 5000-10000 m3 in the upper estuary in spring. Salinity variation in the estuary is highly variable and the mouth remains closed for extended periods - this may also lead to the temporary absence of some invertebrate species that might be expected to occur here.

80

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Fish assemblage should comprise the five estuarine association categories in similar proportions (diversity and abundance) to that under the reference. Numerically, assemblage should comprise: Estuarine species (40-60%), Estuarine associated marine species (30-50%), Indigenous freshwater fish (1-5%); Category Ia species should contain viable populations of at least two species (e.g. *G. aestuaria*, & *Hyporamphus capensis*); Category IIa obligate dependents should be well represented by at least two large exploited species
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	Retain species richness, abundance and density of bird counts of resident and migrant waders, gulls, terns, wading birds and waterfowl within 15 % of present state (2006).
G14 Groot-Brak	III	K10A	G14-E17	Blinde Estuary	gxi19	B	Quantity	Flow	MMR/MAR (% Nat)	Maintain flow regime as close to present as possible (small system needs most flows)	Months / MMR/MAR (% Nat): Oct 69.6, Nov 69.9, Dec 67.8, Jan 65.6, Feb 64.8, Mar 68.7, Apr 69.3, May 70.1, Jun 69.0, Jul 69.9, Aug 70.7, Sep 70.3, Annual 69.2
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	DIN not to exceed 100 µg/ℓ (average)
									DIP		DIP not to exceed 20 µg/ℓ (average)
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	<20 (expected range 5-15)
								System variables	Dissolved oxygen	System variables not to exceed TPCs for biota	>5 milligrams/litre
									Turbidity		Turbidity not to exceed 10 NTU in low flow season
								Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml) (90^{th} percentile)
									Escherichia coli		≤500 E. coli/100 ml (90^{th} percentile)
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Closed mouth state should not increase by >10% from established baseline

81

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
							Biota	Sediment	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline
								Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Maintain low/median phytoplankton/benthic microalgae biomass; phytoplankton not to exceed 3.5 µg/ℓ (median); phytoplankton not to exceed 20 µg/ℓ and/or cell density not to exceed 10 000 cells/ml (once-off); benthic microalgae not to exceed 23 mg/m^2 (median); prevent formation of phytoplankton blooms
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain distribution of macrophyte habitats: Reeds & sedges: 0.04 ha, Sand/mud banks: 0.05 ha, Open water: 1.66 ha; prevent the spread of reeds into open water; prevent an increase in nutrients and macroalgal blooms; prevent the spread of invasive trees (e.g. *Acacia* spp.) in the riparian zone
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Establish presence/absence of sand prawn *Callichirus kraussi* on sand banks in lower estuary; establish presence/absence of the copepod *Pseudodiaptomus hessei* or estuarine congeneric in the zooplankton of the estuary; populations of these species should not deviate from average baselines (as determined in first three visits) by more 30%
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Maintain fish assemblage that includes at least 2 estuarine breeding species (Category I), 3 estuary dependent marine species (Category IIa & IIb) and 1 indigenous catadromous species (Category V); estuarine residents should dominate numerically, but the proportion of estuary dependent marine species (based on abundance) should not fall below 2%.
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	Maintain population of original groups of birds present on the estuary; number of birds in any group, other than species that are increasing regionally such as Egyptian geese, should not drop below the baseline median (determined by past data and or initial surveys) number of species and/or birds counted for three consecutive summer or winter counts

82

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Months	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Annual
											MMR/MAR (% Nat)	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3
G14 Groot-Brak	III	K10A	G14-E18	Tweekuilen Estuary	gxi20	D	Quantity	Flow	MMR/MAR (% Nat)	Maintain flow regime as close to present as possible (small system needs most flows)	DIN not to exceed 100 µg/ℓ (average)												
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae														
									DIP		DIP not to exceed 20 µg/ℓ (average)														
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	<20 (expected range 5-15)													
								System variables	Dissolved oxygen	System variables not to exceed TPCs for biota	>5 milligrams/litre													
								Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml) (90th percentile)													
									Escherichia coli		≤500 E. coli/100 ml (90th percentile)													
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Closed mouth state should not increase by >10% from established baseline													
								Sediment	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline													
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Maintain low/median phytoplankton/benthic microalgae biomass: phytoplankton not to exceed 3.5 µg/ℓ (median), phytoplankton not to exceed 20 µg/ℓ and/or cell density not to exceed 10 000 cells/ml (once-off); benthic microalgae not to exceed 23 mg/m^2 (median); prevent formation of phytoplankton blooms													
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain distribution of macrophyte habitats: Reeds & sedges: 0.04 ha, Sand/mud banks: 0.05 ha, Open water: 1.66 ha; prevent the spread of reeds into open water; prevent an increase in nutrients and macroalgal blooms; prevent the spread of invasive trees (e.g. *Acacia* spp.) in the riparian zone													

83

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Establish presence/absence of sand prawn *Callichirus kraussi* on sand banks in lower estuary; establish presence/absence of the copepod *Pseudodiaptomus hessei* or estuarine congeneric in the zooplankton of the estuary; populations of these species should not deviate from average baselines (as determined in first three visits) by more 30%
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Maintain fish assemblage that includes at least 2 estuarine breeding species (Category I), 3 estuary dependent marine species (Category IIa & IIb) and 1 indigenous catadromous species (Category V); estuarine residents should dominate numerically, but the proportion of estuary dependent marine species (based on abundance) should not fall below 2%.
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	Maintain population of original groups of birds present on the estuary; number of birds in any group, other than species that are increasing regionally such as Egyptian geese, should not drop below the baseline median (determined by past data and or initial surveys) number of species and/or birds counted for three consecutive summer or winter counts
G14 Groot-Brak	III	K10A	G14-E19	Gericke Estuary	gxi21	C	Quantity	Flow	MMR/MAR (% Nat)	Maintain flow regime as close to present as possible (small system needs most flows)	Months / MMR/MAR (% Nat): Oct 72.3; Nov 72.3; Dec 72.3; Jan 72.3; Feb 72.3; Mar 72.3; Apr 72.3; May 72.3; Jun 72.3; Jul 72.3; Aug 72.3; Sep 72.3; Annual 72.3
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	DIN not to exceed 100 µg/ℓ (average)
									DIP		DIP not to exceed 20 µg/ℓ (average)
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	<20 (expected range 5-15)
								System variables	Dissolved oxygen	System variables not to exceed TPCs for biota	>5 milligrams/litre
								Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml (90^{th} percentile)
									Escherichia coli		≤500 E. coli/100 ml (90^{th} percentile)

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Closed mouth state should not increase by >10% from established baseline
								Sediment	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Maintain low/median phytoplankton/benthic microalgae biomass: phytoplankton not to exceed 3.5 µg/ℓ (median), phytoplankton not to exceed 20 µg/ℓ and/or cell density not to exceed 10 000 cells/ml (once-off); benthic microalgae not to exceed 23 mg/m^2 (median); prevent formation of phytoplankton blooms
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain distribution of macrophyte habitats: Reeds & sedges: 0.04 ha, Sand/mud banks: 0.05 ha, Open water: 1.66 ha; prevent the spread of reeds into open water; prevent an increase in nutrients and macroalgal blooms; prevent the spread of invasive trees (e.g. *Acacia* spp.) in the riparian zone
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Establish presence/absence of sand prawn *Callichirus kraussi* on sand banks in lower estuary; establish presence/absence of the copepod *Pseudodiaptomus hessei* or estuarine congeneric in the zooplankton of the estuary; populations of these species should not deviate from average baselines (as determined in first three visits) by more 30%
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Maintain fish assemblage that includes at least 2 estuarine breeding species (Category I), 3 estuary dependent marine species (Category IIa & IIb) and 1 indigenous catadromous species (Category V); estuarine residents should dominate numerically, but the proportion of estuary dependent marine species (based on abundance) should not fall below 2%.

85

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
G14 Groot-Brak	III	K10B	G14-E20	Hartenbos Estuary	gxi22	C	Quantity	Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	Maintain population of original groups of birds present on the estuary; number of birds in any group, other than species that are increasing regionally such as Egyptian geese, should not drop below the baseline median (determined by past data and or initial surveys) number of species and/or birds counted for three consecutive summer or winter counts												
								Flow	MMR/MAR (% Nat)	Maintain at least present-day base flows		Months	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Annual
												MMR/MAR (% Nat)	59.7	64.0	68.7	71.1	67.4	60.3	64.2	64.7	65.9	60.8	66.1	66.9	65.0
								Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	Entire estuary and river inflow: DIN <200µg/ℓ													
									DIP		Entire estuary and river inflow: DIP <50 µg/ℓ													
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	Average salinity along the estuary should not drop more than 5 below baseline average													
							Quality	System variables	Turbidity	System variables not to exceed TPCs for biota	Turbidity <20 NTU in low flow season													
									Sechii depth		Sechii depth should >0.5 m in the fresher part of the estuary													
									Dissolved oxygen		>5 milligrams/litre													
								Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml) (90th percentile)													
									Escherichia coli		≤500 E. coli/100 ml (90th percentile)													
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Closed mouth state should not increase by >10% from established baseline													
								Sediment	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline													

86

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Maintain low/median phytoplankton/benthic microalgae biomass: Phytoplankton not to exceed 8 µg/ℓ (median), Phytoplankton not to exceed 20 µg/ℓ and/or cell density not to exceed 10 000 cells/ml (once-off); Benthic microalgae not to exceed 42 mg/m^2 (median), Dinoflagellates, chlorophytes and/or cyanobacteria > 10% of relative abundance
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain distribution of macrophyte habitats; prevent the spread of reeds into open water; prevent an increase in nutrients and macroalgal blooms; prevent the spread of invasive trees (e.g. *Acacia* spp.) in the riparian zone
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Establish presence/absence of sand prawn Callichirus kraussi on sand banks in lower estuary, establish presence/absence of the copepod *Pseudodiaptomus hessei* or estuarine congeneric in the zooplankton of the estuary, populations of these species should not deviate from average baselines (as determined in first three visits) by more 30%
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Fish assemblage should comprise the 5 estuarine association categories in similar proportions (diversity and abundance) to that under the reference (see 2015 EWR report); numerically assemblage should comprise: Ia estuarine residents (50-80% of total abundance), Ib marine and estuarine breeders (10-20%), IIa obligate estuarine-dependent (10-20%), IIb estuarine associated species (5-15%), IIc marine opportunists (20-80%), III marine vagrants (not more than 5%), IV indigenous fish (1-5%), V catadromous species (1-5%); Category Ia species should contain viable populations of at least 4 species ; Category IIa obligate dependents should be well represented by large exploited species
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	Maintain population of original groups of birds present on the estuary; number of birds in any group, other than species that are increasing regionally such as Egyptian geese, should not drop below the baseline median (determined by past data and or initial surveys) number of species and/or birds counted for three consecutive summer or winter counts

87

Table 26: Resource Quality Objectives for ESTUARIES in priority Resource Units in the Integrated Unit of Analysis G15 Coastal

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
											Months	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Annual
											MMR/MAR (% Nat)	80.3	79.1	74.5	73.4	71.3	80.5	82.1	82.7	85.9	84.3	83.7	81.9	79.3
G15 Coastal	II	K30A	G15-E21	Maalgate Estuary	gxi6	B	Quantity	Flow	MMR/MAR (% Nat)	Maintain flow regime (small system needs most flows)	Entire estuary and river inflow: DIN <100µg/ℓ												
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	Entire estuary and river inflow: DIP <20 µg/ℓ												
									DIP														
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	Average salinity >10												
								System variables	Turbidity	System variables not to exceed TPCs for biota	<10 NTU in low flow season												
									Dissolved oxygen		>5 milligrams/litre												
								Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml) (90th percentile)												
									Escherichia coli		≤500 E. coli/100 ml (90th percentile)												
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Closed mouth state should not increase by >10% from established baseline												
								Sediment	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline												
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Maintain low/median phytoplankton/benthic microalgae biomass: phytoplankton not to exceed 3.5 µg/ℓ (median), phytoplankton not to exceed 20 µg/ℓ and/or cell density not to exceed 10 000 cells/ml (once-off); benthic microalgae not to exceed 23 mg/m² (median); prevent formation of phytoplankton blooms												

88

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain distribution of macrophyte habitats; prevent the spread of reeds into open water; prevent an increase in nutrients and macroalgal blooms; prevent the spread of invasive trees (e.g. *Acacia* spp.) in the riparian zone
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Establish presence/absence of sand prawn Callichirus kraussi on sand banks in lower estuary, establish presence/absence of the copepod *Pseudodiaptomus hessei* or estuarine congeneric in the zooplankton of the estuary, populations of these species should not deviate from average baselines (as determined in first three visits) by more 30%
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Maintain fish assemblage that includes at least 2 estuarine breeding species (Category I), 3 estuary dependent marine species (Category IIa & IIb) and 1 indigenous catadromous species (Category V); estuarine residents should dominate numerically, but the proportion of estuary dependent marine species (based on abundance) should not fall below 2%.
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	Maintain population of original groups of birds present on the estuary; number of birds in any group, other than species that are increasing regionally such as Egyptian geese, should not drop below the baseline median (determined by past data and or initial surveys) number of species and/or birds counted for three consecutive summer or winter counts
G15 Coastal	II	K30B	G15-E22	Gwaing Estuary	gxi7	B	Quantity	Flow	MMR/MAR (% Nat)	Maintain flow regime (small system needs most flows)	Months / MMR/MAR (% Nat): Oct 84.9; Nov 84.3; Dec 82.8; Jan 83.0; Feb 81.6; Mar 84.8; Apr 86.3; May 87.0; Jun 89.1; Jul 87.8; Aug 86.8; Sep 86.1; Annual 85.0
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	Entire estuary and river inflow: DIN <100µg/ℓ
									DIP		Entire estuary and river inflow: DIP <20 µg/ℓ
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	Average salinity >10
								System variables	Turbidity	System variables not to exceed TPCs for biota	<10 NTU in low flow season
									Dissolved oxygen		>5 milligrams/litre

89

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
							Habitat	Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml) (90th percentile)
									Escherichia coli		≤500 E. coli/100 ml (90th percentile)
								Hydrodynamics	Mouth state	Maintain connectivity with marine environment	Closed mouth state should not increase by >10% from established baseline
								Sediment	Sediment characteristics, Channel shape/size	Flood regime to maintain natural bathymetry and the sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Maintain low/median phytoplankton/benthic microalgae biomass: phytoplankton not to exceed 3.5 µg/*l* (median), phytoplankton not to exceed 20 µg/*l* and/or cell density not to exceed 10 000 cells/ml (once-off); benthic microalgae not to exceed 23 mg/m^2 (median); prevent formation of phytoplankton blooms
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain distribution of macrophyte habitats; prevent the spread of reeds into open water; prevent an increase in nutrients and macroalgal blooms; prevent the spread of invasive trees (e.g. *Acacia* spp.) in the riparian zone
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Establish presence/absence of sand prawn Callichirus kraussi on sand banks in lower estuary, establish presence/absence of the copepod *Pseudodiaptomus hessei* or estuarine congeneric in the zooplankton of the estuary, populations of these species should not deviate from average baselines (as determined in first three visits) by more 30%
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Maintain fish assemblage that includes at least 2 estuarine breeding species (Category I), 3 estuary dependent marine species (Category IIa & IIb) and 1 indigenous catadromous species (Category V); estuarine residents should dominate numerically, but the proportion of estuary dependent marine species (based on abundance) should not fall below 2%.

90

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	Maintain population of original groups of birds present on the estuary; number of birds in any group, other than species that are increasing regionally such as Egyptian geese, should not drop below the baseline median (determined by past data and or initial surveys) number of species and/or birds counted for three consecutive summer or winter counts
G15 Coastal	II	K30C	G15-E23	Kaaimans Estuary	gxi8	B	Quantity	Flow	MMR/MAR (% Nat)	Maintain flow regime (small system needs most flows)	Months / MMR/MAR (% Nat): Oct 70.9; Nov 74.5; Dec 74.7; Jan 70.7; Feb 70.4; Mar 72.8; Apr 72.3; May 73.7; Jun 69.5; Jul 67.3; Aug 74.1; Sep 73.8; Annual 72.5
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	Entire estuary and river inflow: DIN <100µg/ℓ
									DIP		Entire estuary and river inflow: DIP <20 µg/ℓ
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	Average salinity >10
								System variables	Turbidity	System variables not to exceed TPCs for biota	<10 NTU in low flow season
									Dissolved oxygen		>5 milligrams/litre
								Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml) (90th percentile)
									Escherichia coli		≤500 E. coli/100 ml (90th percentile)
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Estuary mouth permanently open
									Tidal variation		Average tidal amplitude near the mouth during low flows (summer) must not change by >10% from established baseline.
								Sediment	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline

91

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric		
G15 Coastal	II	K30D	G15-1??	Wildern ess Estuary (Touw)	gxi9	B	Quantity	Flow	MMR/MAR (% Nat)	Maintain a flow regime to maintain water quality and the required habitat for birds, fish, macrophyes	Months	Oct	Maintain low/median phytoplankton/benthic microalgae biomass: phytoplankton not to exceed 3.5 µg/ℓ (median), phytoplankton not to exceed 20 µg/ℓ and/or cell density not to exceed 10 000 cells/ml (once-off); benthic microalgae not to exceed 23 mg/m^2 (median); prevent formation of phytoplankton blooms
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass		Nov	
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain distribution of macrophyte habitats; prevent the spread of reeds into open water; prevent an increase in nutrients and macroalgal blooms; prevent the spread of invasive trees (e.g. *Acacia* spp.) in the riparian zone	Dec	
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Establish presence/absence of sand prawn Callichirus kraussi on sand banks in lower estuary, establish presence/absence of the copepod *Pseudodiaptomus hessei* or estuarine congeneric in the zooplankton of the estuary, populations of these species should not deviate from average baselines (as determined in first three visits) by more 30%	Jan	
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Maintain fish assemblage that includes at least 2 estuarine breeding species (Category I), 3 estuary dependent marine species (Category IIa & IIb) and 1 indigenous catadromous species (Category V); estuarine residents should dominate numerically, but the proportion of estuary dependent marine species (based on abundance) should not fall below 2%.	Feb	
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	Maintain population of original groups of birds present on the estuary; number of birds in any group, other than species that are increasing regionally such as Egyptian geese, should not drop below the baseline median (determined by past data and or initial surveys) number of species and/or birds counted for three consecutive summer or winter counts	Mar	
												Apr	
												May	
												Jun	
												Jul	
												Aug	
												Sep	
												Annual	

92

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric	
										and macrophytes. Abstraction should not result in flow differing more than 5% from the present day (2017) keeping in mind the percentage nMAR to be maintained in the system (88.6%) to keep it in its ecological category.	MMR/MAR (% Nat)	89.7
												90.9
												87.2
												84.5
												83.5
												85.5
												86.9
												90.8
												88.7
												88.1
												93.1
												92.8
												88.6
								Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	River inflow, NOx-N not to exceed 50 µg/ℓ over two consecutive months, NH3-N not to exceed 10 µg/ℓ over two consecutive months; Estuary: Average NOx-N <50 µg/ℓ, no single measure >100 µg/ℓ, average NH3-N <10 µg/ℓ, no single measure >100 µg/ℓ; Lakes: average NOx-N <50 µg/ℓ, no single measure >100 µg/ℓ, average NH3-N <20 µg/ℓ	
									DIP		River inflow, PO_4-P not to exceed 10 µg/ℓ over two consecutive months; Estuary: average PO_4-P <10 µg/ℓ, no single sample >50 µg/ℓ ; Lakes: average PO_4-P <20 µg/ℓ	
							Quality	Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	Estuary in the closed state: average salinity in Zone A < 12, average salinity in Zone B: < 10, average salinity in Zone C < 5; Lakes average salinity +2 from baseline (2013) and variability should not increase as below: Serpentine: 12 ± 10, Eilandvlei: 8 ± 5 , Langvlei: 10 ±4 , Rondevlei: 11 ±6		
								System variables	Turbidity	System variables not to exceed TPCs for biota	Average <5 NTU (low flow) throughout	
									Dissolved oxygen		>5 milligrams/litre throughout	
									pH		River inflow: 6.0 < pH < 7.0 (Touw), 7.0 < pH < 8.0 (Duiwe), Estuary: 7.0 < pH > 8.5, Lakes: 7.5 < pH < 9	
								Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml) (90^{th} percentile)	
									Escherichia coli		≤500 E. coli/100 ml (90^{th} percentile)	
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Closed mouth state should not increase by >10% from established baseline	

93

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
							Biota	Sediment	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline
								Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Maintain low/median phytoplankton/benthic microalgae biomass: phytoplankton not to exceed 3.5 µg/ℓ (median), phytoplankton not to exceed 20 µg/ℓ and/or cell density not to exceed 10 000 cells/ml (once-off); benthic microalgae not to exceed 23 mg/m^2 (median); prevent formation of phytoplankton blooms caused by anthropogenic eutrophication
								Macrophytes	Extent, distribution and richness of macrophytes	Have no further loss to extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Have no further loss to the present area (2014) covered by the macrophyte habitats; have no further loss to the distribution of sensitive macrophyte habitats (e.g. salt marsh, submerged macrophytes); control/eliminate invasive plants; prevent the spread of reeds into open water that results in loss of sandbank areas and has a negative impact on biota and hydrological processes
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Maintain presence of sand prawn Callichirus kraussi on sand banks in lower Touw Estuary; maintain rich populations of the benthic amphipod *Grandidierella lignorum* throughout the lakes and estuary
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Fish assemblage should comprise the 5 estuarine association categories in similar proportions (diversity and abundance) to that under the reference (see 2015 EWR report); numerically assemblage should comprise: Ia estuarine residents (50-80% of total abundance), Ib marine and estuarine breeders (10-20%), IIa obligate estuarine-dependent (10-20%), IIb estuarine associated species (5-15%), IIc marine opportunists (20-80%), III marine vagrants (not more than 5%), IV indigenous fish (1-5%), V catadromous species (1-5%); Category Ia species should contain viable populations of at least 4 species (*G. aestuaria*, *Hyporamphus capensis*, *Omobranchus woodii*); Category IIa obligate dependents should be well represented by large exploited species (*A.japonicus*, *L. lithognathus, P. commersonii, Lichia amia)*; REI species dominated by both *Myxus capensis* and *G. aestuaria*

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	The estuarine lake system should contain a diverse avifaunal community that includes representatives of all the original groups, and that sustains the populations that meet RAMSAR requirements; numbers of waterbirds on the entire system, other than those that have or are increasing regionally such as Egyptian Goose, should not drop below 40 species or below 3000 birds for three consecutive counts
G15 Coastal	II	K40D	G15-E25	Swartvlei Estuary	gxi10	B	Quantity	Flow	MMR/MAR (% Nat)	Maintain a flow regime to create the required habitat for birds, fish, macrophytes, microalgae and water quality	Months / MMR/MAR (% Nat): Oct 89.5; Nov 87.6; Dec 80.9; Jan 78.7; Feb 81.3; Mar 86.8; Apr 86.8; May 88.5; Jun 85.9; Jul 88.4; Aug 90.9; Sep 90.2; Annual 86.6
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	River inflow, NOx-N not to exceed 50 µg/ℓ over two consecutive months, NH3-N not to exceed 10 µg/ℓ over two consecutive months; Estuary: Average NOx-N <50 µg/ℓ, no single measure >100 µg/ℓ, average NH3-N <10 µg/ℓ, no single measure >100 µg/ℓ; Lake: average NOx-N <50 µg/ℓ, no single measure >100 µg/ℓ, average NH3-N <20 µg/ℓ
									DIP		River inflow, PO4-P not to exceed 10 µg/ℓ over two consecutive months; Estuary: average PO4-P <10 µg/ℓ, no single sample >50 µg/ℓ; Lakes: average PO4-P <20 µg/ℓ
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	Estuary in the closed state: average salinity <12; Lake average salinity +2 from baseline (2013)
								System variables	Turbidity	System variables (temperature, pH, turbidity, dissolved oxygen, suspended solids and turbidity) not to exceed TPCs for biota	Average <5 NTU (low flow) throughout
									Dissolved oxygen		>5 milligrams/litre throughout
									pH		River inflow: 6.0 < pH < 7.0, Estuary: 6.0 < pH < 8.5, Lake: 7.0 < pH < 8.5
								Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml) (90th percentile)
									Escherichia coli		≤500 E. coli/100 ml (90th percentile)

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Closed mouth state should not increase by >10% from established baseline
								Sediment	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Maintain low/median phytoplankton/benthic microalgae biomass: phytoplankton not to exceed 3.5 µg/ℓ (median), phytoplankton not to exceed 20 µg/ℓ and/or cell density not to exceed 10 000 cells/ml (once-off); benthic microalgae not to exceed 23 mg/m2 (median); prevent formation of phytoplankton blooms
								Macrophytes	Extent, distribution and richness of macrophytes	No further loss to extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	No further loss to the present area (2014) covered by the macrophyte habitats; no further loss to the distribution of sensitive macrophyte habitats (e.g. salt marsh, submerged macrophytes); control/eliminate invasive plants; prevent the spread of reeds into open water that results in loss of sandbank areas and has a negative impact on biota and hydrological processes
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Maintain presence of sand prawn *Callichirus kraussi* on sand banks in lower Touw Estuary; maintain rich populations of the benthic amphipod *Grandidierella lignorum* throughout the lakes and estuary

96

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Fish assemblage should comprise the 5 estuarine association categories in similar proportions (diversity and abundance) to that under the reference (see 2015 EWR report); numerically assemblage should comprise: Ia estuarine residents (50-80% of total abundance), Ib marine and estuarine breeders (10-20%), IIa obligate estuarine-dependent (10-20%), IIb estuarine associated species (5-15%), IIc marine opportunists (20-80%), III marine vagrants (not more than 5%), IV indigenous fish (1-5%), *V catadromous* species (1-5%); Category Ia species should contain viable populations of at least 4 species (*G. aestuaria, Hyporamphus capensis, Omobranchus woodii*); Category IIa obligate dependents should be well represented by large exploited species (*A.japonicus, L. lithognathus, P. commersonii, Lichia amia*); REI species dominated by both *Myxus capensis* and *G. aestuaria*
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	The estuarine lake system should contain a diverse avifaunal community that includes representatives of all the original groups, and that sustains the populations for which the system has acquired RAMSAR status; numbers of waterbirds on the entire system, other than those that have or are increasing regionally such as Egyptian Goose, should not drop below 40 species or below 1500 birds for three consecutive counts
G15 Coastal	II	K40E	G15-E26	Goukamma Estuary	gxi11	A/B	Quantity	Flow	MMR/MAR (% Nat)	Maintain flow regime	Months / MMR/MAR (% Nat): Oct 87.5; Nov 88.8; Dec 87.5; Jan 85.7; Feb 85.5; Mar 87.1; Apr 86.9; May 88.2; Jun 87.2; Jul 86.5; Aug 88.5; Sep 88.3; Annual 87.5
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	DIN not >100 µg/L once-off.
									DIP		DIP not > 20 µg/L once-off.
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	
								System	Turbidity	System variables not to	Turbidity >10 NTU in low flow

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								variables	Dissolved oxygen	exceed TPCs for biota	>5 milligrams/litre in estuary.
								Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml) (90th percentile)
									Escherichia coli		≤500 E. coli/100 ml (90th percentile)
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Estuary mouth permanently open
									Tidal variation		Average tidal amplitude near the mouth during low flows (summer) must not change by >10% from established baseline.
								Sediment	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Maintain median phytoplankton/benthic microalgae biomass: phytoplankton not > 1.0 µg/L (median)., benthic microalgae not > 11 mg/m^2 (median); Phytoplankton not > 20 µg/L and/or cell density not >10 000 cells/ml (once-off); Prevent formation of phytoplankton blooms
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain distribution of macrophyte habitats; prevent the spread of invasive trees (e.g. *Acacia* spp.) in the riparian zone.
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Establish presence/absence of sand prawn Callichirus kraussi on sand banks in lower estuary, establish presence/absence of the copepod *Pseudodiaptomus hessei* or estuarine congeneric in the zooplankton of the estuary, populations of these species should not deviate from average baselines (as determined in first three visits) by more 30%

98

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Fish assemblage should comprise the 5 estuarine association categories in similar proportions (diversity and abundance) to that under the reference (see 2015 EWR report); numerically assemblage should comprise: Ia estuarine residents (50-80% of total abundance), Ib marine and estuarine breeders (10-20%), IIa obligate estuarine-dependent (10-20%), IIb estuarine associated species (5-15%), IIc marine opportunists (20-80%), III marine vagrants (not more than 5%), IV indigenous fish (1-5%), V catadromous species (1-5%); Category Ia species should contain viable populations of at least 4 species ; Category IIa obligate dependents should be well represented by large exploited species
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	Maintain population of original groups of birds present on the estuary; number of birds in any group, other than species that are increasing regionally such as Egyptian geese, should not drop below the baseline median (determined by past data and or initial surveys) number of species and/or birds counted for three consecutive summer or winter counts
G15 Coastal	II	K50B	G15-E27	Knysna Estuary	gxi12	B	Quantity	Flow	MMR/MAR (% Nat)	Maintain flow regime as close to natural as possible	Months / MMR/MAR (% Nat): Oct 87.5; Nov 87.6; Dec 82.7; Jan 83.9; Feb 86.1; Mar 82.5; Apr 84.7; May 87.1; Jun 87.5; Jul 86.8; Aug 88.3; Sep 90.5; Annual 86.8
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	DIN not > 100 µg/L once-off.
									DIP		DIP not > 20 µg/L once-off.
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	
								System variables	Turbidity	System variables not to exceed TPCs for biota	Turbidity > 10 NTU in low flow
									Dissolved oxygen		>5 milligrams/litre in estuary.
								Pathogens	Enterococci	Concentrations of	≤185 Enterococci/100 ml) (90th percentile)

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
									Escherichia coli	waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤500 E. coli/100 ml (90th percentile)
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Estuary mouth permanently open
									Tidal variation		Average tidal amplitude near the mouth during low flows (summer) must not change by >10% from established baseline.
								Sediment	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Maintain low/median phytoplankton/benthic microalgae biomass: phytoplankton not to exceed 3.5 µg/ℓ (median), phytoplankton not to exceed 20 µg/ℓ and/or cell density not to exceed 10 000 cells/ml (once-off); benthic microalgae not to exceed 23 mg/m^2 (median); prevent formation of phytoplankton blooms
								Macrophytes	Extent, distribution and richness of macrophytes	No further loss to extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	No further loss to the present area (2014) covered by the macrophyte habitats; no further loss to the distribution of sensitive macrophyte habitats (e.g. salt marsh, submerged macrophytes); control/eliminate invasive plants
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Maintain rich populations of the mudprawn *Upogebia africana* on mudbanks in the middle estuary (Zones A and B); mudprawn density should not deviate from average baseline levels by more than 25% in each season; maintain rich invertebrate communities associated with the REI zone in the upper estuary (zooplankton and benthos); the dominant species in the zone (zooplankton and benthos) should not deviate from average baseline levels by more than 40% in each season

100

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Fish assemblage should comprise the 5 estuarine association categories in similar proportions (diversity and abundance) to that under the reference (see 2015 EWR report); numerically assemblage should comprise: Ia estuarine residents (50-80% of total abundance), Ib marine and estuarine breeders (10-20%), IIa obligate estuarine-dependent (10-20%), IIb estuarine associated species (5-15%), IIc marine opportunists (20-80%), III marine vagrants (not more than 5%), IV indigenous fish (1-5%), V catadromous species (1-5%); Category Ia species should contain viable populations of at least 4 species ; Category IIa obligate dependents should be well represented by large exploited species; REI species dominated by both *Myxus capensis* and *G. aestuaria*
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	Estuary should contain a diverse avifaunal community that includes representatives of all the original groups. Saltmarsh/wetlands in the floodplain should be rich in birdlife. Intertidal areas should have a good density and diversity of both larger and smaller waders; numbers of waterbirds on the entire system should not drop below 35 species or below 2000 birds for three consecutive counts
G15 Coastal	II	K60G	G15-E28	Noetsie Estuary	gxi13	B	Quantity	Flow	MMR/MAR (% Nat)	Maintain flow regime (small system needs most flows)	Months / MMR/MAR (% Nat): Oct 93.5, Nov 93.4, Dec 90.7, Jan 87.1, Feb 85.5, Mar 89.8, Apr 92.1, May 94.0, Jun 93.0, Jul 92.8, Aug 94.3, Sep 94.3, Annual 92.5
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	DIN not >100 µg/L once-off.
									DIP		DIP not > 20 µg/L once-off.
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	10 < Salinity <40
								System variables	Turbidity	System variables not to exceed TPCs for biota	>10 NTU in low flow
									Dissolved oxygen		>5 milligrams/litre in estuary.
								Pathogens	Enterococci	Concentrations of	≤185 Enterococci/100 ml) (90th percentile)

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
									Escherichia coli	waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤500 E. coli/100 ml (90th percentile)
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Closed mouth state should not increase by >10% from established baseline
								Sediment	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Maintain median phytoplankton/benthic microalgae biomass: phytoplankton not > 1.0 µg/L (median)., benthic microalgae not > 11 mg/m^2 (median); Phytoplankton not > 20 µg/L and/or cell density not >10 000 cells/ml (once-off); Prevent formation of phytoplankton blooms
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain distribution of macrophyte habitats; prevent an increase in nutrient input leading to macroalgal blooms; control the spread of invasive plants in the riparian zone
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Establish presence/absence of sand prawn Callichirus kraussi on sand banks in lower estuary, establish presence/absence of the copepod *Pseudodiaptomus hessei* or estuarine congeneric in the zooplankton of the estuary, populations of these species should not deviate from average baselines (as determined in first three visits) by more 30%

102

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
							Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Fish assemblage should comprise the 5 estuarine association categories in similar proportions (diversity and abundance) to that under the reference (see 2015 EWR report); numerically assemblage should comprise: Ia estuarine residents (50-80% of total abundance), Ib marine and estuarine breeders (10-20%), IIa obligate estuarine-dependent (10-20%), IIb estuarine associated species (5-15%), IIc marine opportunists (20-80%), III marine vagrants (not more than 5%), IV indigenous fish (1-5%), V catadromous species (1-5%); Category Ia species should contain viable populations of at least 4 species; Category IIa obligate dependents should be well represented by large exploited species; REI species dominated by both *Myxus capensis* and *G. aestuaria*
							Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	Maintain population of original groups of birds present on the estuary; number of birds in any group, other than species that are increasing regionally such as Egyptian geese, should not drop below the baseline median (determined by past data and or initial surveys) number of species and/or birds counted for three consecutive summer or winter counts
G15 Coastal	II	K60G	G15-E29	Piesang Estuary	gxi14	C	Flow	MMR/MAR (% Nat)	Maintain at least present-day base flows	Months / MMR/MAR (% Nat): Oct 71.4; Nov 77.2; Dec 69.5; Jan 68.8; Feb 63.6; Mar 69.2; Apr 70.9; May 81.5; Jun 68.1; Jul 66.8; Aug 74.7; Sep 86.1; Annual 73.8
						Quantity	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	DIN not >100 µg/L once-off.
								DIP		DIP not > 20 µg/L once-off.
						Quality	Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	5 < Salinity <40
							System variables	Turbidity	System variables not to exceed TPCs for biota	>10 NTU in low flow
								Dissolved oxygen		>5 milligrams/litre in estuary.
							Pathogens	Enterococci	Concentrations of	≤185 Enterococci/100 ml) (90th percentile)

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
									Escherichia coli	waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤500 E. coli/100 ml (90th percentile)
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Closed mouth state should not increase by >10% from established baseline
								Sediment	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Maintain low/median phytoplankton/benthic microalgae biomass: phytoplankton not to exceed 3.5 µg/ℓ (median), phytoplankton not to exceed 20 µg/ℓ and/or cell density not to exceed 10 000 cells/ml (once-off); benthic microalgae not to exceed 23 mg/m^2 (median); prevent formation of phytoplankton blooms
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain distribution of macrophyte habitats (reeds and sedges currently cover 3.14 ha, submerged macrophytes and salt marsh present); prevent the spread of reeds into open water; prevent an increase in nutrients and macroalgal blooms; prevent the spread of invasive trees (e.g. *Acacia* spp.) in the riparian zone
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Establish presence/absence of sand prawn Callichirus kraussi on sand banks in lower estuary, establish presence/absence of the copepod *Pseudodiaptomus hessei* or estuarine congeneric in the zooplankton of the estuary, populations of these species should not deviate from average baselines (as determined in first three visits) by more 30%

104

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Fish assemblage should comprise the 5 estuarine association categories in similar proportions (diversity and abundance) to that under the reference (see 2015 EWR report); numerically assemblage should comprise: Ia estuarine residents (50-80% of total abundance), Ib marine and estuarine breeders (10-20%), IIa obligate estuarine-dependent (10-20%), IIb estuarine associated species (5-15%), IIc marine opportunists (20-80%), III marine vagrants (not more than 5%), IV indigenous fish (1-5%), V catadromous species (1-5%); Category Ia species should contain viable populations of at least 4 species ; Category IIa obligate dependents should be well represented by large exploited species
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	Maintain population of original groups of birds present on the estuary; number of birds in any group, other than species that are increasing regionally such as Egyptian geese, should not drop below the baseline median (determined by past data and or initial surveys) number of species and/or birds counted for three consecutive summer or winter counts
G15 Coastal	II	K60G	G15-E30	Keurbooms Estuary	gxi15	A/B	Quantity	Flow	MMR/MAR (% Nat)	Maintain flow regime as close to natural as possible	Months / MMR/MAR (% Nat): Oct 90.6; Nov 90.5; Dec 88.8; Jan 85.3; Feb 83.0; Mar 85.5; Apr 89.3; May 92.0; Jun 92.3; Jul 91.8; Aug 92.8; Sep 91.8; Annual 90.0
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	DIN not >100 µg/L once-off.
									DIP		DIP not >20 µg/L once-off.
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	Average salinity >10 at the top of the estuary in the Keurbooms and/or Bitou Arm, average salinity >20 along the length of the system
								System variables	Turbidity		>10 NTU in low flow
									Dissolved oxygen	System variables not to exceed TPCs for biota	>5 milligrams/litre in estuary.
								Pathogens	Enterococci	Concentrations of	≤185 Enterococci/100 ml) (90th percentile)

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
									Escherichia coli	waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤500 E. coli/100 ml (90th percentile)
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Estuary mouth permanently open
									Tidal variation	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Average tidal amplitude near the mouth during low flows (summer) must not change by >10% from established baseline.
								Sediment	Sediment characteristics, Channel shape/size	Flood regime to maintain natural bathymetry and the sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Maintain low/median phytoplankton/benthic microalgae biomass: phytoplankton not to exceed 3.5 µg/ℓ (median), phytoplankton not to exceed 20 µg/ℓ and/or cell density not to exceed 10 000 cells/ml (once-off); benthic microalgae not to exceed 23 mg/m^2 (median); prevent formation of phytoplankton blooms
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain the distribution of sensitive macrophyte habitats (e.g. salt marsh, submerged macrophytes, reeds and sedges) (of special importance are the submerged macrophytes in the Bitou Arms as habitat for the endangered seahorses *H. capensis*); rehabilitate the Bitou wetlands by removing weirs, berms, old bridges; limit the spread of invasive plants; maintain the integrity of the riparian zone
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Maintain high biomass and diversity of benthic invertebrates in the lagoon area in the lower estuary; maintain rich invertebrate communities associated with the REI zone in the upper estuary (zooplankton and benthos).

106

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Fish assemblage should comprise the 5 estuarine association categories in similar proportions (diversity and abundance) to that under the reference (see 2015 EWR report); numerically assemblage should comprise: Ia estuarine residents (50-80% of total abundance), Ib marine and estuarine breeders (10-20%), IIa obligate estuarine-dependent (10-20%), IIb estuarine associated species (5-15%), IIc marine opportunists (20-80%), III marine vagrants (not more than 5%), IV indigenous fish (1-5%), V catadromous species (1-5%); Category Ia species should contain viable populations of at least 4 species ; Category IIa obligate dependents should be well represented by large exploited species
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	Maintain population of original groups of birds present on the estuary; number of birds in any group, other than species that are increasing regionally such as Egyptian geese, should not drop below the baseline median (determined by past data and or initial surveys) number of species and/or birds counted for three consecutive summer or winter counts
G15 Coastal	II	K70A	G15-E31	Matjies Estuary	gxi16	A/B	Quantity	Flow	MMR/MAR (% Nat)	Maintain flow regime (small system needs most flows)	Months / MMR/MAR (% Nat): Oct 73.9; Nov 73.8; Dec 69.1; Jan 68.0; Feb 65.0; Mar 67.9; Apr 67.9; May 68.4; Jun 65.8; Jul 66.8; Aug 71.6; Sep 74.1; Annual 70.5
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	DIN not >100 µg/L once-off.
									DIP		DIP not >20 µg/L once-off.
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	Average Salinity > 20 for more than 20% of the time (indicative of flow reduction), average Salinity < 5 for more than 20% of the time (indicative of extended closure).
								System variables	Turbidity		>10 NTU in low flow
									Dissolved oxygen	System variables not to exceed TPCs for biota	>5 milligrams/litre in estuary.
								Pathogens	Enterococci	Concentrations of	≤185 Enterococci/100 ml) (90th percentile)

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
									Escherichia coli	waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤500 E. coli/100 ml (90th percentile)
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Closed mouth state should not increase by >10% from established baseline
								Sediment	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Maintain low/median phytoplankton/benthic microalgae biomass: phytoplankton not to exceed 3.5 µg/ℓ (median), phytoplankton not to exceed 20 µg/ℓ and/or cell density not to exceed 10 000 cells/ml (once-off); benthic microalgae not to exceed 23 mg/m^2 (median); prevent formation of phytoplankton blooms
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain distribution of macrophyte habitats, prevent an increase in nutrient input leading to macroalgal blooms, control the spread of invasive plants in the riparian zone
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Establish presence/absence of sand prawn Callichirus kraussi on sand banks in lower estuary, establish presence/absence of the copepod *Pseudodiaptomus hessei* or estuarine congeneric in the zooplankton of the estuary, populations of these species should not deviate from average baselines (as determined in first three visits) by more 30%
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Maintain fish assemblage that includes at least 2 estuarine breeding species (Category I), 3 estuary dependent marine species (Category IIa & IIb) and 1 indigenous catadromous species (Category V); estuarine residents should dominate numerically, but the proportion of estuary dependent marine species (based on abundance) should not fall below 2%.

108

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric												
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	Maintain population of original groups of birds present on the estuary; number of birds in any group, other than species that are increasing regionally such as Egyptian geese, should not drop below the baseline median (determined by past data and or initial surveys) number of species and/or birds counted for three consecutive summer or winter counts												
G15 Coastal	II	K70A	G15-E32	Sout (Oos) Estuary	gxi17	A	Quantity	Flow	MMR/MAR (% Nat)	Maintain flow regime (small system needs most flows)	Months	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Annual
											MMR/MAR (% Nat)	86.7	86.8	86.0	83.2	81.7	83.1	84.2	86.1	85.6	84.6	85.8	86.8	85.6
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	DIN not >100 µg/L once-off.													
									DIP		DIP not >20 µg/L once-off.													
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	Average salinity <10 at the head of the estuary (expected average range 5 - 10 for most of the system)													
								System variables	Turbidity	System variables not to exceed TPCs for biota	>10 NTU in low flow													
									Dissolved oxygen		>5 milligrams/litre in estuary.													
								Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml) (90th percentile)													
									Escherichia coli		≤500 E. coli/100 ml (90th percentile)													
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Mouth must remain permanently open													
								Sediment	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline													

109

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
G15 Coastal	II	K70A	G15-E33	Groot (Wes) Estuary	gxi23	B	Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Maintain low/median phytoplankton/benthic microalgae biomass: phytoplankton not to exceed 3.5 µg/ℓ (median), phytoplankton not to exceed 20 µg/ℓ and/or cell density not to exceed 10 000 cells/ml (once-off); benthic microalgae not to exceed 23 mg/m^2 (median); prevent formation of phytoplankton blooms
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain distribution of macrophyte habitats, prevent an increase in nutrient input leading to macroalgal blooms, control the spread of invasive plants in the riparian zone
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Establish presence/absence of sand prawn *Callichirus kraussi* on sand banks in lower estuary, establish presence/absence of the copepod *Pseudodiaptomus hessei* or estuarine congeneric in the zooplankton of the estuary, populations of these species should not deviate from average baselines (as determined in first three visits) by more 30%
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Maintain fish assemblage that includes at least 2 estuarine breeding species (Category I), 3 estuary dependent marine species (Category IIa & IIb) and 1 indigenous catadromous species (Category V); estuarine residents should dominate numerically, but the proportion of estuary dependent marine species (based on abundance) should not fall below 2%.
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	Maintain population of original groups of birds present on the estuary; number of birds in any group, other than species that are increasing regionally such as Egyptian geese, should not drop below the baseline median (determined by past data and or initial surveys) number of species and/or birds counted for three consecutive summer or winter counts
							Quantity	Flow	MMR/MAR (% Nat)	Maintain flow regime (small system needs most flows)	Months / MMR/MAR (% Nat): Oct 87.9; Nov 88.0; Dec 87.2; Jan 84.3; Feb 82.7; Mar 84.1; Apr 85.3; May 87.3; Jun 86.7; Jul 85.7; Aug 86.9; Sep 87.9; Annual 86.7
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	DIN not >100 µg/L once-off.
									DIP		DIP not >20 µg/L once-off.

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	Average salinity <10 at the head of the estuary (expected average range 5 - 10 for most of the system)
								System variables	Turbidity	System variables not to exceed TPCs for biota	>10 NTU in low flow
									Dissolved oxygen		>5 milligrams/litre in estuary.
								Pathogens	Enterococci	Concentrations of waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤185 Enterococci/100 ml) (90th percentile)
									Escherichia coli		≤500 E. coli/100 ml (90th percentile)
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Closed mouth state should not increase by >10% from established baseline
								Sediment	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Maintain low/median phytoplankton/benthic microalgae biomass: phytoplankton not to exceed 3.5 µg/ℓ (median), phytoplankton not to exceed 20 µg/ℓ and/or cell density not to exceed 10 000 cells/ml (once-off); benthic microalgae not to exceed 23 mg/m^2 (median); prevent formation of phytoplankton blooms
								Macrophytes	Extent, distribution and richness of macrophytes	Maintain extent, distribution and richness of macrophyte groups, limit colonisation/spread of the EFZ by alien species	Maintain distribution of macrophyte habitats, prevent an increase in nutrient input leading to macroalgal blooms, control the spread of invasive plants in the riparian zone
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Establish presence/absence of sand prawn *Callichirus kraussi* on sand banks in lower estuary, establish presence/absence of the copepod *Pseudodiaptomus hessei* or estuarine congeneric in the zooplankton of the estuary, populations of these species should not deviate from average baselines (as determined in first three visits) by more 30%

111

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Fish assemblage should comprise the 5 estuarine association categories in similar proportions (diversity and abundance) to that under the reference (see 2015 EWR report); numerically assemblage should comprise: Ia estuarine residents (50-80% of total abundance), Ib marine and estuarine breeders (10-20%), IIa obligate estuarine-dependent (10-20%), IIb estuarine associated species (5-15%), IIc marine opportunists (20-80%), III marine vagrants (not more than 5%), IV indigenous fish (1-5%), *V catadromous* species (1-5%); Category Ia species should contain viable populations of at least 4 species ; Category IIa obligate dependents should be well represented by large exploited species; REI species dominated by both *Myxus capensis* and *G. aestuaria*
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	Maintain population of original groups of birds present on the estuary; number of birds in any group, other than species that are increasing regionally such as Egyptian geese, should not drop below the baseline median (determined by past data and or initial surveys) number of species and/or birds counted for three consecutive summer or winter counts
G15 Coastal	II	K70B	G15-E34	Bloukrans Estuary	gxi18	A	Quantity	Flow	MMR/MAR (% Nat)	Maintain flow regime (small system needs most flows)	Months / MMR/MAR (% Nat): Oct 98.7; Nov 99.0; Dec 98.3; Jan 96.7; Feb 96.8; Mar 97.1; Apr 97.2; May 98.1; Jun 97.6; Jul 97.7; Aug 98.2; Sep 98.9; Annual 98.0
							Quality	Nutrients	DIN	Inorganic nutrient concentrations not to exceed TPCs for macrophytes and microalgae	DIN not >100 µg/L once-off.
									DIP		DIP not >20 µg/L once-off.
								Salinity	Salinity	Salinity distribution not to exceed TPCs for fish, invertebrates, macrophytes and microalgae	Average salinity <10 at the head of the estuary (expected average range 5 - 10 for most of the system)
								System variables	Turbidity	System variables not to exceed TPCs for biota	>10 NTU in low flow
									Dissolved oxygen		>5 milligrams/litre in estuary.
								Pathogens	Enterococci	Concentrations of	≤185 Enterococci/100 ml) (90th percentile)

IUA	Class	Quaternary Catchment	RU	Resource Name	Biophysical Node Name	TEC	Component	Sub-component	Indicator	RQO Narrative	RQO Numeric
									Escherichia coli	waterborne pathogens should be maintained in an Acceptable category for full contact recreation	≤500 E. coli/100 ml (90th percentile)
							Habitat	Hydrodynamics	Mouth state	Maintain connectivity with marine environment at a level that ensures water quality and habitat remains suitable for biota typically found in the estuary	Estuary mouth permanently open
									Tidal variation		Average tidal amplitude near the mouth during low flows (summer) must not change by >10% from established baseline.
								Sediment	Sediment characteristics, Channel shape/size	Flood regime is sufficient to maintain natural bathymetry and sediment characteristics	Channel shape/size, sediment grain size and organic matter must not change by >30% from established baseline
							Biota	Microalgae	Biomass and community composition of phytoplankton and benthic microalgae community	Maintain the composition and richness of phytoplankton and benthic microalgae groups and medium-low biomass	Maintain low/median phytoplankton/benthic microalgae biomass: phytoplankton not to exceed 1 µg/ℓ (median), phytoplankton not to exceed 20 µg/ℓ and/or cell density not to exceed 10 000 cells/ml (once-off); benthic microalgae not to exceed 11 mg/m^2 (median); prevent formation of phytoplankton blooms
								Invertebrates	Macrofauna community composition, abundance and richness	Maintain composition, richness and abundance of different groups of benthic macrofauna and zooplankton	Establish presence/absence of sand prawn Callichirus kraussi on sand banks in lower estuary, establish presence/absence of the copepod *Pseudodiaptomus hessei* or estuarine congeneric in the zooplankton of the estuary, populations of these species should not deviate from average baselines (as determined in first three visits) by more 30%
								Fish	Fish community composition, abundance and richness	Maintain composition, richness and abundance of different groups of fish, prevent colonisation/increase of alien species	Maintain fish assemblage that includes at least 2 estuarine breeding species (Category I), 3 estuary dependent marine species (Category IIa & IIb) and 1 indigenous catadromous species (Category V); estuarine residents should dominate numerically, but the proportion of estuary dependent marine species (based on abundance) should not fall below 2%.
								Birds	Avifauna community composition, abundance and richness	Maintain composition, richness and abundance of different avifauna groups	Maintain population of original groups of birds present on the estuary; number of birds in any group, other than species that are increasing regionally such as Egyptian geese, should not drop below the baseline median (determined by past data and or initial surveys) number of species and/or birds counted for three consecutive summer or winter counts

Table 27: Resource Quality Objectives for GROUNDWATER in priority Resource Units in the Breede-Gouritz Water Management Area

IUA	Class	Quaternary Catchment	RU	Resource Name	Component	Sub Component	Indicator/ Measure	RQO Narrative	RQO Numeric
A1 Upper Breede Tributaries	II	H10A, H10B, H10C	BB-1	Groundwater (all)	Quantity	Abstraction	Seasonal abstraction: water level recovers from abstraction impact during wet season, under consideration of climate change and drought cycles. Permanent abstraction: water level decline stabilises under consideration of aquifer response time.	Groundwater use should be sustainable for all users and the environment	n/a
		H10L, H10F, H10G, H10J	BB-3						
A3 Breede Working Tributaries	III	H20A, H20B, H20C, H20F	BB-2						
		H40B	BB-4						
		H20H, H10H, H40C	BB-5						
		H30B	BB-6						
A3 Breede Working Tributaries	III	H40J	BB-7						
A2 Middle Breede Renosterveld	III	H40K							
B4 Riversonderend Theewaters	III	H60A, H60B, H60C	BR-1						
B5 Overberg West	II	G40C, G40D	BO-1						
H16 Overberg West Coastal	II	G40H	BO-2						
F10 Overberg East Renosterveld	II	G50B	BO-3						
H17 Overberg East Fynbos	II	G50D, G50E							
E8 Touws	III	J12C, J12D	GGr-1						
C6 Gamka Buffels	II	J11E	GGr-3						
		J24B	GGa-1						
		J21A, J21B, J23A	GGa-2a, 2b and 2c						
D7 Gouritz-Olifants	III	J35B	GO-4						
F13 Lower Gouritz	II	J40C, J40D	GGo-1						
I18 Hessequa	III	H90E	GGo-2						
G15 Coastal	II	K40D	GC-2						
H16 Overberg West Coastal	II	G40H	BO-2	Groundwater (all)	Quantity	Groundwater level	Groundwater level	Minimum water level in abstraction boreholes within 2.5km from the ocean to avoid saline intrusion	>1 mamsl
F10 Overberg East Renosterveld	II	G50B	BO-3						
H17 Overberg East Fynbos	II	G50D, G50E							
G15 Coastal	II	K40D	GC-2	Groundwater (Coastal Cenozoic Deposits)					>0.5 mamsl

IUA	Class	Quaternary Catchment	RU	Resource Name	Component	Sub Component	Indicator/ Measure	RQO Narrative	RQO Numeric
A3 Breede Working Tributaries	III	H20H, H10H, H40C	BB-5	Groundwater (Coastal Cenozoic Deposits)	Quantity	Discharge	Relative water levels between groundwater and surface water (in mamsl)	The natural gradient between groundwater and surface water should be maintained	n/a
G15 Coastal	II	K40D	GC-2						
		K70A	GC-3						
A3 Breede Working Tributaries	III	H40J	BB-7	Groundwater (superficial aquifers)					
A2 Middle Breede Renosterveld	III	H40K							
B4 Riversonderend Theewaters	III	H60A, H60B, H60C	BR-1						
B5 Overberg West	II	G40C, G40D	BO-1						
H16 Overberg West Coastal	II	G40H	BO-2						
F10 Overberg East Renosterveld	II	G50B	BO-3						
H17 Overberg East Fynbos	II	G50D, G50E							
F13 Lower Gouritz	II	J40C, J40D	GGo-1	Groundwater (all)					
G15 Coastal	II	K20A	GC-1						
A1 Upper Breede Tributaries	II	H10L, H10F, H10G, H10J	BB-3	Groundwater (all)	Quantity	Discharge	Buffer zones	No groundwater abstraction around wetland and river FEPAs in accordance with the implementation manual for FEPAs.	250m
A3 Breede Working Tributaries	III	H40J	BB-7						
A2 Middle Breede Renosterveld	III	H40K							
B4 Riversonderend Theewaters	III	H60A, H60B, H60C	BR-1						
H16 Overberg West Coastal	II	G40H	BO-2						
F10 Overberg East Renosterveld	II	G50B	BO-3						
H17 Overberg East Fynbos	II	G50D, G50E							
B5 Overberg West	II	G40C, G40D	BO-1						
C6 Gamka Buffels	II	J11E, J21A, J21B, J23A	GGr-3						
			GGa-2a, 2b and 2c						
F13 Lower Gouritz	II	J40C, J40D	GGo-1						

IUA	Class	Quaternary Catchment	RU	Resource Name	Component	Sub Component	Indicator/ Measure	RQO Narrative	RQO Numeric
G15 Coastal	II	K20A	GC-1						
		K70A	GC-3						
A3 Breede Working Tributaries	III	H20H, H10H, H40C	BB-5	Groundwater (Coastal Cenozoic Deposits)					
G15 Coastal	II	K40D	GC-2						
A1 Upper Breede Tributaries	II	H10L, H10F, H10G, H10J	BB-3	Groundwater (all)	Quantity	Low flow in river	Maintain (groundwater component of) the low flow requirements in the river Compliance with the low flow requirements in the river (as per riverine RQO)	Maintenance low flow requirements: 56.125Mm^3/a (12.90%MAR) at H1H001; 30.215Mm^3/a (28.63%MAR) at H1H018	n/a
B4 Riversonderend Theewaters	III	H60A,H60B, H60C	BR-1					Maintenance low flow requirements: 12.567Mm3/a (28.63%MAR) at Nvii10	n/a
B5 Overberg West	II	G40C, G40D	BO-1					Maintenance low flow requirements: 12.669Mm3/a (31.79%MAR) at Piii1; 54.260Mm3/a (26.26%MAR) at G4H030; 77.111Mm3/a (30.79%MAR) at G4H007	n/a
F10 Overberg East Renosterveld	II	G50B	BO-3					Maintenance low flow requirements: 0.490Mm3/a (3.93%MAR) at Ni4; 2.067Mm3/a (13.40%MAR) at G5H003.	n/a
H17 Overberg East Fynbos	II	G50D, G50E							
A1 Upper Breede Tributaries	II	H10A, H10B, H10C	BB-1	Groundwater (all)	Quality	Pathogens	E-coli	Groundwater should be fit for domestic use after treatment; and groundwater quality shall not show a deteriorating trend from natural background	0 counts / 100ml
		H10L, H10F, H10G, H10J	BB-3						
A3 Breede Working Tributaries	III	H20A, H20B, H20C, H20F	BB-2						
		H40B	BB-4						
		H20H, H10H, H40C	BB-5						
		H30B	BB-6						
A3 Breede Working Tributaries	III	H40J	BB-7						
A2 Middle Breede Renosterveld	III	H40K							

IUA	Class	Quaternary Catchment	RU	Resource Name	Component	Sub Component	Indicator/ Measure	RQO Narrative	RQO Numeric
B4 Riversonderend Theewaters	III	H60A, H60B, H60C	BR-1						
B5 Overberg West	II	G40C, G40D	BO-1						
H16 Overberg West Coastal	II	G40H	BO-2						
F10 Overberg East Renosterveld	II	G50B	BO-3						
H17 Overberg East Fynbos	II	G50D, G50E							
E8 Touws	III	J12C, J12D	GGr-1						
C6 Gamka Buffels	II	J11E	GGr-3						
		J24B	GGa-1						
		J21A, J21B, J23A	GGa-2a, 2b and 2c						
D7 Gouritz-Olifants	III	J35B	GO-4						
F13 Lower Gouritz	II	J40C, J40D	GGo-1						
I18 Hessequa	III	H90E	GGo-2						
G15 Coastal	II	K40D	GC-2						
A1 Upper Breede Tributaries	II	H10A, H10B, H10C	BB-1	Groundwater (all)	Quality	Pathogens	Total Coliform	Groundwater should be fit for domestic use after treatment; and groundwater quality shall not show a deteriorating trend from natural background	<10 counts / 100ml
		H10L, H10F, H10G, H10J	BB-3						
A3 Breede Working Tributaries	III	H20A, H20B, H20C, H20F	BB-2						
		H40B	BB-4						
		H20H, H10H, H40C	BB-5						
		H30B	BB-6						
A3 Breede Working Tributaries	III	H40J	BB-7						
A2 Middle Breede Renosterveld	III	H40K							
B4 Riversonderend Theewaters	III	H60A, H60B, H60C	BR-1						
B5 Overberg West	II	G40C, G40D	BO-1						
H16 Overberg West Coastal	II	G40H	BO-2						
F10 Overberg East Renosterveld	II	G50B	BO-3						
H17 Overberg East Fynbos	II	G50D, G50E							
E8 Touws	III	J12C, J12D	GGr-1						
C6 Gamka Buffels	II	J11E	GGr-3						

IUA	Class	Quaternary Catchment	RU	Resource Name	Component	Sub Component	Indicator/ Measure	RQO Narrative	RQO Numeric
		J24B	GGa-1						
		J21A, J21B, J23A	GGa-2a, 2b and 2c						
D7 Gouritz-Olifants	III	J35B	GO-4						
F13 Lower Gouritz	II	J40C, J40D	GGo-1						
I18 Hessequa	III	H90E	GGo-2						
G15 Coastal	II	K40D	GC-2						
A1 Upper Breede Tributaries	II	H10A, H10B, H10C	BB-1	Groundwater (Cenozoic coastal deposits)	Quality	Nutrients	NO_3 (as N)	Groundwater should be fit for domestic use after treatment; and groundwater quality shall not show a deteriorating trend from natural background	<6.8 milligrams/litre
						Salts	EC		<311 milliSiemens/metre
				Groundwater (Bokkeveld Group)	Quality	Nutrients	NO_3 (as N)		<2.4 milligrams/litre
						Salts	EC		<236 milliSiemens/metre
				Groundwater (Nardouw Group)	Quality	Nutrients	NO_3 (as N)		<4.4 milligrams/litre
						Salts	EC		<119 milliSiemens/metre
		H10F, H10G, H10J, H10L	BB-3	Groundwater (Cenozoic coastal deposits)	Quality	Nutrients	NO_3 (as N)		<9.6 milligrams/litre
						Salts	EC		<73 milliSiemens/metre
				Groundwater (Table Mountain Group)	Quality	Nutrients	NO_3 (as N)		<1.8 milligrams/litre
						Salts	EC		<109 milliSiemens/metre
A3 Breede Working Tributaries	III	H20A, H20B, H20C, H20F	BB-2	Groundwater (Cenozoic coastal deposits)	Quality	Nutrients	NO_3 (as N)		<11.0 milligrams/litre
						Salts	EC		<168 milliSiemens/metre
				Groundwater (Bokkeveld Group)	Quality	Nutrients	NO_3 (as N)		<1.8 milligrams/litre
						Salts	EC		<329 milliSiemens/metre
				Groundwater (Table Mountain Group)	Quality	Nutrients	NO_3 (as N)		<3.7 milligrams/litre
						Salts	EC		<63 milliSiemens/metre
		H10H, H20H, H40C	BB-5		Quality	Nutrients	NO_3 (as N)		<3.1 milligrams/litre

IUA	Class	Quaternary Catchment	RU	Resource Name	Component	Sub Component	Indicator/ Measure	RQO Narrative	RQO Numeric
				Groundwater (Cenozoic coastal deposits)		Salts	EC		<591 milliSiemens/metre
		H30B	BB-6	Groundwater (Cenozoic coastal deposits)	Quality	Nutrients	NO_3 (as N)		<9.8 milligrams/litre
						Salts	EC		<170 milliSiemens/metre
				Groundwater (Bokkeveld Group)	Quality	Nutrients	NO_3 (as N)		<3.6 milligrams/litre
						Salts	EC		<589 milliSiemens/metre
				Groundwater (Nardouw Group)	Quality	Nutrients	NO_3 (as N)		<4.4 milligrams/litre
						Salts	EC		<119 milliSiemens/metre
		H40J, H40K	BB-7	Groundwater (Cenozoic coastal deposits)	Quality	Nutrients	NO_3 (as N)		<10 milligrams/litre
						Salts	EC		<280 milliSiemens/metre
				Groundwater (Bokkeveld Group)	Quality	Nutrients	NO_3 (as N)		<3.6 milligrams/litre
						Salts	EC		<741 milliSiemens/metre
				Groundwater (Table Mountain Group)	Quality	Nutrients	NO_3 (as N)		<3.8 milligrams/litre
						Salts	EC		<117 milliSiemens/metre
B4 Riversonderend Theewaters	III	H60A, H60B, H60C	BR-1	Groundwater (Cenozoic coastal deposits)	Quality	Nutrients	NO_3 (as N)		<10 milligrams/litre
						Salts	EC		<280 milliSiemens/metre
				Groundwater (Bokkeveld Group)	Quality	Nutrients	NO_3 (as N)		<3.6 milligrams/litre
						Salts	EC		<741 milliSiemens/metre
				Groundwater (Table Mountain Group)	Quality	Nutrients	NO_3 (as N)		<3.8 milligrams/litre
						Salts	EC		<70 milliSiemens/metre
B5 Overberg West	II	G40A, G40C, G40D	BO-1	Groundwater (Bokkeveld Group)	Quality	Nutrients	NO_3 (as N)		<3.6 milligrams/litre
						Salts	EC		<589 milliSiemens/metre

IUA	Class	Quaternary Catchment	RU	Resource Name	Component	Sub Component	Indicator/ Measure	RQO Narrative	RQO Numeric
				Groundwater (Table Mountain Group)	Quality	Nutrients	NO_3 (as N)		<3.8 milligrams/litre
						Salts	EC		<117 milliSiemens/metre
H16 Overberg West Coastal	II	G40H	BO-2	Groundwater (Cenozoic coastal deposits)	Quality	Nutrients	NO_3 (as N)		<9.8 milligrams/litre
						Salts	EC		<280 milliSiemens/metre
				Groundwater (Bokkeveld Group)	Quality	Nutrients	NO_3 (as N)		<3.6 milligrams/litre
						Salts	EC		<589 milliSiemens/metre
				Groundwater (Table Mountain Group)	Quality	Nutrients	NO_3 (as N)		<3.8 milligrams/litre
						Salts	EC		<117 milliSiemens/metre
F10 Overberg East Renosterveld	II	G50B	BO-3	Groundwater (Cenozoic coastal deposits)	Quality	Nutrients	NO_3 (as N)		<10 milligrams/litre
H17 Overberg East Fynbos	II	G50D, G50E				Salts	EC		<280 milliSiemens/metre
F10 Overberg East Renosterveld	II	G50B	BO-3	Groundwater (Bokkeveld Group)	Quality	Nutrients	NO_3 (as N)		<3.6 milligrams/litre
H17 Overberg East Fynbos	II	G50D, G50E				Salts	EC		<741 milliSiemens/metre
F10 Overberg East Renosterveld	II	G50B	BO-3	Groundwater (Table Mountain Group)	Quality	Nutrients	NO_3 (as N)		<3.8 milligrams/litre
H17 Overberg East Fynbos	II	G50D, G50E				Salts	EC		<117 milliSiemens/metre
C6 Gamka Buffels	II	J11E	GGr-3	Groundwater (all)	Quality	Nutrients	NO_3 (as N)		<11.7 milligrams/litre
						Salts	SO_4		< 600 milligrams/litre
						Salts	EC		<231 milliSiemens/metre
		J24B	GGa-1	Groundwater (Beaufort Group)	Quality	Nutrients	NO_3 (as N)		<12.0 milligrams/litre
						Salts	SO_4		< 237 milligrams/litre
						Salts	EC		<226 milliSiemens/metre
		J21A, J21B, J21D, J23A	GGa-2a, 2b and 2c		Quality	Nutrients	NO_3 (as N)		<15.8 milligrams/litre

IUA	Class	Quaternary Catchment	RU	Resource Name	Component	Sub Component	Indicator/ Measure	RQO Narrative	RQO Numeric
				Groundwater (Cenozoic coastal deposits)		Salts	SO_4		<525 milligrams/litre
						Salts	EC		<310 milliSiemens/metre
				Groundwater (Beaufort Group, Karoo Supergroup)	Quality	Nutrients	NO_3 (as N)		<15.9 milligrams/litre
						Salts	SO_4		<634 milligrams/litre
						Salts	EC		<367 milliSiemens/metre
E8 Touws	III	J12C, J12D	GGr-1	Groundwater (Cenozoic coastal deposits)	Quality	Nutrients	NO_3 (as N)		<9.8 milligrams/litre
						Salts	EC		<170 milliSiemens/metre
				Groundwater (Witteberg Group)	Quality	Nutrients	NO_3 (as N)		<11.0 milligrams/litre
						Salts	EC		<420 milliSiemens/metre
				Groundwater (Bokkeveld Group)	Quality	Nutrients	NO_3 (as N)		<3.6 milligrams/litre
						Salts	EC		<589 milliSiemens/metre
D7 Gouritz-Olifants	III	J35B	GO-4	Groundwater (Bokkeveld Group)	Quality	Nutrients	NO_3 (as N)		<11.0 milligrams/litre
						Salts	EC		<589 milliSiemens/metre
				Groundwater (Table Mountain Group)	Quality	Nutrients	NO_3 (as N)		<11.0 milligrams/litre
						Salts	EC		<170 milliSiemens/metre
F13 Lower Gouritz	II	J40C, J40D	GGo-1	Groundwater (Coastal Cenozoic Deposits)	Quality	Nutrients	NO_3 (as N)		<3.3 milligrams/litre
						Salts	EC		<170 milliSiemens/metre
I18 Hessequa	III	H90E	GGo-2a and 2b	Groundwater (Coastal Cenozoic Deposits)	Quality	Nutrients	NO_3 (as N)		<4.5 milligrams/litre
						Salts	EC		<316 milliSiemens/metre
G15 Coastal	II	K40D	GC-2	Groundwater (Coastal Cenozoic Deposits)	Quality	Nutrients	NO_3 (as N)		<11.0 milligrams/litre
						Salts	EC		<170 milliSiemens/metre

DEPARTEMENT VAN WATER EN SANITASIE

NO. 1008 **18 SEPTEMBER 2020**

NASIONALE WATERWET, 1998
(WETNR.36 VAN 1998)

VOORGESTELDE KLASSE VAN WATERHULPBRON EN HULPBRONGEHALTEDOELWITTE VIR DIE BREEDE-GOURITZ WATERBESTUURSGEBIED

Ek, Lindiwe Sisulu, Minister van Menslike Nedersettings, Water en Sanitasie, bepaal hiermee, ingevolge artikel 13(1) van die Nationale Waterwet, 1998, (Wetnr. 36 van 1998), die klasse waterhulpbronne en hulpbrongehaltedoelwitte soos uiteengesit in die Skedule.

L N SISULU, MP
MINISTER VAN MENSLIKE NEDERSETTINGS, WATER EN SANITASIE

DATUM:

SKEDULE

BESKRYWING VAN DIE WATERHULPBRON

Die voorgestelde waterhulpbronklase- en hulpbrongehaltedoelwitte word bepaal vir die hele of deel van elke beduidende waterhulpbron soos hieronder uiteengesit:

Waterestuursgebied: Breede-Gouritz
Dreinering Streek: G40-G50, H10-H90, J10-J40, K10-K70 Tersiêre Dreinering Streek
Rivier (e): Breede Overberg Area: Breederivier, Rivieronderendrivier, Overbergrivier, asook ander kleiner kusriviere. Gouritz Kusgebied: Gouritzrivier, Buffelsrivier, Touwsrivier, Grootrivier, Gamkarivier, Olifantsrivier, Kammanassierivier, en kleiner kusriviere.

A. VOORGESTELDE WATERHULPBRONKLASSE SOOS VEREIS INGEVOLGE ARTIKEL 13 (4) (a) (i) (aa) VAN DIE NASIONALE WATERWET, 1998

i. Die voorgestelde waterhulpbronklasse vir die Breede-Gouritz Waterbestuursgebied word in Tabel 1 gelys volgens die algehele klas per geïntegreerde eenheid van analise (IUA), soos aangedui in Figuur 1 vir Breede Overberg-gebied en aangedui in Figuur 2 vir Gouritz-kusgebied.

ii. IUA's word geklassifiseer in terme van hul mate van toelaatbare verbruik en beskerming as óf Klas I: wat hoë omgewingsbeskerming en minimale gebruik aandui; Klas II wat gematigde beskerming en matige gebruik aandui; en klas III wat volhoubare minimale beskerming en hoë benutting aandui.

iii. Tabel 1 verskaf die IUA, sy waterhulpbronklas en sy onderskeie opvanggebiedkonfigurasie. Die opvanggebiedkonfigurasie bestaan uit 'n aantal biofisiese nodusse wat rivierbereike of hulpbron eenhede verteenwoordig. Die ekologiese kategorie wat vir elke RU in die IUA gehandhaaf word, word verskaf.

B. HULPBRONGEHALTESDOELWITTE VAN WATERHULPBRONNE SOOS VEREIS INGEVOLGE ARTIKEL 13 (4) (a) (i) (bb) VAN DIE NASIONALE WATERWET, 1998

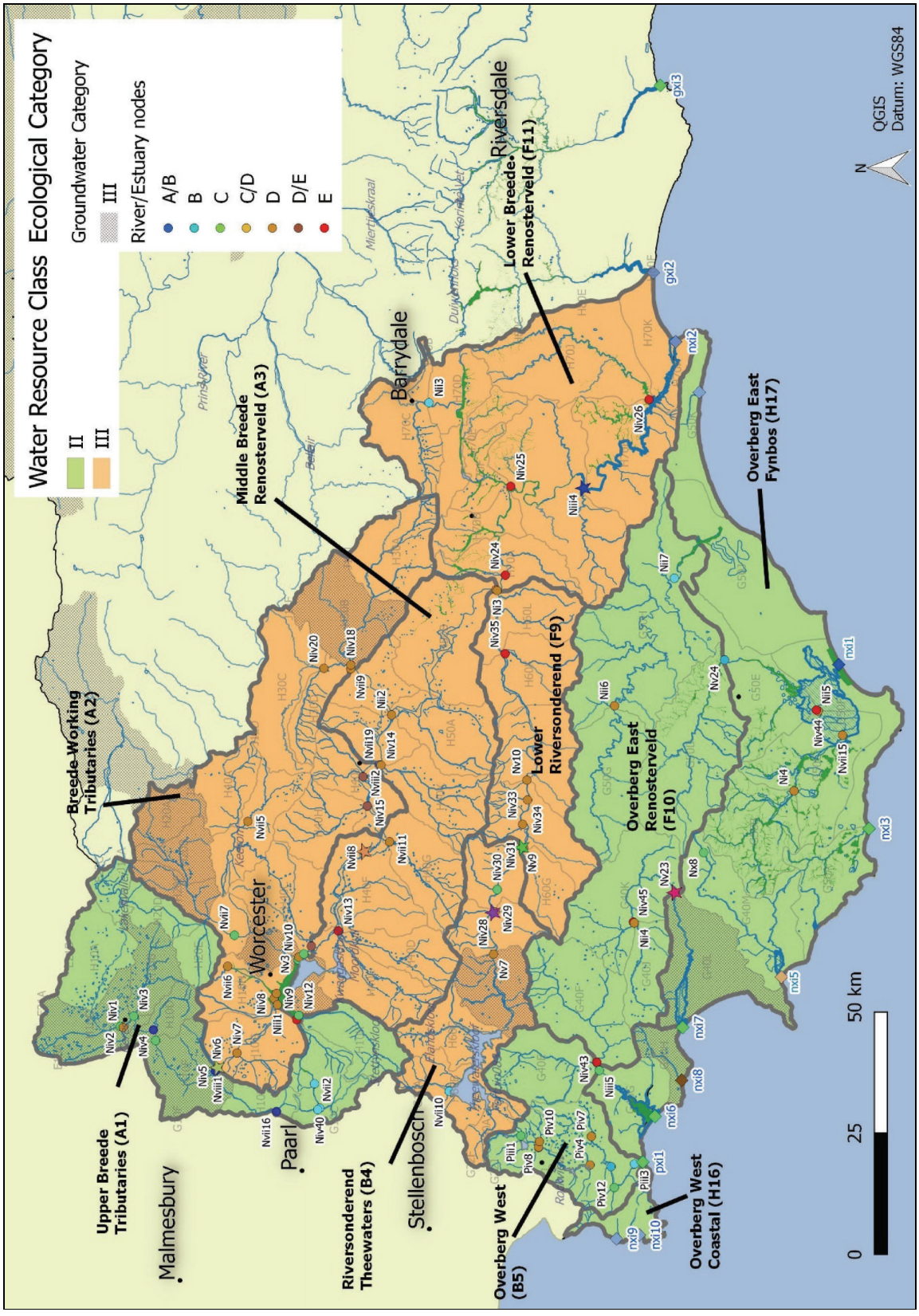
i. Hulpbrongehaltedoelwitte (RQO's) word gedefinieer vir elke geprioritiseerde RU vir elke IUA in terme van hoeveelheid water, habitat en biota en watergehalte. Prioriteitsgerigte RU's vir Breede Overberg-gebied word in Figuur 1 aangedui, en geprioritiseerde RU's vir Gouritz-kusgebied word in Figuur 2 aangedui.

ii. Tabel 2 tot Tabel 17 verskaf die RQO's vir RIVIERE in prioriteits-RU's.

iii. Tabel 18 tot Tabel 26 verskaf die RQOs vir RIVIERMONDINGS in prioriteit RU's.

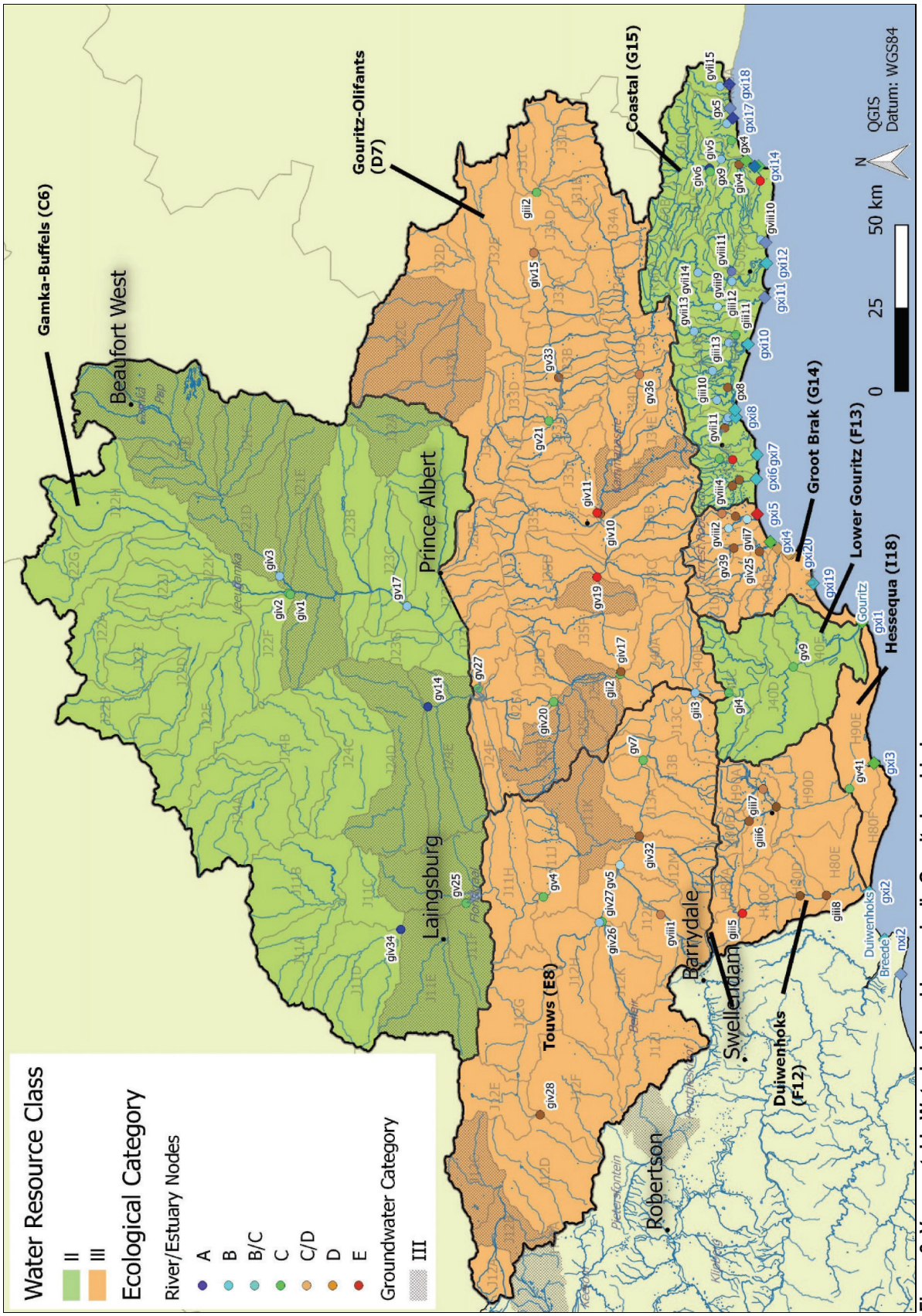
iv. Tabel 27 tot Tabel 40 verskaf die RQOs vir GRONDWATER in prioriteits-RU's.

v. RQO's sal van toepassing wees vanaf die datum wat onderteken is ingevolge artikel 13 (1) van die Nasionale Waterwet, 1998, tensy anders bepaal deur die Minister.

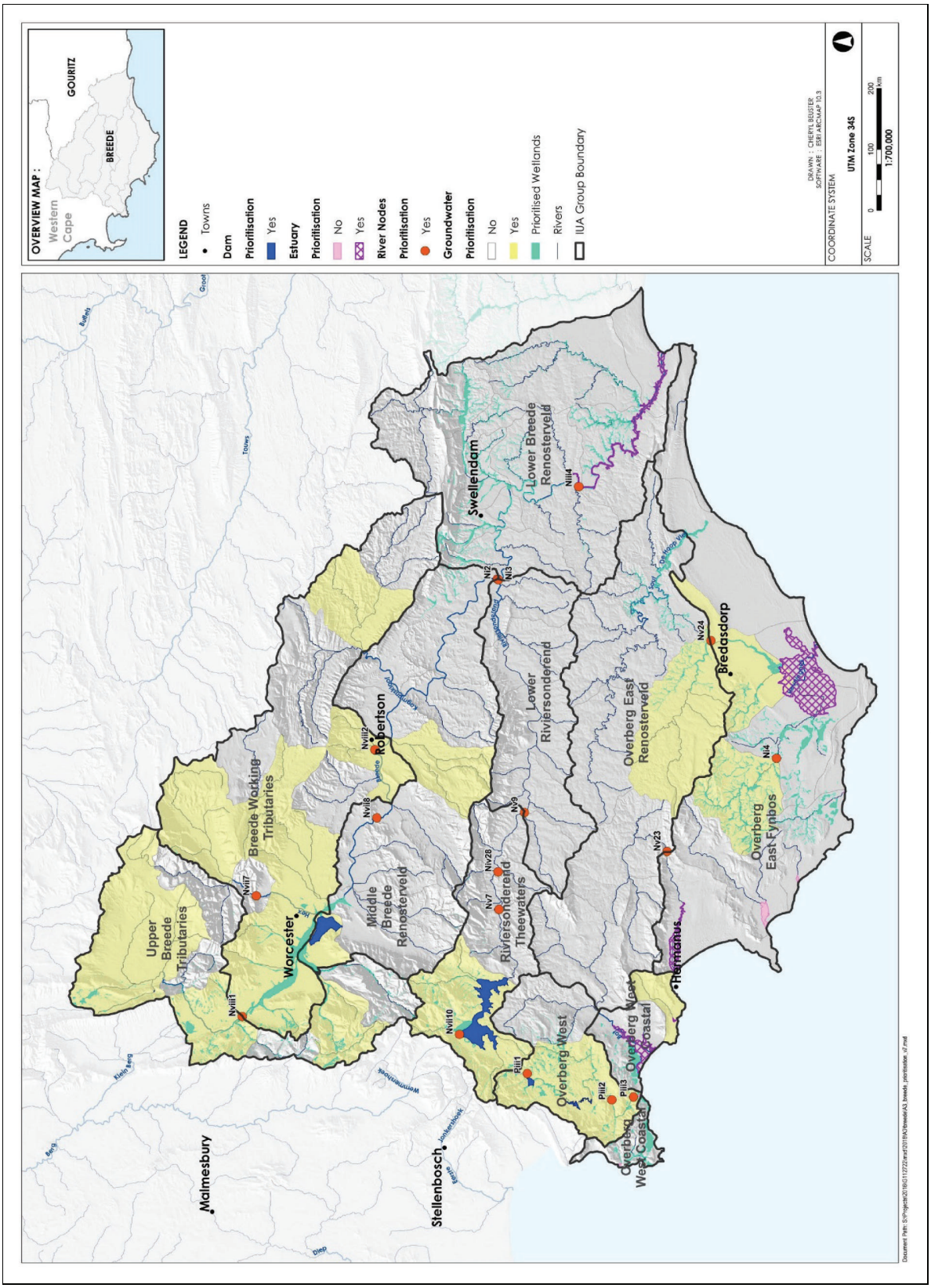


Figuur 1: Voorgestelde Waterhulpbronklasse vir die Breede Overberggebied

2

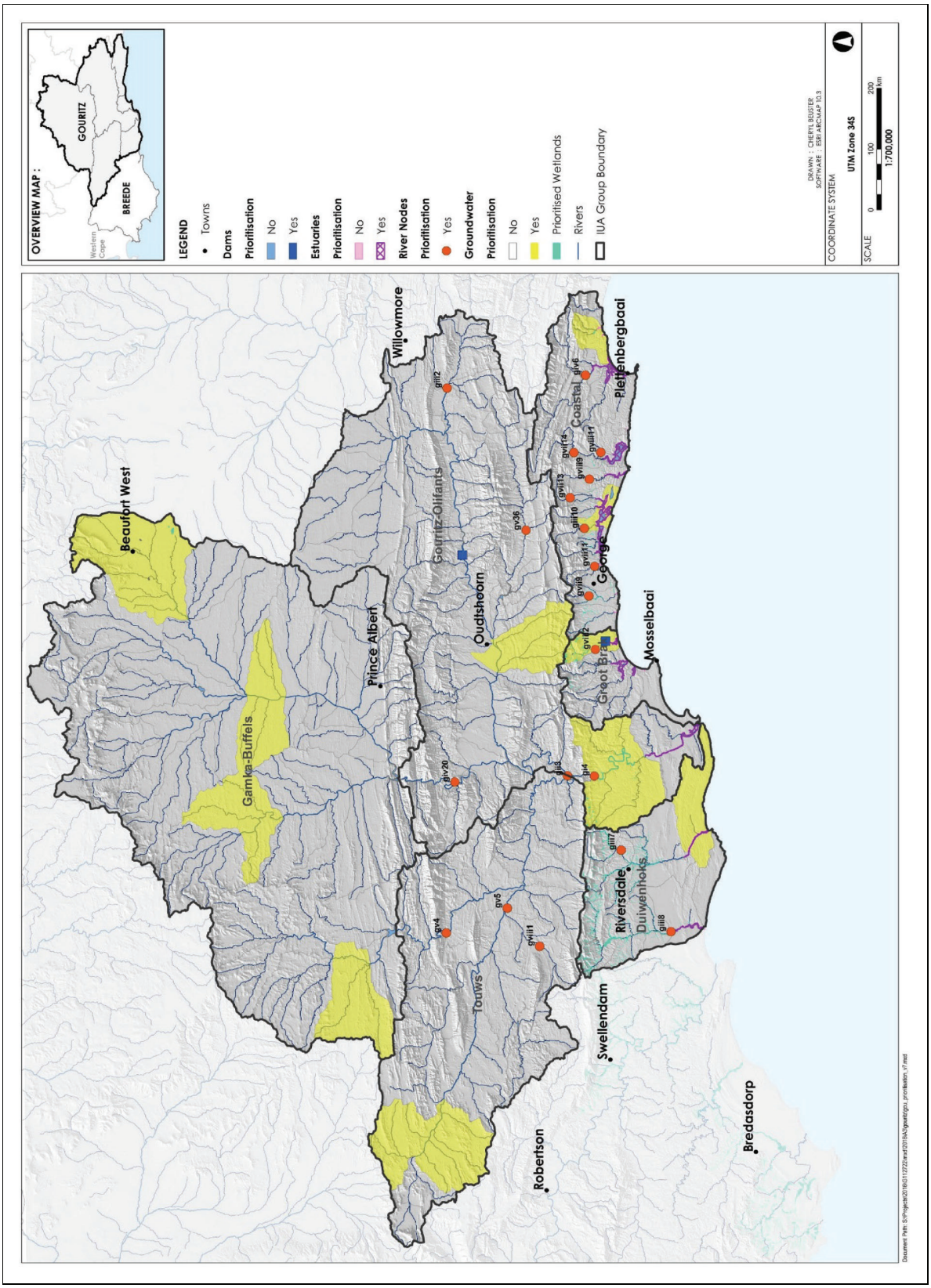


Figuur 2: Voorgestelde Waterhulpbronklasse vir die Gouritz kusgbied



Figuur 3: Voorgestelde prioriteit hulpbron-eenheid vir die Breede Overberg gebied

4



Figuur 4: Voorgestelde Prioriteit Hulpbron-eenheid vir die Gouritz kusgebied

Tabel 1: Opsomming van Waterhulpbronklasse per Geïntegreerde Eenheid van Analise en Ekologiese Kategorieë

Geïntegreerde Eenheid van Analise (IUA)	Waterhulpbronklas vir IUA	Kwartêre opvanggebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Natuurlike MRT (miljoen m^3/a)
A1 Upper Breede Tributaries	II	H10B		Titus River	Niv3	C	21.45
		H10C		Koekedou River	Niv1	D	18.80
		H10C		Dwars River	Niv2	C	74.90
		H10C		Breede River	nvi4	C	126.90
		H10D		Witels River	Niv4	A	84.30
		H10D		Breede River	Nvi3	C	252.80
		H10E		Witte River	Nvii16	A	42.50
		H10F		Witte River	Niv5	A	141.70
		H10F		Wabooms River	Niv6	D	7.40
		H10F	A1-R01	Breede River	Nviii1	D	434.90
		H10J		Elands River	Niv40	B	58.10
		H10J		Krom River	Niv41	B	8.90
		H10J	A1-R02	Molenaars River	Nvii2	B	105.60
A2 Breede Woring tributaries	III	H10G		Slanghoek River	Niv7	D	32.60
		H10G		Breede River	Niii1	D	497.60
		H10J		Smalblaar River	Niv42	E	191.20
		H10H		Jan du Toit River	Niv8	D	17.90
		H10H		Hartbees River	Nvii6	D	4.00
		H10H		Hartbees River	Niv9	D	10.30
		H10K		Holsloot River	Niv12	C	119.60
		H10H		Breede River	Nv3	C	850.90
		H20F		Hex River	Nv18	D	10.90
		H20G	A2-R03	Hex River	Nvii7	C	102.80
		H20H		Hex River	Niv10	D	107.10
		H40C		Breede River	Nii1	C	957.90
		H40B		Koo River	Nvii5	D	0.90
		H40C		Nuy River	Niv11	D/E	29.30
		H30B		Kingna River	Niv18	D	27.80
		H30C		Pietersfontein River	Niv20	D	17.30
		H30D		Keisie River	Nvii9	D	21.10

Geïntegreerde Eenheid van Analise (IUA)	Waterhulpbronklas vir IUA	Kwartêre opvanggebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Natuurlike MRT (miljoen m^3/a)
A3 Middle Breede Renosterveld	III	H40D		Doring River	Niv13	E	47.50
		H40F	A3-R04	Breede River	Nvii8	C/D	1042.80
		H40F		Breede River	Ni1	A/B	1043.40
		H40G		Poesjenels River	Nvii11	D	16.10
		H40H		Vink River	Niv15	D/E	15.60
		H40J		Willem Nels River	Nviii2	D/E	5.20
		H40J		Breede River	Nvii19	A/B	1081.90
		H40K		Keisers River	Nvii12	D	7.10
		H40K		Keisers River	Niv14	D	12.60
		H40L		Breede River	Nvi1	D	1099.90
		H30E		Kogmanskloof River	Nii2	D	52.00
		H50A		Breede River	Niii3	D	1153.40
		H50B	A3-R05	Breede River	Ni2	D	1170.10
B4 Upper Riversonderend	III	H60B	B4-R06	Du Toits River	Nvii10	B	43.90
		H60D	B4-R07	Riviersonderend River	Nv7	C	370.20
		H60E	B4-R08	Baviaans River	Niv28	B	7.90
		H60E		Sersants River	Niv29	D	4.50
		H60F		Gobos River	Niv30	C	12.40
		H60F	B4-R09	Riviersonderend River	Nv9	D	413.70
F9 Lower Riversonderend	III	H60G		Kwartel River	Niv31	D	10.70
		H60H		Soetmelksvlei River	Niv33	D	4.00
		H60H		Slang River	Niv34	D	2.10
		H60H		Riviersonderend River	Nv10	D	442.90
		H60J		Riviersonderend River	Nv11	D	463.10
		H60K		Kwassadie River	Niv35	E	5.90
		H60K		Riviersonderend River	Nv12	D	474.50
		H60L	F9-R10	Riviersonderend River	Ni3	D	483.80

Geïntegreerde Eenheid van Analise (IUA)	Waterhulpbronklas vir IUA	Kwartêre opvanggebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Natuurlike MRT (miljoen m^3/a)
B5 Overberg West	II	G40C	B5-R11	Palmiet River	Piii1	C	250.40
		G40C		Witklippieskloof River	Piv10	D	15.10
		G40C		Palmiet River	Piv9	D	78.70
		G40C		Palmiet River	Pvi1	D	100.50
		G40C		Klipdrif River	Piv8	D	13.60
		G40D		Klein-Palmiet River	Piv4	D	13.70
		G40D		Krom/Ribbok River	Piv7	D	27.50
		G40D	B5-R12	Palmiet River	Piii2	B/C	206.70
		G40D		Dwars/Louws River	Piv12	C	25.20
		G40D	B5-R13	Palmiet River	Piii3	B	250.50
		G40D	B5-E01	Palmiet Estuary	Pxi1	B/C	173.44
H16 Overberg West Coastal	II	G40B	H16-E02	Buffels Estuary	Bxi1	B	8.80
		G40B	H16-E03	Rooiels Estuary	Bxi2	A	9.44
		G40F		Swart River	Niv43	E	42.10
		G40E		Bot River	Niii5	C	74.10
		G40G	H16-E04	Bot Estuary	Nxi6	B	77.67
		G40H	H16-E05	Onrus Estuary	Nxi8	D	4.75
F10 Overberg East Renosterveld	II	G40J		Hartbees River	Nii4	D	18.40
		G40K		Steenbok River	Niv45	E	10.80
		G40K	F10-R14	Klein River	Nv23	C/D	38.38
		G50G		Sout River	Nii6	D	4.20
		G50H		DeHoopVlei River	Nii7	B	27.10
H17 Overberg East Fynbos	II	G40L	H17-E06	Klein Estuary	Nxi7	B	51.21
		G40M		Uilkraal River	Nx8	C	2.40
		G40M	H17-E07	Uilkraal Estuary	Nxi5	C	6.28
		G50A	H17-E08	Ratel Estuary	Nxi3	B	3.42
		G50B	H17-R15	Nuwejaar River	Ni4	C/D	12.50
		G50C		Heuningnes River	Nvii15	C/D	17.80
		G50C		Heuningnes River	Niv44	C/D	18.80
		G50D	H17-R16	Kars River	Nv24	B/C	15.40
		G50E		Kars River	Nii5	E	21.60
		G50F	H17-E09	Heuningnes Estuary	Nxi1	B	30.56
		G50K	H17-E10	Klipdrifsfontein Estuary	Bxi3	A	0.75

Geïntegreerde Eenheid van Analise (IUA)	Waterhulpbronklas vir IUA	Kwartêre opvanggebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Natuurlike MRT (miljoen m^3/a)
F11 Lower Breede Renosterveld	II	H70A		Leeu River	Niv24	E	5.80
		H70B		Klip River	Niv24a	E	24.50
		H70B		Breede River	Nv2	C	1701.40
		H70C		Huis River	Nvii14	C	3.20
		H70C		Tradouw River	Nii3	B	19.40
		H70F		Buffeljags River	Niv25	E	119.40
		H70G	F11-R17	Breede River	Niii4	C	1832.70
		H70H		Breede River	Nviii3	B	1841.20
		H70J		Slang River	Niv26	E	10.00
		H70K	F11-E11	Breede Estuary	Nxi2	B	1022.56
C6 Gamka Buffels	II	J11C		Buffels River	giv34	A	13.10
		J11F		Buffels River	gv25	C	24.30
		J21A		Gamka River	gv18	B	26.70
		J21D		Gamka River	giv3	B	31.90
		J22F		Koekemoers River	giv1	C	7.40
		J22K		Leeu River	giv2	C	17.10
		J23C		Gamka River	gv17	B	58.20
		J23F		Gamka River	giv21	B	68.00
		J23J		Gamka River	gv27	C	69.60
		J24D		Dwyka River	gv14	A	4.00
E8 Touws	III	J12C		Ysterdams River	giv30	D	2.80
		J12B		Donkies River	giv31	D	6.90
		J12D		Touws River	giv28	D	16.40
		J12H		Touws River	giv27	B	26.40
		J12K		Brak River	giv26	C	2.90
		J12L	E8-R18	Doring River	gviii1	C/D	2.90
		J12L	E8-R19	Touws River	gv5	B/C	33.50
		J11H	E8-R20	Buffels River	gv4	C	27.40
		J11J	E8-R21	Groot River	gv6	D	29.70
		J11K		Groot River	giv32	D	30.50
		J13A		Groot River	gv7	C	77.70
		J13C	E8-R22	Groot River	gii3	B	78.10

Geïntegreerde Eenheid van Analise (IUA)	Waterhulpbronklas vir IUA	Kwartêre opvanggebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Natuurlike MRT (miljoen m^3/a)
D7 Gouritz-Olifants; Lower Gouritz	III	J25A	D7-R23	Gamka River	giv20	C	79.80
		J25D		Nels River	giv18	E	10.90
		J25E		Gamka River	gii2	C	111.80
		J31C	D7-R24	Olifants River	giii2	C	11.80
		J32E		Traka River	giv15	C/D	2.80
		J33B		Olifants River	gv33	D	25.00
		J33D		Meirings River	gv21	C	21.40
		J33F		Olifants River	giv11	E	79.90
		J34C	D7-R25	Kammanassie River	gv36	C/D	41.20
		J34F		Kammanassie River	giv10	D	59.20
		J35A		Grobbelaars River	gvii2	C	16.90
		J35A		Grobbelaars River	giv9	E	30.70
		J35D		Olifants River	gv19	E	224.50
		J35F		Olifants River	giv17	D	253.40
F13 Lower Gouritz	II	J40A		Gouritz River	giv16	C	394.90
		J40B	F13-R26	Gouritz River	gi4	C	489.10
		J40C		Gouritz River	gv28	D	21.40
		J40D		Gouritz River	gv9	C	571.80
		J40E	F13-E12	Gouritz Estuary	Gxi1	C	294.69
F12 Duiwenhoks	III	H80B		Duiwenhoks River	giii5	E	62.50
		H80C		Duiwenhoks River	gv11	D	75.10
		H80D	F12-R27	Duiwenhoks River	giii8	D	83.30
		H80E	F12-E13	Duiwenhoks Estuary	Gxi2	B	73.65
I18 Hessequa	III	H90B		Korinte River	giii6	D	34.20
		H90A	I18-R28	Goukou River	giii7	C/D	50.90
		H90C		Goukou River	gv10	D	92.90
		H90D		Goukou River	gv41	C	104.90
		H90E	I18-E14	Goukou Estuary	Gxi3	B/C	89.94

Geïntegreerde Eenheid van Analise (IUA)	Waterhulpbronklas vir IUA	Kwartêre opvanggebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Natuurlike MRT (miljoen m^3/a)
G14 Groot Brak	III	K10D		Brandwag River	giv25	D	17.90
		K10E		Moordkuil River	gv39	D	15.70
		K10F	G14-E15	Klein-Brak estuary	Gxi4	C	39.10
		K20A	G14-R29	Groot-Brak River	gviii2	B/C	15.30
		K20A		Varing River	gviii12	C/D	6.00
		K20A		Varing River	gviii3	D	8.40
		K20A		Groot-Brak River	gvii7	B/C	27.00
		K20A	G14-E16	Groot-Brak estuary	Gxi5	D	16.77
		K10A	G14-E17	Blinde estuary	Gxi19	B	0.90
		K10A	G14-E18	Tweekuilen estuary	Gxi20	D	0.94
		K10A	G14-E19	Gericke estuary	Gxi21	C	0.29
		K10B	G14-E20	Hartenbos estuary	Gxi22	C	4.15
G15 Coastal	II	K30A		Maalgate River	gviii4	D	15.30
		K30A		Maalgate River	gvii8	D	22.84
		K30A	G15-E21	Maalgate Estuary	Gxi6	B	29.81
		K30B	G15-R30	Malgas River	gvii9	C	8.16
		K30B		Gwaing River	gviii6	E	13.92
		K30B	G15-E22	Gwaing Estuary	Gxi7	B	22.64
		K30C		Swart River	gviii7	D	16.10
		K30C	G15-R31	Kaaimans River	gvii11	B	17.53
		K30C		Silver River	gviii8	B	14.90
		K30C	G15-E23	Kaaimans Estuary	Gxi8	B	35.32
		K30D		Touws River	gvii12	B	16.70
		K30D		Klein River	gx8	D	2.50
		K30D	G15-E24	Wilderness Estuary	Gxi9	B	29.01
		K40A	G15-R32	Diep River	giii10	B	12.40
		K40B		Hoekraal River	giii13	B	27.90
		K40C	G15-R33	Karatara River	gvii13	B	11.20
		K40C		Karatara River	giii11	B	33.90
		K40D	G15-E25	Swartvlei Estuary	Gxi10	B	87.60
		K40E	G15-R34	Goukamma River	gviii9	B/C	30.40
		K40E	G15-E26	Goukamma Estuary	Gxi11	A/B	46.25
		K50A	G15-R35	Knysna River	gvii14	B	26.50
		K50A		Knysna River	giii12	B	46.60

Geïntegreerde Eenheid van Analise (IUA)	Waterhulpbronklas vir IUA	Kwartêre opvanggebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Natuurlike MRT (miljoen m^3/a)
		K50B	G15-R36	Gouna River	gviii11	A/B	27.60
		K50B	G15-E27	Knysna Estuary	Gxi12	B	68.83
		K60G		Noetzie River	gviii10	B	4.80
		K60G	G15-E28	Noetsie estuary	Gxi13	B	3.59
		K60G		Piesang River	gx3	E	7.30
		K60G	G15-E29	Piesang Estuary	Gxi14	C	5.12
		K60C	G15-R37	Keurbooms River	giv6	C	46.10
		K60D		Palmiet River	giv5	A	42.10
		K60E		Keurbooms River	gx9	B	91.30
		K60F		Bitou River	giv4	C	23.60
		K60G	G15-E30	Keurbooms Estuary	Gxi15	A/B	131.60
		K70A		Buffels River	gx4	B/C	1.80
		K70A	G15-E31	Matjies Estuary	Gxi16	A/B	3.25
		K70A		Sout River	gx5	B	3.80
		K70A	G15-E32	Sout(Oos) Estuary	Gxi17	A	5.99
		K70A	G15-E33	Groot(Wes) Estuary	Gxi23	B	11.10
		K70B		Bloukrans River	gvii15	B	31.20
		K70B	G15-E34	Bloukrans Estuary	Gxi18	A	11.10

Tabel 2: Hulpbrongehaltedoelwitte vir RIVIERE in prioriteit Hulpbron-eenheid in die Geïntegreerde Eenheid van Analise A1 Boonste Breede Sytakke

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
											Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept
											Instandhoudin g vloei (miljoen kubieke meter) Hoë	1.651	0	1.651	0	0	0	0	0	5.502	0	32.397	13.009
											Instandhoudin g vloei (miljoen kubieke meter) Lae	6.667	4.007	2.105	1.93	1.268	1.754	2.343	3.544	6.452	7.719	10.526	7.81
A1 Boonste Breede Sytakke							Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Breërivier in stand te hou in 'n toestand gelyk aan of beter as 'n D-kategorie.	≤ 0.075 milligram per liter (50ste persentiel)												
								Voedingstowwe	Fosfaat (PO_4-P)	RivierVoedingsvlakke moet in 'n mesotrofiese of beter toestand gehandhaaf word	≤ 1.75 milligram per liter (50ste persentiel)												
									Totale anorganiese stikstof (TIN)														
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet gehandhaaf word op vlakke wat nie water-ekosisteme nadelig beïnvloed nie	≤ 55 milliSiemens/meter EC (95ste persentiel)												
							Gehalte	Stelsel Veranderlikes	ph reeks	6.5 ≥ pH ≤ 8.5 (5ste en 95ste persentiele)													
									Opgeloste suurstof	DO ≥ 6 milligram per liter (5ste persentiel)													
								Gifstowwe	Ammoniak	Toksiteitsvlakke moet nie 'n bedreiging vir water-ekosisteme inhou nie.	≤ 0.073 milligram per liter (95ste persentiel)												
									Atrasien		≤ 0.079 milligram per liter (95ste persentiel)												
									Endosulfan		≤ 0.0013 milligram per liter (95stepersentiel)												
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontak onstapnning.	≤ 165 tellings/100ml (95ste persentiel)												
							Habitat	Geomorfologie	GAI telling	GAI telling moet binne D-kategorie D-kategorie (42-57%) wees.	D kategorie (42-57%)												
								Oewer plantegroei	VEGRAI telling	VEGRAI vlak 3 moet binne 'n D kategorie (42-57%) wees.	D kategorie (42-57%)												
									Marginale sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies												

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese
A1 Boonste Breede Sytakke	II	H10J	A1-R02	Molenaarsrivier	nvii2	B	Biota		Laer sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies
									Boonste sone dekking oorvloed		Eksotiese spesies <5%, terrestriële houtsoorte> 50%
								Vis	FRAI telling	FRAI moet binne 'n D-kategorie (42-57%) wees. 42-57%).	D-kategorie (42-57%)
								Ongewerweldes	MIRAI telling		D-kategorie (42-57%)
									Ongewerwelde diversiteite	MIRAI telling om binne D-kategorie (42-57%) te wees.	SASS telling > 70, ASPT > 5.0
									Aantal gesinne		> 15 gesinne in oorvloed A - C
							Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Molenaarsrivier in 'n toestand gelyk aan of beter as 'n B-kategorie in stand te hou.	Instandhouding vloei (miljoen m³/jaar)
											Maande / Lae / Hoë
											Okt 3.381 3.434
											Nov 2.506 0.454
											Des 1.584 0
											Jan 1.022 0
											Feb 0.869 0.454
											Mrt 0.909 0
											Apr 1.356 0.454
											Mei 2.479 1.797
											Jun 3.588 1.797
											Jul 4.149 8.005
											Aug 4.39 3.434
											Sept 4.002 3.434
								Voedingstowwe	Fosfaat (PO_4-P)	Voedingsvlakke moet in 'n oligotrofiese toestand in die rivier gehandhaaf word.	≤ 0.025 milligram per liter (50ste persentiel)
									Totale anorganiese stikstof (TIN)		≤ 0.70 milligram per liter (50ste persentiel)
							Gehalte	Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet gehandhaaf word op vlakke wat nie water-ekosisteme nadelig beïnvloed nie	≤ 30 milliSiemens/meter (95ste persentiel)
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	4.5 ≥ pH ≤ 7.5 (5th and 95ste persentiele)
									Opgeloste suurstof		≥ 8 milligram per liter (5ste persentiel)
								Gifstowwe	Ammoniak	Toksisiteitsvlakke moet nie 'n bedreiging vir water-ekosisteme inhou nie..	≤ 0.073 milligram per liter (95ste persentiel)

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Patogene	Escherichia coli	Konsentrasies van waterdrywende patogene moet in 'n ideale kategorie gehandhaaf word vir volledige kontakreaksie	≤ 130 tellings/100ml (95ste persentiel)
							Habitat	Geomorfologie	GAI telling	GAI telling moet binne B kategorie (42-57%) wees.	B-kategorie (82-87%)
								Oewerplante groei	VEGRAI telling	VEGRAI vlak 3 behoort binne 'n B-kategorie (82-87%)	B-kategorie (82-87%)
									Marginale sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies
									Laer sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies
							Biota	Vis	FRAI telling	FRAI moet binne 'n E-kategorie (22-37%) wees.	E-kategorie (22-37%)

Tabel 3: Hulpbrongehaltedoelwitte vir RIVIERE in Prioriteit Hulpbronne in die Geïntegreerde Eenheid van Analise A2 Breede Werkende syriviere

IUA	Klas	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese
A2 Breede Werkende syriviere	III	H20G	A2-R03	Hex Rivier	nvii7	C	Hoeveelheid	Lae vloei Hoë vloei	Vloei sal voldoende wees om die Hexrivier te handhaaf, gelyk aan of beter as 'n C-kategorie. .	Instandhouding lae vloei Instandhouding hoë vloei.	Maande: Okt / Nov / Des / Jan / Feb / Mrt / Apr / Mei / Jun / Jul / Aug / Sept Instandhouding vloei (miljoen kubiek meter) Hoë: 0.387 / 0.395 / 0 / 0 / 0 / 0 / 0 / 1.137 / 1.098 / 6.801 / 2.797 / 2.803 Instandhouding vloei (miljoen kubiek meter) Lae: 2.998 / 2.649 / 1.888 / 1.18 / 1.066 / 0.943 / 1.142 / 1.652 / 2.26 / 3.067 / 3.54 / 3.333
							Gehalte	Voedingstowwe	Fosfaat (PO_4-P)	Voedingsvlakke moet in 'n mesotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 0.075 milligram/liter (50ste persentiel)
									Totale anorganiese stikstof (TIN)		≤ 1.75 milligram/liter (50ste persentiel)
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet gehandhaaf word op vlakke wat nie water-ekosisteme nadelig beïnvloed nie	≤ 55 milliSiemens/meter (95ste persentiel)

IUA	Klas	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Stelsel Veranderlikes	Ph-reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	6.5 ≥ pH ≤ 8.5 (5ste en 95ste persentiele)
									Opgeloste suurstof		≥ 8 milligram per liter (5th persentiel)
								Gifstowwe	Ammoniak	Toksisiteitsvlakke moet nie 'n bedreiging vir water-ekosisteme inhou nie	≤ 0.073 milligram per liter (95ste persentiel)
									Atrasien		≤ 0.079 milligram per liter (95ste persentiel)
									Endosulfan		≤ 0.0013 milligram per liter (95stepersentiel)
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 165 tellings/100ml (95th persentiel)
							Habitat	Geomorfologie	GAI telling	GAI-telling moet binne 'n C/D-kategorie (57-62%) wees.	C/D kategorie (57-62%)
								Oewer plantegroei	VEGRAI telling	VEGRAI vlak 3 moet binne 'n D-kategorie (42-57%) wees	D kategorie (42-57%)
									Marginale sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies
									Laer sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies
							Biota	Vis	FRAI telling	FRAI moet binne 'n D-kategorie (42-57%) wees.	D kategorie (42-57%)
								Ongewerweldes	MIRAI telling	MIRAI telling om binne C-kategorie (62-77%) te wees.	C kategorie (62-77%)
									Ongewerweldes diversiteit		SASS telling > 100, ASPT > 6.3

Tabel 4: Hulpbrongehaltedoelwitte vir RIVIERE in prioriteit hulpbron-eenheid van Analise A3 Middel Breede Renosterveld

IUA	Klas	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
											Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept
											Instantaneous flow (million cubic meter)	High	3.704	0	0	0	0	0	0	16.107	32.902	76.916	31.869	18.949
												Low	14.575	8.743	3.449	4.796	1.461	3.181	4.262	11.161	22.326	36.912	33.451	26.791
A3 Middel Breede Renosterveld	III	H40F	A3-R04	Breederivier	nvii8	C/D	Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Breederivier in stand te hou wat gelyk is aan of beter as 'n C / D-kategorie.	≤ 0.075 milligram/liter (50ste persentiel)												
							Gehalte	Voedingstowwe	Fosfaat (PO_4-P)	Voedingstofmiddels moet in 'n mesotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 1.75 milligram/liter (50ste persentiel)												
									Totale anorganiese stikstof (TIN)														
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet gehandhaaf word op vlakke wat nie water-ekosisteme nadelig beïnvloed nie	≤ 55 milliSiemens/meter (95ste persentiel)												
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	6.5 ≥ pH ≤ 8.5 (5ste en 95ste persentiele)												
									Opgeloste suurstof		≥ 6 milligram liter (5ste persentiel)												
								Gifstowwe	Ammoniak	Toksisiteitsvlakke moet nie	≤ 0.073 milligram per liter (95ste persentiel)												
									Atrasien	'n bedreiging vir water-ekosisteme inhou nie.	≤ 0.079 milligram per liter (95ste persentiel)												
									Endosulfan		≤ 0.0013 milligram per liter (95stepersentiel)												
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 165 tellings/100ml (95ste persentiel)												
							Habitat	Geomorfologie	GAI telling	GAI-telling moet binne C-kategorie (52-67%) wees.	C kategorie (62-77%)												
								Oewer plantegroei	VEGRAI telling	VEGRAI vlak 3 moet binne 'nC- kategorie (52-67%).	C kategorie (62-77%)												
									Marginale sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies												
									Laer sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies												

IUA	Klas	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese
									Boonste sone dekking oorvloed		Eksotiese spesies < 5%, terrestriële houtagtige spesies > 30%
								Vis	FRAI telling	FRAI moet binne 'n D-kategorie (42-57%) wees.	D-kategorie (42-57%)
							Biota	Ongewerweldes	MIRAI telling	MIRAI telling om binne D-kategorie (42-57%) te wees	D-kategorie (42-57%)
									Ongewerweldes diversiteitt		SASS telling < 45, ASPT > 4.3
									Aantal gesinne		> 14 gesinne in oorvloed A - C oorvloed
A3 Middel Breede Renosterveld	III	H50B	A3-R05	Breederivier	ni2	D	Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Breërivier in stand te hou in 'n toestand gelyk aan of beter as 'n D-kategorie.	Instantdhoudin g vloei (miljoen Kubieke meter) Maande: Okt 0 / Nov 3.227 / Des 0 / Jan 0 / Feb 0 / Mrt 0 / Apr 0 / Mei 37.538 / Jun 7.323 / Jul 36.389 / Aug 16.731 / Sept 0 Hoë: 8.861 / 3.095 / 2.454 / 2.911 / 1.301 / 3.367 / 4.395 / 9.942 / 13.992 / 19.944 / 17.315 Lae: 13.406
								Voedingstowwe	Fosfaat (PO_4-P)	Voedingsvlakke moet in 'n mesotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 0.075 milligram/liter (50ste persentiel)
									Totale anorganiese stikstof (TIN)		≤ 1.75 milligram/liter (50ste persentiel)
							Gehalte	Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet gehandhaaf word op huidige toestandvlakke.	95%tiel ≤ 220 milliSiemens/meter EC
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	6.5 ≥ pH ≤ 8.5 (5ste en 95ste persentiele)
									Opgeloste suurstof		≥ 6 milligram liter (5ste persentiel)
									Water temperatuur		Nie meer as 2 ° C verandering in natuurlike maandelikse omvang (minimum en maksimum).
								Gifstowwe	nie van toepassing	Toksisiteitsvlakke moet nie 'n bedreiging vir water-ekosisteme inhou nie.	nie van toepassing
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	95%tiel ≤ 165 cfu/100ml Escherichia coli

Tabel 5: Hulpbrongehaltedoelwitte vir RIVIERE in prioriteit Hulpbron-eenheid in die Geïntegreerde Analise-eenheid B4 Riviersonderend Theewaters

IUA	Klas	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
											Maande	Instandhouding vloei (miljoen m³) High	Instandhouding vloei (miljoen m³) Low	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept
B4 Riviersonderend Theewaters	III	H60B	B4-R06	Du Toitsrivier	nvii10	B	Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Du Toitsrivier in stand te hou in 'n toestand gelyk aan of beter as 'n B-kategorie.		1.406	0.369	1.041	0.122	0.658	0	0.425	0	0.362	0	0.376	0	0.564	0	1.032	1.794	1.491	2.585	1.725	3.218	1.825	0.54	1.663	1.081
							Gehalte	Voeding stowwe	Fosfaat (PO_4-P)	Voedingstofmiddels moet in die rivier gehandhaaf word in 'n oligotrofiese toestand	≤ 0.025 milligram per liter (50ste persentiel)																					
									Totale anorganiese stikstof (TIN)		≤ 0.70 milligram per liter (50ste persentiel)																					
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet in 'n ideale kategorie gehandhaaf word.	≤ 30 milliSiemens/meter (95ste persentiel)																					
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	6.5 ≥ pH ≤ 8.5 (5ste and 95ste persentiele)																					
									Opgeloste suurstof		≥ 8 milligram per liter (5ste persentiel)																					
								Gifstowwe	Atrasien	Toksisiteitsvlakke moet nie 'n bedreiging vir water-ekosisteme inhou nie.	≤ 0.079 milligram per liter (95th persentiel)																					
									Endosulfan		≤ 0.0013 milligram per liter (95stepersentiel)																					
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n ideale kategorie gehandhaaf word vir volledige kontakreaksie	≤ 130 tellings/100ml (95ste persentiel)																					
B4 Riviersonderend	III	H60D	B4-R07	Riviersonderend rivier	nv7	C	Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die		Instandhouding hoë	Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept									
												0.65		0.65	0.426	0.437	0.451	0	0	3.079	2.983	7.927	19.787	7.927									

IUA	Klas	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
											Lae												
B4 Rivierondersteunende Meewaters	III	H60E	B4-R08	Bavianrivier	niv28	B	Gehalte	Voedingstowwe	Fosfaat (PO_4-P)	Riviersonderendrivier in stand te hou in 'n toestand gelyk aan of beter as 'n D-kategorie.	10.539	6.134	1.421	0.799	0.593	0.542	2.32	3.019	7.023	10.297	13.51	11.009
									Totale anorganiese stikstof (TIN)	Voedingsvlakke moet in 'n mesotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 0.075 milligram/liter (50ste persentiel)												
											≤ 1.75 milligram/liter (50ste persentiel)												
							Gehalte	Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet gehandhaaf word op vlakke wat nie water-ekosisteme nadelig beïnvloed nie.	≤ 55 milliSiemens/meter (95ste persentiel)												
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	6.5 ≥ pH ≤ 8.5 (5ste en 95ste persentiele)												
									Opgeloste suurstof		≥ 6 milligram liter (5ste persentiel)												
								Gifstowwe	Atrasien	Toksisiteitsvlakke moet nie 'n bedreiging vir water-ekosisteme inhou nie.	≤ 0.079 milligram per liter (95ste persentiel)												
									Endosulfan		≤ 0.0013 milligram per liter (95ste persentiel)												
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie	≤ 165 tellings/100ml (95ste persentiel)												
							Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Baviaansrivier in stand te hou in 'n toestand gelyk aan of beter as 'n B-kategorie.	Instandhouding lae vloei (milioen)	Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept
												Hoë	0.026	0	0	0	0.026	0.026	0	0.026	0.068	0.068	0.127	0.296	0.127
												Lae	0.292	0.24	0.109	0.117	0.059	0.029	0.049	0.029	0.092	0.153	0.197	0.247
							Gehalte	Voedingstowwe	Fosfaat (PO_4-P)	Voedingsvlakke moet in die rivier gehandhaaf word in 'n oligotrofiese toestand	≤ 0.025 milligram per liter PO_4-P												
									Totale anorganiese stikstof (TIN)		≤ 0.70 milligram per liter TIN												

IUA	Klas	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
B4	II – I	H60TO	B4.2 – ZA	… – ZA	nv9	D	Hoeveelh					Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept
							Habitat	Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet in 'n ideale kategorie gehandhaaf word.	≤ 30 milliSiemens/meter (95ste persentiel)												
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	4.5 ≥ pH ≤ 7.0 (5ste en 95ste persentiele)												
									Opgeloste suurstof		≥ 8 milligram per liter (5ste persentiel)												
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n ideale kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 130 tellings/100ml (95ste persentiel)												
								Geomorfologie	GAI telling	GAI-telling moet binne 'n B-kategorie (82-87%) wees.	B-kategorie (82-87%)												
								Oewer plantegroei	VEGRAI telling	VEGRAI vlak 3 moet binne 'n B-kategorie (82-87%) wees.	B-kategorie (82-87%)												
									Marginale sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies												
									Laer sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies												
									Boonste sone dekking oorvloed		Eksotiese spesies < 5%, terrestriële houtagtige spesies > 20%												
								Vis	FRAI telling	FRAI moet binne 'n A/B-kategorie (87-92%) wees.	A/B-kategorie (87-92%)												
							Biota	Ongewerweldes	MIRAI telling	MIRAI telling om binne A/B-kategorie (87-92%) te wees.	A/B kategorie (87-92%)												
									Ongewerweldes diversiteit		SASS telling > 160, ASPT > 7.5												
									Aantal gesinne		> 15 gesinne in oorvloed A – C												

IUA	Klas	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese		
							eid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Riviersonderendrivier in stand te hou in 'n toestand gelyk aan of beter as 'n D-kategorie.	Instandhouding Vloei (miljoen kubieke meter) Lae / Hoë 4.019 / 0 3.087 / 0.726 1.053 / 0 0.893 / 0.488 0.663 / 0 0.606 / 0 2.593 / 0 3.19 / 3.442 7.717 / 3.334 11.163 / 8.86 12.12 / 22.114 12.038 / 3.334	
							Gehalte	Voeding stowwe	Fosfaat (PO_4-P)	Voedingsvlakke moet in 'n mesotrofiese of beter toestand in die rivier gehandhaaf word..	≤ 0.075 milligram/liter (50ste persentiel)		
									Totale anorganiese stikstof (TIN)		≤ 1.75 milligram/liter (50ste persentiel)		
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet gehandhaaf word op vlakke wat nie water-ekosisteme nadelig beïnvloed nie.	≤ 55 milliSiemens/meter (95ste persentiel)		
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	4.5 ≥ pH ≤ 7.5 (5ste en 95ste persentiele)		
									Opgeloste suurstof		≥ 6 milligram liter (5ste persentiel)		
								Gifstowwe	Atrasien	Toksisiteitsvlakke moet nie 'n bedreiging vir water-ekosisteme inhou nie.	≤ 0.079 milligram per liter (95ste persentiel)		
									Endosulfan		≤ 0.0013 milligram per liter (95stepersentiel)		
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 165 tellings/100ml (95stte persentiel)		
							Habitat	Geomorfologie	GAI telling	GAI-telling moet binne 'n D-kategorie (42-57%) wees.	D-kategorie (42-57%)		
								Oewer plantegroei	VEGRAI telling	VEGRAI vlak 3 moet binne 'n D-kategorie (42-57%) wees. %).	D-kategorie (42-57%)		
									Marginale sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies		

IUA	Klas	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese
									Laer sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies
									Boonste sone dekking oorvloed		Eksotiese spesies < 5%, terrestriële houtagtige spesies > 30%
							Biota	Vis	FRAI telling	FRAI moet binne 'n D-kategorie D kategorie (42-57%) wees.	D-kategorie (42-57%)
								Ongewerweldes	MIRAI telling	MIRAI telling om binne C/D-kategorie (57-62%) te wees.	C/D-kategorie (57-62%)
									Ongewerweldes diversiteit		SASS telling > 40, ASPT telling > 4.3
									Aantal gesinne		> 25 gesinne in oorvloed A – C

Tabel 6: Hulpbrongehaltedoelwitte vir RIVIERE in prioritiet hulpbroneenhede in die Geïntegreerde Analise-eenheid van Laer Breede Renosterveld

IUA	Klas			Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser
F9 Laer Breede Renosterveld	III	H60L	F9-R10	Riviersonderend Rivier	ni3	D	Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Riviersonderendrivier in stand te hou in 'n toestand gelyk aan of beter as 'n D-kategorie.	Maande: Okt / Nov / Des / Jan / Feb / Mrt / Apr / Mei / Jun / Jul / Aug / Sept Instandhouding vloei (miljoen kubieke meter) Hoë: 0 / 0.849 / 0 / 0.571 / 0 / 0 / 0 / 4.024 / 3.899 / 10.36 / 25.859 / 3.899 Instandhouding vloei (miljoen kubieke meter) Lae: 4.699 / 3.609 / 1.231 / 1.044 / 0.775 / 0.709 / 3.032 / 3.73 / 9.023 / 13.054 / 14.173 / 14.076
									Gehalte	Voedingstowwe	Fosfaat (PO_4-P)	Voedingsvlakke moet in 'n mesotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 0.075 milligram/liter (50ste persentiel)
											Totale anorganiese stikstof (TIN)		≤ 1.75 milligram/liter (50ste persentiel)
										Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet gehandhaaf word op vlakke wat nie water-ekosisteme nadelig beïnvloed nie.	95ste %tiel ≤ 85 milliSiemens/meter EC
										Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem..	6.5 ≥ pH ≤ 8.5 (5ste en 95ste persentiele)
											Opgeloste suurstof		≥ 6 milligram liter (5ste persentiel)

IUA	Klas			Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser
								Gifstowwe	Atrasien	Toksisiteitsvlakke moet nie 'n bedreiging vir water-ekosisteme inhou nie.	≤ 0.079 milligram per liter (95ste persentiel)
									Endosulfan		≤ 0.0013 milligram per liter (95ste persentiel)
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 165 tellings/100ml (95ste persentiel)

Tabel 7: Hulpbrongehaltedoelwitte vir RIVIERE in prioritiet hulpbroneenhede in die Geïntegreerde Analise-eenheid van B5 Overberg Wes

IUA	Klas	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
B5 Overberg Wes	II	G40C	B5-R11	Palmiet Rivier	piii1	C	Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Palmietrivier in 'n toestand gelyk aan of beter as 'n B-kategorie in stand te hou.	Maande		Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept
											Instandhouding vloei (miljoen	Hoë	0.413	0.093	0	0	0	0	0	0.723	1.413	2.17	0.435	0.871
												Lae	1.438	1.054	0.56	0.267	0.179	0.169	0.266	0.604	1.127	1.523	1.73	1.69
							Gehalte	Voedingstowwe	Fosfaat (PO_4-P)	Voedingsvlakke moet in 'n oligotrofiese toestand in die rivier gehandhaaf word.	≤ 0.025 milligram per liter PO_4-P												
									Totale anorganiese stikstof (TIN)		≤ 0.70 milligram per liter TIN													
								Soute	Elektriese geleidings vermoë (EC)	Soutkonsentrasies moet gehandhaaf word op vlakke wat nie water-ekosisteme nadelig beïnvloed nie	≤ 30 milliSiemens/meter (95ste persentiel)												
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	4.5 ≥ pH ≤ 7.0 (5ste en 95ste persentiele)												
									Opgeloste suurstof		≥ 8 milligram per liter (5ste persentiel)												
								Gifstowwe	Atrasien		≤ 0.079 milligram per liter (95ste persentiel)												

IUA	Klas	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese
B5 Overberg Wes	II	G40D	B5-R12	Palmietrivier	piii2	B/C	Habitat		Endosulfan	Toksisiteitsvlakke moet nie 'n bedreiging vir water-ekosisteme inhou nie .	≤ 0.0013 milligram per liter (95ste persentiel)
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 130 tellings/100ml (95ste persentiel)
								Geomorfologie	GAI telling	GAI-telling moet binne 'n D-kategorie (42-57%) wees.	B-kategorie (82-87%)
								Oewer Plantegroei	VEGRAI telling	VEGRAI level 3 should be within a B/C kategorie (77-82%).	B/C-kategorie (77-82%)
							Biota	Vis	FRAI telling	FRAI moet binne 'n E-kategorie (22-37%) wees.	E-kategorie (22-37%)
								Ongewerweldes	MIRAI telling		B/C-kategorie (77-82%)
									Ongewerweldes diversiteit	MIRAI telling om binne B/C-kategorie (77-82%) te wees.	SASS telling > 110, ASPT > 6.5
									Aantal gesinne		Vyf gesinne, *Corydalidae, Elmidae, Hydropsychidae, Cordulidae, Chlorocyphidae*
							Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Palmietrivier in 'n toestand gelyk aan of beter as 'n B/C-kategorie in stand te hou.	Instandhouding vloei (milj/oen Maande / Lae / Hoë Okt 7.642 1.67 Nov 5.516 0.38 Des 2.919 0 Jan 1.374 0 Feb 0.943 0 Mrt 0.898 0 Apr 1.512 0 Mei 3.519 3.643 Jun 6.382 6.722 Jul 8.317 9.654 Aug 9.401 1.88 Sept 8.932 3.759
							Gehalte	Voedingstowwe	Fosfaat (PO_4-P)	Voedingsvlakke moet in 'n mesotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 0.075 milligram/liter (50ste persentiel)
									Totale anorganiese stikstof (TIN)		≤ 1.75 milligram/liter (50ste persentiel)
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet gehandhaaf word op vlakke wat nie water-ekosisteme nadelig beïnvloed nie	≤ 55 milliSiemens/meter (95ste persentiel)
								Stelsel	ph reeks	pH, temperatuur en	6.5 ≥ pH ≤ 8.5 (5ste en 95ste persentiele)

IUA	Klas	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese
B5 Overberg Wes	II	G40D	B5-R13	Palmietrivier	piii3	B		Veranderlikes	Opgeloste suurstof	opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	≥ 6 milligram liter (5ste persentiel)
								Gifstowwe	Atrasien	Toksisiteitsvlakke moet nie 'n bedreiging vir water-ekosisteme inhou nie	≤ 0.079 milligram per liter (95ste persentiel)
									Endosulfan		≤ 0.0013 milligram per liter (95stepersentiel)
									Iron (Mn)		≤ 0.1 milligram per liter (95ste persentiel)
									Manganese (Mn)		≤ 0.15 milligram per liter (95ste persentiel)
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie	≤ 165 tellings/100ml (95ste persentiel)
							Habitat	Geomorfologie	GAI telling	GAI telling moet binne 'n B-kategorie (82-87%) wees.	B-kategorie (82-87%)
								Oewer Plantegroei	VEGRAI telling	FRAI telling moet binne 'n E kategorie (23-37%) wees.	B/C-kategorie (77-82%)
							Biota	Vis	FRAI telling	VEGRAI vlak 3 moet binne 'n B/C-kategorie (77-82%) wees.	E-kategorie (22-37%)
								Ongewerweldes	MIRAI telling	MIRAI telling om binne B/C-kategorie (77-82%) te wees.	B/C-kategorie (77-82%)
									Ongewerweldes diversiteit		SASS telling > 110, ASPT > 6.5
									Aantal gesinne		Vyf gesinne, *Corydalidae, Elmidae, Hydropsychidae, Cordulidae, Chlorocyphidae*
							Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Palmietrivier handhaaf, gelyk aan of beter as 'n B-kategorie.	Instantaneous flow (million)
							Gehalte	Voedingstowwe	Fosfaat (PO_4-P)	Voedingsvlakke moet in 'n mesotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 0.025 milligram per liter (50ste persentiel)
									Totale anorganiese stikstof (TIN)		≤ 0.70 milligram per liter (50ste persentiel)

Maande	Lae	Hoë
Okt	0.049	10.02
Nov	0.097	4.71
Des	1.907	2.463
Jan	0.954	1.955
Feb	0.954	1.118
Mrt	0.954	1.488
Apr	0.954	2.142
Mei	8.623	3.016
Jun	2.385	11.08
Jul	8.302	12.83
Aug	14.21	13.49
Sept	0.049	12.78

IUA	Klas	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet gehandhaaf word op vlakke wat nie water-ekosisteme nadelig beïnvloed nie.	≤ 30 milliSiemens/meter (95ste persentiel)
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	5.0 ≥ pH ≤ 7.5 (5ste en 95ste persentiele)
									Opgeloste suurstof		≥ 8 milligram per liter (5ste persentiel)
								Gifstowwe	Atrasien	Toksisiteitsvlakke moet nie 'n bedreiging vir water-ekosisteme inhou nie.	≤ 0.079 milligram per liter (95ste persentiel)
									Endosulfan		≤ 0.0013 milligram per liter (95stepersentiel)
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 130 tellings/100ml (95ste persentiel)
							Habitat	Geomorfologie	GAI telling	GAI telling moet binne 'n B-kategorie (82-87%) wees.	B-kategorie (82-87%)
								Oewer Plantegroei	VEGRAI telling	VEGRAI level 3 should be within a B kategorie (82-87%).	B-kategorie (82-87%)
							Biota	Vis	FRAI telling	FRAI moet binne 'n A-kategorie (92-100%)%) wees.	A-kategorie (92-100%)
								Ongewerweldes	MIRAI telling	MIRAI telling om binne B-kategorie (82-87%) te wees.	B-kategorie (82-87%)
									Ongewerweldes diversiteit		SASS telling > 110, ASPT > 7.0
									Aantal gesinne		9 gesinne, *Ephemerellidae, Leptophlebidae, Heptageniidae, Tricorythidae, Elmidae, Corydalidae, Trichoptera cased caddis 2 vanf > tipes, Pyraustidae, Athericidae*

Tabel 8: Hulpbrongehaltedoelwitte vir RIVIERE in prioritiet hulpbroneenhede in die Geïntegreerde Analise-eenheid van F10 Overberg Oos Renosterveld

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
F 1	II	G 4 0 K	F 1	K — e .—	nv23	C/D	Hoeveelhei				Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese
							d	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Kleinrivier in stand te hou in 'n toestand gelyk aan of beter as 'n C/D-kategorie.	Instandhouding vloei (miljoen ... Hoë 0.398 0.179 0 0 0 0 0.516 0.767 0.502 2.013 0.502 Lae 0.465 0.358 0.199 0.091 0.065 0.064 0.126 0.196 0.293 0.413 0.603 0.541
							Gehalte	Voeding Stowwe	Fosfaat (PO_4-P)	Voedingsvlakke moet in 'n mesotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 0.075 milligram/liter (50ste persentiel)
									Totale anorganiese stikstof (TIN)		≤ 1.75 milligram/liter (50ste persentiel)
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet huidige vlakke gehandhaaf word.	≤ 180 milliSiemens/meter (95ste persentiel)
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	6.5 ≥ pH ≤ 8.5 (5ste en 95ste persentiele)
									Opgeloste suurstof		≥ 6 milligram liter (5ste persentiel)
								Gifstowwe	Atrasien	Toksisiteitsvlakke moet nie 'n bedreiging vir water-ekosisteme inhou nie	≤ 0.079 milligram per liter (95ste persentiel)
									Endosulfan		≤ 0.0013 milligram per liter (95stepersentiel)
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 165 tellings/100ml (95ste persentiel)
							Habitat	Geomorfologie	GAI telling	GAI-telling moet binne 'n C-kategorie (62-77%) wees.	C-kategorie (62-77%)
								Oewer plantegroei	VEGRAI telling	VEGRAI vlak 3 moet binne 'n D-kategorie (42-57%) wees.	D-kategorie (42-57%)
							Biota	Vis	FRAI telling	FRAI moet binne 'n E-kategorie (22-37%) wees.	E-kategorie (22-37%)
								Ongewerweldes	MIRAI telling	MIRAI telling om binne 'n C-kategorie (62-77%) te wees.	C-kategorie (62-77%)

Tabel 9: Hulpbrongehaltedoelwitte vir RIVIERE in prioritiet hulpbroneenhede in die Geïntegreerde Analise-eenheid van H17 Overberg Oos Fynbos

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Kom ponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
											Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept
											Instandhouding vloei (miljoen kubieke meter) Hoë	0.301	0.157	0	0	0	0	0	0.268	0.349	0.17	0.651	0.17
											Instandhouding vloei (miljoen kubieke meter) Lae	0.322	0.282	0.168	0.121	0.109	0.119	0.191	0.204	0.25	0.255	0.304	0.283
H17 Overberg Oos Fynbos	II	H17	H17-R15	Nuwejaarsrivier	ni4	C/D	Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Nuwejaarsrivier in stand te hou in 'n toestand gelyk aan of beter as 'n C/ D-kategorie.	Instandhouding vloei (miljoen kubieke meter) Hoë	0.055	0.046	0.03	0.022	0.022	0.02	0.03	0.035	0.049	0.056	0.065	0.059
											Instandhouding vloei (miljoen kubieke meter) Lae	0.115	0.052	0	0	0	0	0	0.129	0.232	0.108	0.393	0.108
							Gehalte	Voeding Stowwe	Fosfaat (PO_4-P)	Voedingsvlakke moet in 'n mesotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 0.075 milligram/liter (50ste persentiel)												
									Totale anorganiese stikstof (TIN)		≤ 1.75 milligram/liter (50ste persentiel)													
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet op huidige vlakke gehandhaaf word	≤ 170 milliSiemens/meter (95ste persentiel)												
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	6.5 ≥ pH ≤ 8.5 (5ste en 95ste persentiele)												
									Opgeloste suurstof		≥ 6 milligram liter (5ste persentiel)												
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 165 tellings/100ml (95th persentiel)												
							Habitat	Geomorfologie	GAI telling	GAI-telling moet binne 'n D-kategorie (42-57%) wees.	D-kategorie (42-57%)												
								Oewer plantegroei	VEGRAI telling	VEGRAI vlak 3 moet binne 'n E-kategorie (22-37%) wees.	E-kategorie (22-37%)												
							Biota	Vis	FRAI telling	FRAI moet binne 'n E-kategorie (22-37%) wees.	E-kategorie (22-37%)												
								Ongewerweldes	MIRAI telling	MIRAI telling om binne D-kategorie (42-57%) te wees	D-kategorie (42-57%)												
H17 Overberg Oos Fynbos	II	G50D	H17-R16	Karsrivier	nv24	B/C	Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Karsrivier in stand te hou wat gelyk is aan of beter as 'n B/C-kategorie.	Instandhouding vloei (miljoen kubieke meter) Hoë	0.322	0.282	0.168	0.121	0.109	0.119	0.191	0.204	0.25	0.255	0.304	0.283
											Instandhouding vloei (miljoen kubieke meter) Lae	0.301	0.157	0	0	0	0	0	0.268	0.349	0.17	0.651	0.17
							Gehalte	Voedingstowwe	Fosfaat (PO_4-P)		≤ 0.075 milligram/liter (50ste persentiel)													

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Kom ponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese
									Totale anorganiese stikstof (TIN)	Voedingsvlakke moet in 'n mesotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 1.75 milligram/liter (50ste persentiel)
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet by huidige vlakke gehandhaf word.	≤ 310 milliSiemens/meter (95ste persentiel)
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	6.5 ≥ pH ≤ 8.5 (5ste en 95ste persentiele)
									Opgeloste suurstof		≥ 6 milligram liter (5ste persentiel)
								Gifstowwe	Ammoniak	Toksisiteitsvlakke moet nie 'n bedreiging vir water-ekosisteme inhou nie.	≤ 0.073 milligram per liter (95ste persentiel)
									Atrasien		≤ 0.079 milligram per liter (95ste persentiel)
									Endosulfan		≤ 0.0013 milligram per liter (95ste persentiel)
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 165 tellings/100ml (95ste persentiel)
							Habitat	Geomorfologie	GAI telling	GAI telling moet binne B-kategorie (82-87%) wees.	B-kategorie (82-87%)
								Oewer plantegroei	VEGRAI telling	VEGRAI vlak 3 moet binne 'n B-kategorie (82-87%) wees.	B-kategorie (82-87%)
							Biota	Vis	FRAI telling	FRAI moet binne 'n E-kategorie (22-37%) wees.	E-kategorie (22-37%)
								Ongewerweldes	MIRAI telling	MIRAI telling om binne B-kategorie (82-87%) te wees.	B-kategorie (82-87%)

Tabel 10: Hulpbrongehaltedoelwitte vir RIVIERE in prioritiet hulpbroneenhede in die Geïntegreerde Analise-eenheid van F11 Laer Breede Renosterveld

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese													
F11 Laer	III	H70G	F11-R17	Breederivier	niii4	C	Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Breederivier in stand te hou in 'n toestand	Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept
											Instandhouding Hoë	0	5.055	0	0	0	0	5.055	58.796	11.469	56.997	26.206	0

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese									
											Lae	42.827	28.026	9.569	7.407	8.604	3.827	10.237	13.818	31.627	44.934	64.391	55.658
							Gehalte	Voedingstowwe	Fosfaat (PO_4-P)	gelyk aan of beter as 'n B/C-kategorie.	≤ 0.075 milligram/liter (50ste persentiel)												
									Totale anorganiese stikstof (TIN)	Voedingsvlakke moet in 'n mesotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 1.75 milligram/liter (50ste persentiel)												
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet gehandhaaf word in 'n Hanteerbare kategorie vir besproeiing watervoorsiening.	≤ 270 milliSiemens/meter (95ste persentiel)												
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	6.5 ≥ pH ≤ 8.5 (5ste en 95ste persentiele)												
									Opgeloste suurstof		≥ 6 milligram liter (5ste persentiel)												
									Water temperatuur		Nie meer as 2 ° C verandering in natuurlike maandelikse omvang (minimum en maksimum)												
								Giftstowwe	Ammoniak	Toksikeitsvlakke moet nie 'n bedreiging vir water-ekosisteme inhou nie.	≤ 0.073 milligram per liter (95ste persentiel)												
									Atrasien		≤ 0.079 milligram per liter (95ste persentiel)												
									Endosulfan		≤ 0.0013 milligram per liter (95ste persentiel)												
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 165 tellings/100ml (95ste persentiel)												
							Habitat	Geomorfologie	GAI telling	GAI telling moet binne B-kategorie (82-87%) wees.	B-kategorie (82-87%)												
								Oewer plantegroei	VEGRAI telling	VEGRAI vlak 3 moet binne 'n C-kategorie (62-77%) wees.	C-kategorie (62-77%)												
									Marginale sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies												
									Laer sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies												
									Boonste sone dekking oorvloed		Eksotiese spesies < 5%, terrestriële houtagtige spesies > 30%												
								Vis	FRAI telling	FRAI moet binne 'n C-kategorie (62-77%) wees.	C-kategorie (62-77%)												
								Ongewerweldes	MIRAI telling	MIRAI telling om binne D-kategorie (42-57%)	D-kategorie (42-57%)												

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese
									Ongewerweldes diversiteit	kategorie (42-57%) te wees.	SASS telling > 40, ASPT telling > 4.3
									Aantal gesinne		> 15 gesinne in oorvloed A - C

Tabel 11: Hulpbrongehaltedoelwitte vir RIVIERE in prioritiet hulpbroneenhede in die Geïntegreerde Analise-eenheid van E8 Touws

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese
E8 Touws	III	J12L	E8-R18	Doringrivier	gviii1	C/D	Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Doringrivier in stand te hou as 'n ekologiese toestand wat gelyk is aan of beter as die ekologiese toestand in somer 2014 (Kategorie C/D).	Maande: Okt / Nov / Des / Jan / Feb / Mrt / Apr / Mei / Jun / Jul / Aug / Sept Instandhouding vloei (miljoen m³): High: 0.031 / 0.031 / 0 / 0.031 / 0 / 0 / 0.079 / 0 / 0 / 0 / 0 / 0 Low: 0.017 / 0.021 / 0.019 / 0.012 / 0.009 / 0.015 / 0.016 / 0.017 / 0.013 / 0.01 / 0.012 / 0.012
							Gehalte	Voedingstowwe	Fosfaat (PO_4-P)	Voedingsvlakke moet in 'n mesotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 0.075 milligram/liter (50ste persentiel)
									Totale anorganiese stikstof (TIN)		≤ 1.75 milligram/liter (50ste persentiel)
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet op huidige vlakke gehandhaaf word.	≤ 1500 milliSiemens/meter (95ste persentiel)
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	6.5 ≥ pH ≤ 8.5 (5ste en 95ste persentiele)
									Opgeloste suurstof		≥ 6 milligram liter (5ste persentiel)
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie. .	≤ 165 tellings/100ml (95ste persentiel)
							Habitat	Geomorfologie	GAI telling	GAI telling moet gelyk wees aan 'n C/D.	C/D-kategorie (57-62%)
								Oewer plantegroei	VEGRAI telling	VEGRAI vlak 4 van minstens 58% vir die oewersone.	C/D-kategorie (57-62%)
									Marginale sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
E8 Touws	III	J12L	E8-R19	Touwsrivier	gv5	B/C			Laer sone dekking oorvloed		Eksotiese spesies < 5%, terrestriële houtagtige spesies < 10%												
									Boonste sone dekking oorvloed		Eksotiese spesies < 10%, terrestriële houtagtige spesies < 15%												
							Biota	Vis	FRAI telling	FRAI sal 'n C/D (58.3) (op)lewer	C/D kategorie (57-62%)												
								Ongewerweldes	MIRAI telling	MIRAI telling om binne D-kategorie (42-59%) te wees.	D kategorie (42-57%)												
									Ongewerweldes diversiteit		SASS telling > 90, ASPT telling > 4.5												
									Aantal gesinne		> 15 gesinne in oorvloede A – C												
							Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Touwsrivier in stand te hou as 'n ekologiese toestand wat gelyk is aan of beter as die ekologiese toestand in somer 2014 (Kategorie C).	Instandhoudingvloei (miljoen m³)	Maande	Lae	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept
													Hoë	0.183	0.354	0.274	0.246	0.407	0.204	1.37	0.446	0	0	0.433	0.175
													0.125	0.164	0.139	0.124	0.119	0.108	0.163	0.178	0.235	0.201	0.195	0.129
								Voedingstowwe	Fosfaat (PO_4-P)		≤ 0.075 milligram/liter (50ste persentiel)												
									Totale anorganiese stikstof (TIN)	Voedingsvlakke moet in 'n mesotrofiese of beter toestand gehandhaaf word.	≤ 1.75 milligram/liter (50ste persentiel)												
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet op huidige vlakke gehandhaaf word.	≤ 1500 milliSiemens/meter (95ste persentiel)												
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	6.5 ≥ pH ≤ 8.5 (5ste en 95ste persentiele)												
									Opgeloste suurstof		≥ 6 milligram liter (5ste persentiel)												
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 165 tellings/100ml (95ste persentiel)												
								Geomorfologie	GAI telling	GAI telling moet gelyk wees aan 'n B	B-kategorie (82-87%)												
							Habitat		VEGRAI telling		B/C-kategorie (77-82%)												
								Oewer plantegroei	Marginale sone dekking oorvloed	VEGRAI vlak 4 van minstens 78% vir die oewersone.	Geen eksotiese spesies, geen terrestriële houtagtige spesies												
									Laer sone dekking oorvloed		Eksotiese spesies < 5%, terrestriële houtagtige spesies < 5%												

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese													
E8 Touws	III	J11H	E8-R20	Buffelsrivier	gv4	C			Boonste sone dekking oorvloed		Eksotiese spesies < 5%, terrestriële houtagtige spesies < 5%													
							Biota	Vis	FRAI telling	FRAI FRAI sal 'n C/D (59%) (op)lewer	C/D kategorie (57-62%)													
								Ongewerweldes	MIRAI telling	MIRAI telling om binne B/C-kategorie (78-82%) te wees.	B/C kategorie (77-82%)													
									Ongewerweldes diversiteit		SASS telling > 45, ASPT?>4.0													
									Aantal gesinne		> 10 gesinne, 5 met SASS telling > 5, oorvloed A-C													
							Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Buffelsrivier in stand te hou as 'n ekologiese toestand wat gelyk is aan of beter as die ekologiese toestand in somer 2014 (Kategorie C).	Instantaneous vloei (miljoen Maande	Lae	Hoë	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept
													0.068	0.517	0.075	1.588	0.078	0.517	0.07	1.588	0.057	0.083	0.097	0.113	0.111	0.11	0.105	0.073
									Fosfaat (PO_4-P)		≤ 0.075 milligram/liter (50ste persentiel)													
								Voedingstowwe	Totale anorganiese stikstof (TIN)	Voedingsvlakke moet in 'n mesotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 1.75 milligram/liter (50ste persentiel)													
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet op huidige vlakke gehandhaaf word.	≤ 320 milliSiemens/meter (95ste persentiel)													
							Gehalte	Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	6.5 ≥ pH ≤ 8.5 (5ste en 95ste persentiele)													
									Opgeloste suurstof		≥ 6 milligram liter (5ste persentiel)													
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 165 tellings/100ml (95ste persentiel)													
							Habitat	Geomorfologie	GAI telling	GAI telling moet gelyk wees aan 'n D.	D-kategorie (42-57%)													
								Oewerplantegroei	VEGRAI telling	VEGRAI vlak 4 van 57% vir die oewersone	D-kategorie (42-57%)													
									Marginale sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies													
									Laer sone dekking oorvloed		Eksotiese spesies < 5%, terrestriële houtagtige spesies < 5%													

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese
									Boonste sone dekking oorvloed		Eksotiese spesies < 10%, terrestriële houtagtige spesies < 30%
								Vis	FRAI telling	FRAI sal 'n B/C (79%) (op)lewer	B/C-kategorie (77-82%)
							Biota	Ongewerweldes	MIRAI telling	MIRAI telling binne C-kategorie (42-57%) te wees.	C-kategorie (62-77%)
									Ongewerweldes diversiteit		SASS telling > 90, ASPT > 5.0
									Aantal gesinne		> 15 gesinne, 7 met SASS telling > 6, oorvloede A – C
							Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Grootrivier in stand te hou as 'n ekologiese toestand wat gelyk is aan of beter as die ekologiese toestand in somer 2014 (Kategorie D).	Instandhouding lae vloei (miljoen ng vloei): Maande: Low / High: Okt 0.016 / 0.559; Nov 0.018 / 1.719; Des 0.019 / 0.559; Jan 0.016 / 1.719; Feb 0.015 / 0; Mrt 0.022 / 0; Apr 0.024 / 0; Mei 0.027 / 0; Jun 0.029 / 0; Jul 0.027 / 0; Aug 0.027 / 0; Sept 0.018 / 0
							Gehalte	Voedingstowwe	Fosfaat (PO_4-P) Totale anorganiese stikstof (TIN)	Voedingsvlakke moet in 'n mesotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 0.075 milligram/liter (50th persentiel) ≤ 1.75 milligram/liter (50ste persentiel)
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet op huidige vlakke gehandhaaf word. .	≤ 320 milliSiemens/meter (95ste persentiel)
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	6.5 ≥ pH ≤ 8.5 (5ste en 95ste persentiele)
									Opgeloste suurstof		≥ 6 milligram liter (5ste persentiel)
								Gifstowwe	Atrasien	Toksisiteitsvlakke moet nie 'n bedreiging vir water-ekosisteme inhou nie.	≤ 0.079 milligram per liter (95ste persentiel)
									Endosulfan		≤ 0.0013 milligram per liter (95ste persentiel)
							Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Grootrivier in stand te hou as 'n ekologiese toestand wat gelyk is aan of beter as die ekologiese toestand in somer 2014 (Kategorie D)	Instandhouding lae vloei (miljoen ng vloei): Maande: Lae / Hoë: Okt 0.583 / 0.603; Nov 0.746 / 1.092; Des 0.752 / 1.123; Jan 0.732 / 1.121; Feb 0.637 / 1.178; Mrt 0.593 / 0.589; Apr 0.852 / 3.765; Mei 0.803 / 1.208; Jun 0.903 / 0; Jul 0.791 / 0; Aug 0.808 / 1.118; Sept 0.587 / 0.532
							Gehalte	Voedingstowwe	Fosfaat (PO_4-P)	Voedingsvlakke moet in 'n	≤ 0.075 milligram/liter (50ste persentiel)

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese
									Totale anorganiese stikstof (TIN)	mesotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 1.75 milligram/liter (50ste persentiel)
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet op huidige vlakke gehandhaaf word.	≤ 620 milliSiemens/meter (95ste persentiel)
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	6.5 ≥ pH ≤ 8.5 (5ste en 95ste persentiele)
									Opgeloste suurstof		≥ 6 milligram liter (5ste persentiel)

Tabel 12: Hulpbrongehaltedoelwitte vir RIVIERE in prioritiet hulpbroneenhede in die Geïntegreerde Analise-eenheid van D7 Gouritz-Olifants

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese
D7 Gouritz-Olifants	III	J25A	D7-R23	Gamkarivier	giv20	C	Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Gamkarivier in stand te hou as 'n ekologiese toestand wat gelyk is aan of beter as die ekologiese toestand in somer 2014 (Kategorie C).	Maande: Okt / Nov / Des / Jan / Feb / Mrt / Apr / Mei / Jun / Jul / Aug / Sept Instandhouding vloei (miljoen kubieke) Hoë: 0.342 / 0.94 / 2.707 / 0.94 / 0.94 / 2.707 / 0.94 / 0 / 0 / 0 / 0 / 0.342 Instandhouding vloei (miljoen kubieke) Lae: 0.192 / 0.232 / 0.262 / 0.232 / 0.241 / 0.487 / 0.382 / 0.22 / 0.16 / 0.162 / 0.157 / 0.167
							Gehalte	Voedingstowwe	Fosfaat (PO_4-P)	Voedingsvlakke moet in 'n mesotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 0.075 milligram/liter (50ste persentiel)
									Totale anorganiese stikstof (TIN)		≤ 1.75 milligram/liter (50ste persentiel)
								Soute	Elektriese geleidings vermoë (EC)	Soutkonsentrasies moet op huidige vlakke gehandhaaf word.	≤ 90 milliSiemens/meter (95ste persentiel)
								Stelsel Veranderlikes	pH	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	6.5 ≥ pH ≤ 8.5 (5ste en 95ste persentiele)
									Opgeloste suurstof		≥ 6 milligram liter (5ste persentiel)

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese			
D7 Gourtiz-Olifants	III	J31C	D7-R24	Olifantsrivier	giii2	C		Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 165 tellings/100ml (95ste persentiel)			
							Habitat	Geomorfologie	GAI telling	GAI telling moet gelyk wees aan 'n C	C-kategorie (62-77%)			
								Oewer plantegroei	VEGRAI telling	VEGRAI vlak 4 van minstens 61% vir die oewersone.	C-kategorie (62-77%)			
									Marginale sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies			
									Laer sone dekking oorvloed		Eksotiese spesies < 10%, terrestriële houtagtige spesies < 5%			
									Boonste sone dekking oorvloed		Eksotiese spesies < 10%, terrestriële houtagtige spesies < 15%			
							Biota	Vis	FRAI telling	FRAI sal 'n C (71.6%) (op) lewer.	C kategorie (62-77%)			
								Ongewerweldes	MIRAI telling	MIRAI telling om binne B/C-kategorie (78-82%) te wees.	B/C kategorie (77-82%)			
									Ongewerweldes diversiteit		SASS telling > 100, ASPT > 5.5			
									Aantal gesinne		> 15 gesinne, 5 met SASS telling > 5, oorvloed A - C			
						C	Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Olifantsrivier in stand te hou as 'n ekologiese toestand wat gelyk is aan of beter as die ekologiese toestand in somer 2014 (Kategorie C/D).	Instandhouding vloei (miljoen kubieke meter)	Maande	Hoë	Lae
												Okt	0.046	0.035
												Nov	0.13	0.055
												Des	0.137	0.057
												Jan	0.107	0.05
												Feb	0.127	0.079
												Mrt	0.548	0.109
												Apr	0.127	0.068
												Mei	0.097	0.053
												Jun	0	0.036
												Jul	0	0.037
												Aug	0.083	0.046
												Sept	0.04	0.035
							Gehalte	Voedingstowwe	Fosfaat (PO_4-P)	Voedingsvlakke moet in 'n mesotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 0.075 milligram/liter (50ste persentiel)			
									Totale anorganiese stikstof (TIN)		≤ 1.75 milligram/liter (50ste persentiel)			

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
D7 Gouritz-Olifants	III	J34C	D7-R25	Kammanassierivier	gv36	C/D	Hoeveelheid	Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet op huidige vlakke gehandhaaf word.	≤ 680 milliSiemens/meter (95ste persentiel)												
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	6.5 ≥ pH ≤ 8.5 (5ste en 95ste persentiele)												
									Opgeloste suurstof		≥ 6 milligram liter (5ste persentiel)												
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 165 tellings/100ml (95ste persentiel)												
							Habitat	Geomorfologie	GAI telling	GAI telling moet gelyk wees aan 'n C/D	C/D-kategorie (57-62%)												
								Oewerplantegroei	VEGRAI telling	VEGRAI vlak 4 van 70% vir die oewersone.	C-kategorie (62-77%)												
									Marginale sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies												
									Laer sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies												
									Boonste sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies												
							Biota	Ongewerweldes	MIRAI telling	MIRAI telling moet gelyk wees aan 'n C	C-kategorie (62-77%)												
							Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Kammanassierivier in stand te hou as 'n ekologiese toestand wat gelyk is aan of beter as die ekologiese toestand in somer 2014 (Kategorie C/D).	Instandhouding vloei (miljoen kubieke meter)	Maande	Lae	Hoë	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept
													0.435	0.218	0.431	0.327	0.252	0.179	0.182	0.182	0.215	0.239	0.311	0.381	0.353
							Gehalte	Voedingstowwe	Fosfaat (PO_4-P)		≤ 0.075 milligram/liter (50ste persentiel)												

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese
									Totale anorganiese stikstof (TIN)	Voedingsvlakke moet in 'n mesotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 1.75 milligram/liter (50ste persentiel)
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet in 'n D-klas gehandhaaf word vir water-ekosisteme.	≤ 85 milliSiemens/meter (95ste persentiel)
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	6.5 ≥ pH ≤ 8.5 (5ste en 95ste persentiele)
									Opgeloste suurstof		≥ 6 milligram liter (5ste persentiel)
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 165 tellings/100ml (95ste persentiel)
							Habitat	Oewer plantegroei	VEGRAI telling	VEGRAI vlak 4 van teen 78% vir die oewersone.	C/D kategorie (57-62%)
									Marginale sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies
									Laer sone dekking oorvloed		Eksotiese spesies < 5%, terrestriële houtagtige spesies < 5%
									Boonste sone dekking oorvloed		Eksotiese spesies < 10%, terrestriële houtagtige spesies < 20%
							Biota	Vis	FRAI telling	FRAI sal 'n D (46.9%) (op) lewer.	D kategorie (42-57%)
								Ongewerweldes	MIRAI telling	MIRAI telling om binne C/D-kategorie (58-62%) te wees.	C/D kategorie (57-62%)
									Ongewerweldes diversiteit		SASS telling > 90, ASPT > 4.5
									Aantal gesinne		> 17 gesinne, 2 of meer baetids, oorvloed A - C

Tabel 13: Hulpbrongehaltedoelwitte vir RIVIERE in prioritiet hulpbroneenhede in die Geïntegreerde Analise-eenheid van F13 Laer Gouritz

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhlende RQO	RQO Numeriese												
											Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept
											Instandhouding ng vloei (miljoen	Hoë											
												Lae												
F13 Laer Gouritz	II	J40B	F13-R26	Gouritzrivier	gi4	C	Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Gouritzrivier in stand te hou as 'n ekologiese toestand wat gelyk is aan of beter as die ekologiese toestand in somer 2014 (Kategorie C).		2.752	2.398	2.267	1.804	1.627	2.223	2.134	2.041	2.021	2.137	2.213	2.213
												4.818		4.818	2.398	2.398	9.926	9.926	9.926	0	0	0	0
											≤ 0.075 milligram/liter (50ste persentiel)												
								Voedingstowwe	Fosfaat (PO_4-P)	Voedingsvlakke moet in 'n mesotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 1.75 milligram/liter (50ste persentiel)												
									Totale anorganiese stikstof (TIN)														
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet op huidige vlakke gehandhaaf word.	≤ 600 milliSiemens/meter (95ste persentiel)												
							Gehalte	Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	6.5 ≥ pH ≤ 8.5 (5ste en 95ste persentiele)												
									Opgeloste suurstof		≥ 6 milligram liter (5ste persentiel)												
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 165 tellings/100ml (95ste persentiel)												
							Habitat	Geomorfologie	GAI telling	GAI telling moet gelyk wees aan 'n B	B-kategorie (82-87%)												
								Oewer plantegroei	VEGRAI telling	VEGRAI vlak 4 van teen ~57% vir die oewersone.	B/C-kategorie (77-82%)												
									Marginale sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies												
									Laer sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies												
									Boonste sone dekking oorvloed		Eksotiese spesies < 15%, terrestriële houtagtige spesies < 40%												
							Biota	Vis	FRAI telling	FRAI sal 'n D (50.1%) (op)lewer	D-kategorie (42-57%)												
								Ongewerweldes	MIRAI telling	MIRAI telling om binne C-kategorie (60-79%) te wees.	C-kategorie (62-77%)												
									Ongewerweldes diversiteit		SASS telling > 90, ASPT > 5.0												

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhlende RQO	RQO Numeriese
									Aantal gesinne		> 19 gesinne, 7 with SASS telling > 7, oorvloed A – C

Tabel 14: Hulpbrongehaltedoelwitte vir RIVIERE in prioritiet hulpbroneenhede in die Geïntegreerde Analise-eenheid van F12 Duiwenhoks

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese
F12 Duiwenhoks	III	H80D	F12-R27	Duiwenhoksrivier	giii8	D	Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Duiwenhoksrivier in stand te hou as 'n ekologiese toestand wat gelyk is aan of beter as die ekologiese toestand in somer 2014 .	Maande: Okt, Nov, Des, Jan, Feb, Mrt, Apr, Mei, Jun, Jul, Aug, Sept Instandhouding vloei (miljoen) Hoë: 0.418, 0, 0, 0, 0, 0.418, 0, 0, 0.418, 0, 0, 0 Instandhouding vloei (miljoen) Lae: 1.775, 1.676, 1.151, 0.648, 0.489, 0.781, 0.861, 0.981, 1.014, 1.207, 1.426, 1.522
							Gehalte	Voedingstowwe	Fosfaat (PO_4-P)	Voedingsvlakke moet in 'n mesotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 0.075 milligram/liter (50ste persentiel)
									Totale anorganiese stikstof (TIN)		≤ 1.75 milligram/liter (50ste persentiel)
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet in 'n Hanteerbare kategorie gehandhaaf word vir besproeiing	≤ 270 milliSiemens/meter (95ste persentiel)
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	6.5 ≥ pH ≤ 8.5 (5ste en 95ste persentiele)
									Opgeloste suurstof		≥ 6 milligram liter (5ste persentiel)
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 165 tellings/100ml (95ste persentiel)
							Habitat	Geomorfologie	GAI telling	GAI telling moet gelyk wees aan 'n D	D kategorie (42-57%)
								Oewerplantegroei	VEGRAI telling	VEGRAI vlak 4 van minstens 61% vir die oewersone.	C/D kategorie (57-62%)
									Marginale sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese
									Laer sone dekking oorvloed		Eksotiese spesies < 5%, terrestriële houtagtige spesies < 5%
									Boonste sone dekking oorvloed		Eksotiese spesies < 10%, terrestriële houtagtige spesies < 20%
							Biota	Vis	FRAI telling	FRAI sal 'n D in die Duiwenhoks Rivier (op)lewer	D-kategorie (42-57%)
								Ongewerweldes	MIRAI telling		D-kategorie (42-57%)
									Ongewerweldes diversiteit	MIRAI (40 - 59%) sal 'n D in the Duiwenhoks Rivier.	SASS telling > 60, ASPT telling > 5
									Aantal gesinne		> 10 gesinne, oorvloed A - C, teenwoordigheid Emlidae, Simulidae, Ancylidae

Tabel 15: Hulpbrongehaltedoelwitte vir RIVIERE in prioritiet hulpbroneenhede in die Geïntegreerde Analise-eenheid van I18 Hessequa

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
											Maande		Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept
											Instandhoudi ng vloei (miljoen	Lae	0.794	0.764	0.171	0	0.139	0.688	0.688	0.653	0.598	0.567	0.691	0.654
												Hoë	1.734	1.734	0	1.025	0.381	0	0	0	0	0	0	1.025
I18 Hessequa	III	H90C	I18-R28	Goukourivier	giii7	C/D	Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die uiwenhoksrivier in stand te hou as 'n ekologiese toestand wat gelyk is aan of beter as die ekologiese toestand in somer 2014 (Kategorie C/D).	≤ 0.075 milligram/liter (50ste persentiel)													
							Gehalte	Voedingstowwe	Fosfaat (PO_4-P)	Voedingsvlakke moet in 'n mesotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 1.75 milligram/liter (50ste persentiel)													
									Totale anorganiese stikstof (TIN)															
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet in 'n Aanvaarbare kategorie gehandhaaf word vir die gesondheid van die ekosisteem	≤ 130 milliSiemens/meter (95ste persentiel)												
								Stelsel Veranderlikes	pH	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	6.5 ≥ pH ≤ 8.5 (5ste en 95ste persentiele)												
									Opgeloste suurstof		≥ 6 milligram liter (5ste persentiel)													
								Toxins	Atrasien		≤ 0.079 milligram per liter (95ste persentiel)													

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese
									Endosulfan	Toksisiteitsvlakke moet nie 'n bedreiging vir water-ekosisteme inhou nie.	≤ 0.0013 milligram per liter (95stepersentiel)
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 165 tellings/100ml (95ste persentiel)
								Geomorfologie	GAI telling	GAI telling moet gelyk wees aan 'n D	D-kategorie (42-57%)
							Habitat	Oewerplantegroei	VEGRAI telling	VEGRAI vlak 4 van minstens 71% vir die oewersone.	C-kategorie (62-77%)
									Marginale sone dekking oorvloed		No eksotiese spesies, no terrestrial woody species
									Laer sone dekking oorvloed		Eksotiese spesies < 5%, terrestrial woody species < 5%
									Boonste sone dekking oorvloed		Eksotiese spesies < 10%, terrestrial woody species < 10%
							Biota	Vis	FRAI telling	FRAI sal 'n D (50.8%) (op)lewer.	D-kategorie (42-57%)
								Ongewerweldes	MIRAI telling	MIRAI telling om binne D-EC-kategorie (40-59%) te wees.	D-kategorie (42-57%)
									Ongewerweldes diversiteit		SASS telling > 90, ASPT telling > 5.8
									Aantal gesinne		> 12 gesinne, 5 met SASS telling > 8, oorvloed A - C

Tabel 16: Hulpbrongehaltedoelwitte vir RIVIERE in prioritiet hulpbroneenhede in die Geïntegreerde Analise-eenheid van G14 Groot Brak

IUA	Klas	Kwartêre opvang gebied	RU	Hlpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhlende RQO	RQO Numeriese		
											Maande	Instandhouding vloei (miljoen m^3)	
												Hoë	Lae
G14 Groot Brak	III	K20A	G14-R29	Groot Brak Rivier	gviii2	B/C	Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Groot Brakrivier in stand te hou in 'n toestand gelyk aan of beter as 'n B/C-kategorie.	Okt	1.171	0.112
											Nov	0.073	0.299
											Des	0.147	0.287
											Jan	0	0.199
											Feb	0.147	0.141
											Mrt	0.533	0.134
											Apr	0	0.257
											Mei	0	0.068
											Jun	0	0.087
											Jul	0	0.112
											Aug	0	0.134
											Sept	0	0.151
							Gehalte	Voedingstowwe	Fosfaat (PO_4-P)	Voedingsvlakke moet in 'n oligotrofiese beter toestand in die rivier gehandhaaf word.	≤ 0.025 milligram per liter (50ste persentiel)		
									Totale anorganiese stikstof (TIN)		≤ 0.70 milligram per liter (50ste persentiel)		

IUA	Klas	Kwartêre opvang gebied	RU	Hlpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhlende RQO	RQO Numeriese
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet in 'n B klas gehandhaaf word vir die gesondheid van die water-ekosisteem.	≤ 55 milliSiemens/meter (95ste persentiel)
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	6.5 ≥ pH ≤ 8.5 (5ste en 95ste persentiele)
									Opgeloste suurstof		≥ 8 milligram liter (5ste persentiel)
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie in die stroomafwaartse Wolwedansdam .	≤ 165 tellings/100ml (95ste persentiel)
							Habitat	Geomorfologie	GAI telling	GAI telling moet gelyk wees aan 'n B	B-kategorie (82-87%)
									Sedimentdeeltjie grootte		D16 = 1mm, D50 = 32mm, D84 = 128 mm
								Oewer plantegroei	VEGRAI telling	VEGRAI vlak 4 van Kategorie-B.	B-kategorie (82-87%)
									Marginale sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies
									Laer sone dekking oorvloed		Eksotiese spesies <5%, geen terrestriële houtagtige spesies < 15%
									Boonste sone dekking oorvloed		Eksotiese spesies < 30%, geen terrestriële houtagtige spesies > 40%
							Biota	Vis	FRAI telling	FRAI sal 'n B (82-87%) (op) lewer.	B-kategorie (82-87%)
								Ongewerweldes	MIRAI telling	MIRAI telling om binne A-kategorie (92-100%) te wees.	A-kategorie (92-100%)
									Ongewerweldes diversiteit		SASS telling > 170, ASPT > 7.9

Tabel 17: Hulpbrongehaltedoelwitte vir RIVIERE in prioritiet hulpbroneenhede in die Geïntegreerde Analise-eenheid van G15 Kus

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
											Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept
											Instandhouding vloei (miljoen kubieke meter) Hoë	1.218	1.044	0.219	0.219	0.219	0.812	0	0	0	0	0	0
											Instandhouding vloei (miljoen kubieke meter) Lae	0.296	0.081	0.042	0.042	0.077	0.085	0.123	0.211	0.204	0.169	0.211	0.204
G15 Kus	II	K30B	G15-R30	Malgasrivier	gvii9	C	Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Malgas in stand te hou in 'n ekologiese toestand wat gelyk is aan of beter is as Kategorie C .	≤ 0.075 milligram/liter (50ste persentiel)												
							Gehalte	Voedingstowwe	Fosfaat (PO_4-P) Totale anorganiese stikstof (TIN)	Voedingsvlakke moet in 'n mesotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 1.75 milligram/liter (50ste persentiel)												
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet in B-klas gehandhaaf word vir water-ekosisteme.	≤ 55 milliSiemens/meter (95ste persentiel)												
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	5.0 ≥ pH ≤ 7.5 (5ste en 95ste persentiele)												
									Opgeloste suurstof		≥ 6 milligram liter (5ste persentiel)												
								Gifstowwe	Ammoniak	Toksisiteitsvlakke moet nie 'n bedreiging vir water-ekosisteme inhou nie.	≤ 0.073 milligram per liter (95ste persentiel)												
									Atrasien		≤ 0.079 milligram per liter (95ste persentiel)												
									Endosulfan		≤ 0.0013 milligram per liter (95ste persentiel)												
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 165 tellings/100ml (95ste persentiel)												
							Habitat	Geomorfologie	GAI telling	GAI telling moet gelyk wees aan 'n B/C	B/C kategorie (77-82%)												
									Sedimentdeeltjie grootte		D16 = 2mm, D50 = 4 mm, D84 = 32mm												
								Oewer plantegroei	VEGRAI telling	VEGRAI vlak 4 van Kategorie D	D-kategorie (42-57%)												
									Marginale sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies												
									Laer sone dekking oorvloed		Eksotiese spesies < 5%, terrestriële houtagtige spesies < 15%												
									Boonste sone dekking oorvloed		Eksotiese spesies < 30%, terrestriële houtagtige spesies > 50%												
								Vis	FRAI telling	FRAI sal 'n C/D (57-62%) (op)lewer.	C/D-kategorie (57-62%)												

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
G15 Kus	II	K30C	G15-R31	Kaaimans Rivier	gvii11	B		Ongewerweldes	MIRAI telling	MIRAI telling om binne A te wees.	A-kategorie (92-100%)												
									Ongewerweldes diversiteit		SASS telling > 160, ASPT > 8												
							Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Kaaimansrivier in stand te hou in 'n ekologiese toestand wat gelyk is aan of beter is as Kategorie B.	Instandhoudi ng vloei (miljoen kubiekie	Maande	Lae	Hoë	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept
													0.592	0.249	0.538	1.052	0.445	0.775	0.371	0	0.335	0.445	1.828	0.538	0.249	0.483	0	0.359	0	0.371	0	0.371	0	0.359
									Fosfaat (PO_4-P)		≤ 0.025 milligram per liter (50ste persentiel)												
								Voedingstowwe	Totale anorganiese stikstof (TIN)	Voedingsvlakke moet in 'n oligotrofiese of beter toestand in die rivier gehandhaaf word.	≤0.70 milligram per liter (50ste persentiel)												
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet in 'n ideale kategorie gehandhaaf word vir water-ekosisteme	≤ 30 milliSiemens/meter (95ste persentiel)												
							Gehalte		ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	4.5 ≥ pH ≤ 7.5 (5ste en 95ste persentiele)												
								Stelsel Veranderlikes	Opgeloste suurstof		≥ 8 milligram per liter (5ste persentiel)												
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n ideale kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 130 tellings/100ml (95ste persentiel)												
							Habitat	Geomorfologie	GAI telling	GAI telling moet gelyk wees aan 'n B/C	B/C-kategorie (77-82%)												
									Sedimentdeeltjie grootte		D16 = 2mm, D50 = 16 mm, D84 = 64 mm												
								Oewerplantegroei	VEGRAI telling	VEGRAI vlak 4 van Kategorie A.	A kategorie (92-100%)												
									Marginale sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies												
									Laer sone dekking oorvloed		Eksotiese spesies < 5%, geen terrestriële houtagtige spesies < 15%												
									Boonste sone dekking oorvloed		Eksotiese spesies < 5%, geen terrestriële houtagtige spesies < 5%												
							Biota	Vis	FRAI telling	FRAI sal 'n B (op)lewer.	B-kategorie (82-87%)												
								Ongewerweldes	MIRAI telling	MIRAI telling om binne A-kategorie te wees.	A-kategorie (92-100%)												
									Ongewerweldes diversiteit		SASS telling > 160, ASPT > 8												

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
											Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept
											Instandhouding ng vloei (miljoen kubiekie Lae	0.331	0.344	0	0.18	0.173	0.206	0.199	0.201	0.176	0.173	0.213	0.252
											Instandhouding ng vloei (miljoen kubiekie Hoë	0.412	0.107	0.237	0.021	0	0.412	0.107	0	0	0	0	0
G15 Kus	II	K40A	G15-R32	Diepriver	giii10	B	Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Boonste Dieprivier in stand te hou in 'n ekologiese toestand wat gelyk is aan of beter is as Kategorie B.	≤ 0.025 milligram per liter (50ste persentiel)												
							Gehalte	Voedingstowwe	Fosfaat (PO_4-P)	Voedingsvlakke moet in 'n oligotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 0.70 milligram per liter (50ste persentiel)												
									Totale anorganiese stikstof (TIN)														
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet in 'n ideale kategorie gehandhaaf word vir water-ekosisteme.	≤ 30 milliSiemens/meter (95ste persentiel)												
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	5 ≥ pH ≤ 7 (5ste en 95ste persentiele)												
									Opgeloste suurstof		≥ 8 milligram per liter (5ste persentiel)												
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 165 tellings/100ml (95ste persentiel)												
							Habitat	Geomorfologie	GAI telling	GAI telling moet gelyk wees aan 'n B.	B-kategorie (82-87%)												
									Sedimentdeeltjie grootte		D16 = 10mm, D50 = 100 mm, D84 = 300 mm												
								Oewer plantegroei	VEGRAI telling	VEGRAI vlak 4 van Kategorie A/B.	A/B kategorie (87-92%)												
									Marginale sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies												
									Laer sone dekking oorvloed		Eksotiese spesies < 20%, terrestriële houtagtige spesies < 5%												
									Boonste sone dekking oorvloed		Eksotiese spesies < 5%, terrestriële houtagtige spesies < 5%												
							Biota	Vis	FRAI telling	FRAI sal 'n B (op)lewer.	B-kategorie (82-87%)												
								Ongewerweldes	MIRAI telling	MIRAI telling om binne B-kategorie (80-90%) te wees.	B-kategorie (82-87%)												
									Ongewerweldes diversiteit		SASS telling > 190, ASPT > 7												

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
											Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept
											Instandhouding vloei (miljoen kubieke meter) Hoë	0.471	0.283	0	0	0	0.283	0.029	0	0	0	0	0
											Instandhouding vloei (miljoen kubieke meter) Lae	0.188	0.192	0.169	0.149	0.144	0.169	0.16	0.153	0.129	0.12	0.149	0.17
G15 Kus	II	K40C	G15-R33	Karatararivier	gvii13	B	Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Karatararivier in stand te hou in 'n ekologiese toestand wat gelyk is aan of beter is as Kategorie A/B.	≤ 0.025 milligram per liter (50ste persentiel)												
							Gehalte	Voedingstowwe	Fosfaat (PO_4-P) Totale anorganiese stikstof (TIN)	Voedingsvlakke moet in 'n oligotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 0.70 milligram per liter (50ste persentiel)												
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet in 'n ideale kategorie gehandhaaf word vir water-ekosisteme.	≤ 30 milliSiemens/meter (95ste persentiel)												
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	4.0 ≥ pH ≤ 7.0 (5ste en 95ste persentiele)												
									Opgeloste suurstof		≥ 8 milligram per liter (5ste persentiel)												
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 130 tellings/100ml (95ste persentiel)												
							Habitat	Geomorfologie	GAI telling	GAI telling moet gelyk wees aan 'n A.	A-kategorie (92-100%)												
									Sedimentdeeltjie grootte		D16 = 30mm, D50 = 80 mm, D84 = 200 m												
								Oewer plantegroei	VEGRAI telling	VEGRAI vlak 4 van Kategorie A/B.	A/B-kategorie (87-92%)												
									Marginale sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies												
									Laer sone dekking oorvloed		Eksotiese spesies < 10%, terrestriële houtagtige spesies < 5%												
									Boonste sone dekking oorvloed		Eksotiese spesies < 10%, terrestriële houtagtige spesies < 5%												
								Vis	FRAI telling	FRAI sal 'n B (op)lewer.	B-kategorie (82-87%)												
								Ongewerweldes	MIRAI telling	MIRAI telling om binne A.te wees.	A-kategorie (92-100%)												
									Ongewerweldes diversiteit		SASS telling > 120, ASPT > 7												

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
											Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept
											Instandhouding ng vloei (miljoen ℓ per s) Hoë	0.445	0.821	0.821	0.445	0.445	0.445	0.445	0	0	0	0	0
											Instandhouding ng vloei (miljoen ℓ per s) Lae	0.645	1.124	0.825	0.642	0.552	0.764	0.947	0.401	0.387	0.431	0.554	0.536
G15 Kus	II	K40E	G15-R34	Goukamma	gviii9	B/C	Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Goukammarivier in stand te hou as 'n ekologiese toestand wat gelyk is aan of beter as Kategorie B/C.	≤ 0.075 milligram/liter (50ste persentiel)												
							Gehalte	Voedingstowwe	Fosfaat (PO_4-P) Totale anorganiese stikstof (TIN)	Voedingsvlakke moet in 'n mesotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 1.75 milligram/liter (50ste persentiel)												
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet in 'n Aanvaarbare kategorie gehandhaaf word vir water-ekosisteme.	≤ 55 milliSiemens/meter (95ste persentiel)												
								Stelsel Veranderlikes	ph reeks Opgeloste suurstof	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	4 ≥ pH ≤ 7 (5ste en 95ste persentiele) ≥ 6 milligram liter (5ste persentiel)												
								Patogene	Escherichia coli	Konsentrasies van waterborne/watergedraagde patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 165 tellings/100ml (95ste persentiel)												
							Habitat	Geomorfologie	GAI telling Sedimentdeeltjie grootte	GAI telling moet gelyk wees aan 'n B.	B-kategorie (82-87%) D16 = 2mm, D50 = 24 mm, D84 = 128 mm												
								Oewerplantegroei	VEGRAI telling Marginale sone dekking oorvloed Laer sone dekking oorvloed Boonste sone dekking oorvloed	VEGRAI vlak 4 van Kategorie B.	B-kategorie (82-87%) Geen eksotiese spesies, geen terrestriële houtagtige spesies Eksotiese spesies < 5%, terrestriële houtagtige spesies < 15% Eksotiese spesies < 5%, terrestriële houtagtige spesies < 5%												
							Biota	Vis	FRAI telling	FRAI sal 'n C (op)lewer.	C-kategorie (62-77%)												
								Ongewerweldes	MIRAI telling Ongewerweldes diversiteit	MIRAI telling om binne A te wees.	A-kategorie (92-100%) SASS telling > 100, ASPT > 7.4												

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
											Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept
											Instandhouding ng vloei (miljoen kubieke.e.s	Hoë	0.478	0	0	0	0.239	0.478	0	0	0	0	0
												lae	0.686	0.664	0.546	0.437	0.411	0.441	0.441	0.476	0.447	0.474	0.579	0.644
G15 Kus	II	K50A	G15-R35	Knysnarivier	gvii14	B	Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Gamkarivier in stand te hou in 'n ekologiese toestand wat gelyk is aan of beter as Kategorie B.	≤ 0.025 milligram per liter (50ste persentiel)												
							Gehalte	Voedingstowwe	Fosfaat (PO_4-P)	Voedingsvlakke moet in 'n oligotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 0.70 milligram per liter (50ste persentiel)												
									Totale anorganiese stikstof (TIN)														
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet in 'n ideale kategorie gehandhaaf word vir die gesondheid van water-ekosisteme.	≤ 30 milliSiemens/meter (95ste persentiel)												
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	4.5 ≥ pH ≤ 7.0 (5ste en 95ste persentiele)												
									Opgeloste suurstof		≥ 8 milligram per liter (5ste persentiel)												
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 130 tellings/100ml (95ste persentiel)												
							Habitat	Geomorfologie	GAI telling	GAI telling moet gelyk wees aan 'n A/B.	A/B-kategorie (87-92%)												
									Sedimentdeeltjie grootte		D16 = 30mm, D50 = 120 mm, D84 = 300 mm												
								Oewer plantegroei	VEGRAI telling	VEGRAI vlak 4 van Kategorie A/B.	A/B-kategorie (87-92%)												
									Marginale sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies												
									Laer sone dekking oorvloed		Eksotiese spesies < 20%, terrestriële houtagtige spesies< 5%												
									Boonste sone dekking oorvloed		Eksotiese spesies < 40%, terrestriële houtagtige spesies < 5%												
								Vis	FRAI telling	FRAI sal 'n B (op)lewer.	B-kategorie (82-87%)												
								Ongewerweldes	MIRAI telling	MIRAI telling om binne B-kategorie te wees.	B kategorie (82-87%)												
									Ongewerweldes diversiteit		SASS telling > 150, ASPT > 6.7												

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
											Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept
											Instandhouding vloei (miljoen kubieke meter): Lae	1.44	1.328	1.019	0.778	0.692	0.76	0.781	0.898	0.875	0.954	0.202	1.377
											Instandhouding vloei (miljoen kubieke meter): Hoë	0.342	1.197	0	0	0	0.684	0.342	0	0	0	0	0.067
G15 Kus	II	K50B	G15-R36	Gounarivier	gviii11	A/B	Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Gounarivier in stand te hou in 'n ekologiese toestand wat gelyk is aan of beter as Kategorie A/B.	≤ 0.025 milligram per liter (50ste persentiel)												
							Gehalte	Voedingstowwe	Fosfaat (PO_4-P)	Voedingsvlakke moet in 'n oligotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 0.70 milligram per liter (50ste persentiel)												
									Totale anorganiese stikstof (TIN)														
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet in 'n ideale kategorie gehandhaaf word vir die gesondheid van water-ekosisteme.	≤ 30 milliSiemens/meter (95ste persentiel)												
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	4.0 ≥ pH ≤ 7.0 (5ste en 95ste persentiele)												
									Opgeloste suurstof		≥ 8 milligram per liter (5ste persentiel)												
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 130 tellings/100ml (95ste persentiel)												
							Habitat	Geomorfologie	GAI telling	GAI telling moet gelyk wees aan 'n A/B.	A/B-kategorie (87-92%)												
									Sedimentdeeltjie grootte		D16 = 10mm, D50 = 50 mm, D84 = 200 mm												
								Oewerplantegroei	VEGRAI telling	VEGRAI vlak 4 van Kategorie A/B.	A/B-kategorie (87-92%)												
									Marginale sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies												
									Laer sone dekking oorvloed		Eksotiese spesies < 10%, terrestriële houtagtige spesies < 5%												
									Boonste sone dekking oorvloed		Eksotiese spesies < 10%, terrestriële houtagtige spesies < 5%												
							Biota	Vis	FRAI telling	FRAI sal 'n B (op)lewer.	B-kategorie (82-87%)												
								Ongewerweldes	MIRAI telling	MIRAI telling moet binne B wees.	B-kategorie (82-87%)												
									Ongewerweldes diversiteit		SASS telling > 120, ASPT > 7.5												

CONTINUES ON PAGE 258 - PART 3

Government Gazette
Staatskoerant

REPUBLIC OF SOUTH AFRICA
REPUBLIEK VAN SUID AFRIKA

Vol. 663 18 September / September 2020 No. 43726

PART 3 OF 5

ISSN 1682-5843

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
											Instandhouding g vloei (miljoen kubieksyfers)	Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept
												Hoë	0.758	0	0.758	0	0	0	0	0.758	0	0	0.758	3.389
												Lae	1.697	1.448	1.157	0.788	0.508	0.627	0.669	0.833	0.875	1.123	1.395	1.448
G15 Kus																								
	II																							
		K60C																						
			G15-R37																					
				Keurboomsrivier																				
					giv9																			
						C																		
							Hoeveelheid	Lae vloei Hoë vloei	Instandhouding lae vloei Instandhouding hoë vloei.	Vloei sal voldoende wees om die Keurboomsrivier in stand te hou in 'n ekologiese toestand wat gelyk is aan of beter as die ekologiese toestand in somer 2014 (Kategorie B).	≤ 0.025 milligram per liter (50ste persentiel)													
							Gehalte	Voedingstowwe	Fosfaat (PO_4-P)	Voedingsvlakke moet in 'n oligotrofiese of beter toestand in die rivier gehandhaaf word.	≤ 0.70 milligram per liter (50ste persentiel)												
									Totale anorganiese stikstof (TIN)															
								Soute	Elektriese geleidingsvermoë (EC)	Soutkonsentrasies moet in 'n ideale kategorie gehandhaaf word vir die gesondheid van water-ekosisteme.	≤ 30 milliSiemens/meter (95ste persentiel)												
								Stelsel Veranderlikes	ph reeks	pH, temperatuur en opgeloste suurstof is belangrik vir die instandhouding van die gesondheid van die ekosisteem.	5.5 ≥ pH ≤ 8.0 (5ste en 95ste persentiele)												
									Opgeloste suurstof		≥ 8 milligram per liter (5ste persentiel)												
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogene moet in 'n ideale kategorie gehandhaaf word vir volledige kontakreaksie.	≤ 130 tellings/100ml (95ste persentiel)												
							Habitat	Geomorfologie	GAI telling	GAI telling moet gelyk wees aan 'n B.	B-kategorie (82-87%)												
								Oewer plantegroei	VEGRAI telling	VEGRAI vlak 4 van minstens ~58% vir die oewersone.	B/C-kategorie (77-82%)												
									Marginale sone dekking oorvloed		Geen eksotiese spesies, geen terrestriële houtagtige spesies												
									Laer sone dekking oorvloed		Eksotiese spesies < 5%, terrestriële houtagtige spesies < 15%												
									Boonste sone dekking oorvloed		Eksotiese spesies < 30%, terrestriële houtagtige spesies < 20%												
								Vis	FRAI telling	FRAI sal 'n B (op)lewer	B-kategorie (82-87%)												
								Ongewerweldes	MIRAI telling	MIRAI telling om binne B te wees.	B kategorie (82-87%)												
									Ongewerweldes diversiteit		SASS telling > 180, ASPT > 6.5												
									Aantal gesinne		> 15 gesinne, 2 met SASS tellings > 12, oorvloed A – C												

Tabel 18: Hulpbrongehaltedoelwitte vir RIVIERMONDINGS in prioritiet hulpbroneenhede in die Geïntegreerde Analise-eenheid van B5 Overberg Wes

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
											Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept	Jaarliks
											MMR/MRT (% Nat)	76.6	49.2	39.1	48.2	43.6	43.0	41.1	46.4	57.3	74.4	86.6	90.5	70.1
B5 Overberg Wes	II	G40D	B5-E01	Palmiet Riviermonding	pxi1	B/C	Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf 'n vloeiregime om die vereiste habitat vir voëls, vis, makrofiete, mikroalge en watergehalte te skep.	Rivierinvloei: Gemiddelde DIN konsentrasie >100 µg/l (droë seisoen) van >500 µg/l (nat seisoen)												
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriënt konsentrasies moet nie TPCs oorskry vir makrofiete en mikroalge.	Riviermonding: Gemiddelde DIN konsentrasie in varswaterafdeling >100 µg/l (droë seisoen) ((seewaters mag hoër konsentrasies het gekoppel aan (opwaarts) en >500 µg/l (nat seisoen)												
									DIP		Rivierinvloei: Gemiddelde DIP konsentrasie >10 µg/l (droë seisoen) en >50 µg/l (nat seisoen)												
											Riviermonding: Gemiddelde DIP konsentrasies >10 µg/l (droë seisoen) (seewaters mag hoër konsentrasies het gekoppel aan opwaarts) en >50 µg/l (nat seisoen).												
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPCs oorskry vir vis, ongewerweldes, makrofiete en mikroalge	Soutgehalte mag nie minder as 10 daal vir langer as drie maande in 'n jaar nie.												
								Stelsel Veranderlikes	Temperatuur		Rivierinvloei: Somer temperatuur <20 °C												
									pH	Stelsel Veranderlikes moet nie TPC's oorskry vir biota	<8												
									Opgeloste suurstof		>4 mg/												
									Secchi diepte		>2 m												
								Patogene	Enterococci	Konsentrasies van waterdraagbare patogeen moet in 'n Aanvaarbare kategorie gehandhaaf word vir volledige kontakreaksie	≤185 Enterococci/100 ml) (90ste persentiel)												
									Escherichia coli		≤500 E. coli/100 ml (90ste persentiel)												
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker	Riviermonding mond permanent oop.												

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese
									Gety verandering	en habitat wat geskik bly vir biota wat tipies in die riviermonding gevind word. .	Gemiddelde gety omvang naby die mond tydens lae vloei (somer) mag nie> 10% van gevestigde basislyn verander nie.
								Sedimente	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike badmeting /bathymetrie en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalge-gemeenskap.	Handhaaf die samestelling en rykdom van fitoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	Handhaaf lae fytoplanktonbiomassa; handhaaf mikroalgegroepverspreiding soos gemeet vir die basislyn opname; fytoplankton biomassa behoort nie met meer as 20% bo basislyn konsentrasies te styg nie; fytoplankton groep verskeidenheid behoort nie met meer 20% van basislyn toestande te verander nie.
								Makrofiete	Omvang, verspreiding en rykdom van makrofiete	Handhaaf omvang, verspreiding en rykdom van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Gebied wat gedek word deur verskillende plantgemeenskapstipes behoort nie met meer as 20% van die basislyn oop en geslote mondtoestande te verander nie. , geen indringerspesies moet teenwoordig wees nie, verhoed buitensporige filamentiese makrogalgroei, die oppervlakte moet minder as 50% van die oop wateroppervlak wees, mag die makroalge bedekking nie meer as 50% in 1 m^2 kwadrate of meer as 50% van die oop water beslaan nie Oppervlakte in die oostelike kanaal en bo sandbank in die laer bereik van die riviermonding, Makroalg-nat biomassa moet onder 500 g m^{-2} bly.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Ongewerwelde s	Makrofauna gemeenskaps samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe van bentiese makrofauna en dierplankton.	Digtheid van sandplooi-openinge moet 75 per m2 in die hoogste digtheidsareas in die laer riviermonding oorskry. Amphipods behoort die bentiese fauna (*Grandidierella sp.en Corophium triaenonyx*), wat op die sedimentoppervlakte in die middel en Boonste estuarine leef, onderskeidelik te oorheers; In die dierplankton behoort die digtheid van *Pseudodiaptomus hessei* tussen die 100 en 5000 m^3 in die somer in die middel-riviermondingstreek te wissel.
								Vis	Visgemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, voorkom kolonisasie / toename van uitheemse spesies.	Handhaaf die volgende vissamestellings in die riviermonding (gebaseer op oorvloed): riviermondingspesies (10-20%); riviermonding-geassosieerde seespesies (80-90%); en inheemse varswaterspesies (~ 1%); alle numeries dominante spesies moet voorgestel word deur 0+ jeugdiges.
								Voëls	Avifauna gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna-groepe.	Handhaaf gereelde voorstelling van waadvoëls, meeus en swaeweltjies en algehele watervoëlspesiesrykheid van sewe of meer spesies; riviermonding moet nie gereeld deur watervoëlsoorte soos Redknobbed Coot gebruik word nie; waadvoëls of swaeweltjies moet nie van die riviermonding afwesig wees vir> 5 agtereenvolgende tellings nie.

Tabel 19: Hulpbrongehaltedoelwitte vir RIVIERMONDINGS in prioriteit Hulpbronne in die Geïntegreerde Eenheid van Analise H16 Overberg Weskus

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
H16 Overberg	II	G40B	H16-E02	Bufffelsrivi ermonding	bxi1	B	Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf ten minste huidige basisvloei	Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept	Jaarlik
											MMR/MRT (% Nat)	84.4	69.5	28.7	11.2	8.9	13.4	35.3	64.3	87.8	91.2	91.7	89.8	81.9
							Gehalte	Voedingstowwe	DIN		<100µg/ℓ													

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
									DIP	Anorganiese nutriëntkonsentrasies moet nie TPC's oorskry vir makrofiete en mikroalge	<10 µg/ℓ
								Stelsel Veranderlikes	Opgeloste suurstof	Stelsel Veranderlikes moet nie TPC's oorskry vir biota	>6 mg/l
								Patogene	Enterococci	Konsentrasies van waterdraagbare patogeen moet in 'n Aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤185 Enterococci/100 ml (90ste persentiel)
									Escherichia coli		≤500 E. coli/100 ml (90ste persentiel)
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat wat geskik bly vir biota wat tipies in die riviermonding gevind word..	Geslote mondtoestande behoort nie met> 10% van gevestigde basislyn te styg nie.
								Sedimente	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese matter/materiaal mag nie verander met> 30% van gevestigde basislyn
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalgae-gemeenskap.	Handhaaf die samestelling en rykdom van fytoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	<20 µg l-1
								Makrofiete	Omvang, verspreiding en rykheid van makrofiete	Handhaaf omvang, verspreiding en rykdom van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Gebied wat deur verskillende makrofietgroepe beset word, moet nie verander word met> 20% verandering in die gebied wat deur habitatte gedek word nie. Makrofiete soos poelkruid (*Potamogeton pectinatus*) moet teenwoordig wees tydens lae vloei toestande

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Ongewerweldes	Makrofauna gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe van bentiese makrofauna en dierplankton.	Riviermonding behoort lewensvatbare bevolkings van *Callianassa kraussi* in sanderige sones en *Upogebia africana* in modderige gebiede te hê.
								Vis	Visgemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, voorkom kolonisasie / toename van uitheemse spesies.	Handhaaf visversameling wat ten minste 2 riviermonding-teelspesies (Kategorie I), 3 riviermonding afhanklike Marine-spesies (Kategorie IIa en IIb) en 1 inheemse katadrome spesies (Kategorie V). Die inwoners van riviermonding behoort numeries te oorheers, maar die gedeelte van Seespesies (gebaseer op oorvloed) mag nie minder as 2% val nie.
H16 Overberg Weskus	II	G40B	H16-E03	Rooiels Riviermonding	bxi2	A	Habitat	Vloei	MMR/MRT (% Nat)	Handhaaf ten minste huidige basisvloei	Maande / MMR/MRT (% Nat): Okt 99.0; Nov 98.9; Des 98.4; Jan 98.0; Feb 98.3; Mrt 98.0; Apr 98.1; Mei 98.3; Jun 98.5; Jul 98.6; Aug 98.6; Sept 98.8; Jaarlik 98.6
							Hoeveelheid	Voedingstowwe	DIN	Anorganiese nutriëntkonsentrasies moet nie TPC's oorskry vir makrofiete en mikroalge	<100µg/ℓ
									DIP		<10 µg/ℓ
							Gehalte	Stelsel Veranderlikes	Opgeloste suurstof	Stelsel Veranderlikes moet nie TPC's oorskry vir biota.	>6 mg/l
								Patogene	Escherichia coli	Konsentrasies van waterdraagbare patogeen moet in 'n aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie	≤ 130 tellings/100ml (95ste persentiel)
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat wat geskik bly vir biota wat tipies in die riviermonding gevind word	Geslote mondtoestande behoort nie met> 10% van gevestigde basislyn te styg nie.
								Sedimente	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese matter/materiaal mag nie verander met> 30% van gevestigde basislyn

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalgae-gemeenskap.	Handhaaf die samestelling en rykdom van fytoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	<20 µg l-1
								Makrofiete	Omvang, verspreiding en rykheid van makrofiete	Handhaaf omvang, verspreiding en rykdom van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Gebied wat deur verskillende makrofietgroepe beset word, moet nie verander word met> 20% verandering in die gebied wat deur habitatte gedek word nie. Makrofiete soos poelkruid (*Potamogeton pectinatus*) moet teenwoordig wees tydens lae vloei toestande
								Ongewerweldes	Makrofauna gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe van bentiese makrofauna en dierplankton.	Riviermonding behoort lewensvatbare bevolkings van *Callianassa kraussi* in sanderige sones en *Upogebia africana* in modderige gebiede te hê.
								Vis	Visgemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, voorkom kolonisasie / toename van uitheemse spesies.	Handhaaf visversameling wat ten minste 2 riviermonding-voortplantingspesies (Kategorie I), 3 riviermonding afhanklike Marine-spesies (Kategorie IIa en IIb) en 1 inheemse katadrome spesies (Kategorie V). Die inwoners van riviermonding behoort numeries te oorheers, maar die gedeelte van Seespesies (gebaseer op oorvloed) mag nie minder as 2% val nie.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
											Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept	Jaarlik
H16 Overberg Weskus	II	G40G	H16-E04	Botriviermonding	9ixn	B	Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf 'n vloeiregime om die vereiste habitat vir voëls, vis, makrofiete, mikroalge en watergehalte te skep.	MMR/MRT (% Nat)	80.2	75.7	63.9	58.2	60.3	63.7	75.5	80.9	83.8	85.8	87.7	85.0	81.8
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriënt konsentrasies moet nie TPCs oorskry vir makrofiete en mikroalge	Rivierinvloei (lae vloei): DIN <100 µg / l; Rivier invloei hoë vloei): DIN <300 µg / l; Riviermonding (lae vloei): DIN <100 µg / l (behalwe tydens opwaartse gebeurtenisse); Riviermonding (hoë vloei): DIN <300 µg / l in Sone A & B (Boonste bereik) en <100 µg / l in Sone C & D (laer bereik) (behalwe tydens opwaartse gebeurtenisse)												
									DIP	Rivierinvloei (lae vloei): DIN <50 µg / l; Rivier invloei hoë vloei): DRP <80 µg / l; Riviermonding (lae vloei): DRP <50 µg / l (behalwe tydens opwaartse gebeurtenisse); Riviermonding (hoë vloei): DRP <80 µg / l in Sone A & B (Boonste bereik) en <50 µg / l in Sone C & D (laer bereik) (behalwe tydens opwaartse gebeurtenisse)												
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPCs oorskry vir vis, ongewerweldes, makrofiete en mikroalge	Somer: 8<Soutgehalte<40												
								Stelsel Veranderlikes	pH		6 < pH < 8.5												
									Opgeloste suurstof	Stelsel Veranderlikes moet nie TPC's oorskry vir biota.	>4 mg/l												
								Patogene	Enterococci	Konsentrasies van waterdraagbare patogeen moet in 'n Aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤185 Enterococci/100 ml) (90ste persentiel)												
									Escherichia coli		≤500 E. coli/100 ml (90ste persentiel)												
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat wat geskik bly vir biota wat tipies in die riviermonding gevind word	Geslote mondtoestande behoort nie met> 10% van gevestigde basislyn te styg nie.												

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Sedimente	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese matter/materiaal mag nie verander met> 30% van gevestigde basislyn
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalgae-gemeenskap.	Handhaaf die samestelling en rykdom van fytoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	Handhaaf lae fytoplankton biomassa (<6 ug l^{-1}); fytoplankton biomassa moet nie meer as 10 ug l^{-1} styg vir langer as 6 maande nie; handhaaf mikroalgegroepverspreiding soos gemeet vir die basislynopname ('n toename in sianofiete (blou groentes) sal 'n rede tot bekommernis wees); fytoplankton groep verskeidenheid moet nie minder as 20% van die wat vir basislyn toestande gevind word, afneem nie; Handhaaf teenwoordig bentiese mikroalgbiomassa (<4 ug g^{-1}); bentiese mikroalgbiomassa behoort nie meer as 10 ug g^{-1} te styg vir langer as 6 maande nie.
								Makrofiete	Omvang, verspreiding en rykheid van makrofiete	Handhaaf omvang, verspreiding en rykdom van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf die huidige gebied (2011) wat deur die makrofiethabitats gedek word: onderwater makrofiete (476 ha); riete en waterbiesies (60 ha); sout mnr. msh (69 ha); en makroalge (238 ha); voorkom buitensporige filamentiese makrogalgroei; die huidige verhouding van makroalge tot onderwater makrofiete moet gehandhaaf word (dws 50%).
								Ongewerweldes	Makrofauna gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe van bentiese makrofauna en dierplankton.	Dierplankton: Digtheid van *Pseudodiaptomus hessei* moet tussen 100 en 5000 m^3 in die somer in die middel-riviermondingstreek wissel. Bentiese makrofauna: digtheid van sandkrewel *Callianassa kraussi* gras openinge moet 75 per m^2 oorskry in die hoogste digtheid gebiede in die laer riviermonding. Laag digtheid in die laer riviermonding moet nie minder as 50 tellings per m2 in die hoogste digtheid gebiede val nie, alle grootte klasse sandkrewel moet in die bevolking teenwoordig wees.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
H16 Overberg Weskus	II	G40H	H16-E05	Onrus Riviermonding	nxi8	D	Gehalte	Vis	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, voorkom kolonisasie / toename van uitheemse spesies.	Visgemeenskap samestelling, oorvloed en rykdom	Jeugriviermonding afhanklike Marine vis moet nie meer as twee jaar op 'n ry van die riviermonding afwesig wees nie; % bydrae deur jeugdige riviermonding afhanklik Marine vis om te versamel volgens nommer moet nie daal tot <60% van die inwoners nie; Indringer spesies oorvloed moet onder 5% van biomassa in hoofliggaam van riviermonding bly; % bydrae van volwasse en subvolwasse riviermonding-afhanklike vis tot samestelling volgens getal moet nie onder 15% daal nie.
								Voëls	Avifauna gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna-groepe.	Aantal nie-passerine-watervoëlspesies wat in tellings aangeteken is, moet nie oor 'n vyfjaarperiode met meer as 10% ontslae raak nie; Algehele getalle , waadvoëls of -meeus en -swaewelitjies, of getalle van enige van die spesies in hierdie groepe, moet nie oor 'n tydperk van vyf jaar met betrekking tot die basislyngemiddelde oorskry nie, met meer as 10% na die regstelling vir streeks- / wêreldbevolkingsveranderinge. ; totale somergetalle watervoëls behoort nie meer as 4 jaar meer as 15 000 te wees nie.
							Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf 'n vloeiregime om die vereiste habitat vir voëls, vis, makrofiete, mikroalge en watergehalte te skep.	Maande: Okt 55.6; Nov 54.2; Des 53.8; Jan 52.9; Feb 51.2; Mrt 50.2; Apr 49.7; Mei 49.0; Jun 50.0; Jul 49.8; Aug 51.7; Sept 54.8; Jaarlik 51.8 MMR/MRT (% Nat)
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriënt konsentrasies moet nie TPCs oorskry vir makrofiete en mikroalge	Hele riviermonding en rivierinvloei i: DIN <300µg/ℓ
									DIP		Hele riviermonding en rivierinvloei: DIP < 25 µg/ℓ
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPCs oorskry vir vis, ongewerweldes, makrofiete en mikroalge	5 < Soutgehalte <40
								Stelsel Veranderlikes	Opgeloste suurstof	Stelsel Veranderlikes moet nie TPC's oorskry vir biota.	Hele riviermonding en rivierinvloei : DO >5 mg/ℓ
									Turbiditeit		Turbiditeit <5 NTU
								Patogene	Enterococci		≤185 Enterococci/100 ml) (90ste persentiel)

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
									Escherichia coli	Konsentrasies van waterdraagbare patogeen moet in 'n Aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤500 E. coli/100 ml (90ste persentiel)
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat wat geskik bly vir biota wat tipies in die riviermonding gevind word	Geslote mondtoestande behoort nie met> 10% van gevestigde basislyn te styg nie.
								Sedimente	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese matter/materiaal mag nie verander met> 30% van gevestigde basislyn.
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalgae-gemeenskap.	Handhaaf die samestelling en rykdom van fytoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	Kontrole voedingstof insette uit rioolvullings om mikroalgblomme te voorkom (> 20 µg l-1) en die voorkoms van skadelike alg bloeispesies; die verspreiding van verskillende fitoplanktongroepe (diverse gemeenskap samestellings) te handhaaf en die oorheersing van sianofiete (blougroen alge) te voorkom wat onder voedingstof ryk, varswatertoestande voorkom.
								Makrofiete	Omvang, verspreiding en rykheid van makrofiete	Handhaaf omvang, verspreiding en rykdom van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf die huidige gebied (2014) wat deur die makrofiethabitats gedek word. Oop oppervlakte watergebied: 2.59, sand en moddervlaktes: 1.86, die area onder beheer onder reeds moet bestuur and onderhou word met n goed gekeurde omgewings bestuurs plan,die verdere verspreiding van riete en die opkoms van akwaties indringers soos die Rooiwatervaring moet voorkom word deur die vermindering van voedingstowwe toevoer. Verhoed verdere versteuring en ontwikkeling in die oewersone; verwyder uitheemse plante van die oewersone en beheer die verspreiding van tuinindringer.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Ongewerweldes	Makrofauna gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe van bentiese makrofauna en dierplankton.	Die riviermonding behoort lewensvatbare bevolkings van *Callianassa kraussi* in sanderige en *Upogebia africana* in modderige gebiede te hê. Voortplanting in albei spesies staak by soutgehalte laer as 17 ppt tydens langdurige mondfase. In *U. Afrika* en die uitvoer van larwes in Marine en voor-larwe terug na die riviermonding staak; langdurige mondsluiting moet vermy word aangesien dit sal lei tot 'n verlies van Seespesies (bv. *Pseudodiaptomus sp.)* van die dierplanktongemeenskap.
								Vis	Visgemeenskap samestelling, oorvloed en rykdom .	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, voorkom kolonisasie / toename van uitheemse spesies.	Handhaaf vissamestelling wat ten minste 2 riviermonding teelspesies (Kategorie I), 2 riviermonding afhanklike Seespesies (Kategorie II), 1 inheemse katadrome spesies (Kategorie V) en twee varswater inheemse spesies (Kategorie IV). Die inwoners van riviermonding moet numeries oorheers (> 50%), maar Marine afhanklikes, inheemse , katadrome en varswater spesies moet teenwoordig wees.

Tabel 20: Hulpbrongehaltedoelwitte vir RIVIERMONDINGS in prioriteit Hulpbronne in die Geïntegreerde Eenheid van Analise H17 Overberg Oos Fynbos

IUA	Klas	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese		
H17 Overberg Oos Fynbos	II	G40L	H17-E06	Klein Riviermonding	nXi7	B	Hoeveelheid	Vloei	MMR/MRT (% Nat)	Vloed- verbrekingsregimes om die sedimentverspreidings patrone en die waterhabitat (instroom fisiese habitat) te handhaaf sodat TPC's nie vir biota oorskry word nie.	Maande	MMR/MRT (% Nat)	84.2 Okt 83.1 Nov 85.5 Des 73.7 Jan 69.4 Feb 78.8 Mrt 78.0 Apr 83.9 Mei 82.3 Jun 86.9 Jul 89.7 Aug 90.3 Sept 85.6 Jaarlik
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriëntkonsentrasies moet nie TPC's oorskry vir makrofiete en mikroalge nie.	Volledige riviermonding en rivierinvloei: DIN <300µg/ℓ		
									DIP		Volledige riviermonding en rivierinvloei: DIP <25 µg/ℓ		

IUA	Klas	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Soutgehalte	Soutgehalte	Soutgehalteverspreiding moet nie TPC's oorskry vir vis, ongewerweldes, makrofiete en mikroalge.	5 < Soutgehalte <40
								Stelsel Veranderlikes	Opgeloste suurstof	Stelsel Veranderlikes moet nie TPC's vir biota oorskry nie.	Volledige riviermonding en rivierinvloei: DO >5mg/ℓ, turbiditeit < 5 NTU
									Turbiditeit		Turbiditeit <5 NTU
								Patogene	Enterococci	Konsentrasies van waterdraagbare patogeen moet in 'n aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤185 Enterococci/100 ml (90ste persentiel)
									Escherichia coli		≤500 E. coli/100 ml (90ste persentiel)
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat wat geskik bly vir biota wat tipies in die riviermonding gevind word.	Geslote mondtoestande behoort nie met> 10% van gevestigde basislyn te styg nie.
								Sedimente	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese matter/materiaal mag nie verander met> 30% van gevestigde basislyn.
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalgae-gemeenskap.	Handhaaf die samestelling en rykdom van fytoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	Fytoplanktonbiomassa, gemeet as waterkolom chlorofil-a moet nie 10 µg l^{-1} oorskry nie; hoë subgety bentiese mikroalge biomassa in die geslote mond fase en hoë intertydse bentiese mikroalge biomassa in die oopfase onderhou; fytoplankton biomassa mag nie 10 µg l^{-1} oorskry nie; Biomassa van bentiese mikroalge moet nie meer as 20% afwyk in vergelyking met huidige toestand konsentrasies nie; Geen brak epipeliese diatome moet tydens die geslote fase gevind word nie.

IUA	Klas	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Makrofiete	Omvang, verspreiding en rykheid van makrofiete	Handhaaf omvang, verspreiding en rykdom van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf die huidige gebied (2014) wat deur die makrofiethabitats gedek word: Oop oppervlakwatergebied: 741.6 ha; sand- en modderbanke: 79 ha; onderwater makrofiete: 92 ha; sout Moeras: 170 ha; riete en sedges: 127 ha; vloedvlakte: 280 ha (meestal ongeskonde) en 110 ha (versteur); die verspreiding van plantgemeenskapstipes in stand hou, dws onderwater makrofiet, *Ruppia cirrhosa* beddens tydens geslote mond brak toestande, sout Moeras, *Salicornia meyeriana* Moeras tydens oop mondtoestande staan in die middelste / Boonste bereik en sout Moeras wat dui op brak toestande
								Ongewerweldes	Makrofauna gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe van bentiese makrofauna en dierplankton.	Bentiese ongwerweldes: Die riviermonding behoort lewensvatbare bevolkings van *Callianassa kraussi* in sanderige en *U. Africana* in modderige gebiede te hê. Voortplanting in albei spesies staak by soutgehalte laer as 17 ppt tydens langdurige mondfase. In *U. Afrika* en die uitvoer van larwes in Marine en Postlarwes terug na die riviermonding staak; oorvloed van *C. kraussi* en *U. africana* mag nie in elke seisoen minder as 50% van die aangetekende totale vloede val nie; rekrute moet aangeteken word in bevolking (Identifiseer sones waar dit oorvloedig is van die basislynstudie en dit sal wees waar die bogenoemde geassesseer sal word); Dierplankton: Langdurige mondsluiting sal lei tot 'n verlies van seespesies (bv. *Pseudodiaptomus sp.)* Van die dierplankton gemeenskap; Oorvloed van aanwyser seespesies (bv. *Pseudodiaptomus sp.)* moet nie met meer as 50% van die huidige vlakke verander nie. .

IUA	Klas	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese	
H17 Overberg Oos Fynbos	II	G40M	H17-E07	Uilkraal Riviermonding	nxi5	C	Gehalte	Vis	Vis gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, voorkom kolonisasie / toename van uitheemse spesies.	Handhaaf die volgende vissamestellings in die riviermonding (gebaseer op oorvloed): riviermondings spesies (20-30%), riviermonding-geassosieerde seespesies (60-70%) en inheemse varswater spesies (<1%). Alle numeriese dominante spesies word voorgestel deur 0+ jeugdiges. oorvloed van riviermonding-geassosieerde Seespesies behoort nie onder 50% van die totale oorvloed te daal nie; Oorvloed van riviermondings spesies behoort nie meer as 50% van die totale oorvloed te verhoog nie. Uitheemse varswaterspesies mag nie in die riviermonding teenwoordig wees nie; 0+ jeugdiges van alle dominante vissoorte moet teenwoordig wees	
								Voëls	Avifauna gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna-groepe.	Die riviermonding moet 'n ryk avifaunal gemeenskap bevat wat verteenwoordigers van al die oorspronklike groepe insluit, 'n aansienlike aantal trekvoëls en -swaeweltjies, asook 'n gesonde broeipopulasie van inwoner waadvoëls; die riviermonding behoort duisende voëls in die somer en honderde in die winter te ondersteun; Getalle watervoëls moet nie onder 600 val nie, waadvoëls onder 100 in die somer, en swaeweltjies onder 250; Algehele getalle voëlspesies moet nie minder as 1000 vir 3 agtereenvolgende tellings daal nie.	Maande	MMR/MRT (% Nat)
												58.8 Okt
												58.8 Nov
												58.8 Des
												58.8 Jan
												58.8 Feb
												58.8 Mrt
												58.8 Apr
												58.8 Mei
												58.8 Jun
												58.8 Jul
												58.8 Aug
												58.8 Sept
												58.8 Jaarlik
							Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf 'n vloeiregime om die vereiste habitat vir voëls, vis, makrofiete, mikroalge en watergehalte te skep.		
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriënt konsentrasies moet nie	Volledige riviermonding en rivierinvloei: DIN <300µg/ℓ	
									DIP	TPCs oorskry vir makrofiete en mikroalge	Volledige riviermonding en rivierinvloei: DIP <25 µg/ℓ	
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPCs oorskry vir vis, ongewerweldes, makrofiete en mikroalge.	10 < Soutgehalte <40	

IUA	Klas	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Stelsel Veranderlikes	Opgeloste suurstof	Stelsel Veranderlikes moet nie TPC's oorskry vir biota.	Volledige riviermonding en rivierinvloei: DO > 6 mg/ℓ
									Turbiditeit		Turbiditeit < 5 NTU
								Patogene	Enterococci	Konsentrasies van waterdraagbare patogeen moet in 'n aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤185 Enterococci/100 ml) (90ste persentiel)
									Escherichia coli		≤500 E. coli/100 ml (90ste persentiel)
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat wat geskik bly vir biota wat tipies in die riviermonding gevind word.	Geslote mondtoestande behoort nie met> 10% van gevestigde basislyn te styg nie.
								Sedimente	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese matter/materiaal mag nie verander met> 30% van gevestigde basislyn.
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalgae-gemeenskap.	Handhaaf die samestelling en rykdom van fytoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	Fytoplanktonbiomassa, gemeet as waterkolom chlorofil-a moet nie 10 µg l^{-1} oorskry nie; hoë subgety bentiese mikroalge biomassa in die geslote mond fase en hoë intertydse bentiese mikroalge biomassa in die oopfase onderhou.
								Makrofiete	Omvang, verspreiding en rykheid van makrofiete	Handhaaf omvang, verspreiding en rykdom van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf die verspreiding van plantgemeenskapstipes bv. Onderwater makrofiet, *Ruppia cirrhosa* beddens tydens geslote mond brak toestande, sout moeras. , *Salicornia meyeriana* Moeras tydens oop mondtoestande, *Phragmites australis* staan in die middelste / Boonste-bereik en soutmoerasgrasse wat dui op brak toestande.
								Ongewerweldes	Makrofauna gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe van bentiese makrofauna en dierplankton.	Die riviermonding moet lewensvatbare bevolkings van *Callianassa kraussi* in sanderige gebiede en *U. Africana* in modderige gebiede hê.

IUA	Klas	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese		
H17 Overberg Oos Fynbos	II	G50A	H17-E08	Ratel Riviermonding	nxi3	B		Vis	Vis gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, voorkom kolonisasie / toename van uitheemse spesies.	Handhaaf die volgende vissamestellings in die riviermonding (gebaseer op oorvloed): riviermondings spesies (30-40%), riviermonding-geassosieerde Seespesies (60-70%) en inheemse varswater spesies (<1%). Alle numeriese dominante spesies word voorgestel deur 0+ jeugdiges.		
								Voëls	Avifauna gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna-groepe.	Die riviermonding moet 'n ryk gemeenskap bevat wat verteenwoordigers van al die oorspronklike groepe insluit, 'n aansienlike aantal trekvoëls en -swaeweltjies, asook 'n gesonde broeipopulasie van inwoner waadvoëls; Die riviermonding behoort duisende voëls in die somer en honderde in die winter te ondersteun.		
							Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf ten minste huidige basisvloei	Maande	Okt	90.0
												Nov	90.0
												Des	90.1
												Jan	90.3
												Feb	90.2
												Mrt	90.2
												Apr	90.0
												Mei	90.0
												Jun	90.0
												Jul	90.0
												Aug	90.0
												Sept	90.0
												Jaarlik	90.0
											MMR/MRT (% Nat)		
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriënt konsentrasies moet nie	Volledige riviermonding en rivierinvloei: DIN <300µg/ℓ		
									DIP	TPCs oorskry vir makrofiete en mikroalge	Volledige riviermonding en rivierinvloei: DIP <25 µg/ℓ		
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPCs oorskry vir vis, ongewerweldes, makrofiete en mikroalge.	10 < Soutgehalte <40		
								Stelsel Veranderlikes	Opgeloste suurstof	Stelsel Veranderlikes moet nie TPC's oorskry vir biota.	Volledige riviermonding en rivierinvloei: DO > 6 mg/ℓ		
									Turbiditeit		Turbiditeit < 5 NTU		
								Patogene	Enterococci	Konsentrasies van waterdraagbare patogeen moet in 'n aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤185 Enterococci/100 ml) (90ste persentiel)		
									Escherichia coli		≤500 E. coli/100 ml (90ste persentiel)		

IUA	Klas	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat verseker wat geskik bly vir biota wat tipies in die riviermonding gevind word.	Geslote mondtoestande behoort nie met> 10% van gevestigde basislyn te styg nie.
								Sedimente	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese matter/materiaal mag nie verander met> 30% van gevestigde basislyn.
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalgae-gemeenskap.	Handhaaf die samestelling en rykdom van fytoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	Handhaaf die verspreiding van verskillende fitoplanktongroepe en lae biomassa (<20 µg l-1).
								Makrofiete	Omvang, verspreiding en rykheid van makrofiete	Handhaaf omvang, verspreiding en rykdom van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf die verspreiding van huidige makrofiet habitatte,<20% verandering in die gebied wat deur verskillende makrofiet habitatte gedek word (tellings vir natuurlike veranderinge as gevolg van die dinamiese aard van riviermondings); onderwater makrofiete soos poelkruid (*Potamogeton pectinatus*) moet teenwoordig wees tydens lae vloei toestande. .
								Ongewerweldes	Makrofauna gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe van bentiese makrofauna en dierplankton.	Die riviermonding moet lewensvatbare bevolkings van *Callianassa kraussi* hê in sanderige sones en *Upogebia africana* in modderige gebiede.
								Vis	Vis gemeenskap samestelling, oorvloed en rykdom .	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, voorkom kolonisasie / toename van uitheemse spesies.	Handhaaf visversameling wat ten minste 2 riviermonding-teelspesies (Kategorie I), 3 riviermonding afhanklike Marine-spesies (Kategorie IIa en IIb) en 1 inheemse katadrome spesies (Kategorie V). Die inwoners van riviermonding behoort numeries te oorheers, maar die gedeelte van Seespesies (gebaseer op oorvloed) mag nie minder as 2% val nie.

IUA	Klas	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese		
											Maande	MMR/MRT (% Nat)	
H17 Overberg Oos Fynbos	II	G50F	H17-E09	Heuningnes Riviermonding	nxi1	B	Hoeveelheid	Vloei	MMR/MRT (% Nat)	Vloed- en verbrekingsregimes om die sedimentverspreidings patrone en die waterhabitat (instroom fisiese habitat) te handhaaf sodat TPC's nie vir biota oorskry word nie.	Okt	79.6	Volledige riviermonding en rivierinvloei: DIN <300µg/ℓ Volledige riviermonding en rivierinvloei: DIP <25 µg/ℓ Gemiddelde souutgehalte in die riviermonding is tans kunsmatig verhef as gevolg van verminderde varswaterinvloei. Teikenvlakke vir die verskillende sone is soos volg: Sone A: 30, Sone B: 14, zone C: 6, Sone D: 2 Volledige riviermonding en rivierinvloei: DO >5 mg/ℓ 8< pH <9 ≤185 Enterococci/100 ml) (90ste persentiel) ≤500 E. coli/100 ml (90ste persentiel) Geslote mondtoestande behoort nie met> 10% van gevestigde basislyn te styg nie. Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.
											Nov	77.5	
											Des	73.1	
											Jan	71.5	
											Feb	72.5	
											Mrt	76.2	
											Apr	79.1	
											Mei	79.2	
											Jun	79.0	
											Jul	78.4	
											Aug	78.7	
											Sept	78.2	
											Jaarlik	78.2	
								Voedingstowwe	DIN				
									DIP				
							Gehalte	Soutgehalte	Soutgehalte				
								Stelsel Veranderlikes	Opgeloste suurstof				
									pH				
								Patogene	Enterococci				
									Escherichia coli				
							Habitat	Hidrodinamika	Mondtoestand				
								Sedimente	Sediment eienskappe, Kanaalvorm / grootte				

IUA	Klas	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalgae-gemeenskap.	Handhaaf die samestelling en rykdom van fytoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	Fytoplanktonbiomassa, gemeet as waterkolom chlorofil-a, moet nie meer as 10 µg l^{-1} in beide die riviermonding en Soetendalsvlei (Sone D); handhaaf verskeidenheid van fitoplanktongroepe, dws diatome volop tydens die marine fase.
								Makrofiete	Omvang, verspreiding en rykheid van makrofiete	Handhaaf omvang, verspreiding en rykdom van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Gebied wat deur verskillende makrofiet habitatte besondere tussentydse en supratidale sout gebruik word. Mnr. deur die herstel van 'n meer natuurlike vloei-regime (veral somerbasisvloei) en om mond toe te laat om normaalweg so ver as moontlik te funksioneer (minimum hoogte vir kunsmatige oortreding tot 2,5 m verhoog word) oortreding wat terugvloei en grondsoutgehalte sal verhoog; Huidige gebied (2014) wat deur die makrofiethabitat gedek word, is soos volg: Oop oppervlakte wateroppervlakte: 907.92, Sand en moddervlaktes: 43,35, Onderwater makrofiete: 10.17, Riet en waterbiesies: 1154.98, Tussengangsoute Moeras: 16.18, Supratidale Sout Moeras:942.4
								Ongewerweldes	Makrofauna gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe van bentiese makrofauna en dierplankton.	Bentiese ongwerweldes: Oorvloed van *C. kraussi* en *U. Africana* behoort nie in elke seisoen minder as 50% van die aangetekende totale vloede te val nie. word in populasie aangeteken. (Identifiseer sones waar dit oorvloedig is van die basislynstudie en dit sal wees waar die bogenoemde geassesseer sal word; dierplankton: Langdurige naby mond sal lei tot 'n verlies van Seespesies (bv. *Pseudodiaptomus sp*.) uit die diereplanktongemeenskap, oorvloed van aanwyser Seespesies (bv. *Pseudodiaptomus sp*.) behoort nie met meer as 50% van die huidige vlakke te verander nie.

IUA	Kias	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
H17 Overberg Oos Fynbos	II	G50K	H17-E10	Klipdrifsfontein Riviermonding	bxi3	A	Gehalte	Vis	Vis gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, voorkom kolonisasie / toename van uitheemse spesies.	Handhaaf die volgende vissamestellings in die riviermonding (gebaseer op oorvloed): riviermondings spesies (20-30%), riviermonding-geassosieerde Seespesies (60-70%) en inheemse varswaterspesies (<1%); alle numeries dominante spesies word voorgestel deur 0+ jeugdiges; oorvloed van riviermonding-geassosieerde Seespesies behoort nie onder 50% van die totale oorvloed te daal nie; Oorvloed van riviermondings spesies behoort nie meer as 50% van die totale oorvloed te verhoog nie; Uitheemse varswaterspesies mag nie in die riviermonding teenwoordig wees nie; 0+ jongmense van alle dominante vissoorte moet teenwoordig wees
								Voëls	Avifauna gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna-groepe.	Die riviermonding moet 'n ryk avifaunal gemeenskap bevat wat verteenwoordigers van al die oorspronklike groepe insluit, 'n aansienlike aantal trekvoëls en -swaeweltjies, asook 'n gesonde broeipopulasie van inwoner waadvoëls; die riviermonding behoort duisende voëls in die somer en honderde in die winter te ondersteun; Getalle watervoëls moet nie onder 600 val nie, waadvoëls onder 100 in die somer, en swaeweltjies onder 250; Algehele getalle voëlspesies moet nie minder as 1000 vir 3 agtereenvolgende tellings daal nie.
							Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf ten minste huidige basisvloei	Maande / MMR/MRT (% Nat): Okt 62.5; Nov 68.0; Des 63.3; Jan 58.4; Feb 58.3; Mrt 65.7; Apr 68.6; Mei 64.4; Jun 60.2; Jul 61.2; Aug 66.8; Sept 64.3; Jaarlik 64.8
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriënt konsentrasies moet nie	Volledige riviermonding en rivierinvloei: DIN <300µg/ℓ
									DIP	TPCs oorskry vir makrofiete en mikroalge	Volledige riviermonding en rivierinvloei: DIP <25 µg/ℓ
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPCs oorskry vir vis, ongewerweldes, makrofiete en mikroalge.	10 < Soutgehalte <40
								Stelsel Veranderlikes	Opgeloste suurstof	Stelsel Veranderlikes moet nie TPC's oorskry vir biota.	Volledige riviermonding en rivierinvloei: DO > 6 mg/ℓ

IUA	Klas	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
									Turbiditeit		Turbiditeit < 5 NTU
								Patogene	Enterococci	Konsentrasies van waterdraagbare patogeen moet in 'n aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤185 Enterococci/100 ml) (90ste persentiel)
									Escherichia coli		≤500 E. coli/100 ml (90ste persentiel)
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat verseker wat geskik bly vir biota wat tipies in die riviermonding gevind word.	Geslote mondtoestande behoort nie met> 10% van gevestigde basislyn te styg nie.
								Sedimente	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalgae-gemeenskap.	Handhaaf die samestelling en rykdom van fytoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	Handhaaf die verspreiding van verskillende fitoplanktongroepe en lae biomassa (<20 µg l-1).
								Makrofiete	Omvang, verspreiding en rykheid van makrofiete	Handhaaf omvang, verspreiding en rykdom van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf die verspreiding van huidige makrofiet habitatte,<20% verandering in die gebied wat deur verskillende makrofiet habitatte gedek word (tellings vir natuurlike veranderinge as gevolg van die dinamiese aard van riviermondings); onderwater makrofiete soos poelkruid (*Potamogeton pectinatus*) moet teenwoordig wees tydens lae vloei toestande. .
								Ongewerweldes	Makrofauna gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe van bentiese makrofauna en dierplankton.	Die riviermonding moet lewensvatbare bevolkings van *Callianassa kraussi* hê in sanderige sones en *Upogebia africana* in modderige gebiede.

IUA	Klas	Kwartêre Opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Vis	Vis gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, voorkom kolonisasie / toename van uitheemse spesies.	Handhaaf visversameling wat ten minste 2 riviermonding-teelspesies (Kategorie I), 3 riviermonding afhanklike Marine-spesies (Kategorie IIa en IIb) en 1 inheemse katadrome spesies (Kategorie V). Die inwoners van riviermonding behoort numeries te oorheers, maar die gedeelte van Seespesies (gebaseer op oorvloed) mag nie minder as 2% val nie.

Tabel 21: Hulpbrongehaltedoelwitte vir RIVIERMONDINGS in prioriteit Hulpbronne in die Geïntegreerde Eenheid van Analise F11 Laer Breede Renosterveld

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
F11 Laer Breede Renosterveld	II	H70K	F11-E11	Breede Riviermonding	nxi2	B	Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf vloeiregime soos per ekologiese vloei aanbeveel	Maande: Okt / Nov / Des / Jan / Feb / Mrt / Apr / Mei / Jun / Jul / Aug / Sept / Jaarlik MMR/MRT (% Nat): 57.6 / 50.1 / 34.0 / 33.0 / 34.6 / 41.7 / 59.7 / 56.6 / 61.2 / 47.6 / 51.3 / 27.3 / 47.2
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriënt konsentrasies moet nie TPCs oorskry vir makrofiete en mikroalge	Volledige riviermonding en rivierinvloei: DIN <300µg/ℓ
									DIP		Volledige riviermonding en rivierinvloei: DIP <25 µg/ℓ
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPCs oorskry vir vis, ongewerweldes, makrofiete en mikroalge.	Sone A (0-15 km stroomopwaarts van mond): 40> Soutgehalte >20, Sone B (15-30 km): 30> Soutgehalte >10, Sone C (30-40 km): 20> Soutgehalte >5, Sone D (40-50 km): <10
								Stelsel Veranderlikes	Opgeloste suurstof	Stelsel Veranderlikes moet nie TPC's oorskry vir biota.	Volledige riviermonding en rivierinvloei: DO >5 mg/ℓ
								Patogene	Enterococci	Konsentrasies van waterdraagbare patogeen moet in 'n aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤185 Enterococci/100 ml) (90ste persentiel)
									Escherichia coli		≤500 E. coli/100 ml (90ste persentiel)
							Habitat	Hidrodinamika	Mondtoestand		Riviermonding mond permanent oop
									Gety verandering		Gemiddelde gety omvang naby die mond tydens lae vloei (somer) mag nie> 10% van gevestigde basislyn verander nie.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Sedimente	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalgae-gemeenskap.	Handhaaf die samestelling en rykdom van fytoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	Median fitoplankton chlorophyll a (minimum 5 plekke) moet nie 3.5 µg / ℓ oorskry nie; voorkom vorming van gelokaliseerde fitoplanktonblomme; handhaaf 'n hoë mediaan tussentydse bentiese mikroalgbiomassa; mediaan tussentydse bentiese chlorofil a (minimum 5 plekke) moet nie 42 mg / m2 oorskry nie; terrein spesifieke chlorofil 'n konsentrasie wat nie 20 µg / ℓ moet oorskry nie en seldigtheid nie 10 000 selle / ℓ oorskry nie.
								Makrofiete	Omvang, verspreiding en rykheid van makrofiete	Handhaaf omvang, verspreiding en rykdom van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf die huidige gebied (2014) wat deur die makrofiethabitats gedek word: tussentydse soutmoeras: 20.5 ha, supratidale soutmoeras: 29.55 ha, onderwater makrofiete: 6 ha, riete en sedges: 4.8 ha, sand / modderbanke: 136 ha; handhaaf die integriteit van die oorblywende supratidal soutmoeras; Hndhaaf die riet- en waterbiesies in die boonste vlakke van die riviermonding; rehabiliteer 20% van die vloedvlakte habitat deur enige landbou-berms en indringerplante te verwyder; handhaaf die integriteit van die oewersone; indringerplante (bv. *Eucalyptus*, stekelpeer, *Tamarix)*, moet nie meer as 5% van die totale vloedvlakte area oorskry nie.
								Ongewerwelde s	Makrofauna gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe van bentiese makrofauna en dierplankton.	Handhaaf ryk bevolkings van die mudprawn (modderoester) *Upogebia africana* op modderbanke in die middelmondige riviermonding (Sone B); handhaaf ryk ongewerweldese gemeenskappe wat verband hou met die REI sone in die boonste riviermonding (dierplankton en benthos); mudprawn (modderoester)digtheid moet nie met meer as 25% in elke seisoen van gemiddelde basislynvlakke afwyk nie; dominante spesies in die gebied (dierplankton en benthos) mag nie met meer as 40% in elke seisoen van gemiddelde basislynvlakke afwyk nie.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Vis	Vis gemeenskap samestelling, oorvloed en rykdom .	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, voorkom kolonisasie / toename van uitheemse spesies.	Vissamestelling behoort die 5 riviermonding verbindings kategorieë in soortgelyke verhoudings (diversiteit en oorvloed) te bevat onder die verwysing (sien 2015 EWR verslag); numerieke samestelling moet bestaan uit: Ia-riviermondings-inwoners (50-80% van die totale oorvloed), Ib-mariene en riviermondingtelers (10-20%), IIa vereis riviermonding afhanklike (10-20%), IIb-riviermonding-geassosieerde spesies (5-15 %), IIc marine opportuniste (20-80%), III marine rondswerwers (nie meer as 5% nie), IV inheemse vis (1-5%), V katadrome spesies (1-5%); Kategorie Ia spesies moet lewensvatbare bevolkings van minstens 4 spesies bevat; Kategorie IIa verpligte afhanklikes moet goed verteenwoordig word deur groot ontginte spesies.
								Voëls	Avifauna gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna-groepe.	Die riviermonding moet 'n diverse gemeenskap bevat wat verteenwoordigers van al die oorspronklike taksonomiese groepe insluit (sien die 2015 EWR-verslag). Swwswaewelblyplekke moet gereeld op die riviermond gesien word; Afgesien van meeus, seswaeweltjies en plaaslik-toenemende spesies soos Egiptiese Gans, behoort die riviermond gewoonlik meer as 200 voëls te ondersteun; nommers van voëls, behalwe meeus, swaeweltjies en regionaal toenemende spesies, moet nie vir drie agtereenvolgende tellings minder as 120 wees nie; Getalle watervoëlspesies moet nie minder as 15 vir 3 agtereenvolgende tellings wees nie

Tabel 22: Hulpbrongehaltedoelwitte vir RIVIERMONDINGS in prioriteit Hulpbronne in die Geïntegreerde Eenheid van Analise F13 Laer Gouritz

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese													
F13 Laer	II	J40E	F13-E12	Gouritz Riviermonding	gxi1	C	Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf vloeiregime volgens aanbevole ekologiese vloei.	Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept	Jaarlik
											MMR/MRT (% Nat)	53.2	59.8	53.5	46.4	53.3	59.7	61.8	66.7	62.2	62.8	74.1	57.8	59.7

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriënt konsentrasies moet nie TPCs oorskry vir makrofiete en mikroalge	Rivierinvloei: NOx-N moet nie oor 2 agtereenvolgende maande 100 µg / ℓ oorskry nie, NH3-N moet nie oor 2 agtereenvolgende maande 20 µg / ℓ oorskry nie; Riviermonding (behalwe tydens die opwelling van vloede): gemiddelde NOx-N moet nie 100 µg / ℓ oorskry nie, geen enkele meet van 150 µg / ℓ, gemiddelde NH3-N moet nie 20 µg / ℓ oorskry word nie, geen enkele meet oorskry nie 100 µg / ℓ
									DIP		Rivierinvloei: PO_4-P moet nie oor 2 agtereenvolgende maande 20 µg / ℓ oorskry nie; Riviermonding (behalwe tydens upwelling of vloede): gemiddelde PO_4-P mag nie 20 µg / ℓ tydens opname oorskry nie, geen enkele meet van 50 µg / ℓ oorskry nie.
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPCs oorskry vir vis, ongewerweldes, makrofiete en mikroalge.	Soutgehalte moet nie 0 by die riviermonding oorskry nie, gemiddelde soutgehalte in Sone C <20, Gemiddelde soutgehalte 11 km stroomop vanaf die mond> 20 vir hoogstens 3 maande die jaar, soutgehalte <40 in soutmoeras sediment.
								Stelsel Veranderlikes	Opgeloste suurstof	Stelsel Veranderlikes moet nie TPC's oorskry vir biota.	Volledige riviermonding and rivierinvloei: DO >5 mg/ℓ
								Patogene	Enterococci	Konsentrasies van waterdraagbare patogeen moet in 'n aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤185 Enterococci/100 ml) (90^{ste} persentiel)
									Escherichia coli		≤500 E. coli/100 ml (90^{ste} persentiel)
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing.	Riviermonding mond permanent oop
									Gety verandering		Gemiddelde gety omvang naby die mond tydens lae vloei (somer) mag nie> 10% van gevestigde basislyn verander nie.
								Sedimente	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalgae-gemeenskap.	Handhaaf die samestelling en rykdom van fytoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	Mediaan fitoplankton chlorophyll a (minimum 5 plekke) moet nie 3,5 µg / ℓ oorskry nie; voorkom vorming van gelokaliseerde fitoplanktonblomme; terrein spesifieke *chlorofil 'n konsentrasie oorskry 20 µg / ℓ en seldigtheid oorskry 10 000 selle* / mℓ; Mediaan tussentydse bentiese chlorofil a (minimum 5 plekke) oorskry 42 mg / m^2.
								Makrofiete	Omvang, verspreiding en rykheid van makrofiete	Handhaaf omvang, verspreiding en rykdom van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf die huidige gebied (2013) wat deur die makrofiethabitats gedek word. Oppervlakwatergebied: 298,04 ha, sand en modderbanke: 81.02 ha, riete en waterbiesies 6.72 ha, vloedvlakte (supratidal soutmoeras): 137.77 ha; Handhaaf die integriteit van die oorblywende supratidal soutmoeras; Handhaaf die riet- en waterbiesies in die boonste vlakke van die riviermonding; rehabiliteer 20% van die vloedplaas habitat deur enige landbou-berms en indringerplante te verwyder; handhaaf die integriteit van die oewersone; verandering in die gebied wat deur soutmoerashope, riete en waterbiesies bedek word, moet nie meer as 20% van die basislyn wees nie; indringerplante (bv. *Eucalyptus,* stekelpeer, *Tamarix)*, moet nie meer as 5% van die totale vloedvlakte gebied oorskry nie.
								Ongewerwelde s	Makrofauna gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe van bentiese makrofauna en dierplankton.	Handhaaf ryk bevolkings van die mudprawn (modderoester) *Upogebia africana* op modderbanke in die middelmondige riviermonding (Sones A en B); mudprawn (modderoester)/spruitdigtheid moet nie met meer as 25% in elke seisoen van gemiddelde basislynvlakke afwyk nie; handhaaf ryk ongewerweldese gemeenskappe wat verband hou met die REI sone in die boonste riviermonding (dierplankton en benthos); die dominante spesies in die gebied (dierplankton en benthos) mag nie met meer as 40% in elke seisoen van gemiddelde basislynvlakke afwyk nie.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Vis	Vis gemeenskap samestelling, oorvloed en rykdom .	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, voorkom kolonisasie / toename van uitheemse spesies.	Vissamestelling behoort die 5 riviermonding verbindings kategorieë in soortgelyke verhoudings (diversiteit en oorvloed) te bevat onder die verwysing (sien 2015 EWR verslag); numeriese samestelling moet bestaan uit: Ia-riviermondings-inwoners (50-80% van die totale oorvloed), Ib-mariene en riviermondingtelers (10-20%), IIa vereis riviermonding afhanklike (10-20%), IIb-riviermonding-geassosieerde spesies (5-15 %), IIc marine opportunis (20-80%), III mariene vagtelers (nie meer as 5% nie), IV inheemse vis (1-5%), V katadrome spesies (1-5%); Kategorie Ia spesies moet lewensvatbare bevolkings van minstens 4 spesies bevat; Kategorie IIa verpligte afhanklikes moet goed verteenwoordig word deur groot ontginte spesies.
								Voëls	Avifauna gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna-groepe.	Die riviermonding moet 'n diverse gemeenskap bevat wat verteenwoordigers van al die oorspronklike taksonomiese groepe insluit (sien die 2015 EWR-verslag). Seeswaeweltjie neste moet gereeld op die riviermond gesien word; Afgesien van meeus, seeswaeweltjies en regionaal toenemende spesies soos Egiptiese Gans, behoort die riviermond gewoonlik meer as 200 voëls te ondersteun; aantal van voëls, behalwe meeus, swaeweltjies en regionally/regionaal toenemende spesies, moet nie vir drie agtereenvolgende tellings minder as 120 wees nie; getalle watervoëlspesies moet nie minder as 15 vir 3 opeenvolgende tellings wees nie.

Tabel 23: Hulpbrongehaltedoelwitte vir RIVIERMONDINGS in prioriteit Hulpbronne in die Geïntegreerde Eenheid van Analise F12 Duiwenhoks

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
F12	III	H80E	F1	Duiwenhoks	gxi2	B	Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf vloeiregime soos per TEC	Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept	Jaarlik

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
											MMR/MRT (% Nat)	92.2	92.0	87.7	84.0	84.7	90.7	92.9	93.5	93.5	93.8	94.4	93.5	91.9
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriënt konsentrasies moet nie TPCs oorskry vir makrofiete en mikroalge	Rivierinvloei: NOx-N moet nie oor 2 agtereenvolgende maande 100 µg / ℓ oorskry nie, NH3-N moet nie oor 2 agtereenvolgende maande 20 µg / ℓ oorskry nie; Riviermonding (behalwe tydens upwelling of vloede): gemiddelde NOx-N moet nie 100 µg / ℓ oorskry nie, geen enkele meet van 150 µg / ℓ, gemiddelde NH3-N moet nie 20 µg / ℓ tydens opname oorskry word nie, geen enkele meet oorskry nie 100 µg /												
									DIP		Rivierinvloei: PO_4-P moet nie oor 2 agtereenvolgende maande 20 µg / ℓ oorskry nie; Riviermonding (behalwe tydens upwelling of vloede): gemiddelde PO_4-P mag nie 20 µg / ℓ tydens opname oorskry nie, geen enkele meet van 50 µg / ℓ oorskry nie.												
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPCs oorskry vir vis, ongewerweldes, makrofiete en mikroalge.	Soutgehalte moet nie 0 by die riviermonding oorskry nie, gemiddelde soutgehalte in Sone C <20, Gemiddelde soutgehalte 11 km stroomop vanaf die mond> 20 vir hoogstens 3 maande die jaar, soutgehalte <40 in soutmoeras sediment.												
								Stelsel Veranderlikes	Opgeloste suurstof	Stelsel Veranderlikes moet nie TPC's oorskry vir biota.	Volledige riviermonding aen rivierinvloei: DO >5 mg/ℓ												
								Patogene	Enterococci	Konsentrasies van waterdraagbare patogeen moet in 'n aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤185 Enterococci/100 ml (90^{ste} persentiel)												
									Escherichia coli		≤500 E. coli/100 ml (90^{ste} persentiel)												
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat verseker wat geskik bly vir biota wat tipies in die riviermonding gevind word.	Riviermonding mond permanent oop.												
									Gety verandering		Gemiddelde getyg omvang naby die mond verander nie meer as 30% van die hede tydens lae strome (somer) nie.												

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Sediment	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese matter/materiaal mag nie verander met> 10% van gevestigde basislyn.
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalgae-gemeenskap.	Handhaaf die samestelling en rykdom van fytoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	Mediaan fitoplankton chlorophyll a (minimum 5 plekke) moet nie 3.5 µg / ℓ oorskry nie; voorkom vorming van gelokaliseerde fitoplanktonblomme; handhaaf 'n hoë mediaan tussentydse bentiese mikroalgbiomassa; mediaan tussentydse bentiese chlorofil a (minimum 5 plekke) moet nie 42 mg / m2 oorskry nie; terrein spesifieke chlorofil 'n konsentrasie wat nie 20 µg / ℓ moet oorskry nie en seldigtheid nie 10 000 selle / ℓ oorskry nie.
								Makrofiete	Omvang, verspreiding en rykheid van makrofiete	Handhaaf omvang, verspreiding en rykdom van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf die huidige gebied (2013) wat deur die makrofiethabitats gedek word. Oppervlakwatergebied: 40 ha, Sand en modderbanke: 29 ha, Soutmoeras: 26 ha, Riet en waterbiesies 3 ha, Vloedvlakte: 6 ha; Inheemse plante (bv. Swartbosse, prickly pear, Tamarix) bedekking moet <5% van die totale vloedvlakte gebied bly; handhaaf die integriteit van die soutmoeras; hou die riet- en kronkelstande in die middel- en boonste vlakke van die monding in stand; rehabiliteer 10% van die vloedvlakte habitat deur enige landbou-berms en indringerplante te verwyder; handhaaf die integriteit van die oewersone.
								Ongewerweldes	Makrofauna gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe van bentiese makrofauna en dierplankton.	Handhaaf ryk bevolkings van die mudprawn (modderoesters) *Upogebia africana* op modderbanke in die middelmondige riviermonding (Sones A en B); mudprawn/spruitdigtheid moet nie met meer as 25% in elke seisoen van gemiddelde basislynvlakke afwyk nie; handhaaf ryk ongewerweldese gemeenskappe wat verband hou met die REI sone in die boonste riviermonding (dierplankton en benthos); die dominante spesies in die gebied (dierplankton en benthos) mag nie met meer as 40% in elke seisoen van gemiddelde basislynvlakke afwyk nie.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Vis	Vis gemeenskap samestelling, oorvloed en rykdom .	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, voorkom kolonisasie / toename van uitheemse spesies.	Vissamestelling behoort die 5 riviermonding verbindings kategorieë in soortgelyke verhoudings (diversiteit en oorvloed) te bevat onder die verwysing (sien 2015 EWR verslag); numerieke samestelling moet bestaan uit: Ia-riviermondinge-inwoners (50-80% van die totale oorvloed), Ib-mariene en riviermondingtelers (10-20%), IIa vereis riviermonding afhanklike (10-20%), IIb-riviermonding-geassosieerde spesies (5-15 %), IIc wateropportunis (20-80%), III mariene rondswerwers (nie meer as 5% nie), IV inheemse vis (1-5%), V katadrome spesies (1-5%); Kategorie Ia spesies moet lewensvatbare bevolkings van minstens 4 spesies bevat; Kategorie IIa verpligte afhanklikes moet goed verteenwoordig word deur groot ontginte spesies.
								Voëls	Avifauna gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna-groepe.	Die riviermonding moet 'n diverse gemeenskap bevat wat verteenwoordigers van al die oorspronklike taksonomiese groepe insluit (sien die 2015 EWR-verslag). Seeswaeweltjieneste moet gereeld op die riviermond gesien word; Afgesien van meeus, swaeweltjies en regionaal toenemende spesies soos Egiptiese Gans, behoort die riviermond gewoonlik meer as 200 voëls te ondersteun; aantal van voëls, behalwe meeus, swaeweltjies en plaaslik- toenemende spesies, moet nie vir drie agtereenvolgende tellings minder as 120 wees nie; getalle watervoëlspesies moet nie minder as 15 vir 3 opeenvolgende tellings wees nie

Tabel 24: Hulpbrongehaltedoelwitte vir RIVIERMONDINGS in prioriteit Hulpbronne in die Geïntegreerde Eenheid van Analise I18 Hessequa

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese													
I18 Hessequa	III	H90E	I18-E14	Goukou Riviermonding	gxi3	B/C	Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf vloeiregime soos per aanbevole ekologiese vloei.Verseker die volharding van varswater sypelingsterreine in die onderste en middelstreek	Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept	Jaarliks

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
											MMR/MRT (% Nat)	81.7	81.4	72.8	70.0	71.2	81.9	85.0	85.0	84.1	84.5	85.7	83.8	81.4
							Gehalte	Voedingstowe	DIN	van die riviermonding.Rivierinvloei moet nie daal nie.Handhaaf watervlakke in fonteine (bepaal deur basislynstudie).	Rivierinvloei: NOx-N moet nie oor 2 agtereenvolgende maande 100 µg / ℓ oorskry nie, NH3-N moet nie oor 2 agtereenvolgende maande 20 µg / ℓ oorskry nie; Riviermonding (behalwe tydens upwelling of vloede): gemiddelde NOx-N moet nie 100 µg / ℓ oorskry nie, geen enkele meet van 150 µg / ℓ, gemiddelde NH3-N moet nie 20 µg / ℓ tydens opname oorskry word nie, geen enkele meet oorskry nie 100 µg / ℓ												
										Anorganiese nutriënt konsentrasies moet nie TPCs oorskry vir makrofiete en mikroalge													
									DIP		Rivierinvloei: PO_4-P moet nie oor 2 agtereenvolgende maande 20 µg / ℓ oorskry nie; Riviermonding (behalwe tydens upwelling of vloede): gemiddelde PO_4-P mag nie 20 µg / ℓ tydens opname oorskry nie, geen enkele meet van 50 µg / ℓ oorskry nie.												
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPCs oorskry vir vis, ongewerweldes, makrofiete en mikroalge.	Soutgehalte moet nie 0 by die riviermonding oorskry nie, gemiddelde soutgehalte in Sone C <20, Gemiddelde soutgehalte 11 km stroomop vanaf die mond> 20 vir hoogstens 3 maande die jaar, soutgehalte <40 in soutmoeras sedimente												
								Stelsel Veranderlikes	Opgeloste suurstof	Stelsel Veranderlikes moet nie TPC's oorskry vir biota.	Volledige riviermonding and rivierinvloei: DO >5 mg/ℓ												
									pH		6.0 < pH > 8.0 (swartwaterstelsel)												
								Patogene	Enterococci	Konsentrasies van waterdraagbare patogeen moet in 'n aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤185 Enterococci/100 ml) (90^{ste} persentiel)												
									Escherichia coli		≤500 E. coli/100 ml (90^{ste} persentiel)												
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat verseker wat geskik bly vir biota wat tipies in die riviermonding gevind word.	Riviermonding mond permanent oop												
									Gety verandering		Gemiddelde gety omvang naby mond tydens lae vloei (somer) mag nie >10% van gevestigde basislyn verander nie.												

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Sediment	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalgae-gemeenskap.	Handhaaf die samestelling en rykdom van fytoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	Mediaan fytoplankton chlorophyll a (minimum 5 plekke) moet nie 3.5 µg / ℓ oorskry nie; voorkom vorming van gelokaliseerde fitoplanktonblomme; handhaaf 'n hoë mediaan tussentydse bentiese mikroalgbiomassa; mediaan tussentydse bentiese chlorofil a (minimum 5 plekke) moet nie 42 mg / m2 oorskry nie; terrein spesifieke chlorofil 'n konsentrasie wat nie 20 µg / ℓ moet oorskry nie en seldigtheid nie meer as 10000 selle / ℓ moet oorskry nie.
								Makrofiete	Omvang, verspreiding en rykheid van makrofiete	Handhaaf omvang, verspreiding en rykdom van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf die huidige gebied (2014) wat deur die makrofiethabitats gedek word. Oopoppervlak watergebied: 206, Sand en modder. banke: 35, onderwater makrofiete: 5, Soutmoeras: 57, Riet en waterbiesies: 21; hou riete in waterbiesies in laer en middel bereike (gekoppel aan varswater sypelingsterreine); handhaaf die riet- en waterbiesies in die boonste vlakke van die riviermonding; rehabiliteer 20% van die vloedvlakte habitat deur die verwydering van landbou en indringerplante; handhaaf die integriteit van die oewersone
								Ongewerweldes	Makrofauna gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe van bentiese makrofauna en dierplankton.	Handhaaf ryk bevolkings van die mudprawn (modderoester) *Upogebia africana* op modderbanke in die middelriviermonding (Zones A en B); mudprawn (modderoester) moet nie met meer as 25% in elke seisoen van gemiddelde basislynvlakke afwyk nie; onderhou ryk ongewerweldese gemeenskappe wat verband hou met die REI sone in die boonste riviermonding (dierplankton en benthos); die dominante spesies in die gebied (dierplankton en benthos) mag nie met meer as 40% in elke seisoen van gemiddelde basislynvlakke afwyk nie.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Vis	Vis gemeenskap samestelling, oorvloed en rykdom .	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, voorkom kolonisasie / toename van uitheemse spesies.	Vissamestelling behoort die 5 riviermonding-verbindings kategorieë in soortgelyke verhoudings (diversiteit en oorvloed) te bevat onder die verwysing (sien 2015 EWR verslag); numeriese samestelling moet bestaan uit: Ia-riviermondings-inwoners (50-80% van die totale oorvloed), Ib-mariene en riviermondingtelers (10-20%), IIa vereis riviermonding afhanklike (10-20%), IIb-riviermonding-geassosieerde spesies (5-15 %), IIc mariene opportuniste (20-80%), III mariene rondswerwers (nie meer as 5% nie), IV inheemse vis (1-5%), V katadrome spesies (1-5%); Kategorie Ia-spesies moet lewensvatbare bevolkings van minstens 4 spesies bevat (Kategorie IIa vereis dat afhanklikes goed verteenwoordig moet word deur groot ontginte spesies.
								Voëls	Avifauna gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna-groepe.	Die riviermonding moet 'n diverse gemeenskaplike gemeenskap bevat wat verteenwoordigers van al die oorspronklike taksonomiese groepe insluit (sien 2015 EWR verslag); Seeswaeweltjieneste moet gereeld op die riviermond gesien word; Afgesien van meeus, swaeweltjies en regionaal toenemende spesies soos Egiptiese Gans, behoort die riviermond gewoonlik meer as 200 voëls te ondersteun; nommers van voëls, behalwe meeus, swaeweltjies en regionaal toenemende spesies, moet nie vir drie agtereenvolgende tellings minder as 120 wees nie; Getalle watervoëlspesies moet nie minder as 15 vir 3 agtereenvolgende tellings wees nie.

Tabel 25: Hulpbrongehaltedoelwitte vir RIVIERMONDINGS in prioriteit Hulpbronne in die Geïntegreerde Eenheid van Analise 14 Groot-Brak

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
G14 Groot-Brak	III	K10F	G14-E15	Klein-Brak Riviermonding	gxi4	C	Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf 'n vloeiregime om die vereiste habitat vir voëls, vis, makrofiete, mikroalge en watergehalte te skep.	Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept	Jaarlik
											MMR/MRT (% Nat)	77.4	77.4	75.1	71.7	70.2	75.8	77.9	78.5	78.0	78.1	79.5	78.8	77.0

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriënt konsentrasies moet nie TPCs oorskry vir makrofiete en mikroalge.	Rivierinvloei: NOx-N moet nie oor 2 agtereenvolgende maande 100 µg / ℓ oorskry nie, NH3-N moet nie oor 2 agtereenvolgende maande 20 µg / ℓ oorskry nie; Riviermonding (behalwe tydens upwelling of vloede): gemiddelde NOx-N moet nie 100 µg / ℓ oorskry nie, geen enkele meet van 150 µg / ℓ, gemiddelde NH3-N moet nie 20 µg / ℓ tydens opname oorskry word nie, geen enkele meet oorskry nie 100 µg / ℓ.
									DIP		Rivierinvloei: PO_4-P moet nie oor 2 agtereenvolgende maande 20 µg / ℓ oorskry nie; Riviermonding (behalwe tydens upwelling of vloede): gemiddelde PO_4-P mag nie 20 µg / ℓ tydens opname oorskry nie, geen enkele meet van 50 µg / ℓ oorskry nie.
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPC's oorskry vir vis, ongewerweldes, makrofiete en mikroalge.	'n Soutgehalte gradiënt moet altyd teenwoordig wees in die boonste vlakke van die riviermonding (Sone D en F). 'n REI-sone moet altyd teenwoordig wees in die boonste vlakke van die riviermonding (Sone D en F), soutgehalte mag nie 35 oorskry nie.
								Stelsel Veranderlikes	Opgeloste suurstof	Stelsel Veranderlikes moet nie TPC's oorskry vir biota.	Volledige riviermonding en rivierinvloei: DO >5 mg/ℓ
									TSS		TSS <5 mg/ ℓ (lae vloei)
									pH		7.0 < pH > 8.5
								Patogene	Enterococci	Konsentrasies van waterdraagbare patogeen moet in 'n aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤185 Enterococci/100 ml) (90ste persentiel)
									Escherichia coli		≤500 E. coli/100 ml (90ste persentiel)
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat verseker wat geskik bly vir biota wat tipies in die riviermonding gevind word.	Geslote mondtoestande behoort nie met> 10% van gevestigde basislyn te styg nie.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Sediment	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalgae-gemeenskap.	Handhaaf die samestelling en rykdom van fytoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	Handhaaf lae / mediaan fytoplankton / bentiese mikroalgae biomassa: fytoplankton moet nie 3.5 µg / ℓ (mediaan) oorskry nie. fytoplankton moet nie 20 µg / ℓ en / of seldigtheid oorskry nie, nie meer as 10 000 selle / ml (eenmalig) oorskry nie; bentiese mikroalge moet nie 23 mg / m^2 (mediaan) oorskry nie; voorkom vorming van fitoplanktonblomme.
								Makrofiete	Omvang, verspreiding en rykheid van makrofiete	Handhaaf omvang, verspreiding en rykdom van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf verspreiding van makrofiet habitatte; voorkom die verspreiding van riete in oop water; verhoed dat 'n toename in voedingstowwe en makroalgblomme voorkom die verspreiding van indringende bome (bv. *Acacia* spp.) in die oewersone.
								Ongewerweldes	Makrofauna gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe van bentiese makrofauna en dierplankton.	Handhaaf ryk bevolkings van die mudprawn (modderoester) *Upogebia africana* op modderbanke in die middel riviermonding (Sones A en B); mudprawn (modderoester) moet nie met meer as 25% in elke seisoen van gemiddelde basislynvlakke afwyk nie; onderhou ryk ongewerweldese gemeenskappe wat verband hou met die REI sone in die boonste riviermonding (dierplankton en benthos); die dominante spesies in die gebied (dierplankton en benthos) mag nie met meer as 40% in elke seisoen van gemiddelde basislynvlakke afwyk nie.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
G14 Groot-Brak	III	K20A	G14-E16	Groot-Brak Riviermonding	gxi5	D	Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf 'n vloeiregime om die vereiste habitat vir voëls, vis, makrofiete, mikroalge en watergehalte te skep.	MMR/MRT (% Nat) Maande: Okt 62.2; Nov 67.3; Des 55.3; Jan 48.2; Feb 43.4; Mrt 55.7; Apr 49.2; Mei 54.9; Jun 38.3; Jul 43.7; Aug 63.4; Sept 63.8; Jaarlik 56.2
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriënt konsentrasies moet nie TPCs oorskry vir makrofiete en mikroalge.	Rivierinvloei: NOx-N moet nie oor 2 agtereenvolgende maande 100 µg / ℓ oorskry nie, NH3-N moet nie oor 2 agtereenvolgende maande 20 µg / ℓ oorskry nie; Riviermonding (behalwe tydens upwelling of vloede): gemiddelde NOx-N moet nie 100 µg / ℓ oorskry nie, geen enkele meet van 150 µg / ℓ, gemiddelde NH3-N moet nie 20 µg / ℓ oorskry word nie, geen enkele meet oorskry nie 100 µg / ℓ
								Vis	Vis gemeenskap samestelling, oorvloed en rykdom .	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, voorkom kolonisasie / toename van uitheemse spesies.	Vissamestelling behoort die 5 riviermonding verbindings kategorieë in soortgelyke verhoudings (diversiteit en oorvloed) te bevat onder die verwysing (sien 2015 EWR verslag); numerieke samestelling moet bestaan uit: Ia-riviermondinge-inwoners (50-80% van die totale oorvloed), Ib-mariene en riviermondingtelers (10-20%), IIa vereis riviermonding afhanklike (10-20%), IIb-riviermonding-geassosieerde spesies (5-15 %), IIc marine opportuniste (20-80%), III mariene rondswerwers (nie meer as 5% nie), IV inheemse vis (1-5%), V katadrome spesies (1-5%); Kategorie Ia spesies moet lewensvatbare bevolkings van minstens 4 spesies bevat; Kategorie IIa verpligte afhanklikes moet goed verteenwoordig word deur groot/ontginde spesies.
								Voëls	Avifauna gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna-groepe.	Riviermonding moet 'n diverse gemeenskap bevat wat verteenwoordigers van al die oorspronklike groepe insluit. Soutmoeras / vleilande in die vloedvlakte moet ryk wees aan voëllewe. Tussentydse gebiede moet 'n goeie digtheid en diversiteit van beide groter en kleiner waadvoëls hê; Getalle watervoëls op die hele stelsel mag nie vir drie agtereenvolgende tellings onder 30 spesies of minder as 250 voëls val nie; Getalle watervoëls in die onderste riviermonding moet nie vir drie agtereenvolgende tellings onder 10 spesies of 50 voëls (uitgesonderd swaeweltjies en meeus) val nie.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
									DIP		Rivierinvloei: PO_4-P moet nie oor 2 agtereenvolgende maande 20 µg / ℓ oorskry nie; Riviermonding (behalwe tydens upwelling of vloede): gemiddelde PO4-P mag nie 20 µg / ℓ oorskry nie, geen enkele meting van 50 µg / ℓ oorskry nie.
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPC's oorskry vir vis, ongewerweldes, makrofiete en mikroalge.	'n Soutgehalte gradiënt moet altyd teenwoordig wees in die boonste vlakke van die riviermonding (Sone D en F). 'n REI-sone moet altyd teenwoordig wees in die boonste bereike van die riviermonding (Sone D en F), soutgehalte mag nie 35 oorskry nie.
								Stelsel Veranderlikes	Opgeloste suurstof	Stelsel Veranderlikes moet nie TPC's oorskry vir biota.	Volledige riviermonding en rivierinvloei: DO >5 mg/ℓ
									pH		6 < pH > 8.5 in riviermonding
								Patogene	Enterococci		≤185 Enterococci/100 ml) (90^{ste} persentiel)
									Escherichia coli		≤500 E. coli/100 ml (90^{ste} persentiel)
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat verseker wat geskik bly vir biota wat tipies in die riviermonding gevind word.	Geslote mondtoestande behoort nie met> 10% van gevestigde basislyn te styg nie.
								Sediment	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalgae-gemeenskap.	Handhaaf die samestelling en rykdom van fytoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	Handhaaf lae fytoplanktonbiomassa. Handhaaf mikroalgegroepdiversiteit soos gemeet vir die basislyn opname; fytoplankton biomassa behoort nie met meer as 20% bo basislyn konsentrasies te styg nie; fytoplankton groepdiversiteit om nie meer as 20% van basisln toestande te verander nie; hoë subtydale bentiese mikroalgbiomassa in die geslote mondfase en lae tussentydse bentiese mikroalgbiomassa in die oopfase te handhaaf; Epipeliese diatome dui op brak toestande tydens die geslote fase.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Makrofiete	Omvang, verspreiding en rykheid van makrofiete	Handhaaf omvang, verspreiding en rykdom van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf verspreiding van makrofiet habitatte soos vir hede (2013): Onderwater makrofiet, *Ruppia cirrhosa* beddens: ~ 5 ha, *Zostera capensis* teenwoordig tydens oop mondtoestande, tussentydse soutmoeras: ~ 13 ha, supratidale en vloedvlak soutmoer: ~ 26.6 ha), Reed (*Phragmites australis*) en waterbiesie staan in die middel / boonste bereik: ~ 2,5 ha); voorkom buitensporige filamentiese makrogalgroei. Oppervlakte bedek moet die helfte wees wat bedek word deur onderwater makrofiete en minder as 50% van die oop wateroppervlakte; handhaaf die sonering van soutmoeras en verspreiding van verskillende spesies langs 'n hoogtegradiënt. Verseker die langtermyn-volharding van tussentydse soutmoeras spesies soos *Triglochin spp.* en *Cotula coronopifolia*; voorkom hipersalien sediment en grondwater toestande in die soutmoeras. Sediment elektriese geleidingsvermoë moet ongeveer 30 mS wees en soortgelyk aan grondwaterwaardes.
								Ongewerweldes	Makrofauna gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe van bentiese makrofauna en dierplankton.	Digtheid van mudprawn moet meer as 100-150 graafdiergetalle per m2 in die hoogste digtheidsareas wees; In die dierplankton moet die digtheid van Pseudodiaptomus hessei die vlakke van ongeveer 5000-10000 m3 in die boonste riviermonding in die lente oorskry. Soutgehalte variasie in die riviermonding is hoogs veranderlik en die mond bly vir lang periodes gesluit - dit kan ook lei tot die tydelike afwesigheid van sommige ongewerweldese spesies wat hier verwag kan word.
								Vis	Vis gemeenskap samestelling, oorvloed en rykdom .	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, voorkom kolonisasie / toename van uitheemse spesies.	Vissamestelling behoort die vyf riviermonding verbindings kategorieë in soortgelyke verhoudings (diversiteit en oorvloed) te bevat onder die verwysing. Numeries moet samestelling bestaan uit: Riviermonding spesies (40-60%), Riviermonding-geassosieerde seespesies (30-50%), Inheemse varswatervis (1-5%); Kategorie Ia spesies moet lewensvatbare bevolkings van minstens twee spesies bevat (bv. *G. aestuaria, & Hyporamphus capensis)*; Kategorie IIa verpligte afhanklikes moet goed verteenwoordig word deur ten minste twee groot ontginte spesies.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
G14 Groot-Brak	III	K10A	G14-E17	Blinde Riviermonding	gxi19	B		Voëls	Avifauna gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna-groepe.	Handhaaf die spesiesrykheid, oorvloed en digtheid van voëltellings van inwoners en trekvoëls, meeus, swaeweltjies, waadvoëls en watervoëls binne 15% van die huidige staat. (2006).												
							Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf die vloeiregime so naby moontlik teenwoordig (klein stelsel benodig die meeste vloei).	Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept	Jaarlik
											MMR/MRT (% Nat).	69.6	69.9	67.8	65.6	64.8	68.7	69.3	70.1	69.0	69.9	70.7	70.3	69.2
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriënt konsentrasies moet nie TPCs oorskry vir makrofiete en mikroalge.	DIN moet nie 100 µg/ℓ (gemiddelde) oorskry nie.												
									DIP		DIP moet nie 20 µg/ℓ (gemiddelde) oorskry nie.												
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPC's oorskry vir vis, ongewerweldes, makrofiete en mikroalge.	<20 (verwagte omvang 5-15)												
								Stelsel Veranderlikes	Opgeloste suurstof	Stelsel Veranderlikes moet nie TPC's oorskry vir biota.	>5 mg/l												
									Turbiditeit		Turbiditeit moet nie 10 NTU in lae vloeiseisoen oorskry nie.												
								Patogene	Enterococci	Konsentrasies van waterdraagbare patogeen moet in 'n aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤185 Enterococci/100 ml) (90ste persentiel)												
									Escherichia coli		≤500 E. coli/100 ml (90ste persentiel)												
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat verseker wat geskik bly vir biota wat tipies in die riviermonding gevind word.	Geslote mondtoestande behoort nie met> 10% van gevestigde basislyn te styg nie.												
								Sediment	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.												

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
						Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalgae-gemeenskap.	Handhaaf die samestelling en rykdom van fytoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	Handhaaf lae / mediaan fytoplankton / bentiese mikroalgae biomassa: fytoplankton moet nie 3.5 µg / ℓ (mediaan) oorskry nie. fytoplankton moet nie 20 µg / ℓ en / of seldigtheid oorskry nie, nie meer as 10 000 selle / ml (eenmalig) oorskry nie; bentiese mikroalge moet nie 23 mg / m^2 (mediaan) oorskry nie; voorkom vorming van fitoplanktonblomme.
							Makrofiete	Omvang, verspreiding en rykheid van makrofiete	Handhaaf omvang, verspreiding en rykdom van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf verspreiding van makrofiet habitats. Riet en waterbiesies: 0,04 ha, Sand / modderbanke: 0,05 ha, Oop water: 1,66 ha; voorkom die verspreiding van riete in oop water; verhoed dat 'n toename in voedingstowwe en makroalgblomme voorkom die verspreiding van indringende bome (bv. *Acacia* spp.) in die oewersone.
							Ongewerweldes	Makrofauna gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe van bentiese makrofauna en dierplankton.	Vestig die teenwoordigheid / afwesigheid van sandkrewel *Callichirus kraussi* op sandbanke in die onderste riviermonding; vestig die teenwoordigheid / afwesigheid van die copepod *Pseudodiaptomus hessei* of riviermonding congeneric in die dierplankton van die riviermonding; bevolkings van hierdie spesies moet nie van gemiddelde basislyne afwyk nie (soos in eerste drie besoeke bepaal) met meer 30%
							Vis	Vis gemeenskap samestelling, oorvloed en rykdom .	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, voorkom kolonisasie / toename van uitheemse spesies.	Handhaaf vissamestelling wat ten minste 2 riviermondinge voortplantingspesies (Kategorie I), 3 riviermondingsafhanklike seespesies insluit (Kategorie IIa en IIb) en 1 inheemse katadrome spesies (Kategorie V); Die inwoners van riviermondings moet numeries oorheers, maar die verhouding van riviermondings afhanklike seespesies (gebaseer op oorvloed) moet nie minder as 2% val nie.
							Voëls	Avifauna gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna-groepe.	Handhaaf bevolking van oorspronklike groepe voëls teenwoordig op die riviermonding; aantal voëls in enige groep, behalwe spesies wat regionaal toeneem soos Egiptiese ganse, moet nie onder die basislynmedian val nie (bepaal deur vorige data en of aanvanklike opnames) aantal spesies en / of voëls getel vir drie agtereenvolgende somer of winter tellings.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
											Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept	Jaarlik
											MMR/MRT (% Nat)	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3
G14 Groot-Brak	III	K10A	G14-E18	Tweekuilen Riviermonding	gxi20	D	Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf vloeiregime so naby moontlik aanwesig (klein stelsel benodig die meeste vloei)	DIN moet nie 100 µg/ℓ (gemiddelde) oorskry nie.												
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriënt konsentrasies moet nie TPCs oorskry vir makrofiete en mikroalge.	DIP moet nie 20 µg/ℓ (gemiddelde) oorskry nie.												
									DIP														
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPC's oorskry vir vis, ongewerweldes, makrofiete en mikroalge.	<20 (verwagte omvang 5-15)												
								Stelsel Veranderlikes	Opgeloste suurstof	Stelsel Veranderlikes moet nie TPC's oorskry vir biota.	>5 mg/l												
								Patogene	Enterococci		≤185 Enterococci/100 ml) (90ste persentiel)												
									Escherichia coli		≤500 E. coli/100 ml (90ste persentiel)												
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat verseker wat geskik bly vir biota wat tipies in die riviermonding gevind word.	Geslote mondtoestande behoort nie met> 10% van gevestigde basislyn te styg nie.												
								Sediment	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.												
								Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalgae-gemeenskap.	Handhaaf die samestelling en rykdom van fytoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	Handhaaf lae / mediaan fytoplankton / bentiese mikroalge biomassa: fytoplankton moet nie meer as 3,5 µg / ℓ (mediaan), fytoplankton nie 20 µg / ℓ en / of seldigtheid oorskry nie, nie meer as 10 000 selle / ml (eenmalig) oorskry nie; bogeniese mikroalge moet nie 23 mg / m2 (mediaan) oorskry nie; voorkom vorming van fitoplanktonblomme.												

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese		
G14 Groot-Brak	III	K10A	G14-E19	Gerieke Riviermonding	gxi21	C	Hoeveelheid	Makrofiete	Omvang, verspreiding en rykheid van makrofiete	Handhaaf omvang, verspreiding en rykdom van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf verspreiding van makrofiethabitat. Riet en waterbiesies: 0,04 ha, Sand / modderbanke: 0,05 ha, Oop water: 1,66 ha; voorkom die verspreiding van riete in oop water; verhoed dat 'n toename in voedingstowwe en makroalglomme voorkom die verspreiding van indringende bome (bv. *Acacia spp.)* in die oewersone.		
								Ongewerweldes	Makrofauna gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe van bentiese makrofauna en dierplankton.	Vestig die teenwoordigheid / afwesigheid van sandkrewel *Callichirus kraussi* op sandbanke in die onderste riviermonding; vestig die teenwoordigheid / afwesigheid van die copepod *Pseudodiaptomus hessei* of riviermonding kongeneries in die dierplankton van die riviermonding; bevolkings van hierdie spesies moet nie van gemiddelde basislyne afwyk nie (soos in eerste drie besoeke bepaal) met meer 30%.		
								Vis	Vis gemeenskap samestelling, oorvloed en rykdom .	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, voorkom kolonisasie / toename van uitheemse spesies.	Handhaaf vissamestelling wat ten minste 2 riviermondinge voortplantingspesies (Kategorie I), 3 riviermondingsafhanklike seespesies insluit (Kategorie IIa en IIb) en 1 inheemse katadrome spesies (Kategorie V); Die inwoners van riviermondings moet numeries oorheers, maar die verhouding van riviermondings afhanklike seespesies (gebaseer op oorvloed) moet nie minder as 2% val nie.		
								Voëls	Avifauna gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna-groepe.	Handhaaf bevolking van oorspronklike groepe voëls teenwoordig op die riviermonding; aantal voëls in enige groep, behalwe spesies wat regionaal toeneem soos Egiptiese ganse, moet nie onder die basislynmediaan val nie (bepaal deur vorige data en of aanvanklike opnames) aantal spesies en / of voëls getel vir drie agtereenvolgende somer of winter tellings.		
							Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf die vloeiregime so naby moontlik teenwoordig (klein stelsel benodig die meeste vloei).	Maande	Okt	72.3
												Nov	72.3
												Des	72.3
												Jan	72.3
												Feb	72.3
												Mrt	72.3
												Apr	72.3
												Mei	72.3
												Jun	72.3
												Jul	72.3
												Aug	72.3
												Sept	72.3
												Jaarlik	72.3
											MMR/MRT (% Nat)	DIN moet nie 100 µg/ℓ (gemiddelde) oorskry nie.	
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriënt konsentrasies moet nie TPCs oorskry vir makrofiete en mikroalge.	DIP moet nie 20 µg/ℓ (gemiddelde) oorskry nie.		
									DIP				

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPC's oorskry vir vis, ongewerweldes, makrofiete en mikroalge.	<20 (verwagte omvang 5-15)
								Stelsel Veranderlikes	Opgeloste suurstof	Stelsel Veranderlikes moet nie TPC's oorskry vir biota.	>5 mg/l
								Patogene	Enterococci		≤185 Enterococci/100 ml) (90ste persentiel)
									Escherichia coli		≤500 E. coli/100 ml (90ste persentiel)
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat verseker wat geskik bly vir biota wat tipies in die riviermonding gevind word.	Geslote mondtoestande behoort nie met> 10% van gevestigde basislyn te styg nie.
								Sediment	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalgae-gemeenskap.	Handhaaf die samestelling en rykdom van fytoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	Handhaaf lae / mediaan fytoplankton / bentiese mikroalge biomassa: fytoplankton moet nie meer as 3,5 µg / ℓ (mediaan), fytoplankton nie 20 µg / ℓ en / of seldigtheid oorskry nie, nie meer as 10 000 selle / ml (eenmalig) oorskry nie; bogeniese mikroalge moet nie 23 mg / m2 (mediaan) oorskry nie; voorkom vorming van fitoplanktonblomme.
								Makrofiete	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalgae-gemeenskap.	Handhaaf die samestelling en rykdom van fytoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	Handhaaf verspreiding van makrofiethabitat. Riet en waterbiesies: 0,04 ha, Sand / modderbanke: 0,05 ha, Oop water: 1,66 ha; voorkom die verspreiding van riete in oop water; verhoed dat 'n toename in voedingstowwe en makroalgblomme voorkom die verspreiding van indringende bome (bv. *Acacia spp.)* in die oewersone.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Ongewerweldes	Omvang, verspreiding en rykheid van makrofiete	Handhaaf omvang, verspreiding en rykdom van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Vestig die teenwoordigheid / afwesigheid van sandkrewel *Callichirus kraussi* op sandbanke in die onderste riviermonding; vestig die teenwoordigheid / afwesigheid van die copepod *Pseudodiaptomus hessei* of riviermonding congeneric in die dierplankton van die riviermonding; bevolkings van hierdie spesies moet nie van gemiddelde basislyne afwyk nie (soos in eerste drie besoeke bepaal) met meer 30%.
								Vis	Vis gemeenskap samestelling, oorvloed en rykdom .	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, voorkom kolonisasie / toename van uitheemse spesies.	Handhaaf vissamestelling wat ten minste 2 riviermondinge voortplantingspesies (Kategorie I), 3 riviermondingsafhanklike seespesies insluit (Kategorie IIa en IIb) en 1 inheemse katadrome spesies (Kategorie V); Die inwoners van riviermondings moet numeries oorheers, maar die verhouding van riviermondings afhanklike seespesies (gebaseer op oorvloed) moet nie minder as 2% val nie.
								Voëls	Avifauna gemeenskap samestelling, oorvloed en rykdom.	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna-groepe.	Handhaaf bevolking van oorspronklike groepe voëls teenwoordig op die riviermonding; aantal voëls in enige groep, behalwe spesies wat regionaal toeneem soos Egiptiese ganse, moet nie onder die basislynmediaan val nie (bepaal deur vorige data en of aanvanklike opnames) aantal spesies en / of voëls getel vir drie agtereenvolgende somer of winter tellings.
G14 Groot-Brak	III	K10B	G14-E20	Hartenbos Riviermonding	gxi22	C	Gehalte	Vloei	MMR/MRT (% Nat)	Handhaaf ten minste die huidige basisvloei.	Maande / MMR/MRT (% Nat): Okt 59.7; Nov 64.0; Des 68.7; Jan 71.1; Feb 67.4; Mrt 60.3; Apr 64.2; Mei 64.7; Jun 65.9; Jul 60.8; Aug 66.1; Sept 66.9; Jaarlik 65.0
								Voedingstowwe	DIN	Anorganiese nutriëntkonsentrasies moet nie TPC's oorskry vir makrofiete en mikroalge nie.	Volledige riviermonding en rivierinvloei: DIN <200µg/ℓ
									DIP		Volledige riviermonding en rivierinvloei: DIP <50 µg/ℓ
								Soutgehalte	Soutgehalte	Soutgehalte verspreidng moet nie TPCs oorskry vir vis, ongewerweldes, makrofiete en mikroalge	Gemiddelde soutgehalte langs die riviermonding mag nie meer as 5 onder basislyn gemiddelde daal nie.
								Stelsel	Turbiditeit	Stelsel veranderlikes moet	Turbiditeit <20 NTU in lae vloei seisoen

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Veranderlikes	Sechii diepte	nie TPC's oorskry vir biota.	Sechii diepte should >0.5 m in the fresher part of the riviermonding
									Opgeloste suurstof		>5 mg/l
								Patogene	Enterococci	Konsentrasies van waterdraagbare patogeen moet in 'n aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤185 Enterococci/100 ml) (90ste persentiel)
									Escherichia coli		≤500 E. coli/100 ml (90ste persentiel)
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat verseker wat geskik bly vir biota wat tipies in die riviermonding gevind word.	Geslote mondtoestande behoort nie met> 10% van gevestigde basislyn te styg nie.
								Sediment	Sediment characteristics, Channel shape/size	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalgae-gemeenskap.	Handhaaf die samestelling en rykdom van fytoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	Handhaaf lae / mediaan fytoplankton / bentiese mikroalgae biomassa. Fytoplankton mag nie 8 µg / ℓ (mediaan) oorskry nie. Fytoplankton mag nie 20 µg / ℓ en / of seldigtheid oorskry nie, nie meer as 10 000 selle / ml (eenmalig) oorskry nie; Bentiese mikroalge moet nie 42 mg / m2 (mediaan), dinoflagellate, chlorofiete en / of sianobakterieë> 10% van die verwante oorvloed oorskry nie
								Makrofiete	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalgae-gemeenskap.	Handhaaf die samestelling en rykdom van fytoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	Handhaaf verspreiding van makrofiet habitat; voorkom die verspreiding van riete in oop water; verhoed dat 'n toename in voedingstowwe en makroalgblomme voorkom die verspreiding van indringende bome (bv. *Acacia spp.*) in die oewersone.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
							Ongewerweldes	Omvang, verspreiding en rykheid van makrofiete	Handhaaf omvang, verspreiding en rykdom van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Vestig die teenwoordigheid / afwesigheid van sandkrewel *Callichirus kraussi* op sandbanke in die onderste riviermonding; vestig die teenwoordigheid / afwesigheid van die copepod *Pseudodiaptomus hessei* of riviermonding congeneric in die dierplankton van die riviermonding; bevolkings van hierdie spesies moet nie van gemiddelde basislyne afwyk nie (soos in eerste drie besoeke bepaal) met meer 30%.
							Vis	Vis gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, verhoed kolonisasie / toename van uitheemse spesies.	Vissamestelling behoort die 5 riviermonding-verbindings kategorieë in soortgelyke verhoudings (diversiteit en oorvloed) te bevat onder die verwysing (sien 2015 EWR verslag); numeriese samestelling moet bestaan uit: Ia-riviermondings-inwoners (50-80% van die totale oorvloed), Ib-marine en riviermondingtelers (10-20%), IIa vereis riviermonding afhanklike (10-20%), IIb-riviermonding-geassosieerde spesies (5-15 %), IIc mariene opportuniste (20-80%), III mariene rondswerwers (nie meer as 5% nie), IV inheemse vis (1-5%), V katadrome spesies (1-5%); Kategorie Ia-spesies moet lewensvatbare bevolkings van minstens 4 spesies bevat (Kategorie IIa vereis dat afhanklikes goed verteenwoordig moet word deur groot ontginte spesies.
							Voëls	Avifauna gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna groepe	Handhaaf bevolking van oorspronklike groepe voëls teenwoordig op die riviermonding; aantal voëls in enige groep, behalwe spesies wat regionaal toeneem soos Egiptiese ganse, moet nie onder die basislynmediaan val nie (bepaal deur vorige data en of aanvanklike opnames) aantal spesies en / of voëls getel vir drie agtereenvolgende somer of winter tellings.

Tabel 26: Hulpbrongehaltedoelwitte vir RIVIERMONDINGS in prioriteit Hulpbronne in die Geïntegreerde Eenheid van Analise G15 Kus

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
											Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept	Jaarlik
											MMR/MRT (% Nat)	80.3	79.1	74.5	73.4	71.3	80.5	82.1	82.7	85.9	84.3	83.7	81.9	79.3
G15 Kus	II	K30A	G15-E21	Maalgate Riviermonding	gxi6	B	Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf vloeiregime (klein stelsel benodig meeste vloei).	Volledige riviermonding en rivierinvloei: DIN <100µg/ℓ												
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriëntkonsentrasies moet nie TPC's oorskry vir makrofiete en mikroalge.													
									DIP		Volledige riviermonding en rivierinvloei: DIP <20 µg/ℓ												
								Soutgehalte	Soutgehalte	Soutgehalteverspreiding moet nie TPC's oorskry vir vis, ongewerweldese diere, makrofiete en mikroalge	Gemiddelde soutgehalte >10												
								Stelsel Veranderlikes	Turbiditeit	Stelsel veranderlikes moet nie TPC's oorskry vir biota	<10 NTU in lae vloei seisoen												
									Opgeloste suurstof		>5 mg/l												
								Patogene	Enterococci	Konsentrasies van waterdraagbare patogeen moet in 'n aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤185 Enterococci/100 ml) (90ste persentiel)												
									Escherichia coli		≤500 E. coli/100 ml (90ste persentiel)												
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat verseker wat geskik bly vir biota wat tipies in die riviermonding gevind word.	Geslote mondtoestande behoort nie met> 10% van gevestigde basislyn te styg nie.												
								Sediment	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm/grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.												

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalge-gemeenskap.	Handhaaf die samestelling en rykheid van fytoplankton- en bentiese mikroalgae groepe en medium lae biomassa.	Handhaaf lae / mediaan fytoplankton / bentiese mikroalgae biomassa: fytoplankton mag nie 1 µg / ℓ (mediaan) oorskry nie. fytoplankton moet nie 20 µg / ℓ en / of seldigtheid oorskry nie, nie meer as 10 000 selle / ml (eenmalig) oorskry nie; bogeniese mikroalge moet nie 23 mg / m2 (mediaan) oorskry nie; voorkom vorming van fitoplanktonblomme.
								Makrofiete	Omvang, verspreiding en rykdom van makrofiete	Handhaaf omvang, verspreiding en rykheid van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf verspreiding van makrofiet habitats, voorkom die verspreiding van riete in oop water; verhoed dat 'n toename in voedingstowwe en makroalgblomme voorkom die verspreiding van indringende bome (bv. Acacia spp.) in die oewersone.
								Ongewerweldes	Makrofauna-samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe bentiese makrofauna en dierplankton.	Vestig teenwoordigheid / afwesigheid van sandkrewel. *Callichirus kraussi* op sandbanke in die onderste riviermonding, vestig die teenwoordigheid / afwesigheid van die copepod *Pseudodiaptomus* hessei of riviermonding kongeneries. In die dierplankton van die riviermonding mag die bevolking van hierdie spesies nie afwyk van gemiddelde basislyne (soos bepaal in eerste drie besoeke) met meer 30%
								Vis	Vis gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, verhoed kolonisasie / toename van uitheemse spesies.	Handhaaf vissamestelling wat ten minste 2 riviermondings voortplantingspesies (Kategorie I), 3 riviermondingsafhanklike seespesies insluit (Kategorie IIa en IIb) en 1 inheemse katadrome spesies (Kategorie V); Die inwoners van riviermondings moet numeries oorheers, maar die verhouding van riviermondings afhanklike seespesies (gebaseer op oorvloed) moet nie minder as 2% val nie.
								Voëls	Avifauna gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna groepe	Handhaaf bevolking van oorspronklike groepe voëls teenwoordig op die riviermonding; aantal voëls in enige groep, behalwe spesies wat regionaal toeneem soos Egiptiese ganse, moet nie onder die basislynmediaan val nie (bepaal deur vorige data en of aanvanklike opnames) aantal spesies en / of voëls getel vir drie agtereenvolgende somer of winter tellings.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
											Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept	Jaarlik
G15 Kus	II	K30B	G15-E22	Gwaing Riviermonding	gxi7	B	Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf die vloeiregime so naby moontlik teenwoordig (klein stelsel benodig die meeste vloei).	MMR/MRT (% Nat)	84.9	84.3	82.8	83.0	81.6	84.8	86.3	87.0	89.1	87.8	86.8	86.1	85.0
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriënt konsentrasies moet nie	Volledige riviermonding en rivierinvloei: DIN <100µg/ℓ													
									DIP	TPCs oorskry vir makrofiete en mikroalge.	Volledige riviermonding en rivierinvloei: DIP <20 µg/ℓ													
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPC's oorskry vir vis, ongewerweldes, makrofiete en mikroalge.	Gemiddelde soutgehalte >10													
								Stelsel Veranderlikes	Turbiditeit	Stelsel Veranderlikes moet nie TPC's oorskry vir biota.	<10 NTU in lae vloei seisoen													
									Opgeloste suurstof		>5 mg/l													
								Patogene	Enterococci	Konsentrasies van waterdraagbare patogeen moet in 'n aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤185 Enterococci/100 ml) (90^{ste} persentiel)													
									Escherichia coli		≤500 E. coli/100 ml (90^{ste} persentiel)													
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met marine omgewing	Geslote mondtoestande behoort nie met> 10% van gevestigde basislyn te styg nie.													
								Sediment	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.													
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalge-gemeenskap.	Handhaaf die samestelling en rykheid van fytoplankton- en bentiese mikroalgae groepe en medium lae biomassa.	Handhaaf lae / mediaan fytoplankton / bentiese mikroalgae biomassa: fytoplankton mag nie 3.5 µg / ℓ (mediaan) oorskry nie. fytoplankton moet nie 20 µg / ℓ en / of seldigtheid oorskry nie, nie meer as 10 000 selle / ml (eenmalig) oorskry nie; bentiese mikroalge moet nie 23 mg / m2 (mediaan) oorskry nie; voorkom vorming van fitoplanktonblomme.													

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
G15 Kus	II	K30C	G15-E23	Kaaimans Riviermonding	gxi8	B	Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf vloeiregime (klein stelsel benodig die meeste vloei).	Maande: Okt 70.9; Nov 74.5; Des 74.7; Jan 70.7; Feb 70.4; Mrt 72.8; Apr 72.3; Mei 73.7; Jun 69.5; Jul 67.3; Aug 74.1; Sept 73.8; Jaarlik 72.5 MMR/MRT (% Nat)
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriënt konsentrasies moet nie	Volledige riviermonding en rivierinvloei: DIN <100µg/ℓ
									DIP	TPCs oorskry vir makrofiete en mikroalge.	Volledige riviermonding en rivierinvloei: DIP <20 µg/ℓ
							Makrofiete		Omvang, verspreiding en rykdom van makrofiete	Handhaaf omvang, verspreiding en rykheid van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf verspreiding van makrofiet habitats, voorkom die verspreiding van riete in oop water; verhoed dat 'n toename in voedingstowwe en makroalgblomme voorkom die verspreiding van indringende bome (bv. Acacia spp.) in die oewersone.
							Ongewerweldes		Makrofauna-samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe bentiese makrofauna en dierplankton.	Vestig teenwoordigheid / afwesigheid van sandkrewel. *Callichirus kraussi* op sandbanke in die onderste riviermonding, vestig die teenwoordigheid / afwesigheid van die copepod Pseudodiaptomus hessei of riviermonding kongeneries In die dierplankton van die riviermonding mag die bevolking van hierdie spesies nie afwyk van gemiddelde basislyne (soos bepaal in eerste drie besoeke) met meer 30%
							Vis		Vis gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, verhoed kolonisasie / toename van uitheemse spesies.	Handhaaf vissamestelling wat ten minste 2 riviermondings voortplantingspesies (Kategorie I), 3 riviermondingsafhanklike seespesies insluit (Kategorie IIa en IIb) en 1 inheemse katadrome spesies (Kategorie V); Die inwoners van riviermondings moet numeries oorheers, maar die proportion/verhouding van riviermondings afhanklike seespesies (gebaseer op oorvloed) moet nie minder as 2% val nie.
							Voëls		Avifauna gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna groepe	Handhaaf bevolking van oorspronklike groepe voëls teenwoordig op die riviermonding; aantal voëls in enige groep, behalwe spesies wat regionaal toeneem soos Egiptiese ganse, moet nie onder die basislynmediaan val nie (bepaal deur vorige data en of aanvanklike opnames) aantal spesies en / of voëls getel vir drie agtereenvolgende somer of winter tellings.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPC's oorskry vir vis, ongewerweldes, makrofiete en mikroalge.	Gemiddelde soutgehalte >10
								Stelsel Veranderlikes	Turbiditeit	Stelsel Veranderlikes moet nie TPC's oorskry vir biota.	<10 NTU in lae vloei seisoen
									Opgeloste suurstof		>5 mg/l
								Patogene	Enterococci	Konsentrasies van waterdraagbare patogeen moet in 'n aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤185 Enterococci/100 ml) (90ste persentiel)
									Escherichia coli		≤500 E. coli/100 ml (90ste persentiel)
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat verseker wat geskik bly vir biota wat tipies in die riviermonding gevind word.	Riviermonding mond permanent oop
									Gety verandering		Gemiddelde gety omvang naby mond tydens lae vloei (somer) mag nie >10% van gevestigde basislyn verander nie.
								Sediment	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalge-gemeenskap.	Handhaaf die samestelling en rykheid van fytoplankton- en bentiese mikroalgae groepe en medium lae biomassa.	Handhaaf lae / mediaan fytoplankton / bentiese mikroalgae biomassa: fytoplankton mag nie 3.5 µg / ℓ (mediaan) oorskry nie. fytoplankton moet nie 20 µg / ℓ en / of seldigtheid oorskry nie, nie meer as 10 000 selle / ml (eenmalig) oorskry nie; bentiese mikroalge moet nie 23 mg / m2 (mediaan) oorskry nie; voorkom vorming van fitoplanktonblomme.
								Makrofiete	Omvang, verspreiding en rykdom van makrofiete	Handhaaf omvang, verspreiding en rykheid van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf verspreiding van makrofiet habitats, voorkom die verspreiding van riete in oop water; verhoed dat 'n toename in voedingstowwe en makroalgblomme voorkom die verspreiding van indringende bome (bv. Acacia spp.) in die oewersone.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese	
								Ongewerweldes	Makrofauna-samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe bentiese makrofauna en dierplankton.	Vestig teenwoordigheid / afwesigheid van sandkrewel. *Callichirus kraussi* op sandbanke in die onderste riviermonding, vestig die teenwoordigheid / afwesigheid van die copepod Pseudodiaptomus hessei of riviermonding kongeneries In die dierplankton van die riviermonding mag die bevolking van hierdie spesies nie afwyk van gemiddelde basislyne (soos bepaal in eerste drie besoeke) met meer 30%	
								Vis	Vis gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, verhoed kolonisasie / toename van uitheemse spesies.	Handhaaf vissamestelling wat ten minste 2 riviermondings voortplantingspesies (Kategorie I), 3 riviermondingsafhanklike seespesies insluit (Kategorie IIa en IIb) en 1 inheemse katadrome spesies (Kategorie V); Die inwoners van riviermondings moet numeries oorheers, maar die proporsie van die riviermondings-afhanklike seespesies (gebaseer op oorvloed) moet nie minder as 2% val nie.	
								Voëls	Avifauna gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna groepe	Handhaaf bevolking van oorspronklike groepe voëls teenwoordig op die riviermonding; aantal voëls in enige groep, behalwe spesies wat regionaal toeneem soos Egiptiese ganse, moet nie onder die basislynmediaan val nie (bepaal deur vorige data en of aanvanklike opnames) aantal spesies en / of voëls getel vir drie agtereenvolgende somer of winter tellings.	
G15 Kus	II	K30D	G15-E24	Wilderness Riviermonding	gxi9	B	Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf 'n vloeiregime om die vereiste habitat vir voëls, vis, makrofiete, mikroalge en watergehalte te skep.	Maande	MMR/MRT (% Nat)
											Okt	89.7
											Nov	90.9
											Des	87.2
											Jan	84.5
											Feb	83.5
											Mrt	85.5
											Apr	86.9
											Mei	90.8
											Jun	88.7
											Jul	88.1
											Aug	93.1
											Sept	92.8
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriënt konsentrasies moet nie TPCs oorskry vir makrofiete en mikroalge.	Jaarliks	88.6
											Rivierinvloei, NOx-N moet nie 50 µg/ℓ oor twee agtereenvolgende maan de oorskry nie, NH3-N nie meer as 10 µg / ℓ oor twee agtereenvolgende maande oorskry nie, Riviermonding: Gemiddelde NOx-N <50 µg / ℓ, geen enkele meet> 100 µg / ℓ, gemiddelde NH3-N <10 µg / ℓ, geen enkele meet> 100 µg / ℓ; Meer: gemiddelde NOx-N <50 µg / ℓ, geen enkele meet> 100 µg / ℓ, gemiddelde NH3-N <20 µg / ℓ	

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
									DIP		Rivierinvloei, PO4-P moet nie oor 10 agtereenvolgende maande 10 µg / ℓ oorskry nie; Riviermonding: gemiddelde PO4-P <10 µg / ℓ, geen enkelmonster> 50 µg / ℓ; Mere: gemiddelde PO4-P <20 µg / ℓ
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPCs oorskry vir vis, ongewerweldese diere, makrofiete en mikroalge.	Riviermonding in die geslote toestand: gemiddelde soutgehalte in Sone A <12, gemiddelde soutgehalte in Sone B: <10, gemiddelde soutgehalte in Sone C <5; Die gemiddelde soutgehalte van die mere +2 vanaf die basislyn (2013) en die verskeidenheid moet nie soos volg verbeter word nie: Serpentine: 12 ± 10, Eilandvlei: 8 ± 5, Langvlei: 10 ± 4, Rondevlei: 10 ± 5.
								Stelsel Veranderlikes	Turbiditeit	Stelsel Veranderlikes moet nie TPC's oorskry vir biota.	Gemiddelde <5 NTU (lae vloei) deurlopend
									Opgeloste suurstof		>5 mg/l deurlopend
									pH		Rivierinvloei: 6.0 < pH > 7.0 (Touw), 7.0 < pH > 8.0 (Duiwe), Riviermonding: 6.0 < pH > 8.5, Mere: 7.0 < pH > 8.5
								Patogene	Enterococci	Konsentrasies van waterdraagbare patogeen moet in 'n aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤185 Enterococci/100 ml) (90ste persentiel)
									Escherichia coli		≤500 E. coli/100 ml (90ste persentiel)
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat verseker wat geskik bly vir biota wat tipies in die riviermonding gevind word	Geslote mondtoestand moet nie by >10% van gevestigde basislyn styg nie.
								Sediment	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalge-gemeenskap.	Handhaaf die samestelling en rykheid van fytoplankton- en bentiese mikroalgae groepe en medium lae biomassa.	Handhaaf lae / mediaan fytoplankton / bentiese mikroalgae biomassa: fytoplankton mag nie 3.5 µg / ℓ (mediaan) oorskry nie. fytoplankton moet nie 20 µg / ℓ en / of seldigtheid oorskry nie, nie meer as 10 000 selle / ml (eenmalig) oorskry nie; bentiese mikroalge moet nie 23 mg / m2 (mediaan) oorskry nie; voorkom vorming van fitoplanktonblomme.
								Makrofiete	Omvang, verspreiding en rykdom van makrofiete	Handhaaf omvang, verspreiding en rykdom van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf die huidige gebied (2014) wat deur die makrofiet habitatte gedek word; handhaaf die verspreiding van sensitiewe makrofiethabitats (bv. soutmoeras, onderwater makrofiete); geen indringerplante nie; verhoed dat die riete in oop water versprei word.
								Ongewerweldes	Makrofauna gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe van bogenoemde makrofauna en dierplante.	Handhaaf die teenwoordigheid van sandkrewel Callichirus kraussi op sandbanke in die onderste Touw-riviermonding. handhaaf ryk bevolkings van die bentiese amphipod Grandidierella lignorum dwarsdeur die mere en riviermondings.
								Vis	Vis gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, verhoed kolonisasie / toename van uitheemse spesies.	Vissamestelling behoort die 5 riviermonding verbindings kategorieë in soortgelyke proporsionele (diversiteit en oorvloed) te bevat onder die verwysing (sien 2015 EWR verslag); numerieke samestelling moet bestaan uit: Ia-riviermondinge-inwoners (50-80% van die totale oorvloed), Ib-mariene en riviermondingtelers (10-20%), IIa vereis riviermonding afhanklike (10-20%), IIb-riviermonding-geassosieerde spesies (5-15 %), IIc marine opportuniste (20-80%), III mariene rondswerwers (nie meer as 5% nie), IV inheemse vis (1-5%), V katadrome spesies (1-5%); Kategorie Ia spesies moet lewensvatbare bevolkings van minstens 4 spesies bevat; Kategorie IIa verpligte afhanklikes moet goed verteenwoordig word deur groot ontginte spesies.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese		
								Voëls	Avifauna gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna groepe	Die riviermondingsmeerstelsel moet 'n diverse gemeenskap bevat wat verteenwoordigers van al die oorspronklike groepe insluit, en wat die bevolkings waaraan die stelsel Ramsar status verkry het, onderhou. ; getalle watervoëls op die hele stelsel, behalwe dié wat regionaal toeneem, soos Egiptiese Gans, moet nie vir minder as 40 spesies of minder as 1500 voëls vir drie agtereenvolgende tellings daal nie.		
G15 Kus	II	K40D	G15-E25	Swartvlei Riviermonding	gxi10	B	Gehalte	Vloei	MMR/MRT (% Nat)	Handhaaf 'n vloeiregime om die vereiste habitat vir voëls, vis, makroiete, mikroalge en watergehalte te skep.	MMR/MRT (% Nat)	Maande	Okt	89.5
													Nov	87.6
													Des	80.9
													Jan	78.7
													Feb	81.3
													Mrt	86.8
													Apr	86.8
													Mei	88.5
													Jun	85.9
													Jul	88.4
													Aug	90.9
													Sept	90.2
													Jaarlik	86.6
								Voedingstowwe	DIN	Anorganiese nutriëntkonsentrasies moet nie TPC's oorskry vir makrofiete en mikroalge	Rivierinvloei, NOx-N moet nie 50 µg/ℓ oor twee agtereenvolgende maande oorskry nie, NH3-N moet nie 50 µg/ℓ oor twee agtereenvolgende maande oorskry nie; Riviermonding: Gemiddelde NOx-N <50 µg / ℓ, geen enkele meet> 100 µg / ℓ, gemiddelde NH3-N <10 µg / ℓ, geen enkele meet> 100 µg / ℓ; Meer: gemiddelde NOx-N <50 µg / ℓ, geen enkele meet> 100 µg / ℓ, gemiddelde NH3-N <20 µg / ℓ.		
									DIP		Rivierinvloei, PO4-P moet nie oor 10 agtereenvolgende maande 10 µg / ℓ oorskry nie; Riviermonding: gemiddelde PO4-P <10 µg / ℓ, geen enkelmonster> 50 µg / ℓ; Mere: gemiddelde PO4-P <20 µg / ℓ		
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPCs oorskry vir vis, ongewerweldese diere, makrofiete en mikroalge.	Riviermonding in die geslote toestand: gemiddelde soutgehalte <12; Mere gemiddelde soutgehalte +2 vanaf basislyn (2013)		
								Stelsel Veranderlikes	Turbiditeit	Stelsel veranderlikes moet nie TPC's oorskry vir biota	Gemiddelde <5 NTU (lae vloei) derlopend		
									Opgeloste suurstof		>5 mg/l deurlopend		
									pH		Rivierinvloei: 6.0 < pH > 7.0 (Touw), 7.0 < pH > 8.0 (Duiwe), Riviermonding: 6.0 < pH > 8.5, Mere: 7.0 < pH > 8.5		
								Patogene	Enterococci	Konsentrasies van	≤185 Enterococci/100 ml) (90ste persentiel)		

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
									Escherichia coli	waterdraagbare patogeen moet in 'n aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤500 E. coli/100 ml (90ste persentiel)
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat verseker wat geskik bly vir biota wat tipies in die riviermonding gevind word	Geslote mondtoestand moet nie by >10% van gevestigde basislyn styg nie.
								Sediment	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalge-gemeenskap.	Handhaaf die samestelling en rykheid van fytoplankton- en bentiese mikroalgae groepe en medium lae biomassa.	Handhaaf lae / mediaan fytoplankton / bentiese mikroalgae biomassa: fytoplankton mag nie 3.5 µg / ℓ (mediaan) oorskry nie. fytoplankton moet nie 20 µg / ℓ en / of seldigtheid oorskry nie, nie meer as 10 000 selle / ml (eenmalig) oorskry nie; bentiese mikroalge moet nie 23 mg / m2 (mediaan) oorskry nie; voorkom vorming van fitoplanktonblomme.
								Makrofiete	Omvang, verspreiding en rykdom van makrofiete	Handhaaf omvang, verspreiding en rykdom van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf die huidige gebied (2014) wat deur die makrofiet habitatte gedek word; handhaaf die verspreiding van sensitiewe makrofiethabitats (bv. soutmoeras, onderwater makrofiete); geen indringerplante nie; verhoed dat die riete in oop water versprei word.
								Ongewerweldes	Makrofauna gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe van bogenoemde makrofauna en dierplante.	Handhaaf die teenwoordigheid van sandkrewel Callichirus kraussi op sandbanke in die onderste Touw-riviermonding. handhaaf ryk bevolkings van die bentiese amphipod Grandidierella lignorum dwarsdeur die mere en riviermondings.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Vis	Vis gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, verhoed kolonisasie / toename van uitheemse spesies.	Vissamestelling behoort die 5 riviermonding verbindings kategorieë in soortgelyke proporsionele (diversiteit en oorvloed) te bevat onder die verwysing (sien 2015 EWR verslag); numerieke samestelling moet bestaan uit: Ia-riviermondinge-inwoners (50-80% van die totale oorvloed), Ib-mariene en riviermondingtelers (10-20%), IIa vereis riviermonding afhanklike (10-20%), IIb-riviermonding-geassosieerde spesies (5-15 %), IIc marine opportuniste (20-80%), III mariene rondswerwers (nie meer as 5% nie), IV inheemse vis (1-5%), V katadrome spesies (1-5%); Kategorie Ia spesies moet lewensvatbare bevolkings van minstens 4 spesies bevat; Kategorie IIa obligate/verpligte afhanklikes moet goed verteenwoordig word deur groot ontginte spesies.
								Voëls	Avifauna gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna groepe	Die riviermondingsmeerstelsel moet 'n diverse gemeenskap bevat wat verteenwoordigers van al die oorspronklike groepe insluit, en wat die bevolkings waaraan die stelsel Ramsar status verkry het, onderhou. ; getalle watervoëls op die hele stelsel, behalwe dié wat regionaal toeneem, soos Egiptiese Gans, moet nie vir minder as 40 spesies of minder as 1500 voëls vir drie agtereenvolgende tellings daal nie.
G15 Kus	II	K40E	G15-E26	Goukamma Riviermonding	gxi11	A/B	Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf vloeiregime	Maande / MMR/MRT (% Nat): Okt 87.5; Nov 88.8; Des 87.5; Jan 85.7; Feb 85.5; Mrt 87.1; Apr 86.9; Mei 88.2; Jun 87.2; Jul 86.5; Aug 88.5; Sept 88.3; Jaarlik 87.5
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriëntkonsentrasies moet nie TPC's oorskry vir makrofiete en mikroalge	DIN nie >100 µg/L eenmalig.
									DIP		DIP nie > 20 µg/L eenmalig.
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPCs oorskry vir vis, ongewerweldese diere, makrofiete en mikroalge	
								Stelsel Veranderlikes	Turbiditeit	Stelsel veranderlikes moet nie TPC's oorskry vir biota	Turbiditeit >10 NTU in lae vloei
									Opgeloste suurstof		>5 mg/L in riviermonding.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Patogene	Enterococci	Konsentrasies van waterdraagbare patogeen moet in 'n aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤185 Enterococci/100 ml) (90ste persentiel)
									Escherichia coli		≤500 E. coli/100 ml (90ste persentiel)
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat verseker wat geskik bly vir biota wat tipies in die riviermonding gevind word.	Riviermonding mond permanent oop
									Gety verandering		Gemiddelde gety omvang naby mond tydens lae vloei (somer) mag nie >10% van gevestigde basislyn verander nie.
								Sediment	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathyetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalge-gemeenskap.	Handhaaf die samestelling en rykdom van fytoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	Mediaan fytoplankton chlorophyll a (minimum 5 plekke) moet nie 3.5 µg / ℓ oorskry nie; voorkom vorming van gelokaliseerde fitoplanktonblomme; handhaaf 'n hoë mediaan tussentydse bentiese mikroalgbiomassa; mediaan tussentydse bentiese chlorofil a (minimum 5 plekke) moet nie 42 mg / m2 oorskry nie; terrein spesifieke chlorofil 'n konsentrasie wat nie 20 µg / ℓ moet oorskry nie en seldigtheid nie meer as 10000 selle / ℓ moet oorskry nie.
								Makrofiete	Omvang, verspreiding en rykheid van makrofiete	Handhaaf omvang, verspreiding en rykheid van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf verspreiding van makrofiet habitatte; voorkom die verspreiding van indringende bome (bv. *Acacia* spp.) in die oewersone.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Ongewerweldes	Makrofauna-samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe bentiese makrofauna en dierplankton.	Vestig teenwoordigheid / afwesigheid van sandkrewel. *Callichirus kraussi* op sandbanke in die onderste riviermonding, vestig die teenwoordigheid / afwesigheid van die copepod Pseudodiaptomus hessei of riviermonding kongeneriies In die dierplankton van die riviermonding mag die bevolking van hierdie spesies nie afwyk van gemiddelde basislyne (soos bepaal in eerste drie besoeke) met meer 30%
								Vis	Vis gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, verhoed kolonisasie / toename van uitheemse spesies.	Vissamestelling behoort die 5 riviermonding verbindings kategorieë in soortgelyke proporsionele (diversiteit en oorvloed) te bevat onder die verwysing (sien 2015 EWR verslag): numerieke samestelling moet bestaan uit: Ia-riviermondinge-inwoners (50-80% van die totale oorvloed), Ib-mariene en riviermondingtelers (10-20%), IIa vereis riviermonding afhanklike (10-20%), IIb-riviermonding-geassosieerde spesies (5-15 %), IIc marine opportuniste (20-80%), III mariene rondswerwers (nie meer as 5% nie), IV inheemse vis (1-5%), V katadrome spesies (1-5%); Kategorie Ia spesies moet lewensvatbare bevolkings van minstens 4 spesies bevat; Kategorie IIa verpligte afhanklikes moet goed verteenwoordig word deur groot ontginte spesies.
								Voëls	Avifauna gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna groepe	Handhaaf bevolking van oorspronklike groepe voëls teenwoordig op die riviermonding; aantal voëls in enige groep, behalwe spesies wat regionaal toeneem soos Egiptiese ganse, moet nie onder die basislynmediaan val nie (bepaal deur vorige data en of aanvanklike opnames) aantal spesies en / of voëls getel vir drie agtereenvolgende somer of winter tellings.
G15 Kus	II	K50B	G15-E27	Knysna Riviermonding	gxi12	B	Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf vloeiregime so na as moontlik natuurlik.	Maande: Okt 87.5, Nov 87.6, Des 82.7, Jan 83.9, Feb 86.1, Mrt 82.5, Apr 84.7, Mei 87.1, Jun 87.5, Jul 86.8, Aug 88.3, Sept 90.5, Jaarlik 86.8 MMR/MRT (% Nat)
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriëntkonsentrasies moet nie TPC's oorskry vir makrofiete en mikroalge	DIN nie >100 µg/L eenmalig.
									DIP		DIP not > 20 µg/L eenmalig.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPCs oorskry vir vis, ongewerweldese diere, makrofiete en mikroalge	
								Stelsel Veranderlikes	Turbiditeit	Stelsel veranderlikes moet nie TPC's oorskry vir biota	Turbiditeit >10 NTU in lae vloei
									Opgeloste suurstof		>5 mg/L in riviermonding.
								Patogene	Enterococci	Konsentrasies van waterdraagbare patogeen moet in 'n aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤185 Enterococci/100 ml) (90ste persentiel)
									Escherichia coli		≤500 E. coli/100 ml (90ste persentiel)
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat verseker wat geskik bly vir biota wat tipies in die riviermonding gevind word.	Riviermonding mond permanent oop
									Gety verandering		Gemiddelde gety omvang naby mond tydens lae vloei (somer) mag nie >10% van gevestigde basislyn verander nie.
								Sediment	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathmetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalge-gemeenskap.	Handhaaf die samestelling en rykheid van fytoplankton- en bentiese mikroalgae groepe en medium lae biomassa.	Handhaaf lae / mediaan fytoplankton / bentiese mikroalgae biomassa: fytoplankton mag nie 3.5 µg / ℓ (mediaan) oorskry nie. fytoplankton moet nie 20 µg / ℓ en / of seldigtheid oorskry nie, nie meer as 10 000 selle / ml (eenmalig) oorskry nie; bentiese mikroalge moet nie 23 mg / m2 (mediaan) oorskry nie; voorkom vorming van fitoplanktonblomme.
								Makrofiete	Omvang, verspreiding en rykdom van makrofiete	Handhaaf omvang, verspreiding en rykdom van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf die huidige gebied (2014) wat deur die makrofiet habitatte gedek word; handhaaf die verspreiding van sensitiewe makrofiethabitats (bv. soutmoeras, onderwater makrofiete); geen indringerplante nie; verhoed dat die riete in oop water versprei word.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Ongewerweldes	Makrofauna gemeenskapsamestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe bentiese makfauna en dierplankton.	dierplankton. Handhaaf ryk bevolkings van die mudprawn (modderoester) *Upogebia africana* op modderbanke in die middel riviermonding (Sones A en B); mudprawn(modderoester) digtheid moet nie met meer as 25% in elke seisoen van gemiddelde basislynvlakke afwyk nie; onderhou ryk ongewerweldese gemeenskappe wat verband hou met die REI sone in die boonste riviermonding (dierplankton en benthos); die dominante spesies in die gebied (dierplankton en benthos) mag nie met meer as 40% in elke seisoen van gemiddelde basislynvlakke afwyk nie.
								Vis	Vis gemeenskap samestelling, oorvloed en rykdom .	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, voorkom kolonisasie / toename van uitheemse spesies.	Vissamestelling behoort die 5 riviermonding verbindings kategorieë in soortgelyke verhoudings (diversiteit en oorvloed) te bevat onder die verwysing (sien 2015 EWR verslag); numerieke samestelling moet bestaan uit: Ia-riviermondinge-inwoners (50-80% van die totale oorvloed), Ib-mariene en riviermondingtelers (10-20%), IIa vereis riviermonding afhanklike (10-20%), IIb-riviermonding-geassosieerde spesies (5-15 %), IIc marine opportuniste (20-80%), III mariene rondswerwers (nie meer as 5% nie), IV inheemse vis (1-5%), V katadrome spesies (1-5%); Kategorie Ia spesies moet lewensvatbare bevolkings van minstens 4 spesies bevat; Kategorie IIa verpligte afhanklikes moet goed verteenwoordig word deur groot ontginte spesies.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Voëls	Avifauna gemeenskaps amestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna-groepe.	Riviermonding moet 'n diverse gemeenskap bevat wat verteenwoordigers van al die oorspronklike groepe insluit. Soutmoeras / vleilande in die vloedvlakte moet ryk wees aan voëllewe. Tussentydse gebiede moet 'n goeie digtheid en diversiteit van beide groter en kleiner waadvoëls hê; Getalle watervoëls op die hele stelsel mag nie vir drie agtereenvolgende tellings onder 30 spesies of minder as 250 voëls val nie; Getalle watervoëls in die onderste riviermonding moet nie vir drie agtereenvolgende tellings onder 10 spesies of 50 voëls (uitgesonderd swaeweltjies en meeus) daal nie.
G15 Kus	II	K60G	G15-E28	Noetsie Riviermonding	gxi13	B	Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf vloeiregime (klein stelsel benodig meeste vloei) most vloeis)	Maande: Okt 93.5, NoV 93.4, Des 90.7, Jan 87.1, Feb 85.5, Mrt 89.8, Apr 92.1, Mei 94.0, Jun 93.0, Jul 92.8, Aug 94.3, Sept 94.3, Jaarlik 92.5
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriëntkonsentrasies moet nie TPC's oorskry vir makrofiete en mikroalge.	DIN nie >100 µg/L eenmalig.
									DIP		DIP nie > 20 µg/L eenmalig.
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPC's oorskry vir vis, ongewerweldese diere, makrofiete en mikroalge	10 < Soutgehalte <40
								Stelsel Veranderlikes	Turbiditeit	Stelsel veranderlikes moet nie TPC's oorskry vir biota	>10 NTU in lae vloei
									Opgeloste suurstof		>5 mg/L in riviermonding.
								Patogene	Enterococci	Konsentrasies van waterdraagbare patogeen moet in 'n aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤185 Enterococci/100 ml) (90ste persentiel)
									Escherichia coli		≤500 E. coli/100 ml (90ste persentiel)

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat verseker wat geskik bly vir biota wat tipies in die riviermonding gevind word.	Geslote mondtoestand moet nie by >10% vanaf gevestigde basislyn styg nie
								Sediment	Sediment eienskappe, Kanaalvorm / grootte		Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalge-gemeenskap.	Handhaaf die samestelling en rykdom van fitoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	Handhaaf mediaan fytoplankton / bentiese mikroalge biomassa: fytoplankton nie> 1.0 µg / L (mediaan). > 11 mg / m2 (mediaan); Fytoplankton nie> 20 µg / L en / of seldigtheid nie> 10 000 selle / ml (eenmalig); Voorkom die vorming van fytoplanktonblomme
								Makrofiete	Omvang, verspreiding en rykdom van makrofiete	Handhaaf omvang, verspreiding en rykheid van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf verspreiding van makrofiet habitat, voorkom 'n toename in voedingstof insette wat lei tot makroalg blomme, beheer die verspreiding van indringer plante in die oewersone
								Ongewerweldes	Makrofauna gemeenskaps amestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe bentiese makrofauna en dierplankton.	Vestig teenwoordigheid / afwesigheid van sandkrewel. *Callichirus kraussi* op sandbanke in die onderste riviermonding, vestig die teenwoordigheid / afwesigheid van die copepod Pseudodiaptomus hessei of riviermonding kongeneres In die dierplankton van die riviermonding mag die bevolking van hierdie spesies nie afwyk van gemiddelde basislyne (soos bepaal in eerste drie besoeke) met meer 30%

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
G15 Kus	II	K60G	G15-E29	Piesang Riviermonding	gxi14	C		Vis	Vis gemeenskap samestelling, oorvloed en rykdom .	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, voorkom kolonisasie / toename van uitheemse spesies.	Vissamestelling behoort die 5 riviermonding verbinding kategorieë in soortgelyke verhoudings (diversiteit en oorvloed) te bevat onder die verwysing (sien 2015 EWR verslag); numerieke samestelling moet bestaan uit: Ia-riviermondinge-inwoners (50-80% van die totale oorvloed), Ib-mariene en riviermondingtelers (10-20%), IIa vereis riviermonding afhanklike (10-20%), IIb-riviermonding-geassosieerde spesies (5-15 %), IIc marine opportuniste (20-80%), III mariene rondswerwers (nie meer as 5% nie), IV inheemse vis (1-5%), V katadrome spesies (1-5%); Kategorie Ia spesies moet lewensvatbare bevolkings van minstens 4 spesies bevat; Kategorie IIa verpligte afhanklikes moet goed verteenwoordig word deur groot ontginte spesies.
								Voëls	Avifauna gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna groepe	Handhaaf bevolking van oorspronklike groepe voëls teenwoordig op die riviermonding; aantal voëls in enige groep, behalwe spesies wat regionaal toeneem soos Egiptiese ganse, moet nie onder die basislynmediaan val nie (bepaal deur vorige data en of aanvanklike opnames) aantal spesies en / of voëls getel vir drie agtereenvolgende somer of winter tellings.
							Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf ten minste huidige basisvloei	Maande / MMR/MRT (% Nat): Okt 71.4; Nov 77.2; Des 69.5; Jan 68.8; Feb 63.6; Mrt 69.2; Apr 70.9; Mei 81.5; Jun 68.1; Jul 66.8; Aug 74.7; Sept 86.1; Jaarlik 73.8
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriëntkonsentrasies moet nie TPC's oorskry vir makrofiete en mikroalge	DIN not >100 µg/L eenmalig.
									DIP		DIP not > 20 µg/L eenmalig.
								Soutgehalte	Soutgehalte	Stelsel Veranderlikes moet nie TPC's oorskry vir biota	5 < Soutgehalte <40
								Stelsel Veranderlikes	Turbiditeit	Konsentrasies van waterdraagbare patogeen moet in 'n Aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	>10 NTU in lae vloei
									Opgeloste suurstof		>5 mg/L in riviermonding.
								Patogene	Enterococci	Handhaaf verbindings met	≤185 Enterococci/100 ml) (90ste persentiel)

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
									Escherichia coli	Marine omgewing op 'n vlak wat watergehalte verseker en habitat wat geskik bly vir biota wat tipies in die riviermonding gevind word.	≤500 E. coli/100 ml (90ste persentiel)
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf die samestelling en rykdom van fytoplankton- en bentiese mikroalgegroepe en medium lae biomassa.	Geslote mondtoestand moet nie by >10% vanaf gevestigde basislyn styg nie
								Sediment	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathyetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalge gemeenskap.	Handhaaf die samestelling en rykheid van fitoplankton- en bentiese mikroalgae groepe en medium lae biomassa.	Handhaaf mediaan fytoplankton / bentiese mikroalge biomassa: fytoplankton nie> 3.5µg / L (mediaan). > 11 mg / m2 (mediaan); Fytoplankton nie> 20 µg / L en / of seldigtheid nie> 10 000 selle / ml (eenmalig); Voorkom die vorming van fytoplanktonblomme
								Makrofiete	Omvang, verspreiding en rykheid van makrofiete	Handhaaf omvang, verspreiding en rykheid van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf verspreiding van makrofiet habitats (riete en sedisse dek tans 3,14 ha, onderwater makrofiete en soutmoeras teenwoordig); voorkom die verspreiding van riete in oop water; verhoed dat 'n toename in voedingstowwe en makroalgblomme voorkom die verspreiding van indringende bome (bv. *Acacia* spp.) in die oewersone.
								Ongewerweldes	Makrofauna gemeenskaps amestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe bentiese makrofauna en dierplankton.	Handhaaf teenwoordigheid / afwesigheid van sandkrewel. Callichirus kraussi op sandbanke in die onderste riviermonding, vestig die teenwoordigheid / afwesigheid van die copepod *Pseudodiaptomus hessei* of riviermonding kongeneries In die dierplankton van die riviermonding mag die bevolking van hierdie spesies nie afwyk van gemiddelde basislyne (soos bepaal in eerste drie besoeke) met meer 30%

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese		
								Vis	Visgemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, verhoed kolonisasie / toename van uitheemse spesies	Vissamestelling behoort die 5 riviermonding verbindings kategorieë in soortgelyke verhoudings (diversiteit en oorvloed) te bevat onder die verwysing (sien 2015 EWR verslag); numerieke samestelling moet bestaan uit: Ia-riviermondingeinwoners (50-80% van die totale oorvloed), Ibmariene en riviermondingtelers (10-20%), IIa vereis riviermonding afhanklike (10-20%), IIbriviermonding-geassosieerde spesies (5-15 %), IIc marine opportuniste (20-80%), III marine rondswerwers (nie meer as 5% nie), IV inheemse vis (1-5%), V katadrome spesies (1-5%); Kategorie Ia spesies moet lewensvatbare bevolkings van minstens 4 spesies bevat; Kategorie IIa verpligte afhanklikes moet goed verteenwoordig word deur groot ontginte spesies.		
								Voëls	Avifauna gemeenskapsamestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende avifaunagroepe.	Handhaaf bevolking van oorspronklike groepe voëls teenwoordig op die riviermonding; aantal voëls in enige groep, behalwe spesies wat regionaal toeneem soos Egiptiese ganse, moet nie onder die basislynmediaan val nie (bepaal deur vorige data en of aanvanklike opnames) aantal spesies en / of voëls getel vir drie agtereenvolgende somer of winter tellings.		
G15 Kus	II	K60G	G15-E30	Keurbooms Riviermonding	gxi15	A/B	Gehalte	Vloei	MMR/MRT (% Nat)	Handhaaf vloeiregime so na as moontlik natuurlik.	Maande	MMR/MRT (% Nat)	Jaarlik
											Okt	90.6	90.0
											Nov	90.5	91.8
											Des	88.8	92.8
											Jan	85.3	91.8
											Feb	83.0	92.3
											Mrt	85.5	92.0
											Apr	89.3	89.3
											Mei	92.0	85.5
											Jun	92.3	83.0
											Jul	91.8	85.3
											Aug	92.8	88.8
											Sept	91.8	90.5
											Jaarlik	90.0	90.6
											DIN nie >100 µg/L eenmalig.		
								Voedingstowwe	DIN	Anorganiese nutriëntkonsentrasies moet nie TPC's oorskry vir makrofiete en mikroalge	DIP nie >20 µg/L eenmalig.		
									DIP				
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPC's oorskry vir vis, ongewerweldese diere, makrofiete en mikroalge	Gemiddelde soutgehalte> 10 bo-aan die riviermonding in die Keurbooms en / of Bitou Arm, gemiddelde soutgehalte> 20 langs die lengte van die stelsel		
								Stelsel Veranderlikes	Turbiditeit	Stelsel Veranderlikes not to exceed TPCs for biota	>10 NTU in lae vloei		
									Opgeloste suurstof		>5 mg/L in riviermonding.		
								Patogene	Enterococci		≤185 Enterococci/100 ml) (90ste persentiel)		

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
									Escherichia coli	Konsentrasies van waterdrywende/waterborne patogene moet in 'n Aanvaarbare kategorie gehou word vir volle kontakreaksie	≤500 E. coli/100 ml (90ste persentiel)
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met marine omgewing op 'n vlak wat verseker dat die watergehalte en habitat geskik bly vir biota wat tipies in die riviermonding voorkom.	Riviermonding mond permanent oop.
									Gety verandering	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat verseker wat geskik bly vir biota wat tipies in die riviermonding gevind word.	Gemiddelde gety omvang naby mond tydens lae vloei (somer) mag nie >10% van gevestigde basislyn verander nie.
								Sediment	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalge gemeenskap.	Handhaaf die samestelling en rykheid van fitoplankton- en bentiese mikroalgae groepe en medium lae biomassa.	Handhaaf mediaan fytoplankton / bentiese mikroalge biomassa: fytoplankton nie> 3.5µg / L (mediaan). > 11 mg / m2 (mediaan); Fytoplankton nie> 20 µg / L en / of seldigtheid nie> 10 000 selle / ml (eenmalig); Voorkom die vorming van fytoplanktonblomme

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Makrofiete	Omvang, verspreiding en rykheid van makrofiete	Handhaaf omvang, verspreiding en rykheid van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf die verspreiding van sensitiewe makrofiet habitatte (bv. Soutmoeras, onderwater makrofiete, riete en waterbiesies) (van spesiale belangrik is die onderwater makrofiete in die Bitou Arms as habitat vir die bedreigde seeperd *H. capensis*); rehabiliteer die Bitou-vleilande deur die verwydering van stuwallie, berms, ou brûe; beperk die verspreiding van indringerplante; handhaaf die integriteit van die oewersone.
								Ongewerweldes	Makrofauna gemeenskaps amestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe bentiese makrofauna en dierplankton.	Handhaaf hoë biomassa en diversiteit van bentiese ongewerweldese diere in die lagoon-gebied in die onderste riviermonding. handhaaf ryk ongewerweldese gemeenskappe wat verband hou met die REI sone in die boonste riviermonding (dierplankton en benthos).
								Vis	Visgemeen skap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, verhoed kolonisasie / toename van uitheemse spesies	Vissamestelling behoort die 5 riviermonding verbindings kategorieë in soortgelyke verhoudings (diversiteit en oorvloed) te bevat onder die verwysing (sien 2015 EWR verslag): numerieke samestelling moet bestaan uit: Ia-riviermondinge-inwoners (50-80% van die totale oorvloed), Ib-marine en riviermondingtelers (10-20%), IIa vereis riviermonding afhanklike (10-20%), IIb-riviermonding-geassosieerde spesies (5-15 %), IIc marine opportuniste (20-80%), III marine rondswerwers (nie meer as 5% nie), IV inheemse vis (1-5%), V katadrome spesies (1-5%); Kategorie Ia spesies moet lewensvatbare bevolkings van minstens 4 spesies bevat; Kategorie IIa verpligte afhanklikes moet goed verteenwoordig word deur groot ontginte spesies.
								Voëls	Avifauna gemeenskaps amestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna-groepe.	Handhaaf bevolking van oorspronklike groepe voëls teenwoordig op die riviermonding; aantal voëls in enige groep, behalwe spesies wat regionaal toeneem soos Egiptiese ganse, moet nie onder die basislynmediaan val nie (bepaal deur vorige data en of aanvanklike opnames) aantal spesies en / of voëls getel vir drie agtereenvolgende somer of winter tellings.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese												
											Maande	Okt	Nov	Des	Jan	Feb	Mrt	Apr	Mei	Jun	Jul	Aug	Sept	Jaarlik
G15 Kus	II	K70A	G15-E31	Matjies Riviermonding	gxi16	A/B	Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf vloeiregime (klein stelsel benodig meeste vloei).	MMR/MRT (% Nat)	73.9	73.8	69.1	68.0	65.0	67.9	67.9	68.4	65.8	66.8	71.6	74.1	70.5
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriëntkonsentrasies moet nie TPC's oorskry vir makrofiete en mikroalge.	DIN nie >100 µg/L eenmalig.													
									DIP		DIP nie >20 µg/L eenmalig.													
								Soutgehalte	Soutgehalte	Soutgehalteverspreiding moet nie TPC's oorskry vir vis, ongewerweldese diere, makrofiete en mikroalge	Gemiddelde Soutgehalte> 20 vir meer as 20% van die tyd (aanduiding van vloeivermindering), gemiddelde soutgehalte <5 vir meer as 20% van die tyd (aanduiding van verlengde sluiting).													
								Stelsel Veranderlikes	Turbiditeit	Stelsel veranderlikes moet nie TPC's oorskry vir biota	>10 NTU in lae vloei													
									Opgeloste suurstof		>5 mg/L in riviermonding.													
								Patogene	Enterococci	Konsentrasies van waterdraagbare patogeen moet in 'n aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤185 Enterococci/100 ml) (90ste persentiel)													
									Escherichia coli		≤500 E. coli/100 ml (90ste persentiel)													
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat wat geskik bly vir biota wat tipies in die riviermonding gevind word..	Geslote mondtoestande behoort nie met> 10% van gevestigde basislyn te styg nie.													
								Sediment	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathyetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn													
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalge gemeenskap.	Handhaaf die samestelling en rykheid van fitoplankton- en bentiese mikroalgae groepe en medium lae biomassa.	Handhaaf mediaan fytoplankton / bentiese mikroalge biomassa: fytoplankton nie > 3.5µg / L (mediaan). > 11 mg / m2 (mediaan) oorskry nie; Fytoplankton nie> 20 µg / L en / of seldigtheid nie> 10 000 selle / ml (eenmalig); Voorkom die vorming van fytoplanktonblomme													

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
G15 Kus	II	K70A	G15-E32	Sout (Oos) Riviermonding	gxi17	A	Hoeveelheid	Makrofiete	Omvang, verspreiding en rykdom van makrofiete	Handhaaf omvang, verspreiding en rykheid van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf verspreiding van makrofiet habitatte, voorkom 'n toename in voedingstof insette wat lei tot makroalg blomme, beheer die verspreiding van indringer plante in die oewersone
								Ongewerweldes	Makrofauna gemeenskaps amestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe bentiese makrofauna en dierplankton.	Handhaaf teenwoordigheid / afwesigheid van sandkrewel. Callichirus kraussi op sandbanke in die onderste riviermonding, vestig die teenwoordigheid / afwesigheid van die copepod *Pseudodiaptomus hessei* of riviermonding kongeneries. In die dierplankton van die riviermonding mag die bevolking van hierdie spesies nie afwyk van gemiddelde basislyne (soos bepaal in eerste drie besoeke) met meer 30%
								Vis	Vis gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, verhoed kolonisasie / toename van uitheemse spesies.	Handhaaf vissamestelling wat ten minste 2 riviermondings voortplantingspesies (Kategorie I), 3 riviermondingsafhanklike seespesies insluit (Kategorie IIa en IIb) en 1 inheemse katadrome spesies (Kategorie V); Die inwoners van riviermondings moet numeries oorheers, maar die verhouding van riviermondings afhanklike seespesies (gebaseer op oorvloed) moet nie minder as 2% val nie.
								Voëls	Avifauna gemeenskaps amestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna-groepe.	Handhaaf bevolking van oorspronklike groepe voëls teenwoordig op die riviermonding; aantal voëls in enige groep, behalwe spesies wat regionaal toeneem soos Egiptiese ganse, moet nie onder die basislynmediaan val nie (bepaal deur vorige data en of aanvanklike opnames) aantal spesies en / of voëls getel vir drie agtereenvolgende somer of winter tellings.
							Gehalte	Voedingstowwe	MMR/MRT (% Nat)	Handhaaf vloeiregime (klein stelsel benodig die meeste vloei).	Maande: Okt 86.7, Nov 86.8, Des 86.0, Jan 83.2, Feb 81.7, Mrt 83.1, Apr 84.2, Mei 86.1, Jun 85.6, Jul 84.6, Aug 85.8, Sept 86.8, Jaarlik 85.6 MMR/MRT (% Nat): DIN nie >100 µg/L eenmalig.
									DIN	Anorganiese nutriënt konsentrasies moet nie TPCs oorskry vir makrofiete en mikroalge.	
									DIP		DIP not >20 µg/L once-off.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPC's oorskry vir vis, ongewerweldes, makrofiete en mikroalge.	Gemiddelde soutgehalte <10 aan die hoof van die riviermonding (verwagte gemiddelde omvang 5 - 10 vir die meeste van die stelsel)
								Stelsel Veranderlikes	Turbiditeit	Stelsel Veranderlikes moet nie TPC's oorskry vir biota.	>10 NTU in lae vloei
									Opgeloste suurstof		>5 mg/L in riviermonding.
								Patogene	Enterococci	Konsentrasies van waterdraagbare patogeen moet in 'n aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤185 Enterococci/100 ml (90ste persentiel)
									Escherichia coli		≤500 E. coli/100 ml (90ste persentiel)
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat wat geskik bly vir biota wat tipies in die riviermonding gevind word..	Geslote mondtoestande behoort nie met> 10% van gevestigde basislyn te styg nie.
								Sediment	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathymetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalge gemeenskap.	Handhaaf die samestelling en rykheid van fitoplankton- en bentiese mikroalgae groepe en medium lae biomassa.	Handhaaf mediaan fytoplankton / bentiese mikroalge biomassa: fytoplankton nie > 3.5µg / L (mediaan). > 11 mg / m2 (mediaan) oorskry nie; Fytoplankton nie> 20 µg / L en / of seldigtheid nie> 10 000 selle / ml (eenmalig); Voorkom die vorming van fytoplanktonblomme
								Makrofiete	Omvang, verspreiding en rykdom van makrofiete	Handhaaf omvang, verspreiding en rykheid van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf verspreiding van makrofiet habitatte, voorkom 'n toename in voedingstof insette wat lei tot makroalg blomme, beheer die verspreiding van indringer plante in die oewersone

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Ongewerweldes	Makrofauna gemeenskaps amestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe bentiese makrofauna en dierplankton.	Handhaaf teenwoordigheid / afwesigheid van sandkrewel. Callichirus kraussi op sandbanke in die onderste riviermonding, vestig die teenwoordigheid / afwesigheid van die copepod *Pseudodiaptomus hessei* of riviermonding kongeneries In die dierplankton van die riviermonding mag die bevolking van hierdie spesies nie afwyk van gemiddelde basislyne (soos bepaal in eerste drie besoeke) met meer 30%
								Vis	Vis gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, verhoed kolonisasie / toename van uitheemse spesies.	Handhaaf vissamestelling wat ten minste 2 riviermondings voortplantingspesies (Kategorie I), 3 riviermondingsafhanklike seespesies insluit (Kategorie IIa en IIb) en 1 inheemse katadrome spesies (Kategorie V); Die inwoners van riviermondings moet numeries oorheers, maar die verhouding van riviermondings afhanklike seespesies (gebaseer op oorvloed) moet nie minder as 2% val nie.
								Voëls	Avifauna gemeenskaps amestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna-groepe.	Handhaaf bevolking van oorspronklike groepe voëls teenwoordig op die riviermonding; aantal voëls in enige groep, behalwe spesies wat regionaal toeneem soos Egiptiese ganse, moet nie onder die basislynmediaan val nie (bepaal deur vorige data en of aanvanklike opnames) aantal spesies en / of voëls getel vir drie agtereenvolgende somer of winter tellings.
G15 Kus	II	K70A	G15-E33	Groot (Wes) Riviermonding	gxi23	B	Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf vloeiregime (klein stelsel benodig die meeste vloei).	Maande / MMR/MRT (% Nat): Okt 87.9; Nov 88.0; Des 87.2; Jan 84.3; Feb 82.7; Mrt 84.1; Apr 85.3; Mei 87.3; Jun 86.7; Jul 85.7; Aug 86.9; Sept 87.9; Jaarlik 86.7
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriënt konsentrasies moet nie TPCs oorskry vir makrofiete en mikroalge.	DIN nie >100 µg/L eenmaliig.
									DIP		DIP nie >20 µg/L eenmalig.
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPC's oorskry vir vis, ongewerweldes, makrofiete en mikroalge.	Gemiddelde soutgehalte <10 aan die hoof van die riviermonding (verwagte gemiddelde omvang 5 - 10 vir die meeste van die stelsel)
								Stelsel Veranderlikes	Turbiditeit	Stelsel Veranderlikes moet nie TPC's oorskry vir biota.	>10 NTU in lae vloei
									Opgeloste suurstof		>5 mg/L in riviermonding.

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
							Habitat	Patogene	Enterococci	Konsentrasies van waterdraagbare patogeen moet in 'n aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤185 Enterococci/100 ml) (90ste persentiel)
									Escherichia coli		≤500 E. coli/100 ml (90ste persentiel)
								Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat wat geskik bly vir biota wat tipies in die riviermonding gevind word..	Geslote mondtoestande behoort nie met> 10% van gevestigde basislyn te styg nie.
								Sediment	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathyetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.
							Biota	Mikroalge	Biomassa en gemeenskaps samestelling van fytoplankton- en bentiese mikroalge gemeenskap.	Handhaaf die samestelling en rykheid van fitoplankton- en bentiese mikroalgae groepe en medium lae biomassa.	Handhaaf mediaan fytoplankton / bentiese mikroalge biomassa: fytoplankton nie > 3.5µg / L (mediaan). > 11 mg / m2 (mediaan) oorskry nie; Fytoplankton nie> 20 µg / L en / of seldigtheid nie> 10 000 selle / ml (eenmalig); Voorkom die vorming van fytoplanktonblomme
								Makrofiete	Omvang, verspreiding en rykdom van makrofiete	Handhaaf omvang, verspreiding en rykheid van makrofietgroepe, beperk kolonisasie / verspreiding van die EFZ deur uitheemse spesies.	Handhaaf verspreiding van makrofiet habitatte, voorkom 'n toename in voedingstof insette wat lei tot makroalg blomme, beheer die verspreiding van indringer plante in die oewersone
								Ongewerweldes	Makrofauna gemeenskaps samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe bentiese makrofauna en dierplankton.	Handhaaf teenwoordigheid / afwesigheid van sandkrewel. Callichirus kraussi op sandbanke in die onderste riviermonding, vestig die teenwoordigheid / afwesigheid van die copepod *Pseudodiaptomus hessei* of riviermonding kongeneries. In die dierplankton van die riviermonding mag die bevolking van hierdie spesies nie afwyk van gemiddelde basislyne (soos bepaal in eerste drie besoeke) met meer 30%

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
G15 Kus	II	K70B	G15-E34	Bloukrans Riviermonding	gxi18	A	Gehalte	Vis	Visgemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, verhoed kolonisasie / toename van uitheemse spesies	Vissamestelling behoort die 5 riviermonding verbindings kategorieë in soortgelyke verhoudings (diversiteit en oorvloed) te bevat onder die verwysing (sien 2015 EWR verslag); numerieke samestelling moet bestaan uit: Ia-riviermondinge-inwoners (50-80% van die totale oorvloed), Ib-mariene en riviermondingtelers (10-20%), IIa vereis riviermonding afhanklike (10-20%), IIb-riviermonding-geassosieerde spesies (5-15 %), IIc mariene opportuniste (20-80%), III mariene rondswerwer (nie meer as 5% nie), IV inheemse vis (1-5%), V katadrome spesies (1-5%); Kategorie Ia spesies moet lewensvatbare bevolkings van minstens 4 spesies bevat; Kategorie IIa verpligte afhanklikes moet goed verteenwoordig word deur groot ontginte spesies.
								Voëls	Avifauna gemeenskapsamestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna-groepe.	Handhaaf bevolking van oorspronklike groepe voëls teenwoordig op die riviermonding; aantal voëls in enige groep, behalwe spesies wat regionaal toeneem soos Egiptiese ganse, moet nie onder die basislynmediaan val nie (bepaal deur vorige data en of aanvanklike opnames) aantal spesies en / of voëls getel vir drie agtereenvolgende somer of winter tellings.
							Hoeveelheid	Vloei	MMR/MRT (% Nat)	Handhaaf vloeiregime (klein stelsel benodig die meeste vloei).	Maande / MMR/MRT (% Nat): Okt 98.7; Nov 99.0; Des 98.3; Jan 96.7; Feb 96.8; Mrt 97.1; Apr 97.2; Mei 98.1; Jun 97.6; Jul 97.7; Aug 98.2; Sept 98.9; Jaarlik 98.0
							Gehalte	Voedingstowwe	DIN	Anorganiese nutriënt konsentrasies moet nie TPCs oorskry vir makrofiete en mikroalge.	DIN nie >100 µg/L eenmalig.
									DIP		DIP nie >20 µg/L eenmalig.
								Soutgehalte	Soutgehalte	Soutgehalte verspreiding moet nie TPC's oorskry vir vis, ongewerweldes, makrofiete en mikroalge.	Gemiddelde soutgehalte <10 aan die hoof van die riviermonding (verwagte gemiddelde omvang 5 - 10 vir die meeste van die stelsel).
									Turbiditeit		>10 NTU in lae vloei
								Stelsel Veranderlikes	Opgeloste suurstof	Stelsel Veranderlikes moet nie TPC's oorskry vir biota.	>5 mg/L in riviermonding.
								Patogene	Enterococci		≤185 Enterococci/100 ml) (90ste persentiel)

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
									Escherichia coli	Konsentrasies van waterdraagbare patogeen moet in 'n aanvaarbare kategorie gehandhaaf word vir volle kontakreaksie.	≤500 E. coli/100 ml (90ste persentiel)
							Habitat	Hidrodinamika	Mondtoestand	Handhaaf verbindings met Marine omgewing op 'n vlak wat watergehalte verseker en habitat wat geskik bly vir biota wat tipies in die riviermonding gevind word..	Riviermonding mond permanent oop.
									Gety verandering		Gemiddelde gety omvang naby mond tydens lae vloei (somer) mag nie >10% van gevestigde basislyn verander nie.
								Sediment	Sediment eienskappe, Kanaalvorm / grootte	Vloeiregime is voldoende om natuurlike bathmetrie/badmeting en sediment eienskappe te handhaaf.	Kanaalvorm / grootte, sediment korrelgrootte en organiese materiaal mag nie verander met> 30% van gevestigde basislyn.
							Biota	Mikroalge	Biomassa en gemeenskaps amestelling van fytoplankton- en bentiese mikroalge gemeenskap.	Handhaaf die samestelling en rykheid van fitoplankton- en bentiese mikroalgae groepe en medium lae biomassa.	Handhaaf lae / mediaan fytoplankton / bentiese mikroalgae biomassa: fytoplankton mag nie 1.0 µg / ℓ (mediaan) oorskry nie. fytoplankton moet nie 20 µg / ℓ en / of seldigtheid oorskry nie, nie meer as 10 000 selle / ml (eenmalig) oorskry nie; bogeniese mikroalge moet nie 11 mg / m2 (mediaan) oorskry nie; voorkom vorming van fytoplanktonblomme.
								Ongewerweldes	Makrofauna gemeenskaps amestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe bentiese makrofauna en dierplankton.	Handhaaf teenwoordigheid / afwesigheid van sandkrewel. Callichirus kraussi op sandbanke in die onderste riviermonding, vestig die teenwoordigheid / afwesigheid van die copepod *Pseudodiaptomus hessei* of riviermonding kongeneries. In die dierplankton van die riviermonding mag die bevolking van hierdie spesies nie afwyk van gemiddelde basislyne (soos bepaal in eerste drie besoeke) met meer 30%

IUA	Klas	Kwartêre opvang gebied	RU	Hulpbron Naam	Biofisiese Nodus Naam	TEC	Komponent	Sub-Komponent	Aanwyser	Verhalende RQO	RQO Numeriese
								Vis	Vis gemeenskap samestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende groepe vis, verhoed kolonisasie / toename van uitheemse spesies.	Handhaaf vissamestelling wat ten minste 2 riviermondings voortplantingspesies (Kategorie I), 3 riviermondingsafhanklike seespesies insluit (Kategorie IIa en IIb) en 1 inheemse katadrome spesies (Kategorie V); Die inwoners van riviermondings moet numeries oorheers, maar die verhouding van riviermondings afhanklike seespesies (gebaseer op oorvloed) moet nie minder as 2% val nie.
								Voëls	Avifauna gemeenskaps amestelling, oorvloed en rykdom	Handhaaf samestelling, rykdom en oorvloed van verskillende avifauna-groepe.	Handhaaf bevolking van oorspronklike groepe voëls teenwoordig op die riviermonding; aantal voëls in enige groep, behalwe spesies wat regionaal toeneem soos Egiptiese ganse, moet nie onder die basislynmediaan val nie (bepaal deur vorige data en of aanvanklike opnames) aantal spesies en / of voëls getel vir drie agtereenvolgende somer of winter tellings.

Tabel 27: Hulpbrongehaltedoelwitte vir GRONDWATER in prioriteit Hulpbronne in die Breede-Gouritz Waterbestuursgebied

IUA	Klas	Kwartêre Opvanggebied	RU	Hulpbron Naam	Komponent	Sub Komponent	Aanwyser/ Maatstaaf	Verhalende RQO	RQO Numeriese
A1 Boonste Breede Sytakke	II	H10A, H10B, H10C	BB-1	Grondwater (alle)	Hoeveelheid	Onttrekking	Seisoenale onttrekking: watervlak herstel van onttrekking impak gedurende die natseisoen, met inagneming van klimaatsverandering en droogte siklusse. Permanente onttrekking: Daling van watervlak stabiliseer onder oorweging van waterdraer reaksietyd.	Grondwaterverbruik moet volhoubaar wees vir alle verbruikers en die omgewing	Nie van toepssing
		H10L, H10F, H10G, H10J	BB-3						
A3 Breede Werkende syriviere	III	H20A, H20B, H20C, H20F	BB-2						
		H40B	BB-4						
		H20H, H10H, H40C	BB-5						
		H30B	BB-6						
A3 Breede Werkende syriviere	III	H40J	BB-7						
A2 Middel Breede Renosterveld	III	H40K							
B4 Riviersonderend Theewaters	III	H60A, H60B, H60C	BR-1						
B5 Overberg Wes	II	G40C, G40D	BO-1						
H16 Overberg Weskus	II	G40H	BO-2						

IUA	Klas	Kwartêre Opvanggebied	RU	Hulpbron Naam	Komponent	Sub Komponent	Aanwyser/ Maatstaaf	Verhalende RQO	RQO Numeriese
F10 Overberg Oos Renosterveld	II	G50B	BO-3						
H17 Overberg Oos Fynbos	II	G50D, G50E							
E8 Touws	III	J12C, J12D	GGr-1						
C6 Gamka Buffels	II	J11E	GGr-3						
		J24B	GGa-1						
		J21A, J21B, J23A	GGa-2a, 2b and 2c						
D7 Gouritz-Olifants	III	J35B	GO-4						
F13 Laer Gouritz	II	J40C, J40D	GGo-1						
I18 Hessequa	III	H90E	GGo-2						
G15 Kus	II	K40D	GC-2						
H16 Overberg Weskus	II	G40H	BO-2	Grondwater (all)	Hoeveelheid	Grondwatervlak	Grondwatervlak	Minimum watervlak in onttrekkings boorgate binne 2.5km vanaf die oseaan om soutinbraak te voorkom	>1 mamsl
F10 OverberOos Renosterveld	II	G50B	BO-3						
H17 OverbergOos Fynbos	II	G50D, G50E							
G15 Kus	II	K40D	GC-2	Grondwater (Kus Cenozoic Deposito's)					>0.5 mamsl
A3 Breede Werkende syriviere	III	H20H, H10H, H40C	BB-5	Grondwater (Kus Cenozoic Deposito's)	Hoeveelheid	Ontlading	Relative water levels between grondwater and surface water (in mamsl)	Die natuurlike gradiënt tussen grondwater en oppervlakwater moet gehandhaaf word.	Nie van toepassing
G15 Kus	II	K40D	GC-2						
		K70A	GC-3						
A3 Breede Werkende syriviere	III	H40J	BB-7	Grondwater (bonatuurlike waterdraers)					
A2 Middel Breede Renosterveld	III	H40K							
B4 Riviersonderend Theewaters	III	H60A, H60B, H60C	BR-1						
B5 Overberg Wes	II	G40C, G40D	BO-1						
H16 Overberg Weskus	II	G40H	BO-2						
F10 Overberg Oos Renosterveld	II	G50B	BO-3						
H17 Overberg Oos Fynbos	II	G50D, G50E							
F13 Laer Gouritz	II	J40C, J40D	GGo-1	Grondwater (alle)					

IUA	Klas	Kwartêre Opvanggebied	RU	Hulpbron Naam	Komponent	Sub Komponent	Aanwyser/ Maatstaaf	Verhalende RQO	RQO Numeriese
G15 Kus	II	K20A	GC-1						
A1 Boonste Breede Sytakke	II	H10L, H10F, H10G, H10J	BB-3	Grondwater (alle)	Hoeveelheid	Ontlading	Buffersones	Geen grondwater-onttrekking rondom vleiland en rivier-FEPA's in ooreenstemming met die implementeringshandleiding vir FEPA's nie.	250m
A3 Breede Werkende syriviere	III	H40J	BB-7						
A2 Middel Breede Renosterveld	III	H40K							
B4 Riviersonderend Theewaters	III	H60A, H60B, H60C	BR-1						
H16 Overberg Weskus	II	G40H	BO-2						
F10 Overberg Oos Renosterveld	II	G50B	BO-3						
H17 Overberg Oos Fynbos	II	G50D, G50E							
B5 Overberg Wes	II	G40C, G40D	BO-1						
C6 Gamka Buffels	II	J11E, J21A, J21B, J23A	GGr-3						
			GGa-2a, 2b en 2c						
F13 Laer Gouritz	II	J40C, J40D	GGo-1						
G15 Kus	II	K20A	GC-1						
		K70A	GC-3						
A3 Breede Werkende syriviere	III	H20H, H10H, H40C	BB-5	Grondwater (Kus Cenozoic Deposito's)					
G15 Kus	II	K40D	GC-2						
A1 Boonste Breede Sytakke	II	H10L, H10F, H10G, H10J	BB-3	Grondwater (alle)	Hoeveelheid	Lae vloei in rivier	Handhaaf (grondwater komponent van) die lae vloei vereistes in die rivier Voldoening aan die lae vloei vereistes in die rivier (soos per rivier RQO) vloeivereistes in the rivier (as per rivierine RQO)	Instandhouding lae vloeivereistes: 56.125Mm^3/a (12.90%MRT) at H1H001; 30.215Mm^3/a (28.63%MRT) at H1H018	Nie van toepassing
B4 Riviersonderend Theewaters	III	H60A,H60B, H60C	BR-1					Instandhouding lae vloeivereistes: 12.567Mm3/a (28.63%MRT) at Nvii10	Nie van toepassing
B5 Overberg Wes	II	G40C, G40D	BO-1					Instandhouding lae vloeivereistes: 12.669Mm3/a (31.79%MRT) by Piii1; 54.260Mm3/a (26.26%MRT) by G4H030; 77.111Mm3/a (30.79%MRT) by G4H007	Nie van toepassing

IUA	Klas	Kwartêre Opvanggebied	RU	Hulpbron Naam	Komponent	Sub Komponent	Aanwyser/ Maatstaaf	Verhalende RQO	RQO Numeriese
F10 Overberg Oos Renosterveld	II	G50B	BO-3					Instandhouding lae vloeivereistes: 0.490Mm3/a (3.93%MRT) by Ni4; 2.067Mm3/a (13.40%MRT) by G5H003.	Nie van toepassing
H17 Overberg Oos Fynbos	II	G50D, G50E							
A1 Boonste Breede Sytakke	II	H10A, H10B, H10C	BB-1	Grondwater (alle)	Gehalte	Patogene	E-coli	Grondwater moet geskik wees vir huishoudelike verbruik na behandeling; en grondwatergehalte sal nie 'n verswakkende neiging vanaf natuurlike agtergrond toon nie	0 tellings / 100ml
		H10L, H10F, H10G, H10J	BB-3						
A3 Breede Werkende syriviere	III	H20A, H20B, H20C, H20F	BB-2						
		H40B	BB-4						
		H20H, H10H, H40C	BB-5						
		H30B	BB-6						
A3 Breede Werkende syriviere	III	H40J	BB-7						
A2 Middel Breede Renosterveld	III	H40K							
B4 Riviersonderend Theewaters	III	H60A, H60B, H60C	BR-1						
B5 Overberg Wes	II	G40C, G40D	BO-1						
H16 Overberg Weskus	II	G40H	BO-2						
F10 Overberg Oos Renosterveld	II	G50B	BO-3						
H17 Overberg Oos Fynbos	II	G50D, G50E							
E8 Touws	III	J12C, J12D	GGr-1						
C6 Gamka Buffels	II	J11E	GGr-3						
		J24B	GGa-1						
		J21A, J21B, J23A	GGa-2a, 2b and 2c						
D7 Gouritz-Olifants	III	J35B	GO-4						
F13 Laer Gouritz	II	J40C, J40D	GGo-1						
I18 Hessequa	III	H90E	GGo-2						
G15 Kus	II	K40D	GC-2						
A1 Boonste Breede Sytakke	II	H10A, H10B, H10C	BB-1	Grondwater (alle)	Gehalte	Patogene	Totale Koliform	Grondwater moet geskik wees vir huishoudelike verbruik na behandeling; en grondwatergehalte sal nie 'n verswakkende neiging vanaf	<10 tellings / 100ml
		H10L, H10F, H10G, H10J	BB-3						
A3 Breede Werkende syriviere	III	H20A, H20B, H20C, H20F	BB-2						
		H40B	BB-4						
		H20H, H10H, H40C	BB-5						

IUA	Klas	Kwartêre Opvanggebied	RU	Hulpbron Naam	Komponent	Sub Komponent	Aanwyser/ Maatstaaf	Verhalende RQO	RQO Numeriese
		H30B	BB-6					natuurlike agtergrond toon nie	
A3 Breede Werkende syriviere	III	H40J	BB-7						
A2 Middel Breede Renosterveld	III	H40K							
B4 Riviersonderend Theewaters	III	H60A, H60B, H60C	BR-1						
B5 Overberg Wes	II	G40C, G40D	BO-1						
H16 Overberg Weskus	II	G40H	BO-2						
F10 Overberg Oos Renosterveld	II	G50B	BO-3						
H17 Overberg Oos Fynbos	II	G50D, G50E							
E8 Touws	III	J12C, J12D	GGr-1						
C6 Gamka Buffels	II	J11E	GGr-3						
		J24B	GGa-1						
		J21A, J21B, J23A	GGa-2a, 2b and 2c						
D7 Gouritz-Olifants	III	J35B	GO-4						
F13 Laer Gouritz	II	J40C, J40D	GGo-1						
I18 Hessequa	III	H90E	GGo-2						
G15 Kus	II	K40D	GC-2						
A1 Boonste Breede Sytakke	II	H10A, H10B, H10C	BB-1	Grondwater (Cenozoic Kus deposito's)/ Kainosoïese kusafsettings	Gehalte	Voedingstowwe	NO3 (as N)	Grondwater moet geskik wees vir huishoudelike verbruik na behandeling; en grondwatergehalte sal nie 'n verswakkende neiging vanaf natuurlike agtergrond toon nie.	<6.8 mg/l
						Soute	EC		<311 mS/m
				Grondwater (Bokkeveld Groep)	Gehalte	Voedingstowwe	NO3 (as N)		<2.4 mg/l
						Soute	EC		<236 mS/m
				Grondwater (Nardouw Groep)	Gehalte	Voedingstowwe	NO3 (as N)		<4.4 mg/l
						Soute	EC		<119 mS/m
		H10F, H10G, H10J, H10L	BB-3	Grondwater (Cenozoic Kus deposito's)/ Kainosoïese kusafsettings	Gehalte	Voedingstowwe	NO3 (as N)		<9.6 mg/l
						Soute	EC		<73 mS/m
				Grondwater (Tafelberg groep)	Gehalte	Voedingstowwe	NO3 (as N)		<1.8 mg/l
						Soute	EC		<109 mS/m
	III		BB-2		Gehalte	Voedingstowwe	NO3 (as N)		<11.0 mg/l

IUA	Klas	Kwartêre Opvanggebied	RU	Hulpbron Naam	Komponent	Sub Komponent	Aanwyser/ Maatstaaf	Verhalende RQO	RQO Numeriese
A3 Breede Werkende syriviere		H20A, H20B, H20C, H20F		Grondwater (Cenozoic Kus deposito's)/ Kainosoïese kusafsettings		Soute	EC		<168 mS/m
				Grondwater (Bokkeveld Groep)	Gehalte	Voedingstowwe	NO3 (as N)		<1.8 mg/l
						Soute	EC		<329 mS/m
				Grondwater (Tafelberg groep)	Gehalte	Voedingstowwe	NO3 (as N)		<3.7 mg/l
						Soute	EC		<63 mS/m
		H10H, H20H, H40C	BB-5	Grondwater (Cenozoic Kus deposito's)/ Kainosoïese kusafsettings	Gehalte	Voedingstowwe	NO3 (as N)		<3.1 mg/l
						Soute	EC		<591 mS/m
		H30B	BB-6	Grondwater (Cenozoic Kus deposito's) Kainosoïese kusafsettings /	Gehalte	Voedingstowwe	NO3 (as N)		<9.8 mg/l
						Soute	EC		<170 mS/m
				Grondwater (Bokkeveld Groep)	Gehalte	Voedingstowwe	NO3 (as N)		<3.6 mg/l
						Soute	EC		<589 mS/m
				Grondwater (Nardouw Groep)	Gehalte	Voedingstowwe	NO3 (as N)		<4.4 mg/l
						Soute	EC		<119 mS/m
		H40J, H40K	BB-7	Grondwater (Cenozoic Kus deposito's) Kainosoïese kusafsettings /	Gehalte	Voedingstowwe	NO3 (as N)		<10 mg/l
						Soute	EC		<280 mS/m
				Grondwater (Bokkeveld Groep)	Gehalte	Voedingstowwe	NO3 (as N)		<3.6 mg/l
						Soute	EC		<741 mS/m
				Grondwater (Tafelberg groep)	Gehalte	Voedingstowwe	NO3 (as N)		<3.8 mg/l
						Soute	EC		<117 mS/m
B4 Riviersonderend Theewaters	III	H60A, H60B, H60C	BR-1	Grondwater (Cenozoic Kus deposito's)/ Kainosoïese kusafsettings	Gehalte	Voedingstowwe	NO3 (as N)		<10 mg/l
						Soute	EC		<280 mS/m
				Grondwater (Bokkeveld Groep)	Gehalte	Voedingstowwe	NO3 (as N)		<3.6 mg/l
						Soute	EC		<741 mS/m
				Grondwater (Tafelberg groep)	Gehalte	Voedingstowwe	NO3 (as N)		<3.8 mg/l
						Soute	EC		<70 mS/m
B5 Overberg Wes	II	G40A, G40C, G40D	BO-1		Gehalte	Voedingstowwe	NO3 (as N)		<3.6 mg/l

IUA	Klas	Kwartêre Opvanggebied	RU	Hulpbron Naam	Komponent	Sub Komponent	Aanwyser/ Maatstaaf	Verhalende RQO	RQO Numeriese
				Grondwater (Bokkeveld Groep)		Soute	EC		<589 mS/m
				Grondwater (Tafelberg groep)	Gehalte	Voedingstowwe	NO3 (as N)		<3.8 mg/l
						Soute	EC		<117 mS/m
H16 Overberg Weskus	II	G40H	BO-2	Grondwater (Cenozoic Kus deposito's)/ Kainosoïese kusafsettings	Gehalte	Voedingstowwe	NO3 (as N)		<9.8 mg/l
						Soute	EC		<280 mS/m
				Grondwater (Bokkeveld Groep)	Gehalte	Voedingstowwe	NO3 (as N)		<3.6 mg/l
						Soute	EC		<589 mS/m
				Grondwater (Tafelberg groep)	Gehalte	Voedingstowwe	NO3 (as N)		<3.8 mg/l
						Soute	EC		<117 mS/m
F10 Overberg Oos Renosterveld	II	G50B	BO-3	Grondwater (Cenozoic Kus deposito's)/ Kainosoïese kusafsettings	Gehalte	Voedingstowwe	NO3 (as N)		<10 mg/l
H17 Overberg Oos Fynbos	II	G50D, G50E				Soute	EC		<280 mS/m
F10 Overberg Oos Renosterveld	II	G50B	BO-3	Grondwater (Bokkeveld Groep)	Gehalte	Voedingstowwe	NO3 (as N)		<3.6 mg/l
H17 Overberg Oos Fynbos	II	G50D, G50E				Soute	EC		<741 mS/m
F10 Overberg Oos Renosterveld	II	G50B	BO-3	Grondwater (Tafelberg groep)	Gehalte	Voedingstowwe	NO3 (as N)		<3.8 mg/l
H17 Overberg Oos Fynbos	II	G50D, G50E				Soute	EC		<117 mS/m
C6 Gamka Buffels	II	J11E	GGr-3	Grondwater (all)	Gehalte	Voedingstowwe	NO3 (as N)		<11.7 mg/l
						Soute	SO4		< 600 mg/l
						Soute	EC		<231 mS/m
		J24B	GGa-1	Grondwater (Beaufort Groep)	Gehalte	Voedingstowwe	NO3 (as N)		<12.0 mg/l
						Soute	SO4		< 237 mg/l
						Soute	EC		<226 mS/m
		J21A, J21B, J21D, J23A	GGa-2a, 2b and 2c	Grondwater (Cenozoic Kus deposito's)/ Kainosoïese kusafsettings	Gehalte	Voedingstowwe	NO3 (as N)		<15.8 mg/l
						Soute	SO4		<525 mg/l
						Soute	EC		<310 mS/m
				Grondwater (Beaufort Groep, Karoo Supergroep)	Gehalte	Voedingstowwe	NO3 (as N)		<15.9 mg/l
						Soute	SO4		<634 mg/l
						Soute	EC		<367 mS/m
E8 Touws	III	J12C, J12D	GGr-1		Gehalte	Voedingstowwe	NO3 (as N)		<9.8 mg/l

IUA	Klas	Kwartêre Opvanggebied	RU	Hulpbron Naam	Komponent	Sub Komponent	Aanwyser/ Maatstaaf	Verhalende RQO	RQO Numeriese
				Grondwater (Cenozoic Kus deposito's)/ Kainosoïese kusafsettings		Soute	EC		<170 mS/m
				Grondwater (Witteberg Groep)	Gehalte	Voedingstowwe	NO3 (as N)		<11.0 mg/l
						Soute	EC		<420 mS/m
				Grondwater (Bokkeveld Groep)	Gehalte	Voedingstowwe	NO3 (as N)		<3.6 mg/l
						Soute	EC		<589 mS/m
D7 Gouritz-Olifants	III	J35B	GO-4	Grondwater (Bokkeveld Groep)	Gehalte	Voedingstowwe	NO3 (as N)		<11.0 mg/l
						Soute	EC		<589 mS/m
				Grondwater (Tafelberg groep)	Gehalte	Voedingstowwe	NO3 (as N)		<11.0 mg/l
						Soute	EC		<170 mS/m
F13 Laer Gouritz	II	J40C, J40D	GGo-1	Grondwater (Kus Cenozoic Deposito's)/ Kainosoïese kusafsettings	Gehalte	Voedingstowwe	NO3 (as N)		<3.3 mg/l
						Soute	EC		<170 mS/m
I18 Hessequa	III	H90E	GGo-2a and 2b	Grondwater (Kus Cenozoic Deposito's)/ Kainosoïese kusafsettings	Gehalte	Voedingstowwe	NO3 (as N)		<4.5 mg/l
						Soute	EC		<316 mS/m
G15 Kus	II	K40D	GC-2	Grondwater (Kus) Cenozoic Deposito's)/ Kainosoïese kusafsettings	Gehalte	Voedingstowwe	NO3 (as N)		<11.0 mg/l
						Soute	EC		<170 mS/m

ISEBE AMANZI NOGUTYULO

UMTHETHO WAMANZI WESIZWE, KA1998
(UMTHETHO NO.36 KA1998)

AMAHLELO APHAKANYISIWEYO EMIJELO YAMANZI NEENJONGO NGEKWALITI YEMIJELO

Mna, Lindiwe Sisulu, uMphathiswa weSebe lokuhlaliswa kwabantu, aManzi noGutyulo, ngokwemiqathango yesiqendu 13(1) soMthetho waManzi weSizwe, ka1998 (uMthetho No. 36 ka1998), ndishicilela olu xwebhu lwamahlelo emijelo yamanzi aphakanyisiweyo, neenjongo ngekwaliti yemijelo yamanzi kwiShedyuli eya kuxelwa phantsi kweSiqendu S13(1) soMthetho.

L N SISULU, MP
UMPHATHISWA WESEBE LOKUHLALISWA KWABANTU, AMANZI NOGUTYULO

UMHLA:

ISHEDYULI

INKCAZO NGOMJELO WAMANZI

La mahlelo aphakanyiswayo emijelo yamanzi neenjongo malunga nekwalit yomjelo aqingqwa ngayo yonke imijelo (okanye indawana nje) yemijelo ebalulekileyo yamanzi njengoko kubonisiwe apha ngezantsi:

Ummandla wolawulo lwamanzi: Breede-Gouritz
Ingqingqi yofunxo-manzi: G40-G50, H10- H90, J10-J40, K10-K70 (Iingingqi zofunxo zebakala eliphezulu
Imilambo: Ummandla i-Breede Overberg: umlambo iBreede, umlambo iRivieronderend, umlambo iOverberg, neminye imilambo emincinane eselunxwemeni, ummandla iGouritz Coastal: umlambo iGouritz, umlambo iBuffels, umlambo iTouws, umlambo iGroot, umlambo Gamka, umlambo i-Olifants, umlambo iKammanassie, neminye imilambo emincinane eselunxwemeni.

A. AMAHLELO EMIJELO APHAKANYISWAYO NGOKWEEMFUNO ZESIQENDU 13(4)(a)(i)(aa) SOMTHETHO WAMANZI WESIZWE, KA1998

i. Amahlelo aphakanyisiweyo emijelo yamanzi kummandla wolawulo lwamanzi i- Breede-Gouritz adwelisiwe phaya kuTafile 1 ngokwehlelo lilonke ngeunithi nganye ebumbeneyo ngokohlalutyo (i- IUA), ebonisiweyo kuMzobo 1 wommandla iBreede Overberg nebonisiweyo kuMzobo 2 wommandla iGouritz Coastal.

ii. Ii-IUAs zihlelwa ngokwebakala losetyenziso oluvumelekileyo nangokhuselo lwazo njengeHlelo 1 elibonisa ukhuselo lwendalo oluphezulu nosetyenziso olusezantsi; iHlelo II elibonisa ukhuselo oluphakathi nosetyenziso oluphakathi; neHlelo III elibonisa ukhuselo olusezantsi nosetyenzio oluphezulu.

iii. UTafile 1 ubonisA i-IUA, ihlelo layo lomjelo wamanzi nokwakheka kwayo ngokwendawo yoboniselo. Ukwakheka ngokwendawo yoboniselo kuquka intaphane yamaqhubu ngokobume bendalo namele iziphelo zemilambo okanye iiyunithi zemijelo (iiRUs). IBakala lendawo yokuphilisana emaligcinwe ngeRU nganye ye-IUA libonisiwe.

B. IINJONGO MALUNGA NEKWALITI YOMJELO YEMIJELO YAMANZI NGOKWEEMFUNO ZESIQENDU 13(4)(a)(i)(bb) SOMTHETHO WAMANZI WESIZWE, KA1998

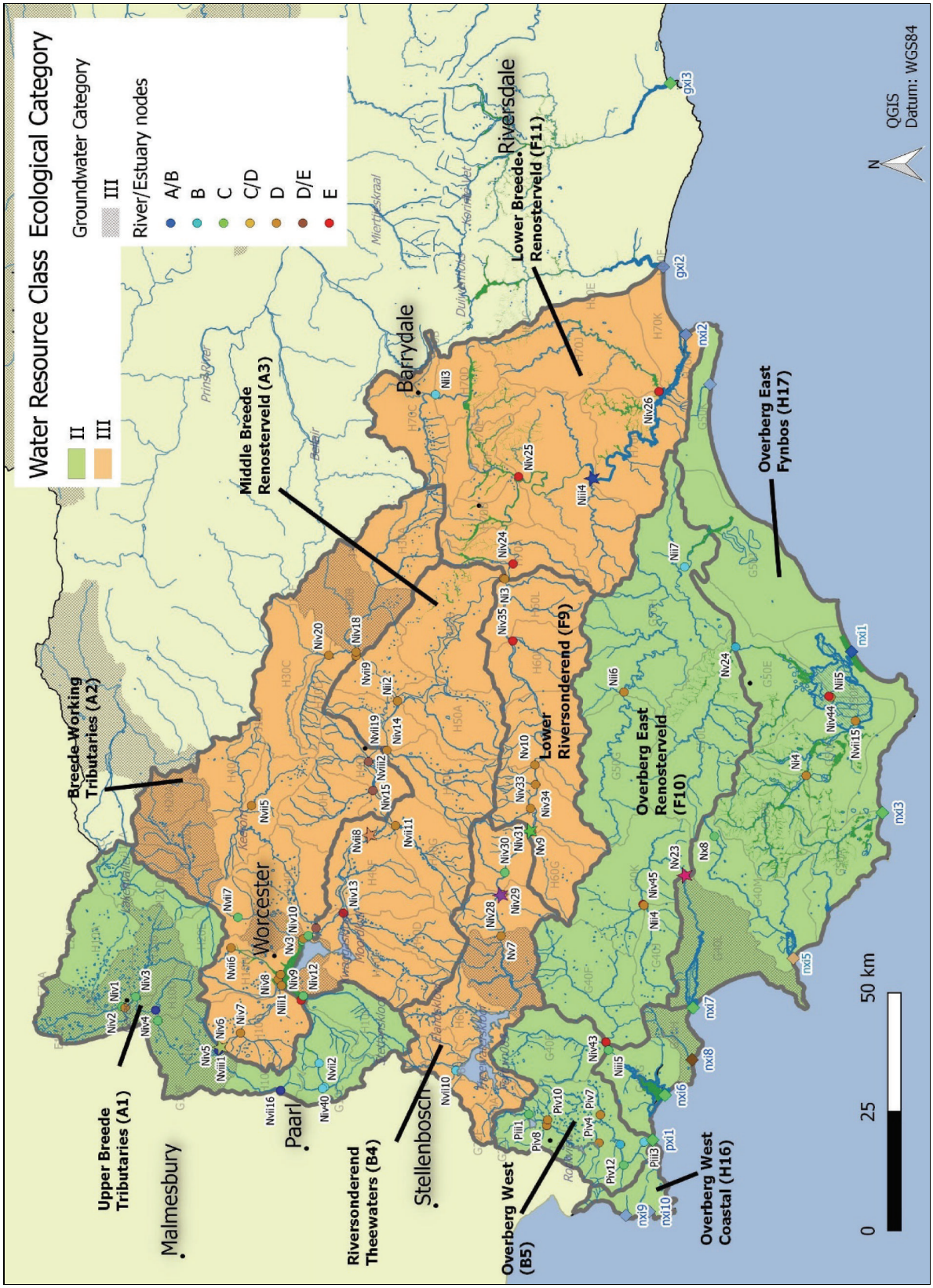
i. Iinjongo zekwaliti yomjelo (iiRQOs) ziyachazwa ngeRU nganye yongxamiseko ye- IUA yonke ngokomthamo wamanzi, indawo yokuphilisana, ibiota, nangokwekwaliti yamanzi. IiRUs zongxamiseko zommandla iBreede Overberg zibonisiwe kuMzobo 3 neRUs zongxamiseko zommandla iGouritz Coastal zibonisiwe kuMzobo 4.

ii. UTafile 2 ukuya kuTafile 17 zibonisa iiRQOs ZEMILAMBO ekwiiRUs zongxamiseko.

iii. UTafile 18 ukuya kuTafile 26 zibonisa iiRQOs ZAMACHWEBA akwiiRUs zongxamiseko.

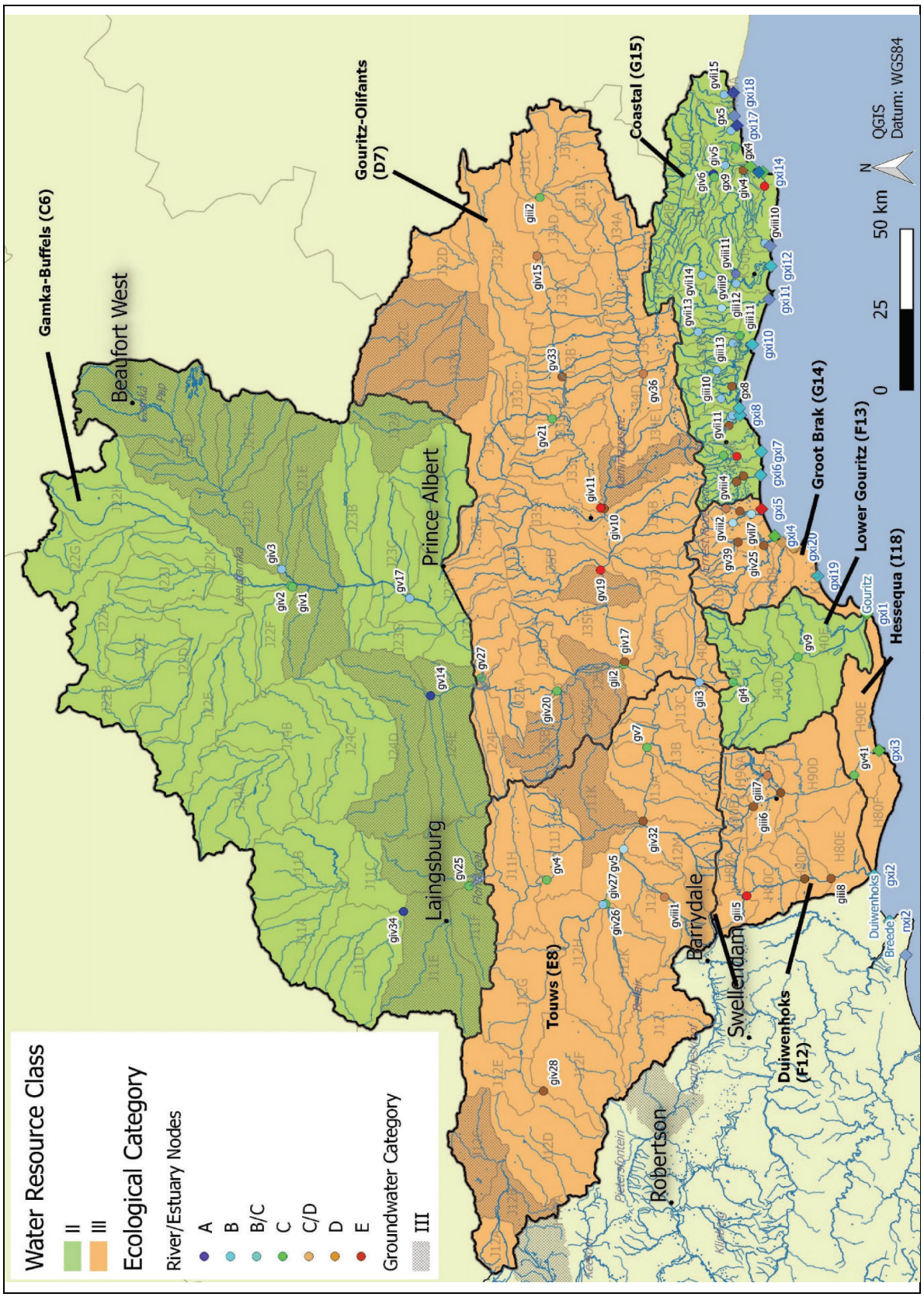
iv. UTafile 27 ukuya kuTafile 40 zibonisa iiRQOs ZAMANZI APHANTSI KOMHLABA akwii RUs zongxamiseko.

v. I-RQOs ziza kusebenza ukusukela kuloo mhla zither zatyikitywa ngawo ngokuqingqwe yimiqathango yeSiqendu 13(1) soMthetho waManzi weSizwe, ngaphandle kokuba uMphathiswa ubona ngenye indlela.



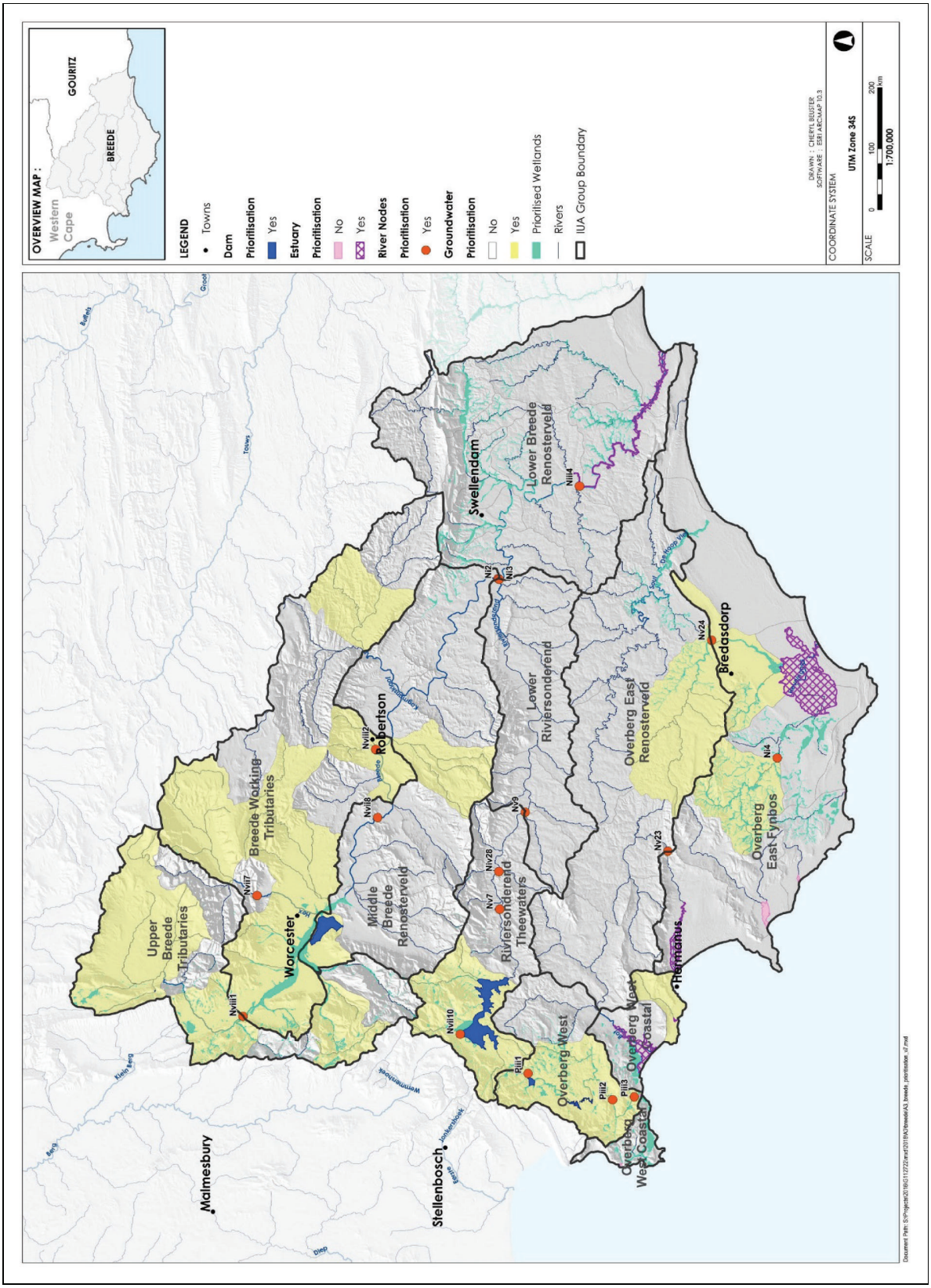
UMzobo 1: Amahlelo emijelo yamanzi aphakanyisiweyo ngoMmandla iBreede Overberg

2



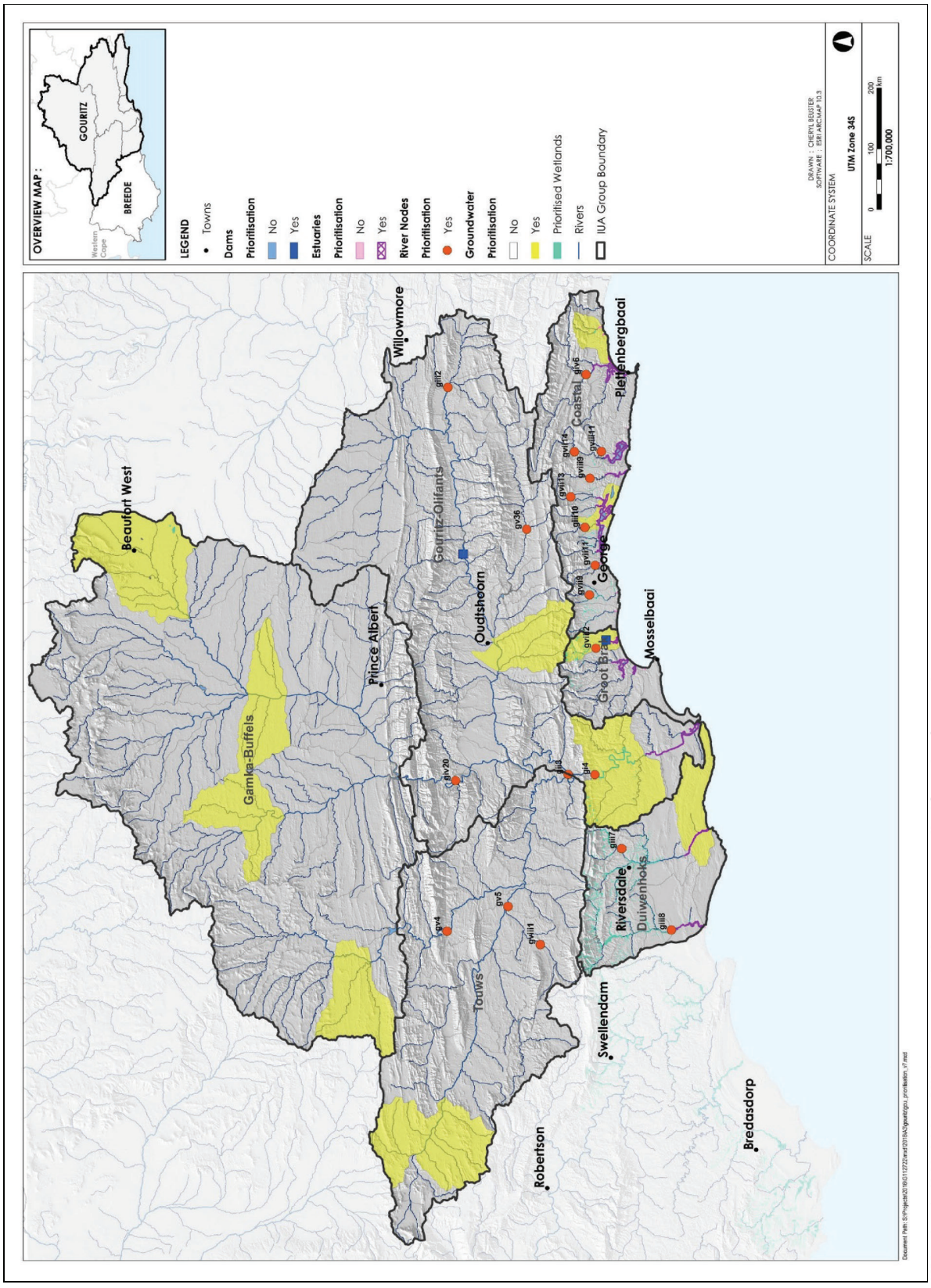
UMzobo2: Amahlelo emijelo yamanzi aphakanyisiweyo ngoMmandla Gouritz Coastal

3



UMzobo 3: Ii-Unithi zoMjelo zongxamiseko ngommandla iBreede Overberg

4



UMzobo 3: Ii-Unithi zoMjelo zongxamiseko ngommandla iGouritz Coastal

5

UTafile 1: UShwankathelo lwamahlelo emijelo yamanzi nge-Unithi nganye ebumbeneyo yohlalutyo namabakala okuphilisana

I-Unithi ebumbeneyo yohlalutyo (i-IUA)	Ihlelo lomjelo wamanzi le- IUA	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu lenkangeleko yendalo	I-TEC	I-MAR yendalo (million m^3/a)
A1 Upper Breede Tributaries	II	H10B		Titus River	Niv3	C	21.45
		H10C		Koekedou River	Niv1	D	18.80
		H10C		Dwars River	Niv2	C	74.90
		H10C		Breede River	nvi4	C	126.90
		H10D		Witels River	Niv4	A	84.30
		H10D		Breede River	Nvi3	C	252.80
		H10E		Witte River	Nvii16	A	42.50
		H10F		Witte River	Niv5	A	141.70
		H10F		Wabooms River	Niv6	D	7.40
		H10F	A1-R01	Breede River	Nviii1	D	434.90
		H10J		Elands River	Niv40	B	58.10
		H10J		Krom River	Niv41	B	8.90
		H10J	A1-R02	Molenaars River	Nvii2	B	105.60
A2 Breede Woring tributaries	III	H10G		Slanghoek River	Niv7	D	32.60
		H10G		Breede River	Niii1	D	497.60
		H10J		Smalblaar River	Niv42	E	191.20
		H10H		Jan du Toit River	Niv8	D	17.90
		H10H		Hartbees River	Nvii6	D	4.00
		H10H		Hartbees River	Niv9	D	10.30
		H10K		Holsloot River	Niv12	C	119.60
		H10H		Breede River	Nv3	C	850.90
		H20F		Hex River	Nv18	D	10.90
		H20G	A2-R03	Hex River	Nvii7	C	102.80
		H20H		Hex River	Niv10	D	107.10
		H40C		Breede River	Nii1	C	957.90
		H40B		Koo River	Nvii5	D	0.90
		H40C		Nuy River	Niv11	D/E	29.30
		H30B		Kingna River	Niv18	D	27.80
		H30C		Pietersfontein River	Niv20	D	17.30
		H30D		Keisie River	Nvii9	D	21.10

I-Unithi ebumbeneyo yohlalutyo (i-IUA)	Ihlelo lomjelo wamanzi le- IUA	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu lenkangeleko yendalo	I-TEC	I-MAR yendalo (million m^3/a)
A3 Middle Breede Renosterveld	III	H40D		Doring River	Niv13	E	47.50
		H40F	A3-R04	Breede River	Nvii8	C/D	1042.80
		H40F		Breede River	Ni1	A/B	1043.40
		H40G		Poesjenels River	Nvii11	D	16.10
		H40H		Vink River	Niv15	D/E	15.60
		H40J		Willem Nels River	Nviii2	D/E	5.20
		H40J		Breede River	Nvii19	A/B	1081.90
		H40K		Keisers River	Nvii12	D	7.10
		H40K		Keisers River	Niv14	D	12.60
		H40L		Breede River	Nvi1	D	1099.90
		H30E		Kogmanskloof River	Nii2	D	52.00
		H50A		Breede River	Niii3	D	1153.40
		H50B	A3-R05	Breede River	Ni2	D	1170.10
B4 Upper Riversonderend	III	H60B	B4-R06	Du Toits River	Nvii10	B	43.90
		H60D	B4-R07	Riviersonderend River	Nv7	C	370.20
		H60E	B4-R08	Baviaans River	Niv28	B	7.90
		H60E		Sersants River	Niv29	D	4.50
		H60F		Gobos River	Niv30	C	12.40
		H60F	B4-R09	Riviersonderend River	Nv9	D	413.70
F9 Lower Riversonderend	III	H60G		Kwartel River	Niv31	D	10.70
		H60H		Soetmelksvlei River	Niv33	D	4.00
		H60H		Slang River	Niv34	D	2.10
		H60H		Riviersonderend River	Nv10	D	442.90
		H60J		Riviersonderend River	Nv11	D	463.10
		H60K		Kwassadie River	Niv35	E	5.90
		H60K		Riviersonderend River	Nv12	D	474.50
		H60L	F9-R10	Riviersonderend River	Ni3	D	483.80

I-Unithi ebumbeneyo yohlalutyo (i-IUA)	Ihlelo lomjelo wamanzi le- IUA	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu lenkangeleko yendalo	I-TEC	I-MAR yendalo (million m^3/a)
B5 Overberg West	II	G40C	B5-R11	Palmiet River	Piii1	C	250.40
		G40C		Witklippieskloof River	Piv10	D	15.10
		G40C		Palmiet River	Piv9	D	78.70
		G40C		Palmiet River	Pvi1	D	100.50
		G40C		Klipdrif River	Piv8	D	13.60
		G40D		Klein-Palmiet River	Piv4	D	13.70
		G40D		Krom/Ribbok River	Piv7	D	27.50
		G40D	B5-R12	Palmiet River	Piii2	B/C	206.70
		G40D		Dwars/Louws River	Piv12	C	25.20
		G40D	B5-R13	Palmiet River	Piii3	B	250.50
		G40D	B5-E01	Palmiet Estuary	Pxi1	B/C	173.44
H16 Overberg West Coastal	II	G40B	H16-E02	Buffels Estuary	Bxi1	B	8.80
		G40B	H16-E03	Rooiels Estuary	Bxi2	A	9.44
		G40F		Swart River	Niv43	E	42.10
		G40E		Bot River	Niii5	C	74.10
		G40G	H16-E04	Bot Estuary	Nxi6	B	77.67
		G40H	H16-E05	Onrus Estuary	Nxi8	D	4.75
F10 Overberg East Renosterveld	II	G40J		Hartbees River	Nii4	D	18.40
		G40K		Steenbok River	Niv45	E	10.80
		G40K	F10-R14	Klein River	Nv23	C/D	38.38
		G50G		Sout River	Nii6	D	4.20
		G50H		DeHoopVlei River	Nii7	B	27.10
H17 Overberg East Fynbos	II	G40L	H17-E06	Klein Estuary	Nxi7	B	51.21
		G40M		Uilkraal River	Nx8	C	2.40
		G40M	H17-E07	Uilkraal Estuary	Nxi5	C	6.28
		G50A	H17-E08	Ratel Estuary	Nxi3	B	3.42
		G50B	H17-R15	Nuwejaar River	Ni4	C/D	12.50
		G50C		Heuningnes River	Nvii15	C/D	17.80
		G50C		Heuningnes River	Niv44	C/D	18.80
		G50D	H17-R16	Kars River	Nv24	B/C	15.40
		G50E		Kars River	Nii5	E	21.60
		G50F	H17-E09	Heuningnes Estuary	Nxi1	B	30.56
		G50K	H17-E10	Klipdrifsfontein Estuary	Bxi3	A	0.75

I-Unithi ebumbeneyo yohlalutyo (i-IUA)	Ihlelo lomjelo wamanzi le- IUA	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu lenkangeleko yendalo	I-TEC	I-MAR yendalo (million m^3/a)
F11 Lower Breede Renosterveld	II	H70A		Leeu River	Niv24	E	5.80
		H70B		Klip River	Niv24a	E	24.50
		H70B		Breede River	Nv2	C	1701.40
		H70C		Huis River	Nvii14	C	3.20
		H70C		Tradouw River	Nii3	B	19.40
		H70F		Buffeljags River	Niv25	E	119.40
		H70G	F11-R17	Breede River	Niii4	C	1832.70
		H70H		Breede River	Nviii3	B	1841.20
		H70J		Slang River	Niv26	E	10.00
		H70K	F11-E11	Breede Estuary	Nxi2	B	1022.56
C6 Gamka Buffels	II	J11C		Buffels River	giv34	A	13.10
		J11F		Buffels River	gv25	C	24.30
		J21A		Gamka River	gv18	B	26.70
		J21D		Gamka River	giv3	B	31.90
		J22F		Koekemoers River	giv1	C	7.40
		J22K		Leeu River	giv2	C	17.10
		J23C		Gamka River	gv17	B	58.20
		J23F		Gamka River	giv21	B	68.00
		J23J		Gamka River	gv27	C	69.60
		J24D		Dwyka River	gv14	A	4.00
E8 Touws	III	J12C		Ysterdams River	giv30	D	2.80
		J12B		Donkies River	giv31	D	6.90
		J12D		Touws River	giv28	D	16.40
		J12H		Touws River	giv27	B	26.40
		J12K		Brak River	giv26	C	2.90
		J12L	E8-R18	Doring River	gviii1	C/D	2.90
		J12L	E8-R19	Touws River	gv5	B/C	33.50
		J11H	E8-R20	Buffels River	gv4	C	27.40
		J11J	E8-R21	Groot River	gv6	D	29.70
		J11K		Groot River	giv32	D	30.50
		J13A		Groot River	gv7	C	77.70
		J13C	E8-R22	Groot River	gii3	B	78.10

I-Unithi ebumbeneyo yohlalutyo (i-IUA)	Ihlelo lomjelo wamanzi le- IUA	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu lenkangeleko yendalo	I-TEC	I-MAR yendalo (million m^3/a)
D7 Gouritz-Olifants; Lower Gouritz	III	J25A	D7-R23	Gamka River	giv20	C	79.80
		J25D		Nels River	giv18	E	10.90
		J25E		Gamka River	gii2	C	111.80
		J31C	D7-R24	Olifants River	giii2	C	11.80
		J32E		Traka River	giv15	C/D	2.80
		J33B		Olifants River	gv33	D	25.00
		J33D		Meirings River	gv21	C	21.40
		J33F		Olifants River	giv11	E	79.90
		J34C	D7-R25	Kammanassie River	gv36	C/D	41.20
		J34F		Kammanassie River	giv10	D	59.20
		J35A		Grobbelaars River	gvii2	C	16.90
		J35A		Grobbelaars River	giv9	E	30.70
		J35D		Olifants River	gv19	E	224.50
		J35F		Olifants River	giv17	D	253.40
F13 Lower Gouritz	II	J40A		Gouritz River	giv16	C	394.90
		J40B	F13-R26	Gouritz River	gi4	C	489.10
		J40C		Gouritz River	gv28	D	21.40
		J40D		Gouritz River	gv9	C	571.80
		J40E	F13-E12	Gouritz Estuary	Gxi1	C	294.69
F12 Duiwenhoks	III	H80B		Duiwenhoks River	giii5	E	62.50
		H80C		Duiwenhoks River	gv11	D	75.10
		H80D	F12-R27	Duiwenhoks River	giii8	D	83.30
		H80E	F12-E13	Duiwenhoks Estuary	Gxi2	B	73.65
I18 Hessequa	III	H90B		Korinte River	giii6	D	34.20
		H90A	I18-R28	Goukou River	giii7	C/D	50.90
		H90C		Goukou River	gv10	D	92.90
		H90D		Goukou River	gv41	C	104.90
		H90E	I18-E14	Goukou Estuary	Gxi3	B/C	89.94

I-Unithi ebumbeneyo yohlalutyo (i-IUA)	Ihlelo lomjelo wamanzi le- IUA	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu lenkangeleko yendalo	I-TEC	I-MAR yendalo (million m^3/a)
G14 Groot Brak	III	K10D		Brandwag River	giv25	D	17.90
		K10E		Moordkuil River	gv39	D	15.70
		K10F	G14-E15	Klein-Brak estuary	Gxi4	C	39.10
		K20A	G14-R29	Groot-Brak River	gviii2	B/C	15.30
		K20A		Varing River	gviii12	C/D	6.00
		K20A		Varing River	gviii3	D	8.40
		K20A		Groot-Brak River	gvii7	B/C	27.00
		K20A	G14-E16	Groot-Brak estuary	Gxi5	D	16.77
		K10A	G14-E17	Blinde estuary	Gxi19	B	0.90
		K10A	G14-E18	Tweekuilen estuary	Gxi20	D	0.94
		K10A	G14-E19	Gericke estuary	Gxi21	C	0.29
		K10B	G14-E20	Hartenbos estuary	Gxi22	C	4.15
G15 Coastal	II	K30A		Maalgate River	gviii4	D	15.30
		K30A		Maalgate River	gvii8	D	22.84
		K30A	G15-E21	Maalgate Estuary	Gxi6	B	29.81
		K30B	G15-R30	Malgas River	gvii9	C	8.16
		K30B		Gwaing River	gviii6	E	13.92
		K30B	G15-E22	Gwaing Estuary	Gxi7	B	22.64
		K30C		Swart River	gviii7	D	16.10
		K30C	G15-R31	Kaaimans River	gvii11	B	17.53
		K30C		Silver River	gviii8	B	14.90
		K30C	G15-E23	Kaaimans Estuary	Gxi8	B	35.32
		K30D		Touws River	gvii12	B	16.70
		K30D		Klein River	gx8	D	2.50
		K30D	G15-E24	Wilderness Estuary	Gxi9	B	29.01
		K40A	G15-R32	Diep River	giii10	B	12.40
		K40B		Hoekraal River	giii13	B	27.90
		K40C	G15-R33	Karatara River	gvii13	B	11.20
		K40C		Karatara River	giii11	B	33.90
		K40D	G15-E25	Swartvlei Estuary	Gxi10	B	87.60
		K40E	G15-R34	Goukamma River	gviii9	B/C	30.40
		K40E	G15-E26	Goukamma Estuary	Gxi11	A/B	46.25
		K50A	G15-R35	Knysna River	gvii14	B	26.50
		K50A		Knysna River	giii12	B	46.60

I-Unithi ebumbeneyo yohlalutyo (i-IUA)	Ihlelo lomjelo wamanzi le- IUA	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu lenkangeleko yendalo	I-TEC	I-MAR yendalo (million m^3/a)
		K50B	G15-R36	Gouna River	gviii11	A/B	27.60
		K50B	G15-E27	Knysna Estuary	Gxi12	B	68.83
		K60G		Noetzie River	gviii10	B	4.80
		K60G	G15-E28	Noetsie estuary	Gxi13	B	3.59
		K60G		Piesang River	gx3	E	7.30
		K60G	G15-E29	Piesang Estuary	Gxi14	C	5.12
		K60C	G15-R37	Keurbooms River	giv6	C	46.10
		K60D		Palmiet River	giv5	A	42.10
		K60E		Keurbooms River	gx9	B	91.30
		K60F		Bitou River	giv4	C	23.60
		K60G	G15-E30	Keurbooms Estuary	Gxi15	A/B	131.60
		K70A		Buffels River	gx4	B/C	1.80
		K70A	G15-E31	Matjies Estuary	Gxi16	A/B	3.25
		K70A		Sout River	gx5	B	3.80
		K70A	G15-E32	Sout(Oos) Estuary	Gxi17	A	5.99
		K70A	G15-E33	Groot(Wes) Estuary	Gxi23	B	11.10
		K70B		Bloukrans River	gvii15	B	31.20
		K70B	G15-E34	Bloukrans Estuary	Gxi18	A	11.10

UTafile 2: linjongo zekwaliti yamanzi ZEMILAMBO ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo kwimingenela ye-Upper Breede engu- A1

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkang eleko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo		
											linyanga	Amanzi ogcinio (million cubic metres)	
												High	Low
											Oct	1.651	6.667
											Nov	0	4.007
											Dec	1.651	2.105
											Jan	0	1.93
											Feb	0	1.268
											Mar	0	1.754
											Apr	0	2.343
											May	0	3.544
											Jun	5.502	6.452
											Jul	0	7.719
											Aug	32.397	10.526
											Sep	13.009	7.81
A1 Upper Breede Tributaries													
	II												
		H10F											
			A1-R01										
				Breede River									
					nviii1	D	Ikwaliti	Amanzana	Amanzana ogcino	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 0.075 milligrams per litre (50th percentile)		
								Amanzi amaninzi	Amanzi amaninzi ogcino		≤ 1.75 milligrams per litre (50th percentile)		
							Umthamo	Izondlo	I-Phosphate (PO_4-P)				
									I- inorganic nitrogen (TIN) iyonke				
								Ityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 55 milliSiemens/metre EC (95th percentile)		
								Utshintshatshintsho lwamanzi	Iqondo lepH range	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)		
									I-oksijini enyibilikisiweyo		DO ≥ 6 milligrams per litre (5th percentile)		
								Ityhefu	I-Ammonia	Amanqanaba eetyhefu makangabinabungozi kwimpilo yasemanzini.	≤ 0.073 milligrams per litre (95th percentile)		
									I-Atrazine		≤ 0.079 milligrams per litre (95th percentile)		
									I-Endosulfan		≤ 0.0013 milligrams per litre (95thpercentile)		
								Ipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤ 165 counts/100ml (95th percentile)		
							Indawo yokuphila	Ulwakhiwo lomhlaba	Inqaku i-GAI	Inqaku le-GAI malibe phakathi kwebakala (42-57%).	Ibakala D (42-57%)		
								Utyani lwaselunxwemeni	Inqaku i-VEGRAI	Inqanaba 3 leVEGRAI malibe phakathi kwebakala (42-57%).	Ibakala D (42-57%)		
									Umda wobuncikane ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi		
									Umda osemazantsi ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi		

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkang eleko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
									Umda osemantla ugqume intaphane		Iindidi ezingaqhelekanga < 5%, iindidi zenkuni zehlabathi > 50%
								Iintlanzi	Inqaku leFRAI	I-FRAI mayibe phakathi kwebakala D (42-57%).	Ibakala D (42-57%)
									Inqaku leMIRAI		Ibakala D (42-57%)
							iBiota	Izilwanyana ezingenamatha mbo	Ukwahluka kwezilwanyana ezingenamathambo	I-MIRAI mayibe phakathi kwebakala D (42-57%)	Inqaku leSASS > 70, ASPT > 5.0
									Inani losapho		> iintsapho ezili-15 kubuninzi ku obungu A - C
A1 Upper Breede Tributaries	II	H10J	A1-R02	Molenaars River	nvii2	B	Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iMolenaars uhlale ukwimeko elinganayo okanye engcono kunebakala B.	Amanzi ogcino (million cubic meters) Low 3.381 0.869 0.909 1.356 2.479 3.588 4.149 4.39 4.002 linyanga High 3.434 0.454 0 0.454 1.797 1.797 8.005 3.434 3.434 Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
								Izondlo	IPhosphate (PO_4-P)	Inqanaba lezondlo mazigcinwe kulo mlambo	≤ 0.025 milligrams per litre (50th percentile)
									1-inorganic nitrogen (TIN) iyonke	zikwimeko enetyuwa zezondlo ezikwizinga eliphantsi.	≤ 0.70 milligrams per litre (50th percentile)
								Ityuwa	Ukutsala umbane (EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 30 milliSiemens/metre (95th percentile)
							Ikwaliti	Utshintshatsints ho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	4.5 ≥ pH ≤ 7.5 (5th and 95th percentiles)
									I-oksijini enyibilikisiweyo		≥ 8 milligrams per litre (5th percentile)
								Ityhefu	I-Ammonia	Amanqanaba eetyhefu makangabinabungozi kwimpilo yasemanzini.	≤ 0.073 milligrams per litre (95th percentile)
								Iipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤ 130 counts/100ml (95th percentile)

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkang eleko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
							Indawo yokuphila	Ukwakheka komhlaba	Inqaku iGAI	Inqaku leGAI malibe phakathi kwebakala B (42-57%).	Ibakala B (82-87%)
								Utyani lwaselunxweme ni vegetation	Inqaku iVEGRAI	Inqanaba 3 leVEGRAI malibe phakathi kwebakala B (82-87%)	Ibakala B category (82-87%)
									Umda wobuncikane ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi
									Umda osemazantsi ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi
							I-Biota	Iintlanzi	Inqaku leFRAI	i-FRAI mayibe phakathi kwebakala E y (22-37%).	Ibakala E (22-37%)

UTafile 3: Iinjongo zekwaliti yamanzi ZEMILAMBO ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo kwimingenela esebenzayo ye Breede engu A2

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
A2 Breede Working Tributaries	III	H20G	A2-R03	Hex River	nvii7	C	Umthamo	Amanzana Amanzi amaninzi	Amanzi aza kwanela khonukuze umlambo iHex uhlale ukwimeko elinganayo okanye engcono kunebakala C.	Amanzana ogcino Amanzi amaninzi ogcino	Iinyanga / Amanzi ogcino (million cubic metres) High / Low Oct: 0.387 / 2.998 Nov: 0.395 / 2.649 Dec: 0 / 1.888 Jan: 0 / 1.18 Feb: 0 / 1.066 Mar: 0 / 0.943 Apr: 0 / 1.142 May: 1.137 / 1.652 Jun: 1.098 / 2.26 Jul: 6.801 / 3.067 Aug: 2.797 / 3.54 Sep: 2.803 / 3.333
							Ikwaliti	Izondlo	I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 0.075 milligrams/litre (50th percentile)
									I-inorganic nitrogen (TIN) iyonke		≤ 1.75 milligrams/litre (50th percentile)
								Iityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 55 milliSiemens/metre (95th percentile)
								Utshintshatshint sho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
									i-oksjini enyibilikileyo	oku kubalulekile kugcino lwempilo entle yasemanzini.	≥ 8 milligrams per litre (5th percentile)
								lityhefu	I-Ammonia	Amanqanaba eetyhefu makangabinabungozi kwimpilo yasemanzini.	≤ 0.073 milligrams per litre (95th percentile)
									I-Atrazine		≤ 0.079 milligrams per litre (95th percentile)
									I-Endosulfan		≤ 0.0013 milligrams per litre (95thpercentile)
								Iipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤ 165 counts/100ml (95th percentile)
							Indawo yokuphila	Ukwakheka komhlaba	Inqaku iGAI	Inqaku le-GAI malibe phakathi kwebakala C/D (57-62%).	Ibakala C/D (57-62%)
								Utyani oluselunxweme ni	Inqaku iVEGRAI	Inqanaba 3 leVEGRAI malibe phakathi kwebakala D (42-57%).	Ibakala D (42-57%)
									Umda wobuncikane ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi
									Umda osemazantsi ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi
							iBiota	Iintlanzi	Inqaku leFRAI	I-FRAI mayibe phakathi kwebakala D (42-57%).	Ibakala D (42-57%)
								Izilwanyana ezingenamatha mbo	Inqaku iMIRAI	I-MIRAI mayibe phakathi kwebakala C (62-77%)	Ibakala C (62-77%)
									Ukwahluka kwezilwanyana ezingenamathambo		Inqaku leSASS > 100, ASPT > 6.3

UTafile 4: Iinjongo zekwaliti yamanzi ZEMILAMBO ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo kwimingenela esebenzayo ephakathi ye Middle Breede Renosterveld A3

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo		
											linyanga	Amanzi ogcino (million cubic metres)	
												High	Low
A3 Middle Breede Renosterveld	III	H40F	A3-R04	Breede River	nvii8	C/D	Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iBreede uhlale ukwimeko elinganayo okanye engcono kunebakala C/D.	Oct	3.704	14.575
											Nov	0	8.743
											Dec	0	3.449
											Jan	0	4.796
											Feb	0	1.461
											Mar	0	3.181
											Apr	0	4.262
											May	16.107	11.161
											Jun	32.902	22.326
											Jul	76.916	36.912
											Aug	31.869	33.451
											Sep	18.949	26.791
								Izondlo	I-Phosphate (PO_{4-} P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 0.075 milligrams/litre (50th percentile)		
									I-inorganic nitrogen (TIN) iyonke		≤ 1.75 milligrams/litre (50th percentile)		
								lityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 55 milliSiemens/metre (95th percentile)		
							Indawo yokuphila	Utshintshatshint sho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)		
									i-oksijini enyibilikileyo		≥ 6 milligrams litre (5th percentile)		
								lityhefu	I-Ammonia	Amanqanaba eetyhefu makangabinabungozi kwimpilo yasemanzini.	≤ 0.073 milligrams per litre (95th percentile)		
									I-Atrazine		≤ 0.079 milligrams per litre (95th percentile)		
									I-Endosulfan		≤ 0.0013 milligrams per litre (95thpercentile)		
								lipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤ 165 counts/100ml (95th percentile)		
								Ukwakheka komhlaba	Inqaku iGAI	Inqaku le-GAI malibe phakathi kwebakala (52-67%).	Ibakala C (62-77%)		
								Utyani oluselunxwemeni	Inqaku iVEGRAI	Inqanaba 3 leVEGRAI malibe phakathi kwebakala (52-67%).	Ibakala C (62-77%)		
									Umda wobuncikane ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi		

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
									Umda osemazantsi ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi
									Umda osemantla ogqume intaphane		iindidi ezingaqhelekanga < 5%, iindidi zeenkuni zehlabathi > 30%
							IBiota	lintlanzi Fish	Inqaku leFRAI	I-FRAI mayibe phakathi kwebakala D (42-57%).	Ibakala D (42-57%)
								Iziwanyana ezingenamathambo	Inqaku leMIRAI	I-MIRAI mayibe phakathi kwebakala C (42-57%)	Ibakala D (42-57%)
									Ukwahluka kwezilwanyana ezingenamathambo		
									Inani leentsapho		Inqaku leSASS < 45, ASPT > 4.3
							Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iBreede uhlale ukwimeko elinganayo okanye engcono kunebakala D.	> iintsapho ezili14 kubuninzi buka A - C
							Ikwaliti	Izondlo	I-Phosphate (PO_{4^-} P)	Inqanaba lezondlo mazigcinwe kulo mlambo zikwimeko enetyuwa eliphantsi.	≤ 0.075 milligrams/litre (50th percentile)
									I-inorganic nitrogen (TIN) iyonke		≤ 1.75 milligrams/litre (50th percentile)
								lityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	95%tile ≤ 220 milliSiemens/metre EC
								Utshintshatshintsho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)
									i-oksijini enyibilikisiweyo		≥ 6 milligrams litre (5th percentile)
									Ubushushu bamanzi		No more than 2°C change in natural monthly range (minimum and maximum)
								lityhefu	n/a	Amanqanaba eetyhefu makangabinabungozi kwimpilo yasemanzini.	n/a
								lipathojini	I-Escherichia coli		95%tile ≤ 165 cfu/100ml Escherichia coli

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I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
							Indawo yokuphila			Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	

UTafile 5: Iinjongo zekwaliti yamanzi ZEMILAMBO ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo ye Riversonderend Theewaters B4

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkang eleko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo												
B4 Riversonderend Theewaters	III	H60B	B4-R06	Du Toits River	nvii10	B	Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iDutoits uhlale ukwimeko elinganayo okanye engcono kunebakala B.		linyanga		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
												Amanzi ogcino (million cubic metres)	High	0.369	0.122	0	0	0	0	0	1.794	2.585	3.218	0.54	1.081
													Low	1.406	1.041	0.658	0.425	0.362	0.376	0.564	1.032	1.491	1.725	1.825	1.663
							Ikwaliti	Izondlo	I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 0.025 milligrams per litre (50th percentile)												
									I-inorganic nitrogen (TIN) iyonke		≤ 0.70 milligrams per litre (50th percentile)													
								Ilityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 30 milliSiemens/metre (95th percentile)												
								Utshintshatshintsho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)												
									i-oksjini enyibilikileyo		≥ 8 milligrams per litre (5th percentile)													
								Ilityhefu	I-Atrazine	Amanqanaba eetyhefu makangabinabungozi kwimpilo yasemanzini.	≤ 0.079 milligrams per litre (95th percentile)												
									I-Endosulfan		≤ 0.0013 milligrams per litre (95thpercentile)												
								Iipathojini	I-Escherichia coli		≤ 130 counts/100ml (95th percentile)												

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkang eleko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo												
B4 Riversonderend Theewaters	III	H60D	B4-R07	Riviersonderend River	nv7	C	Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	Months	Maintenance flows (million cubic metres)											
												Low	High										
											Oct	10.539	0.65										
											Nov	6.134	0.65										
											Dec	1.421	0.426										
											Jan	0.799	0.437										
											Feb	0.593	0.451										
											Mar	0.542	0										
											Apr	2.32	0										
											May	3.019	3.079										
											Jun	7.023	2.983										
											Jul	10.297	7.927										
											Aug	13.51	19.787										
											Sep	11.009	7.927										
								Izondlo	I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 0.075 milligrams/litre (50th percentile)												
									I-inorganic nitrogen (TIN) iyonke		≤ 1.75 milligrams/litre (50th percentile)												
								lityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe iibi kwimpilo yasemanzini	≤ 55 milliSiemens/metre (95th percentile)												
							Ikwaliti Indawo yokuphila	Utshintshatshint sho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)												
									i-oksjini enyibilikileyo		≥ 6 milligrams litre (5th percentile)												
								lityhefu	I-Atrazine	Amanqanaba eetyhefu makangabinabungozi kwimpilo yasemanzini.	≤ 0.079 milligrams per litre (95th percentile)												
									I-Endosulfan		≤ 0.0013 milligrams per litre (95th percentile)												
								lipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤ 165 izihlandlo/100ml (95th percentile)												
B4 Riversonderend Theewaters	III	H60E	B4-R08	Baviaans River	niv28	B	Ikwaliti	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iBaviaans uhlale ukwimeko elinganayo okanye engcono kunebakala B.	iinyanga	Maintenance flows (million cubic metres)											
												Low	High										
											Oct	0.292	0.026										
											Nov	0.24	0										
											Dec	0.109	0										
											Jan	0.117	0										
											Feb	0.059	0.026										
											Mar	0.029	0										
											Apr	0.049	0.026										
											May	0.029	0.068										
											Jun	0.092	0.068										
											Jul	0.153	0.127										
											Aug	0.197	0.296										
											Sep	0.247	0.127										
								Izondlo	I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe	≤ 0.025 milligrams per litre PO_4-P												

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkang eleko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
									I-inorganic nitrogen (TIN) iyonke	ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 0.70 milligrams per litre TIN
								Ilityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe ibi kwimpilo yasemanzini	≤ 30 milliSiemens/metre (95th percentile)
								Utshintshatshintsho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	4.5 ≥ pH ≤ 7.0 (5th and 95th percentiles)
									i-oksijini enyibilikileyo		≥ 8 milligrams per litre (5th percentile)
								Iipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤ 130 izihlandlo/100ml (95th percentile)
								Ukwakheka komhlaba	Inqaku i-GAI	Inqaku le-GAI malibe phakathi kwebakala B (82-87%).	Ibakala B (82-87%)
							Indawo yokuphila	Utyani lwaselunxwemeni	Inqaku iVEGRAI		Ibakala B (82-87%)
									Umda wobuncikane ugqume intaphane	Inqanaba 3 leVEGRAI malibe phakathi kwebakala B (82-87%).	Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi
									Umda osemazantsi ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi
									Umda osemantla ugqume intaphane		Iindidi ezingaqhelekanga < 5%, iindidi zenkuni zehlabathi > 20%
								Iintlanzi	Inqaku leFRAI	I-FRAI mayibe phakathi kwebakala A/B (87-92%).	Ibakala A/B (87-92%)
									Inqaku leMIRAI		Ibakala A/B (87-92%)
							I-Biota	Iziliwanyana ezingenamathambo	Ukwahluka kwezilwanyana ezingenamathambo	I-MIRAI mayibe phakathi kwebakala A/B (87-92%)	Inqaku leSASS > 160, ASPT > 7.5
									Inani leentsapho		> iintsapho ezili ezikubuninzi buka A – C

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkang eleko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo												
											linyanga	Amanzi ogcino (million cubic metres)		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
												High	Low												
B4 Riversonderend Theewaters	III	H60F	B4-R09	Riviersonderend River	6av	D	Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi	Amanzi aza kwanela khonukuze umlambo iRiviersonderemd uhlale ukwimeko elinganayo okanye engcono kunebakala B.		4.019	0	0.719	3.087	1.053	0.893	0.663	0.606	2.593	3.19	7.717	11.163	12.12	12.038	3.334
							Ikwaliti	Izondlo	I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 0.075 milligrams/litre (50th percentile)	0	0	0.726	0	0.488	0	0	0	3.442	3.334	8.86	22.114	3.334	3.334
									I-inorganic nitrogen (TIN) iyonke		≤ 1.75 milligrams/litre (50th percentile)															
								lityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 55 milliSiemens/metre (95th percentile)														
								Utshintshatshint sho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	4.5 ≥ pH ≤ 7.5 (5th and 95th percentiles)														
									i-oksijini enyibilikileyo		≥ 6 milligrams litre (5th percentile)														
								lityhefu	I-Atrazine	Amanqanaba eetyhefu makangabinabungozi kwimpilo yasemanzini.	≤ 0.079 milligrams per litre (95th percentile)														
									I-Endosulfan		≤ 0.0013 milligrams per litre (95th percentile)														
								lipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤ 165 counts/100ml (95th percentile)														
							Indawo yokuphila	Ukwakheka komhlaba	Inqaku i-GAI	Inqaku le-GAI malibe phakathi kwebakala B (42-57%).	Ibakala D (42-57%)														
								Utyani lwaselunxweme ni	Inqaku iVEGRAI	Inqanaba 3 leVEGRAI malibe phakathi kwebakala (42-57%).	Ibakala D (42-57%)														
									Umda wobuncikane ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi														
									Umda osemazantsi ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi														
									Umda osemantla ugqume intaphane		lindidi ezingaqhelekanga < 5%, iindidi zenkuni zehlabathi > 30%														

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkang eleko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
							I-Biota	lintlanzi	Inqaku leFRAI	I-FRAI mayibe phakathi kwebakala D (42-57%).	Ibakala D (42-57%)
								Izilwanyana ezingenamatha mbo	Inqaku leMIRAI	Inqaku i-MIRAI mayibe phakathi kwebakala C/D (57-62%).	Ibakala C/D (57-62%)
									Ukwahluka kweziIwanyana ezingenamathamb o		Inqaku leSASS > 40, ASPT score > 4.3
									Inani leentsapho		> iintsapho ezingama kubuninzi buka A - C

UTafile 6: Iinjongo zekwaliti yamanzi ZEMILAMBO ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo ye Lower Breede Renosterveld

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo		
											linyanga	Amanzi ogcino flows (million cubic metres)	
												High	Low
F9 Lower Breede Renosterveld	III	H60L	F9-R10	Riviersonderend River	ni3	D	Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iRiviersonderemd uhlale ukwimeko elinganayo okanye engcono kunebakala B.	Oct	0	4.699
											Nov	0.849	3.609
											Dec	0	1.231
											Jan	0.571	1.044
											Feb	0	0.775
											Mar	0	0.709
											Apr	0	3.032
											May	4.024	3.73
											Jun	3.899	9.023
											Jul	10.36	13.054
											Aug	25.859	14.173
											Sep	3.899	14.076
								Izondlo	I-Phosphate (PO_{4}-P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 0.075 milligrams/litre (50th percentile)		
									I-inorganic nitrogen (TIN) iyonke		≤ 1.75 milligrams/litre (50th percentile)		
							Ikwaliti	ilityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	95th %tile ≤ 85 milliSiemens/metre EC		
								Utshintshatshint sho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)		
									i-oksijini enyibilikileyo		≥ 6 milligrams litre (5th percentile)		
									ilityhefu	I-Atrazine	Amanqanaba eetyhefu		≤ 0.079 milligrams per litre (95thpercentile)

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
									I-Endosulfan	makangabinabungozi kwimpilo yasemanzini.	≤ 0.0013 milligrams per litre (95thpercentile)
								Iipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤ 165 izihlandlo/100ml (95th percentile)

UTafile 7: Iinjongo zekwaliti yamanzi ZEMILAMBO ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo ye Overberg West B5

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo		
											iinyanga	Maintenance flows (million cubic metres)	
												High	Low
B5 Overberg West	II	G40C	B5-R11	Palmiet River	piii1	C	Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iPalmiet uhlale ukwimeko elinganayo okanye engcono kunebakala B.	Oct	0.413	1.438
											Nov	0.093	1.054
											Dec	0	0.56
											Jan	0	0.267
											Feb	0	0.179
											Mar	0	0.169
											Apr	0	0.266
											May	0.723	0.604
											Jun	1.413	1.127
											Jul	2.17	1.523
											Aug	0.435	1.73
											Sep	0.871	1.69
								Izondlo	I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 0.025 milligrams per litre PO_4-P		
									I-inorganic nitrogen (TIN) iyonke		≤ 0.70 milligrams per litre TIN		
							Ikwaliti	Ityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 30 milliSiemens/metre (95th percentile)		
								Utshintshatshint sho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	4.5 ≥ pH ≤ 7.0 (5th and 95th percentiles)		
									i-oksijini enyibilikileyo		≥ 8 milligrams per litre (5th percentile)		
								Ityhefu	I-Atrazine	Amanqanaba eetyhefu makangabinabungozi kwimpilo yasemanzini.	≤ 0.079 milligrams per litre (95th percentile)		
									I-Endosulfan		≤ 0.0013 milligrams per litre (95thpercentile)		

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								lipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤ 130 counts/100ml (95th percentile)
							Indawo yokuphila	Ukwakheka komhlaba	Inqaku iGAI	Inqaku i-GAI malibe phakathi kwebakala D (42-57%).	Ibakala B (82-87%)
								Utyani lwaselunxwemeni	Inqaku iVEGRAI	Inqanaba 3 leVEGRAI malibe phakathi kwebakala B/C (77-82%).	Ibakala B/C (77-82%)
							I-Biota	lintlanzi	Inqaku i-FRAI	I-FRAI mayibe phakathi kwebakala E (22-37%).	Ibakala E (22-37%)
									Inqaku iMIRAI	Inqaku leMIRAI malibe phakathi kwebakala B/C (77-82%).	Ibakala B/C (77-82%)
								Izilwanyana ezingenamathambo	Ukwahluka kwezilwanyana ezinamathambo		Inqaku leSASS > 110, ASPT > 6.5
									Inani leentsapho		Five families, *Corydalidae, Elmidae, Hydropsychidae, Cordulidae, Chlorocyphidae*
							Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iPalmiet uhlale ukwimeko elinganayo okanye engcono kunebakala B/C.	Maintenance flows (million cubic metres) Months: Low / High: Oct 7.642 / 1.67; Nov 5.516 / 0.38; Dec 2.919 / 0; Jan 1.374 / 0; Feb 0.943 / 0; Mar 0.898 / 0; Apr 1.512 / 0; May 3.519 / 3.643; Jun 6.382 / 6.722; Jul 8.317 / 9.654; Aug 9.401 / 1.88; Sep 8.932 / 3.759
B5 Overberg West	II	G40D	B5-R12	Palmiet River	piii2	B/C	Ikwaliti	Izondlo	I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 0.075 milligrams/litre (50th percentile)
									I-inorganic nitrogen (TIN) iyonke		≤ 1.75 milligrams/litre (50th percentile)
								lityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 55 milliSiemens/metre (95th percentile)
								Utshintshatshintsho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)
									i-oksijini enyibilikileyo	enyibilikisweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	≥ 6 milligrams litre (5th percentile)
								lityhefu	I-Atrazine	Amanqanaba eetyhefu	≤ 0.079 milligrams per litre (95th percentile)

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
B5 Overberg West	II	G40D	B5-R13	Palmiet River	piii3	B	Umthamo	Amanzana Amanzi amaninzi	I-Endosulfan	makangabinabungozi kwimpilo yasemanzini.	≤ 0.0013 milligrams per litre (95th percentile)
									I-Iron (Mn)		≤ 0.1 milligrams per litre (95th percentile)
									I-Manganese (Mn)		≤ 0.15 milligrams per litre (95th percentile)
								lipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤ 165 counts/100ml (95th percentile)
							Indawo yokuphila	Ukwakheka komhlaba	Inqaku iGAI	Inqaku iGAI malibe phakathi kwebakala B (82-87%).	Ibakala B (82-87%)
								Utyani lwaselunxweme ni	Inqaku iVEGRAI	I-FRAI mayibe phakathi kwebakala E (23-37%).	Ibakala B/C (77-82%)
								iintlanzi	Inqaku iFRAI	Inqanaba 3 leVEGRAI malibe phakathi kwebakala B/C (77-82%).	Ibakala E (22-37%)
							I-Biota	Izilwanyana ezingenamatha mbo	Inqaku iMIRAI	Inqaku iMIRAI malibe phakathi kwebakala B/C (77-82%).	Ibakala B/C (77-82%)
									Ukwahluka kwezilwanyana ezingenamatha mbo		SASS score > 110, ASPT > 6.5
									Inani leentsapho		Iintsapho ezintlanu, *Corydalidae, Elmidae, Hydropsychidae, Cordulidae, Chlorocyphidae*
							Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iPalmiet uhlale ukwimeko elinganayo okanye engcono kunebakala B.	Maintenance flows (million cubic metres)
							Ikwaliti	Izondlo	I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 0.025 milligrams per litre (50th percentile)
									I-inorganic nitrogen (TIN) iyonke		≤ 0.70 milligrams per litre (50th percentile)

linyanga	Low	High
Oct	10.02	0.049
Nov	4.71	0.097
Dec	2.463	1.907
Jan	1.955	0.954
Feb	1.118	0.954
Mar	1.488	0.954
Apr	2.142	0.954
May	3.016	8.623
Jun	11.08	2.385
Jul	12.83	8.302
Aug	13.49	14.21
Sep	12.78	0.049

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Ilityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 30 milliSiemens/metre (95th percentile)
								Utshintshatshintsho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	5.0 ≥ pH ≤ 7.5 (5th and 95th percentiles)
									i-oksjini enyibilikileyo		≥ 8 milligrams per litre (5th percentile)
								Ilityhefu	I-Atrazine	Amanqanaba eetyhefu makangabinabungozi kwimpilo yasemanzini	≤ 0.079 milligrams per litre (95th percentile)
									I-Endosulfan		≤ 0.0013 milligrams per litre (95thpercentile)
								Iipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤ 130 counts/100ml (95th percentile)
							Indawo yokuphila	Ukwakheka komhlaba	Inqaku GAI	Inqaku iGAI malibe phakathi kwebakala B (82-87%).	Ibakala B (82-87%)
								Utyani lwaselunxwemeni	Inqaku iVEGRAI	I-FRAI mayibe phakathi kwebakala B (82-87%).	Ibakala B (82-87%)
							I-Biota	Iintlanzi	Inqaku iFRAI	Inqanaba 3 leVEGRAI malibe phakathi kwebakala D (42-57%).	Ibakala category (92-100%)
								Izilwanyana ezingenamathambo	Inqaku iMIRAI	Inqaku iMIRAI malibe phakathi kwebakala E (42-57%).	Ibakala B (82-87%)
									Ukwahluka kwezilwanyana ezingenamathambo		SASS score > 110, ASPT > 7.0
									Inani leentsapho		Iintsapho ezili-9 families, *Ephemerellidae, Leptophlebidae, Heptageniidae, Tricorythidae, Elmidae, Corydalidae, Trichoptera cased caddis 2 or > types, Pyraustidae, Athericidae*

UTafile 8: linjongo zekwaliti yamanzi ZEMILAMBO ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo ye Overberg East RenosterveldF10

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo												
											linyanga	Maintenance flows (million cubic metres)		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
												Low	High												
F10 Overberg East Renosterveld														0.465	0.358	0.199	0.091	0.065	0.064	0.126	0.196	0.293	0.413	0.603	0.541
	II													0.398	0.179	0	0	0	0	0	0.516	0.767	0.502	2.013	0.502
		G40K																							
			F10-R14																						
				Klein River																					
					nv23	C/D																			
							Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono. C/D	≤ 0.075 milligrams/litre (50th percentile)												
								Izondlo	I-Phosphate (PO_4-P)																
									I-inorganic nitrogen (TIN) iyonke			≤ 1.75 milligrams/litre (50th percentile)													
							Ikwaliti	ityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini		≤ 180 milliSiemens/metre (95th percentile)												
								Utshintshatshint sho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.		6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)													
									i-oksjini enyibilikileyo			≥ 6 milligrams litre (5th percentile)													
								ityhefu	I-Atrazine	Amanqanaba eetyhefu makangabinabungozi kwimpilo yasemanzini		≤ 0.079 milligrams per litre (95th percentile)													
									I-Endosulfan			≤ 0.0013 milligrams per litre (95thpercentile)													
								lipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.		≤ 165 counts/100ml (95th percentile)													
							Indawo yokuphila	Ukwakheka komhlaba	Ingaku iGAI	Inqaku iGAI malibe phakathi kwebakala C (62-77%).		Ibakala C (62-77%)													
								Utyani lwaselunxweme ni	Inqaku iVEGRAI	I-FRAI mayibe phakathi kwebakala D (42-57%).		Ibakala D (42-57%)													
							I-Biota	Iintlanzi	Inqaku iFRAI	Inqanaba 3 leVEGRAI malibe phakathi kwebakala E (22-37%).		Ibakala E (22-37%)													
								Izilwanyan a ezingenamatha mbo	Inqaku iMIRAI	Inqaku leMIRAI malibe phakathi kwebakala C (62-77%).		Ibakala C (62-77%)													

UTafile 9: linjongo zekwaliti yamanzi ZEMILAMBO ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo ye Overberg East Fynbos H17

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo												
											linyanga	Amanzi ogcino(millio n cubic		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
H 1	II	G 0 5 D	H 1 K a r s j	nv24	ni4	B/C	Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iNuwejaar uhlale ukwimeko elinganayo okanye engcono kunebakala C/D		Low	High	0.055	0.046	0.03	0.022	0.022	0.02	0.03	0.035	0.049	0.056	0.065	0.059
									I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 0.075 milligrams/litre (50th percentile)			0.115	0.052	0	0	0	0	0.129	0.232	0.108	0.393	0.108
								Izondlo	I-inorganic nitrogen (TIN) iyonke		≤ 1.75 milligrams/litre (50th percentile)														
							Ikwaliti	ilityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe iibi kwimpilo yasemanzini	≤ 170 milliSiemens/metre (95th percentile)													
								Utshintshatshintsho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)														
									i-oksijini enyibilikileyo		≥ 6 milligrams litre (5th percentile)														
								Iipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤ 165 counts/100ml (95th percentile)														
							Indawo yokuphila	Ukwakheka komhlaba	Inqaku iGAI	Inqaku iGAI malibe phakathi kwebakala D (42-57%).	Ibakala D (42-57%)														
								Utyani lwaselunxwemeni	Inqaku iVEGRAI	Inqanaba 3 leVEGRAI malibe phakathi kwebakala E (22-37%).	Ibakala E (22-37%)														
								Iintlanzi	Inqaku iFRAI	I-FRAI mayibe phakathi kwebakala E (22-37%).	Ibakala E (22-37%)														
							IBiota	Izilwanyan a ezingenamathambo	Inqaku iMIRAI	Inqaku iMIRAI malibe phakathi kwebakala D (42-57%).	Ibakala D (42-57%)														
							Umthamo			Amanzi aza kwanela khonukuze	linyanga	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo		
											Maintenance Amanzi ogcino iliion	Low	High
								Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	umlambo iKars uhlale ukwimeko elinganayo okanye engcono kunebakala B/C	≤ 0.075 milligrams/litre (50th percentile)	0.282	0.322
								Izondlo	I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.		0.157	0.301
									I-inorganic nitrogen (TIN) iyonke		≤ 1.75 milligrams/litre (50th percentile)	0.168	0
							Ikwaliti	Ilityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 310 milliSiemens/metre (95th percentile)	0.121	0
								Utshintshatshint sho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)	0.109	0
									i-oksijini enyibilikileyo		≥ 6 milligrams litre (5th percentile)	0.119	0
								Ilityefu	I-Ammonia	Amanqanaba eetyhefu makangabinabungozi kwimpilo yasemanzini	≤ 0.073 milligrams per litre (95th percentile)	0.191	0
									I-Atrazine		≤ 0.079 milligrams per litre (95th percentile)	0.204	0.268
									I-Endosulfan		≤ 0.0013 milligrams per litre (95thpercentile)	0.25	0.349
								Iipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo. .	≤ 165 counts/100ml (95th percentile)	0.255	0.17
							Indawo yokuphila	Ukwakheka kohlaba	Inqaku iGAI	Inqaku iGAI malibe phakathi kwebakala B (82-87%).	Ibakala B (82-87%)	0.304	0.651
								Utyani oluselunxweme ni	Inqaku iVEGRAI	I-FRAI mayibe phakathi kwebakala B (82-87%).	Ibakala B (82-87%)	0.283	0.17
							I-Biota	Iintlanzi	Inqaku iFRAI	Inqanaba 3 leVEGRAI malibe phakathi kwebakala E (22-37%).	Ibakala E (22-37%)		
								Izilwanyana ezingenamatha mbo	Inqaku iMIRAI	Inqaku leMIRAI malibe phakathi kwebakala B (82-87%)	Ibakala B (82-87%)		

UTafile 10: linjongo zekwaliti yamanzi ZEMILAMBO ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo ye Lower Breede Renosterveld F11

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkang eleko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo												
											linyanga	Amanzi ogcino (million cubic metres)		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
												Low	High												
F11 Lower Breede Renosterveld	III	H70G	F11-R17	Breede River	niii4	C	Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.		42.827	28.026	9.569	7.407	8.604	3.827	10.237	13.818	31.627	44.934	64.391	55.658	≤ 0.075 milligrams/litre (50th percentile)
										I-inorganic nitrogen (TIN) iyonke		0	5.055	0	0	0	0	0	5.055	58.796	11.469	56.997	26.206	0	≤ 1.75 milligrams/litre (50th percentile)
								Izondlo																	
								Ityuwa	Ukutsala umbane (i-EC)		Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini													≤ 270 milliSiemens/metre (95th percentile)
							Ikwaliti	Utshintshatshint sho lwamanzi lityhefu	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.														6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)
									i-oksijini enyibilikileyo																≥ 6 milligrams litre (5th percentile)
									Ubushushu bamanzi																Kungabikho tshintsho lungaphezu kwe 2°C kutshintsho lwendalo lwarhoqo ngenyanga (ubuncikane nobukhulu)
								lityhefu	I-Ammonia	Amanqanaba eetyhefu makangabinabungozi kwimpilo yasemanzini															≤ 0.073 milligrams per litre (95th percentile)
									I-Atrazine																≤ 0.079 milligrams per litre (95th percentile)
									I-Endosulfan																≤ 0.0013 milligrams per litre (95thpercentile)
								Iipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.															≤ 165 counts/100ml (95th percentile)
								Ukwakheka komhlaba	GAI score	Inqaku iGAI malibe phakathi kwebakala B (82-87%).															Ibakala B (82-87%)
							Indawo yokuphila	Utyani lwaselunxweme ni n	Inqaku iVEGRAI	Inqanaba 3 leVEGRAI malibe phakathi kwebakala C (62-77%).															Ibakala C (62-77%)
									Umda wobuncikane uggume intaphane																Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi
									Umda osemazantsi uggume intaphane																Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkang eleko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
									Umda osemantla ugqume intaphane		Iindidi ezingaqhelekanga < 5%, iindidi zenkuni zehlabathi > 30%
							IBiota	Iintlanzi	Unqaku iFRAI	-FRAI mayibe phakathi kwebakala C (62-77%).	Ibakala C (62-77%)
								Izilwanyana ezingenamatha mbo	Inqaku iMIRAI	Inqaku iMIRAI mayibe phakathi kwebakala D (42-57%).	Ibakala D (42-57%)
									Ukwahluka kwezilwanyana ezingenamathambo		Inqaku iSASS > 40, ASPT inqaku > 4.3
									Inani leentsapho		> 15 families at abundances A - C

UTafile 11: Iinjongo zekwaliti yamanzi ZEMILAMBO ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo ye Touws E8

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkang eleko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
E8 Touws	III	J12L	E8-R18	Doring River	gviii1	C/D	Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iDoring Klein uhlale ukwimeko elinganayo okanye engcono kuneyanehlobo ku2014 (ibakala C/D)	linyanga / Amanzi ogcino (million cubic) / High / Low: Oct 0.031 / 0.017; Nov 0.031 / 0.021; Dec 0 / 0.019; Jan 0.031 / 0.012; Feb 0 / 0.009; Mar 0 / 0.015; Apr 0.079 / 0.016; May 0 / 0.017; Jun 0 / 0.013; Jul 0 / 0.01; Aug 0 / 0.012; Sep 0 / 0.012
							Ikwaliti	Izondlo	I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 0.075 milligrams/litre (50th percentile)
									I-inorganic nitrogen (TIN) iyonke		≤ 1.75 milligrams/litre (50th percentile)
								Iityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 1500 milliSiemens/metre (95th percentile)
								Utshintshatshint sho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)
									i-oksjini enyibilikileyo		≥ 6 milligrams litre (5th percentile)

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkang eleko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo												
E8 Touws	III	J12L	E8-R19	Touws River	gv5	B/C		lipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤ 165 counts/100ml (95th percentile)												
								Ukwakheka komhlaba	Inqaku iGAI	Inqaku iGAI malilingane no C/D.	Ibakala C/D (57-62%)												
								Utyani lwaselunxweme ni n	Inqaku iVEGRAI	Inqanaba 4 leVEGRAI libe kwi ~58% yomda wonxweme	Ibakala C/D (57-62%)												
							Indawo yokuphila		Umda wobuncikane ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi												
									Umda osemazantsi ugqume intaphane		lindidi ezingaqhelekanga < 5%, iindidi zenkuni zehlabathi < 10%												
									Umda osemantla ugqume intaphane		lindidi ezingaqhelekanga < 10%, iindidi zenkuni zehlabathi < 15%												
								lintlanzi	Unqaku iFRAI	I-FRAI mayivumele u C/D (i58.3%).	Ibakala C/D (57-62%)												
							IBiota		Inqaku iMIRAI		Ibakala D (42-57%)												
								Izilwanyana ezingenamatha mbo	Ukwahluka kwezilwanyana ezingenamathamb o	Inqaku iMIRAI malibe phakathi kukain D (40-59%) Category	Inqaku iSASS > 90, ASPT inqaku > 4.5												
									Inani leentsapho		> iintsapho ezili 15 kubuninzi obungu A - C												
							Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iTouws uhlale ukwimeko elinganayo okanye engcono kuneyangehlobo ku2014 (ibakala C)	linyanga	Amanzi ogcino (million cubic	High	Low	Oct	0.125	0.183	Nov	0.164	0.354	Dec	0.139	0.274
															Jan	0.124	0.246	Feb	0.119	0.407	Mar	0.108	0.204
															Apr	0.163	1.37	May	0.178	0.446	Jun	0.235	0
															Jul	0.201	0	Aug	0.195	0.433	Sep	0.129	0.175
							Ikwaliti	Izondlo	I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 0.075 milligrams/litre (50th percentile)												
									I-inorganic nitrogen (TIN) iyonke		≤ 1.75 milligrams/litre (50th percentile)												
								lityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 1500 milliSiemens/metre (95th percentile)												

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkang eleko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
E8 Touws	III	J11H	E8-R20	Buffels River	gv4	C	Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iBuffels uhlale ukwimeko elinganayo okanye engcono kuneyangehlobo ku2014 (ibakala C)	Amanzi ogcino (million cubic linyanga: High / Low) Jan 1.588 / 0.07; Feb 0 / 0.057; Mar 0 / 0.083; Apr 0 / 0.097; May 0 / 0.113; Jun 0 / 0.111; Jul 0 / 0.11; Aug 0 / 0.105; Sep 0 / 0.073; Oct 0.517 / 0.068; Nov 1.588 / 0.075; Dec 0.517 / 0.078
								Utshintshatshintsho lwamanzi	lqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)
									i-oksijini enyibilikileyo		≥ 6 milligrams litre (5th percentile)
								Iipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤ 165 counts/100ml (95th percentile)
							Indawo yokuphila	Ukwakheka komhlaba	Inqaku iGAI	Inqaku iGAI malilingane no B	Ibakala B (82-87%)
								Utyani lwaselunxwemeni	Inqaku iVEGRAI	Inqanaba 4 leVEGRAI libe ngu 78% ubuncikane kumda wonxweme	Ibakala B/C (77-82%)
									Umda wobuncikane ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi
									Umda osemazantsi ugqume intaphane		Iindidi ezingaqhelekanga < 5%, iindidi zenkuni zehlabathi < 5%
									Umda osemantla ugqume intaphane		Iindidi ezingaqhelekanga < 5%, iindidi zenkuni zehlabathi < 5%
								Iintlanzi	Unqaku iFRAI	I-FRAI iza kuvumenla u C/D (i59%).	Ibakala C/D (57-62%)
								Izilwanyana ezingenamathambo	Inqaku iMIRAI	MIRAI score to be within B/C (78 - 82%) Category	Ibakala B/C (77-82%)
									Ukwahluka kwezilwanyana ezingenamathambo		Inqaku iSASS > 45, ASPT?>4.0
									Inani leentsapho		> Iintsapho ezili-10, ezi-5 zinenqaku iSASS > 5, ubuninzi A-C
							Ikwaliti	Izondlo	I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe	≤ 0.075 milligrams/litre (50th percentile)

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkang eleko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
									I-inorganic nitrogen (TIN) iyonke	ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 1.75 milligrams/litre (50th percentile)
								Iityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 320 milliSiemens/metre (95th percentile)
								Utshintshatshint sho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)
									i-oksjini enyibilikileyo		≥ 6 milligrams litre (5th percentile)
								Iipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤ 165 counts/100ml (95th percentile)
							Indawo yokuphila	Ukwakheka komhlaba	Inqaku iGAI	Inqaku iGAI malilingane no D	Ibakala D (42-57%)
								Utyani lwaselunxweme ni n	Inqaku iVEGRAI	Inqanaba 4 leVEGRAI libe ngu~57% kumda wonxweme.	Ibakala D (42-57%)
									Umda wobuncikane ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi
									Umda osemazantsi ugqume intaphane		Iindidi ezingaqhelekanga < 5%, iindidi zenkuni zehlabathi < 5%
									Umda osemantla ugqume intaphane		Iindidi ezingaqhelekanga < 10%, iindidi zenkuni zehlabathi < 30%
							IBiota	Iintlanzi	Inqaku iFRAI	I-FRAI iza kuvumela u B/C (i79%).	Ibakala B/C (77-82%)
								Izilwanyana ezingenamatha mbo	Inqaku iMIRAI	Inqaku iMIRAI libe phakathi kwebakala C .	Ibakala C (62-77%)
									Ukwahluka kwezilwanyana ezingenamathamb o		Inqaku iSASS > 90, ASPT > 5.0
									Inani leentsapho		> iintsapho ezili-15, ezisi-7 zinenqaku leSASS > 6, ubuninzi A - C

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkang eleko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo		
											linyanga		
											Amanzi ogcino (million cubic		
												Low	High
												0.016	0.559
												0.018	1.719
												0.019	0.559
												0.016	1.719
												0.015	0
												0.022	0
												0.024	0
												0.027	0
												0.029	0
												0.027	0
												0.027	0
												0.027	0
												0.018	0
EB Tous	III	J111	EB-R21	Groot River	gv6	D	Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iGroot uhlale ukwimeko elinganayo okanye engcono yangehlobo ku2014 (ibakala C/D	≤ 0.075 milligrams/litre (50th percentile)		
							Ikwaliti	Izondlo	I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 1.75 milligrams/litre (50th percentile)		
									I-inorganic nitrogen (TIN) iyonke				
								Ilityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 320 milliSiemens/metre (95th percentile)		
								Utshintshatshint sho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)		
									i-oksijini enyibilikileyo		≥ 6 milligrams litre (5th percentile)		
								Ilityhefu	I-Atrazine	Amanqanaba eetyhefu makangabinabungozi kwimpilo yasemanzini	≤ 0.079 milligrams per litre (95th percentile)		
									I-Endosulfan		≤ 0.0013 milligrams per litre (95th percentile)		
EB Tous	III	J13C	EB-R22	Groot River	gii3	B	Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iGroot uhlale ukwimeko elinganayo okanye engcono yangehlobo ku2014 (ibakala D	Maintenance flows (million cubic metres)	Months	
											Low	High	Oct
											0.583	0.603	Nov
											0.746	1.092	Dec
											0.752	1.123	Jan
											0.732	1.121	Feb
											0.637	1.178	Mar
											0.593	0.589	Apr
											0.852	3.765	May
											0.803	1.208	Jun
											0.903	0	Jul
											0.791	0	Aug
											0.808	1.118	Sep
											0.587	0.532	
								Izondlo	I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 0.075 milligrams/litre (50th percentile)		
									I-inorganic nitrogen (TIN) iyonke		≤ 1.75 milligrams/litre (50th percentile)		
							Ikwaliti	Ilityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 620 milliSiemens/metre (95th percentile)		
								Utshintshatshint	Iqondo lepH	ipH, ubushushu, neoksijini	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)		

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkang eleko yendalo	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
							sho lwamanzi	i-oksjini enyibilikileyo	enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	≥ 6 milligrams litre (5th percentile)
									Amanqanaba eetyhefu makangabinabungozi kwimpilo yasemanzini	

UTafile 12: linjongo zekwaliti yamanzi ZEMILAMBO ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo ye Gouritz-Olifants D7

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo												
D7 Gouritz-Olifants	III	J25A	D7-R23	Gamka River	giv20	C	Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iGamka uhlale ukwimeko elinganayo okanye engcono kuneyangehlobo ku2014 (ibakala C)	linyanga	Amanzi ogcino (million cubic		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
												Low	High												
												0.192	0.342	0.232	0.262	0.232	0.241	0.487	0.382	0.22	0.16	0.162	0.157	0.167
												0.342	0.94	0.94	2.707	0.94	0.94	2.707	0.94	0	0	0	0	0.342
												≤ 0.075 milligrams/litre (50th percentile)												
									I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.		≤ 1.75 milligrams/litre (50th percentile)												
									I-inorganic nitrogen (TIN) iyonke																
									Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini		≤ 90 milliSiemens/metre (95th percentile)											
									Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.		6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)											
									i-oksjini enyibilikileyo			≥ 6 milligrams litre (5th percentile)												
									I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.		≤ 165 counts/100ml (95th percentile)											
							Indawo yokuphila	Ukwakheka komhlaba	Inqaku iGAI	Inqaku iGAI malilingane no C		Ibakala C (62-77%)												
								Utyani	Inqaku iVEGRAI	Inqanaba 4 leVEGRAI libe ngu		Ibakala C (62-77%)												

I-IUA	I-hlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
D7 Gourtz-Olifants	III	J31C	D7-R24	Olifants River	giii2	C	IBiota	Iwaselunxweme ni	Umda wobuncikane ugqume intaphane	61% ubuncikane kumda wonxweme.	Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi
									Umda osemazantsi ugqume intaphane		Iindidi ezingaqhelekanga < 10%, iindidi zenkuni zehlabathi < 5%
									Umda osemantla ugqume intaphane		Iindidi ezingaqhelekanga < 10%, iindidi zenkuni zehlabathi < 15%
								Iintlanzi	Inqaku iFRAI	I-FRAI mayivumele u C (i-71.6%).	Ibakala C (62-77%)
								Izilwanyana ezingenamatha mbo	Inqaku iMIRAI		Ibakala B/C (77-82%)
									Ukwahluka kweziIwanyana ezingenamatham bo	Inqaku iMIRAI malibe phakathi kwenqanaba B/C (78 - 82%)	Inqaku iSASS > 100, ASPT > 5.5
									Inani leentsapho		> iintsapho ezili-15, ezi-5 zinenqaku iSASS > 5, ubuninzi A - C
							Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo i-Olifants uhlale ukwimeko elinganayo okanye engcono kuneyangehlobo ku2014 (ibakala C/D)	Amanzi anzi ogcino linyanga (million cubic) High Low
											Oct 0.046 0.035
											Nov 0.13 0.055
											Dec 0.137 0.057
											Jan 0.107 0.05
											Feb 0.127 0.079
											Mar 0.548 0.109
											Apr 0.127 0.068
											May 0.097 0.053
											Jun 0 0.036
											Jul 0 0.037
											Aug 0.083 0.046
											Sep 0.04 0.035
							Ikwaliti	Izondlo	I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 0.075 milligrams/litre (50th percentile)
									I-inorganic nitrogen (TIN) iyonke		≤ 1.75 milligrams/litre (50th percentile)
								lityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe iibi kwimpilo yasemanzini	≤ 680 milliSiemens/metre (95th percentile)
								Utshintshatshint sho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)
									i-oksijini enyibilikileyo		≥ 6 milligrams litre (5th percentile)

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo												
								Ipathojini	!-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤ 165 counts/100ml (95th percentile)												
								Ukwakheka komhlaba	Ingaku iGAI	GAI score should equate to a C/D	Ibakala C/D (57-62%)												
							Indawo yokuphila	Utyani lwaelunxwemeni	Ingaku iVEGRAI	VEGRAI level 4 of at ~70% for the riparian zone.	Ibakala C (62-77%)												
									Umda wobuncikane ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi												
									Umda osemazantsi ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi												
									Umda osemantla ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi												
							IBiota	Izilwanyana ezingenamathambo	Ingaku iMIRAI	MIRAI score should equate to a C	Ibakala C (62-77%)												
D7 Gouritz-Olifants	III	J34C	D7-R25	Kammanassie River	gv36	C/D	Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iKammanassie uhlale ukwimeko elinganayo okanye engcono kuneyangehlobo ku2014 (ibakala C/D)		linyanga	Amanzi ogcino (million cubic	Low	High	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
														0.435	0.218	0.431	0.327	0.252	1.091	0.179	0.182	0.182	0.215	0.239	0.311	0.381	0.353
											≤ 0.075 milligrams/litre (50th percentile)																
							Ikwaliti	Izondlo	I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.															
									I-inorganic nitrogen (TIN) iyonke		≤ 1.75 milligrams/litre (50th percentile)															
								lityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 85 milliSiemens/metre (95th percentile)															
								Utshintshatshintsho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)															
									i-oksijini enyibilikileyo		≥ 6 milligrams litre (5th percentile)															

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								lipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugciwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤ 165 counts/100ml (95th percentile)
									Inqaku iVEGRAI	Inqanaba 4 leVEGRAI elingu~58% kumda wonxweme	Ibakala C/D (57-62%)
								Utyani lwaselunxweme ni	Umda wobuncikane ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi
							Indawo yokuphila		Umda osemazantsi ugqume intaphane		lindidi ezingaqhelekanga < 5%, iindidi zenkuni zehlabathi < 5%
									Umda osemantla ugqume intaphane		lindidi ezingaqhelekanga < 10%, iindidi zenkuni zehlabathi < 20%
								lintlanzi	Inqaku iFRAI	IFRAI iza kuvumela u D (i-46.9%).	Ibakala D (42-57%)
									Inqaku iMIRAI		Ibakala C/D (57-62%)
							IBiota	Izilwanyana ezingenamatha mbo	Ukwahluka kweziIwanyana ezingenamatham bo	Inqaku iMIRAI malibe phakathi kwebakala C/D (58-62%)	Inqaku leSASS > 90, ASPT > 4.5
									Inani leentsapho		> iintsapho ezili-17, ezi-2 nangaphezulu baetids, ubuninzi A - C

UTafile 13: linjongo zekwaliti yamanzi ZEMILAMBO ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo ye Lower Gouritz F13

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	Amanzi ogcino (million cubic linyanga)		I-RQO yobalo
											High	Low	
F13 Lower Gouritz	II	J40B	F13-R26	Gouritz River	gi4	C	Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iGouritz uhlale ukwimeko elinganayo okanye engcono kuneyangehlobo ku2014 (ibakala C)	4.818	2.752	Oct
											2.398	2.474	Nov
											4.818	2.267	Dec
											2.398	1.804	Jan
											2.398	1.627	Feb
											9.926	2.223	Mar
											9.926	2.134	Apr
											9.926	2.041	May
											0	2.021	Jun
											0	2.137	Jul
											0	2.213	Aug
											0	2.213	Sep

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
							Ikwaliti	Izondlo	I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 0.075 milligrams/litre (50th percentile)
									I-inorganic nitrogen (TIN) iyonke		≤ 1.75 milligrams/litre (50th percentile)
								Iityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 600 milliSiemens/metre (95th percentile)
								Utshintshatshintsho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)
									i-oksjini enyibilikileyo		≥ 6 milligrams litre (5th percentile)
								Iipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤ 165 counts/100ml (95th percentile)
							Indawo yokuphila	Ukwakheka komhlaba	Inqaku iGAI	Inqaku iGAI malilingane no B	Inqanaba B (82-87%)
								Utyani lwaselunxwemeni	Inqaku iVEGRAI	Inqanaba 4 leVEGRAI libe ngu ~57% kumda wonxweme .	Inqanaba B/C (77-82%)
									Umda wobuncikane ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi
									Umda osemazantsi ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi
									Umda osemantla ugqume intaphane		Iindidi ezingaqhelekanga < 15%, iindidi zenkuni zehlabathi < 40%
							IBiota	Iintlanzi	Inqaku iFRAI	I-FRAI mayivumele u D (i50.1%).	Ibakala D (42-57%)
								Izilwanyana ezingenamathambo	Inqaku iMIRAI	Inqaku iMIRAI malibe phakathi kwebakala C (60-79%)	Ibakala C (62-77%)
									Ukwahluka kwezilwanyana ezingenamathambo		Inqaku iSASS > 90, ASPT > 5.0
									Inani leentsapho		> iintsapho ezili-19 families, ezi-7 zinenqaku iSASS > 7, ubuninzi A - C

CONTINUES ON PAGE 386 - PART 4

Government Gazette
Staatskoerant

REPUBLIC OF SOUTH AFRICA
REPUBLIEK VAN SUID AFRIKA

Vol. 663 18 September / September 2020 No. 43726

PART 4 OF 5

ISSN 1682-5843

9 771682 584003 43726

UTafile 14: linjongo zekwaliti yamanzi ZEMILAMBO ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo ye Duiwenhoks F12

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkang eleko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo												
F12 Duiwenhoks	III	H80D	F12-R27	Duiwenhoks River	giii8	D	Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iDuiwenhoks uhlale ukwimeko elinganayo okanye engcono kuneyangehlobo ku2014	Maintenance flows (million cubic metres) linyanga	Low High	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
												1.775 0.418	1.676 0	1.151 0	0.648 0	0.489 0	0.781 0.418	0.861 0	0.981 0	1.014 0.418	1.207 0	1.426 2.649	1.522 0
								Izondlo	I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 0.075 milligrams/litre (50th percentile)												
									I-inorganic nitrogen (TIN) iyonke		≤ 1.75 milligrams/litre (50th percentile)												
							Ikwaliti	lityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe iibi kwimpilo yasemanzini	≤ 270 milliSiemens/metre (95th percentile)												
								Utshintshatshintsho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)												
									i-oksijini enyibilikileyo		≥ 6 milligrams litre (5th percentile)												
								lipathojini	Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤ 165 counts/100ml (95th percentile)												
							Indawo yokuphila	Ukwakheka komhlaba	Inqaku iGAI	Inqaku iGAI malilingane no D	Ibakala D (42-57%)												
								Utyani lwaselunxwemeni	Inqaku iVEGRAI	Inqanaba 4 leVEGRAI libengu-61% kumda wonxweme	Ibakala C/D (57-62%)												
									Umda wobuncikane ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi												
									Umda osemazantsi ugqume intaphane		Iindidi ezingaqhelekanga < 5%, iindidi zenkuni zehlabathi < 5%												
									Umda osemantla ugqume intaphane		Iindidi ezingaqhelekanga < 10%, iindidi zenkuni zehlabathi < 20%												

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkang eleko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
									Inqaku iFRAI	IFRAI mayivumele uD kumlambo iDuiwenhoks	Ibakala D (42-57%)
									Inqaku iMIRAI	IMIRAI (40 - 59%) mayivumele uD kumlambo iDuiwenhoks.	Ibakala D (42-57%)
							IBiota	lintlazi lzilwanyana ezingenamatha mbo	Ukwahluka kwezilwanyana ezingenamatham bo		Inqaku iSASS > 60, ASPT inqaku > 5
									Inani leentsapho		> iintsapho ezili-10, ubuninzi A - C, ubukho be Simulidae, Ancylidae

UTafile 15: linjongo zekwaliti yamanzi ZEMILAMBO ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo ye Hessequa I18

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo												
											linyanga	Amanzi ogcino (million cubic		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
												Low	High												
I18 Hessequa	III	H90C	I18-R28	Goukou River	giii7	C/D	Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iDuiwenhoks uhlale ukwimeko elinganayo okanye engcono kuneyangehlobo ku2014 (ibakala C/D)		0.794	1.734	0.764	1.734	0.171	0	0.139	0.688	0.688	0.653	0.598	0.567	0.691	0.654
							Ikwaliti	Izondlo	I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 0.075 milligrams/litre (50th percentile)	1.734	0	1.734	0	1.025	0.381	0	0	0	0	0	0	1.025
									I-inorganic nitrogen (TIN) iyonke		≤ 1.75 milligrams/litre (50th percentile)														
								lityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 130 milliSiemens/metre (95th percentile)													
								Utshintshatshint sho lwamanzi	Igondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)													
									i-oksijini enyibilikileyo		≥ 6 milligrams litre (5th percentile)														

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
									I-Atrazine	Amanqanaba eetyhefu makangabinabungozi kwimpilo yasemanzini.	≤ 0.079 milligrams per litre (95thpercentile)
									I-Endosulfan		≤ 0.0013 milligrams per litre (95thpercentile)
								lityhefu			
								lipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤ 165 counts/100ml (95th percentile)
								Ukwakheka komhlaba	Inqaku iGAI	Inqaku iGAI malilingane no D	Ibakala D (42-57%)
								Utyani lwaselunxwemeni	Inqaku iVEGRAI	Inqanaba 4 leVEGRAI libengu 71% kumda wonxweme .	Ibakala C (62-77%)
									Umda wobuncikane ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi
									Umda osemazantsi ugqume intaphane		lindidi ezingaqhelekanga < 5%, iindidi zenkuni zehlabathi < 5%
									Umda osemantla ugqume intaphane		lindidi ezingaqhelekanga < 10%, iindidi zenkuni zehlabathi < 10%
									Inqaku iFRAI	I-FRAI mayivumele u D (50.8%).	Ibakala D (42-57%)
								lintlazi lzilwanyana ezingenamathambo	Inqaku iMIRAI		Ibakala D (42-57%)
									Ukwahluka kwezilwanyana ezingenamathambo	Inqaku iMIRAI malibe phakathi kwebakala D EC (40 - 59%)	Inqaku iSASS > 90, ASPT inqaku > 5.8
									Inani leentsapho		> intsapho ezili-12, ezi-5 zinenqaku leSASS > 8, ubuninzi A - C

UTafile 16: linjongo zekwaliti yamanzi ZEMILAMBO ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo ye Groot Brak G14

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo	
G14 Groot	III	K20A	G14-P20	Groot Brak River	gviii2	B/C	Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iGrootbrak uhlale ukwimeko elinganayo okanye engcono	Amzni ogcino	linyanga
											High	
											Oct	1.171
											Nov	0.073
											Dec	0.147
											Jan	0
											Feb	0.147
											Mar	0.533
											Apr	0
											May	0
											Jun	0
											Jul	0
											Aug	0
											Sep	0

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo								
												Low	0.112	0.299	0.287	0.199	0.141	0.134	0.257
										kuneyangehlobo ku2014 (ibakala B/C)									
								Izondlo	I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 0.025 milligrams per litre (50th percentile)								
									I-inorganic nitrogen (TIN) iyonke		≤ 0.70 milligrams per litre (50th percentile)								
								Indawo yokuphila	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 55 milliSiemens/metre (95th percentile)								
							Ikwaliti		Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	6.5 ≥ pH ≤ 8.5 (5th and 95th percentiles)								
									i-oksijini enyibilikileyo		≥ 8 milligrams litre (5th percentile)								
									I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo kwidama iWolwedanselisezantsi konxweme.	≤ 165 counts/100ml (95th percentile)								
								Ukwakheka komhlaba	Inqaku iGAI	Inqaku iGAI malilingane no B	Ibakala B (82-87%)								
									Inqaku iVEGRAI		D16 = 1mm, D50 = 32mm, D84 = 128 mm								
								Utyani lwaselunxweme ni	Umda wobuncikane ugqume intaphane	Inqaku 4 leVEGRAI lwbakala B.	Ibakala B (82-87%)								
									Umda osemazantsi ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi								
									Umda osemantla ugqume intaphane		Iindidi ezingaqhelekanga < 5%, iindidi zenkuni zehlabathi < 15%								
									Inqaku iFRAI		Iindidi ezingaqhelekanga < 30%, iindidi zenkuni zehlabathi < 40%								
								Iintlazi	Inqaku iMIRAI	I-FRAI mayivumele u B (i82-87%).	Ibakala B (82-87%)								

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Izilwanyana ezingenamathambo	Ukwahluka kwezilwanyana ezingenamathambo	Inqaku iMIRAI malibe phakathi kwebakala A (92-100%).	Ibakala A (92-100%)
									Inani leentsapho		Inqaku iSASS > 170, ASPT > 7.9

UTafile 17: Iinjongo zekwaliti yamanzi ZEMILAMBO ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo ye Coastal G15

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo														
G15 Coastal	II	K30B	G15-R30	Malgas River	gvii9	C	Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iMalgas uhlale ukwimeko elinganayo okanye engcono (ibakala C)	Iinyanga		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
											MaintenancA manzi ogcino (million cubic metres)	High	1.218	1.044	0.219	0.219	0.219	0.812	0	0	0	0	0	0
												Low	0.296	0.081	0.042	0.042	0.077	0.085	0.123	0.211	0.204	0.169	0.211	0.204
							Ikwaliti Indawo yokuphila	Izondlo	I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 0.075 milligrams/litre (50th percentile)													
									I-inorganic nitrogen (TIN) iyonke		≤ 1.75 milligrams/litre (50th percentile)														
								Iityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 55 milliSiemens/metre (95th percentile)													
								Utshintshatshintsho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	5.0 ≥ pH ≤ 7.5 (5th and 95th percentiles)													
									i-oksjini enyibilikileyo		≥ 6 milligrams litre (5th percentile)														
								Iityhefu	I-Ammonia	Toxicity levels must not pose a threat to aquatic ecosystems.	≤ 0.073 milligrams per litre (95thpercentile)													
									I-Atrazine		≤ 0.079 milligrams per litre (95thpercentile)														
									I-Endosulfan		≤ 0.0013 milligrams per litre (95thpercentile)														

I-IUA	I-Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo												
G15 Coastal	II	K30C	G15-R31	Kaaimans River	gvii11	B	Umthamo	Amanzana Amanzi amaninzi	I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagciwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 0.025 milligrams per litre (50th percentile)	Amanzi ogcino (milligrams per litre)	Low	0.592	0.538	0.445	0.371	0.335	0.445	0.538	0.483	0.359	0.371	0.371	0.359
									I-inorganic nitrogen (TIN) iyonke	≤0.70 milligrams per litre (50th percentile)			High	0.249	1.052	0.775	0	0	1.828	0.249	0	0	0	0	0
													linyanga	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
								Izilwanyana ezingenamatha mbo	Ukwahluka kwezilwanyana ezingenamatham bo	Ingaku iMIRAI malibe phakathi kwebakala A	Ibakala A (92-100%)	Inqaku iSASS > 160, ASPT > 8												
								lintlanzi	Inqaku iMIRAI	I-FRAI mayivumele u C/D (57-62%).	Ibakala C/D (57-62%)												
							Indawo yokuphila	Utyani oluselunxweme ni	Umda osemazantsi ugqume intaphane	Inqaba 4 leVEGRAI lebakala D	Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi												
									Umda osemantla ugqume intaphane		lindidi ezingaqhelekanga < 5%, iindidi zenkuni zehlabathi < 15%												
									Inqaku iFRAI		lindidi ezingaqhelekanga < 30%, iindidi zenkuni zehlabathi < 50%												
								Ukwakheka komhlaba	Inqaku iVEGRAI	Inqaku iGAI malilingane no B/C	D16 = 2mm, D50 = 4 mm, D84 = 32mm												
									Umda wobuncikane ugqume intaphane		Ibakala D (42-57%)												
									Inqaku iGAI		Ibakala B/C (77-82%)												
								Iipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugciwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤ 165 counts/100ml (95th percentile)												

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Ilityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 30 milliSiemens/metre (95th percentile)
								Utshintshatshintsho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	4.5 ≥ pH ≤ 7.5 (5th and 95th percentiles)
									i-oksjini enyibilikileyo		≥ 8 milligrams per litre (5th percentile)
								Iipathojini	Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤ 130 counts/100ml (95th percentile)
							Indawo yokuphila	Ukwakheka komhlaba	Inqaku iGAI	GAI score should equate to a B/C	Ibakala B/C (77-82%)
									Inqaku iVEGRAI		D16 = 2mm, D50 = 16 mm, D84 = 64 mm
								Utyani lwaselunxwemeni	Umda wobuncikane ugqume intaphane	VEGRAI level 4 of Category A.	Ibakala A (92-100%)
									Umda osemazantsi ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi
									Umda osemantla ugqume intaphane		Iindidi ezingaqhelekanga < 5%, iindidi zenkuni zehlabathi < 15%
									Inqaku iFRAI		Iindidi ezingaqhelekanga < 5%, iindidi zenkuni zehlabathi < 5%
							IBiota	Iintlanzi	Inqaku iMIRAI	FRAI shall yield a B.	Ibakala B (82-87%)
								Izilwanyana ezingenamathambo	Ukwahluka kwezilwanyana ezingenamathambo	MIRAI score to be within A Category.	Ibakala A (92-100%)
									Inani leentsapho		Inqaku iSASS > 160, ASPT > 8

I-IUA	I-Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo												
G15 Coastal	II	K40A	G15-R32	Diep River	giii10	B	Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iUpper Diep uhlale ukwimeko elinganayo okanye engcono kunebakala B)	iinyanga	Amanzi ogcino (million cubic metres)		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
												High	Low												
												0.412	0.331	0.412	0.107	0	0.021	0	0.412	0.107	0	0	0	0	0.252
												0.107	0.344	0.107	0.237	0	0.18	0.173	0.206	0.199	0.201	0.176	0.173	0.213	0.252
												0	0.237	0	0	0	0.173	0	0	0	0	0	0	0	0
												0	0.18	0.021	0	0	0	0	0	0	0	0	0	0	0
												0	0.173	0	0	0	0	0	0	0	0	0	0	0	0
												0	0.206	0.412	0	0	0	0	0.412	0.107	0	0	0	0	0
												0	0.199	0.107	0	0	0	0	0.107	0	0	0	0	0	0
												0	0.201	0	0	0	0	0	0	0	0	0	0	0	0
												0	0.176	0	0	0	0	0	0	0	0	0	0	0	0
												0	0.173	0	0	0	0	0	0	0	0	0	0	0	0
												0	0.213	0	0	0	0	0	0	0	0	0	0	0	0
												0	0.252	0	0	0	0	0	0	0	0	0	0	0	0
								Izondlo	I-Phosphate (PO_4-P)	Amanqanaba ezondlo zomlambo makagcinwe ekwimo elungele umthamo wamanzi okanye kwimeko engcono.	≤ 0.025 milligrams per litre (50th percentile)														
									I-inorganic nitrogen (TIN) iyonke		≤ 0.70 milligrams per litre (50th percentile)														
								Ikwaliti	lityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 30 milliSiemens/metre (95th percentile)														
									Utshintshatshint sho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	5 ≥ pH ≤ 7 (5th and 95th percentiles)														
										i-oksijini enyibilikileyo		≥ 8 milligrams per litre (5th percentile)														
									lipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤ 165 counts/100ml (95th percentile)														
								Indawo yokuphila	Ukwakheka komhlaba	Inqaku iGAI	Inqaku iGAI malilingane no B.	Ibakala B (82-87%)														
										Inqaku iVEGRAI		D16 = 10mm, D50 = 100 mm, D84 = 300 mm														
									Utyani lwaselunxweme ni	Umda wobuncikane ugqume intaphane	Inqanaba 4 leVEGRAI lebakala A/B.	Ibakala A/B (87-92%)														
										Umda osemazantsi ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi														
										Umda osemantla ugqume intaphane		lindidi ezingaqhelekanga <20%, iindidi zenkuni zehlabathi < 5%														

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
									Inqaku iFRAI		Iindidi ezingaqhelekanga < 5%, iindidi zenkuni zehlabathi < 5%
								Iintlazi	Inqaku iMIRAI	I-FRAI mayivumele u B.	Ibakala B (82-87%)
							IBiota	Izilwanyana ezingenamatha mbo	Ukwahluka kwezilwanyana ezingenamatham bo	Inqaku iMIRAI malibe phakathi kwebakala B (80-90%).	Ibakala B (82-87%)
									Inani leentsapho		Inqaku iSASS > 190, ASPT > 7
G15 Coastal	II	K40C	G15-R33	Karatara River	gvii13	B	Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iKaratara uhlale ukwimeko elinganayo okanye engcono kunebakala A/B.	Amanzi ogcino (million cubic metres) linyanga: High Oct 0.471 Nov 0.283 Dec 0 Jan 0 Feb 0 Mar 0.283 Apr 0.029 May 0 Jun 0 Jul 0 Aug 0 Sep 0; Low Oct 0.188 Nov 0.192 Dec 0.169 Jan 0.149 Feb 0.144 Mar 0.169 Apr 0.16 May 0.153 Jun 0.129 Jul 0.12 Aug 0.149 Sep 0.17
								Izondlo	I-Phosphate (PO_4-P)	Inqanaba lezondlo mazigcinwe kulo mlambo zikwimeko enetyuwa zezondlo ezikwizinga eliphantsi.	≤ 0.025 milligrams per litre (50th percentile)
									I-inorganic nitrogen (TIN) iyonke		≤ 0.70 milligrams per litre (50th percentile)
							Ikwaliti	Ityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 30 milliSiemens/metre (95th percentile)
								Utshintshatshint sho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	4.0 ≥ pH ≤ 7.0 (5th and 95th percentiles)
									i-oksijini enyibilikileyo		≥ 8 milligrams per litre (5th percentile)
								Iipathojini	I-Escherichia coli		≤ 130 counts/100ml (95th percentile)
							Indawo yokuphila	Ukwakheka komhlaba	Inqaku iGAI	Inqaku iGAI malilingane no A.	Ibakala A (92-100%)
									Inqaku iVEGRAI		D16 = 30mm, D50 = 80 mm, D84 = 200 mm
								Utyani lwaselunxweme ni	Umda wobuncikane ugqume intaphane	Inqanaba 4 leVEGRAI lebakala A/B.	Ibakala A/B (87-92%)
									Umda osemazantsi ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi

I-IUA	I-Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
									Umda osemantla ugqume intaphane		Iindidi ezingaqhelekanga < 10%, iindidi zenkuni zehlabathi < 5%
									Inqaku iFRAI		Iindidi ezingaqhelekanga < 10%, iindidi zenkuni zehlabathi < 5%
								Iintlazi	Inqaku iMIRAI	I-FRAI mayivumele u B.	Ibakala B (82-87%)
							IBiota	Izilwanyana ezingenamatha mbo	Ukwahluka kwezilwanyana ezingenamatham bo	Inqaku iMIRAI malibe phakathi kwebakala A.	Ibakala A (92-100%)
									Inani leentsapho		Inqaku iSASS > 120, ASPT > 7
G15 Coastal	II	K40E	G15-R34	Goukamma	gviii9	B/C	Ikwaliti	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iGoukamma uhlale ukwimeko elinganayo okanye engcono kunebakala B/C.	Iinyanga: Oct 0.645 / 0.445; Nov 1.124 / 0.821; Dec 0.825 / 0.821; Jan 0.642 / 0.445; Feb 0.552 / 0.445; Mar 0.764 / 0.445; Apr 0.947 / 0.445; May 0.401 / 0; Jun 0.387 / 0; Jul 0.431 / 0; Aug 0.554 / 0; Sep 0.536 / 0
							Umthamo	Izondlo	I-Phosphate (PO_4-P)	Inqanaba lezondlo mazigcinwe kulo mlambo	≤ 0.075 milligrams/litre (50th percentile)
									I-inorganic nitrogen (TIN) iyonke	zikwimeko enetyuwa zezondlo ezikwizinga eliphantsi.	≤ 1.75 milligrams/litre (50th percentile)
							Ikwaliti	Utshintshatshint sho lwamanzi	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 55 milliSiemens/metre (95th percentile)
									Iqondo lepH	ipH, ubushushu, neoksijini	4 ≥ pH ≤ 7 (5th and 95th percentiles)
									i-oksijini enyibilikileyo	enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	≥ 6 milligrams litre (5th percentile)
								Iipathojin	i-Escherichia coli		≤ 165 counts/100ml (95th percentile)
							Indawo yokuphila	Ukwakheka komhlaba	Inqaku iGAI	Inqaku iGAI malilingane no	Ibakala B (82-87%)
									Inqaku iVEGRAI	B.	D16 = 2mm, D50 = 24 mm, D84 = 128 mm
								Utyani lwaselunxweme ni	Umda wobuncikane ugqume intaphane	Inqaku 4 leVEGRAI lebakala B.	Ibakala B (82-87%)

I-IUA	I-Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
G15 Coastal	II	K50A	G15-R35	Knysna River	gvii14	B	I-Biota		Umda osemazantsi ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi
									Umda osemantla ugqume intaphane		Iindidi ezingaqhelekanga < 5%, iindidi zenkuni zehlabathi < 15%
									Ingaku iFRAI		Iindidi ezingaqhelekanga < 5%, iindidi zenkuni zehlabathi < 5%
								Iintlanzi	Ingaku iMIRAI	I-FRAI mayivumele u C.	Ibakala C (62-77%)
								Izilwanyana ezingenamathambo	Ukwahluka kweziIwanyana ezingenamathambo	Ingaku iMIRAI malibe phakathi kwebakala A.	Ibakala A (92-100%)
									Inani leentsapho		Ingaku iSASS > 100, ASPT > 7.4
							Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iKnysna uhlale ukwimeko elinganayo okanye engcono kunebakala B.	Amanzi ogcino (milliion cubic metres) linyanga Low High
											Oct 0.478 0.686
											Nov 0.837 0.664
											Dec 0 0.546
											Jan 0 0.437
											Feb 0.239 0.411
											Mar 0.239 0.441
											Apr 0.478 0.441
											May 0 0.476
											Jun 0 0.447
											Jul 0 0.474
											Aug 0 0.579
											Sep 0 0.644
								Izindlo	I-Phosphate (PO_4-P)	Inqanaba lezondlo mazigcinwe kulo mlambo zikwimeko enetyuwa zezondlo ezikwizinga eliphantsi.	≤ 0.025 milligrams per litre (50th percentile)
									I-inorganic nitrogen (TIN) iyonke		≤ 0.70 milligrams per litre (50th percentile)
								Ikwaliti lityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 30 milliSiemens/metre (95th percentile)
									Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	4.5 ≥ pH ≤ 7.0 (5th and 95th percentiles)
								Utshintshatshintsho lwamanzi	i-oksijini enyibilikileyo		≥ 8 milligrams per litre (5th percentile)
								lipathojini	Ingaku iGAI		≤ 130 counts/100ml (95th percentile)
								Ukwakheka	Ingaku iVEGRAI	Ingaku iGAI malilingane no	Ibakala A/B (87-92%)

I-IUA	I-Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
G15 Coastal	II	K50B	G15-R36	Gouna River	gviii11	A/B	Indawo yokuphila	komhlaba	Umda wobuncikane ugqume intaphane	A/B.	D16 = 30mm, D50 = 120 mm, D84 = 300 mm
								Utyani lwaselunxwemeni	Umda osemazantsi ugqume intaphane	Inqanaba 4 leVEGRAI lebakala A/B.	Ibakala A/B (87-92%)
									Umda osemantla ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi
									Inqaku iFRAI		Iindidi ezingaqhelekanga < 20%, iindidi zenkuni zehlabathi < 5%
									Inqaku iMIRAI		Iindidi ezingaqhelekanga < 40%, iindidi zenkuni zehlabathi < 5%
							I-Biota	Iintlanzi	Ukwahluka kwezilwanyana ezingenamathambo	I-Frai iza kuvumela u B.	Ibakala B (82-87%)
								Izilwanyana ezingenamathambo	Inani leentsapho		Ibakala B (82-87%)
									Invertebrate diversity	Inqaku iMIRAI malibe phakathi kwebakala B.	Inqaku iSASS > 150, ASPT > 6.7
							Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iGouna uhlale ukwimeko elinganayo okanye engcono kunebakala A/B.	Amanzi ogcino (milliontoo) linyanga High: 1.44, 0.342, 1.328, 1.197, 0.778, 1.019, 0.692, 0.76, 0.781, 0.898, 0.875, 0.954, 1.202, 0.067 Low: Oct, Nov, Dec, Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep 1.377
							Ikwaliti	Izondlo	I-Phosphate (PO_4-P)	Inqanaba lezondlo mazigcinwe kulo mlambo zikwimeko enetyuwa zezondlo ezikwizinga eliphantsi.	≤ 0.025 milligrams per litre (50th percentile)
									I-inorganic nitrogen (TIN) iyonke		≤ 0.70 milligrams per litre (50th percentile)
								lityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 30 milliSiemens/metre (95th percentile)
								Utshintshatshint	Iqondo lepH	ipH, ubushushu, neoksijini	4.0 ≥ pH ≤ 7.0 (5th and 95th percentiles)

I-IUA	I-Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo												
G15 Coastal	II	K60C	G15-R37	Keurbooms River	giv9	C		sho lwamanzi	i-oksijini enyibilikileyo	enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	≥ 8 milligrams per litre (5th percentile)												
								iipathojini	I-Escherichia coli		≤ 130 counts/100ml (95th percentile)												
								Ukwakheka komhlaba	Inqaku iGAI	Inqaku iGAI malilingane no A/B.	Ibakala A/B (87-92%)												
									Inqaku iVEGRAI		D16 = 10mm, D50 = 50 mm, D84 = 200 mm												
							Indawo yokuphila	Utyani lwaselunxwemeni	Umda wobuncikane ugqume intaphane	Inqanaba 4 leVEGRAI lebakala A/B.	Ibakala A/B (87-92%)												
									Umda osemazantsi ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi												
									Umda osemantla ugqume intaphane		lindidi ezingaqhelekanga < 10%, iindidi zenkuni zehlabathi < 5%												
									Inqaku iFRAI		lindidi ezingaqhelekanga < 10%, iindidi zenkuni zehlabathi < 5%												
								Iintlanzi	Inqaku iMIRAI	I-FRAI iza kuvumela u B.	Ibakala B (82-87%)												
							I-Biota	Izilwanyana ezingenamathambo	Ukwahluka kwezilwanyana ezingenamathambo	Inqaku iMIRAI malibe phakathi kwebakala B	Ibakala B (82-87%)												
									Inani leentsapho		Inqaku iSASS > 120, ASPT > 7.5												
						C	Umthamo	Amanzana Amanzi amaninzi	Amanzana ogcino Amanzi amaninzi ogcino	Amanzi aza kwanela khonukuze umlambo iKeurbooms uhlale ukwimeko elinganayo okanye engcono kunangehlobo ku2014 (ibakala B).	Amanzi ogcino (milliion cubic metres)	linyanga	High	Oct	1.697	0.758	Nov	1.448	0	Dec	1.157	0.758	Jan	0.788	0	Feb	0.508	0	Mar	0.627	0	Apr	0.669	0	May	0.833	0.758	Jun	0.875	0	Jul	1.123	0	Aug	1.395	0.758	Sep	1.448	3.389	Low
							Ikwaliti	Izondlo	I-Phosphate (PO_4-P)	Inqanaba lezondlo mazigcinwe kulo mlambo zikwimeko enetyuwa zezondlo ezikwizinga eliphantsi.	≤ 0.025 milligrams per litre (50th percentile)											

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Iityuwa	Ukutsala umbane (i-EC)	Ubukho beetyuwa mabugcinwe bukumanqanaba angenafuthe libi kwimpilo yasemanzini	≤ 30 milliSiemens/metre (95th percentile)
								Utshintshatshintsho lwamanzi	Iqondo lepH	ipH, ubushushu, neoksijini enyibilikisiweyo – konke oku kubalulekile kugcino lwempilo entle yasemanzini.	5.5 ≥ pH ≤ 8.0 (5th and 95th percentiles)
									i-oksjini enyibilikileyo		≥ 8 milligrams per litre (5th percentile)
								Iipathojini	I-Escherichia coli		≤ 130 counts/100ml (95th percentile)
							Indawo yokuphila	Ukwakheka komhlaba	Inqaku iGAI	Inqaku iGAI malilingane no B.	Ibakala B (82-87%)
								Utyani lwaselunxwemeni	Inqaku iVEGRAI	Inqanaba 4 leVEGRAI libengu ~58% kumda wonxweme.	Ibakala B/C (77-82%)
									Umda wobuncikane ugqume intaphane		Akukho zindidi zingaqhelekanga, akukho zindidi zeenkuni zehlabathi
									Umda osemazantsi ugqume intaphane		Iindidi ezingaqhelekanga < 5%, iindidi zenkuni zehlabathi < 55%
									Umda osemantla ugqume intaphane		Iindidi ezingaqhelekanga < 30%, iindidi zenkuni zehlabathi < 20%
							iBiota	Iintlanzi	Inqaku iFRAI	I-FRAI mayivumele u B	Ibakala B (82-87%)
								Izilwanyana ezingenamathambo	Inqaku iMIRAI	Inqaku iMIRAI malibe phakathi kwebakala B	Ibakala B (82-87%)
									Ukwahluka kwezilwanyana ezingenamathambo		Inqaku iSASS > 180, ASPT > 6.5
									Inani leentsapho		> iintsapho ezili-15, ezi-2 zinenqaku iSASS > 12, ubuninzi A - C

UTafile 18: linjongo zekwaliti yamanzi ZAMACHWEBA OMLAMBO ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo ye Overberg West B5

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo		
											linyanga	Oct	76.6
											i-MMR/MAR (% Nat)	Nov	49.2
												Dec	39.1
												Jan	48.2
												Feb	43.6
												Mar	43.0
												Apr	41.1
												May	46.4
												Jun	57.3
												Jul	74.4
												Aug	86.6
												Sep	90.5
												Annual	70.1
B5 Overberg West							Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina inkqubo yokuhamba kwamanzi ukuze kudaleke indawo yokuhlala iintaka, iimicrophytes,ii microalgae nomthamo wamanzi.	Amanzi angena emlanjeni : i-avareji DIN ukujiya >100 µg/l (ngamaxesha embalela) or >500 µg/l (ngamaxesa emvula)		
	II												
		G40D											
			B5-E01										
				Palmiet Estuary									
					pxi1	B/C							
							Ikwaliti						
								Izondlo	DIN	Ubukho bezondlo ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae	Ichweba: i-Avareji DIN ukujiya kwindawo enaanzi ahlaziyekileyo >100 µg/l (ngamaxesha embalela) (amanzi olwandle angajiya kakhulu ngenxa yokunyuka kweliwa) no->500 µg/l (ngamaxesa emvula)		
									DIP		Amanzi angena emlanjeni : i-avareji DIN ukujiya >10 µg/l (ngamaxesha embalela season) and >50 µg/l (ngamaxesha emvula)		
											Ichweba: i-Avareji DIN ukujiya kwindawo enaanzi ahlaziyekileyo >10 µg/l (ngamaxesha embalela) (amanzi olwandle angajiya kakhulu ngenxa yokunyuka kweliwa) no->50 µg/l (ngamaxesa emvula)		
								Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yezilwanyanaezingenamath ambo, yeemacrophytes neemicroalgae	Ubukho betyuwa mabungehli bubengaphantsi kuka kwisithuba esingaphaya kweenyanga ezintathu ngonyaka.		
								Utshintshatshin tsho lwamanzi	Ubushushu		Amanzi angena emlanjeni: ubushushu baseHlotyeni <20 °C		
									I-pH	Utshintshatsintsho lwmanzi mabungayidluli iTPCs yebiota	<8		
									I-oksijini enyibilikisiweyo		>4 mg/		
									Ubunzulu beSecchi		>2 m		
								Iipathojini	I-Enterococci	Ubukho bepathojini	≤185 Enterococci/100 ml) (90^{th} percentile)		

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
									I-Escherichia coli	ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤500 E. coli/100 ml (90th percentile)
							Indawo yokuphila	Utshintshatshintsho lwamanzi emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka ecwebeni lomlambo	Umlomo wechweba lomlambo uhlala uvulekile
									Utshintshatshintsha lwamaza		Ububanzi obuphakathi bamaza ngasemlonyeni xa amanqanaba amanzi esezantsi (ehlotyeni) mabungatshintshi nge - >10% kumgangatho osekiweyo.
								Iintlenge zamanzi	Iimpawu zeentlenge, ubume/ubukhulu bejelo	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshi nge- >30% kumgangatho osekiweyo.
							I-Biota	i-Microalgae	Ubunzima bendalo nokwakheka komgqeku wee phytoplankton neebenthic microalgae	Gcina ukwakheka nokuchuma kweendidi ze microalgae nobunzima obuphakathi	Gcina ubunzima bendalo be-phytoplankton busezantsi; gcina ukwahluka komgqeku we microalgal ngokomlinganiselo ukulungiselela uphando;; ubunzima bendalo be-phytoplankton mabungandi ukwedlula i- 20% ngaphaya kwenjiyo esekiweyo; ukwahluka komgqeku we-phytoplankton mabungatshintshi ngaphaya kwe-20% kwiimeko ezisekiweyo .
								i-Macrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte,	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, nciphisa ubanjo ngobhongwana/ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Ummandla ogqunywe yimigqeku emininzi yezityalo mawungatshintshi ngaphaya kwe-20% kwiimeko zokuvuleka nokuvaleka komlomo ezisekiweyo, makungabikho migqeku engeyeyomthonyama, thintela ukhula oluneenduku lwe-macroalgal, ummandla ogqunyiweyo mawubengaphantsi kwe-50% yommandla ovulekileyo wamanzi, uphahla lwe-macroalgae malungadlulisi ngaphaya kwe-50% ngokwe-1 m^2 yeequadrats, okanye luthabathe ngaphaya kwe -50% yommandla ovulekileyo wamanzi kwijelo elisempuma nangaphezu konxweme wesanti emazantsi echweba lomlambo, ubunzima bendalo bobumanzi be- macroalgal mabuhlale bungaphantsi kwe- 500 g m^{-2}

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Izilwanyana ezingenamathambo	ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Ukushinyana kwemingxunya yeeproni yasesantini makungadluli kwi- 75 per m^2 kuloo mimandla iyeyona ishinyeneyo kumazantsi echweba lomlambo; ii-amphipods mazibenaphezu kwee-benthic fauna ngokobalo (*Grandidierella* sp.and *Corophium triaenonyx*) nezihlala nqo phezu kweentlenge zamanz kumbindi nakumphezulu wechweba ngokulandelelanayo; phaya kummandla i- zooplankton, ukushinyana kwee-*Pseudodiaptomus hessei* mabubethe phaya koo-100 noo-5000 m^3 ehlotyeni phaya kwingingqi yombindi wechweba lomlambo
								Iintlanzi	Ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama.	Gcina imigqeku yezi ntlanzi zilandelayo echwebeni lomlambo (oko kuxhomekeke kubuninzi): iindidi zechweba (10-20%); iindidi zolwandle ezayanyaniswa nechweba lomlambo (80-90%); nezo zizezomthonyama zihlala emanzini amatsha (~1%); zonke ezo zinyakazelayo ngokobalo mazimelwe ngu- 0+ juveniles.
								Iintaka	Ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina rhoqo umgqeku wezo zihamba emanzini, amangabangaba noothekwane, nazo zonke iindidi zeentaka zasemanzini zinokuba sixhenxe nangaphezulu; amachweba omlambo makangasetyenziswa konkekonke ziinkkhu zasemanzinii ezifana ooma- Redknobbed Coot; Amangabangaba noothekwane mabangakulinge bangabonakali echwebeni kude kube zizihlandlo ezi- >5 ezilandelelanayo.

UTafile 19: linjongo zekwaliti yamanzi ZAMACHWEBA OMLAMBO ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo ye Overberg West Coastal H16

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo											
H16 Overberg West Coastal											linyanga	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Annual
	II	G40B	H16-E02	Buffels Estuary	bxi1	B	Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina amanzi kumanqanaba angoku ubuncikane	MMR/MAR (% Nat)	84.4	69.5	28.7	11.2	8.9	13.4	35.3	64.3	87.8	91.2	91.7	89.8	81.9
							Ikwaliti	Izondlo	DIN	Injiyo yezondlo engeyiyo eyendalo mayingadluli kwi kwiiTPCs zeemacrophytes neemicroalgae	<100µg/ℓ													
									DIP		<10 µg/ℓ													
								Utshintshatshintshano shano lwamanzi	i-oksijini enyibilikisiweyo	Utshintshatshintshano lwamanzi malungabethi ngaphaya kwee TPCs zebiota	>6 mg/l												
								lipathojini	I-Enterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90th percentile)												
									I-Escherichia coli		≤500 E. coli/100 ml (90th percentile)												
							Indawo yokuphila	Utshintshatshintshano shano lwasemanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka ecwebeni lomlambo.	Ubume bomlomo ovaliweyo mabungandi nge->10% kumgangatho osekiweyo												
								lintlenge	limpawu zeentlenge, ubume/ubukhulu bejelo	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshii nge->30% kumgangatho osekiweyo.												
							I-Biota	ii-Microalgae	Ubunzima bendalo nokwakheka komgqeku wee phytoplankton neebenthic microalgae	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	<20 µg l-1												

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
H16 Overberg West Coastal	II	G40B	H16-E03	Rooiels Estuary	bxi2	A	Umthamo	ii-Macrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, nciphisa ubanjo ngobhongwana/ukusasazek a kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama	Ummandla othatyathwe yimigqeku eyahlukileyo yee macrophyte mawungatshintshi nge->20 % kuloo mandla uggunywe zindawo zokphila; ii macrophytes ezibudibana ezifana nokhula lwechibi *(Potamogeton pectinatus)* mazisoloko zikho kwiimeko zokunqaba kwamanzi.
								Izilwanyana ezingenamatha mbo	Ukwakheka komggeku weeMacrofauna, ubuninzi nokuchuma	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Amachweba makabe neendidi ezahlukayo zee *Callianassa kraussi* kwimida enesanti kunye nezee *Upogebia africana* kwimida enodaka.
								iintlanzi	Ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	Gcina imigqeku yeentlanzi equka iindidi eziphila kumachweba ubuncikane (Ibakala I), iindidi zolwandle ezi-3 ezixhomekeke kumachweba omlambo (Amabakala IIa & IIb) kunye nodidi olu-1 lwecatadromous yomthonyama (Ibakala V). Abahlali basemachwebeni mabanyakazele ngokwamanani, kodwa ke loo mlinganiselo wodidi lolwandle oluxhomekeke kumachweme (oko kuxhomekeke kubunizi) mawungawi ngaphantsi kwe- 2%.
								Amanzi	MMR/MAR (% Nat)	Gcina amanzi kumanqanaba angoku ubuncikane	Iinyanga / MMR/MAR (% Nat): Oct 99.0; Nov 98.9; Dec 98.4; Jan 98.0; Feb 98.3; Mar 98.0; Apr 98.1; May 98.3; Jun 98.5; Jul 98.6; Aug 98.6; Sep 98.8; Annual 98.6
								Izondlo	DIN	Injiyo yezondlo engeyiyo eyendalo mayingadluli kwi kwiiTPCs zeemacrophytes neemicroalgae	<100µg/ℓ
									DIP		<10 µg/ℓ
								Utshintshatshint shano lwamanzi	i-oksijini enyibilikisiweyo	Utshintshatshintshano lwamanzi malungabethi ngaphaya kwee TPCs zebiota	>6 mg/l

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Iipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤ 130 counts/100ml (95th percentile)
							Indawo yokuphila		Ubume bomlomo		Ubume bomlomo ovaliweyo mabungandi nge->10% kumgangatho osekiweyo
								Utshintshatshintshano lwasemanzini	Utshintshatshintsho lwamaza	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshii nge->30% kumgangatho osekiweyo.
							I-Biota	Iintlenge	Iimpawu zeentlenge, ubume/ubukhulu bejelo	Gcina ukwakheka nokuchuma kweendidi ze microalgae nobunzima obuphakathi	<20 µg l^{-1}
								ii-Microalgae	Ubunzima bendalo nokwakheka komgqeku wee phytoplankton neebenthic microalgae	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Ummandla othatyathwe yimigqeku eyahlukileyo yee macrophyte mawungatshintshi nge->20 % kuloo mandla ugqunywe zindawo zokphila; ii macrophytes ezibudibana ezifana nokhula lwechibi *(Potamogeton pectinatus)* mazisoloko zikho kwiimeko zokunqaba kwamanzi.
								ii-Macrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Amachweba makabe neendidi ezahlukayo zee *Callianassa kraussi* kwimida enesanti kunye nezee *Upogebia africana* kwimida enodaka.
								iintlanzi	Ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama.	Gcina imiqeku yeentlanzi equka iindidi eziphila kumachwebe ubuncikane (Ibakala I), iindidi zolwandle ezi-3 ezixhomekeke kumachweba omlambo (Amabakala IIa & IIb) kunye nodidi olu-1 lwecatadromous yomthonyama (Ibakala V). Abahlali basemachwebeni mabanyakazele ngokwamanani, kodwa ke loo mlinganiselo wodidi lolwandle oluxhomekeke kumachweme (oko kuxhomekeke kubunizi) mawungawi ngaphantsi kwe- 2%.

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo												
H16 Overberg West Coastal	II	G40G	H16-E04	Bot Estuary	9ixn	B	Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina inkqubo yokuhamba kwamanzi ukuze kudaleke indawo yokuhlala iintaka, iintlanzi, iimacrophytes,ii microalgae nomthamo wamanzi.	Iinyanga	MMR/MAR (% Nat)	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Annual
							Ikwaliti	Izondlo	DIN	Ubukho bezondlo ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae		80.2	75.7	63.9	58.2	60.3	63.7	75.5	80.9	83.8	85.8	87.7	85.0	81.8
												Amanzi angena emlanjeni (amancinci): DIN <100 µg/l; Amanzi angena emlanje (amaninzi): DIN <300 µg/l; Ichweba (amanzi amancinci): DIN <100 µg/l (ngaphandle kwamaxa amanzi enyuka ngeliwa); Ichweba (Amanzi amaninzi): DIN <300 µg/l kwimda A & B (kumphezulu wechweba)) ze ibe ngu- <100 µg/l kwimida Zones C & D (kumazantsi ecweba) (ngaphandle kwamaxa amanzi enyuka ngeliwa)													
									DIP	Ubukho bezondlo ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae		Amanzi angena emlanjeni (amancinci): DRP <50 µg/l; Amanzi angena emlanjeni (amaninzi): DRP <80 µg/l; Ichweba (amanzi amancinci: DRP <50 µg/l (ngaphandle kwamaxa amanzi enyuka ngeliwa); Ichweba (Amanzi amaninzi): DRP <80 µg/l kwimida A & B (kumphezulu wechweba) ze ibe ngu- <50 µg/l kwimida C & D (kumazantsi ecweba) (ngaphandle kwamaxa amanzi enyuka ngeliwa)													
								Ubukho beetywa	Ubukho beetywa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yeziliwanyanaezingenamath ambo, yeemacrophytes neemicroalgae		Ehlotyeni : 8<ubukho beetyuwa<40													
								Utshintshatshint sho lwamanzi	I-pH			6 < pH < 8.5													
									I-oksijini enyibilikisiweyo			>4 mg/l													
								lipathojini	I-Enterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.		≤185 Enterococci/100 ml) (90^{th} percentile)													
									I-Escherichia coli			≤500 E. coli/100 ml (90^{th} percentile)													

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
							Indawo yokuphila	Utshintshatshintsho lwasemanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka ecwebeni lomlambo.	Ubume bomlomo ovaliweyo mabungandi nge->10% kumgangatho osekiweyo
								lintlenge	Iimpawu zeentlenge, ubume/ubukhulu bejelo	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshii nge->30% kumgangatho osekiweyo.
							I-Biota	ii-Microalgae	Ubunzima bendalo nokwakheka komgqeku wee phytoplankton neebenthic microalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ubunzima bendalo obusezantsi be phytoplankton (< 6 ug l^{-1}); ubunzima bendalo bephytoplankton mabungaveli nnaphaya nkwe -10 ug l^{-1} kwisithuba esingaphaya kweenyanga ezi- 6; gcina ukwahluka komgqeku wemicroalgal ngokomlinganiselo ukulngiselela uphando olusisiseko (ukwanda kweeCyanophytes (hlaza nahlaza (okwengca) kuza kudala inkxalabo); ukwahluka komgqeku weephytoplankton mabungehli bude bube ngaphantsi ko- 20% kobo beemeko ezisisiseko; Gcina ubunzima bendalo bangoku bemicroalgal (< 4 ug g^{-1}); ubunzima bendalo be-benthic microalgal mabungabethi ngaphaya ko- 10 ug g^{-1} kwisithuba esingaphaya kweenyanga ezi- 6 .
								ii-Macrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina ummandla wangoku (ngo2011) uggunywe ziindawo zokupila zemacrophyte: iimacrophytes ezidibeneyo (476 ha); iingcongolo neenqoboka (60 ha); umgxobozo weetyuwa (69 ha); neemacroalgae (238 ha); thintela ukhula oluninzi olunamagqudu; umlinganiselo wangokuu wee macroalgae ukuya kwiimacrophytes ezidityanisiweyo mawugcinwe (umzekelo ukwisithuba se - 50%).

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Izilwanyana ezingenamathambo	Ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	I-Zooplankton: ukushinyana kwe-*Pseudodiaptomus hessei* mabubethe phakathi koo 100 noo 5000 m^3 ehlotyeni kwingingqi esembindini wechweba; I-Benthic macrofauna: ukushinyana kwemingxunya ye-sandprawn *Callianassa kraussi* makudule ku-75 per m^2 kwimimandla enokushinyana okuninzi kumazantsi echweba, ukushinyana kwemingxuma kumazantsi echweba mabungehli bubengaphatsi kwe 50 counts nge- m^2 kwimimandla enokushinyana okuninzi, onke amahlelo ngokobukhulu ee- sand prawn makabe yinxalenye yemigqeku
								Iintlanzi	Gcina ukwakheka, ukuchuma,nobuninzi bemigqeku eyahlukayo yeentlanzi, Thintela ukwanda kweendidi ezingezizo ezomthonyama	Ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi	Iintlanzi ezincinci zolwandle ezixhomekeke kumachweba mazingakulinge zingabikho echwebeni kude kudlule iminyaka emibini elandelelana; igalelo le-% leentlanzi zolwandle ezixhomekeke echwebeni kwimigqeku elapho malinegehli de libe ngaphantsi kwe <60% yabahlali; ubuninzi beendidi ezingezezomthonyama mazhlale zingaphatsi kwe -5 % yobunzima bendalo koyena mzimba mkhulu wechweba; igalelo le-% contribution leentlanzi neentlanzana zolwandle ezixhomekeke echwebeni kwimigqeku elapho malingehli de libe ngaphantsi kwe-15%
								iintaka	Ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Inani leendidi zeentaka zasemanzini elibhalisiweyo ngokomlinganiseo malingehli libe ngaphaya ko -10% kwisithuba seminyaka emihlanu; xa lilonke inani leentaka ezihamba emanzini, amangabangaba noothekwane, okanye ke naliphi na inani leentaka ezikolu didi mazinganciphi de zibe ngaphantsi ngo-10% kwi-avareji esekiweyo kwisithuba seminyaka emihlanu, emva kolungiso olulungiselela iinguqu zeengingqi; amanani ehlobo ewonke eentaka zasemanzini makangagqithisi kwi - 15 000 ngeminyaka enaphezulu kwe- 4.

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo												
H16 Overberg West Coastal	II	G40H	H16-E05	Onrus Estuary	nxi8	D	Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina inkqubo yokuhamba kwamanzi ukuze kudaleke indawo yokuhlala iintaka, iintlanzi, iimacrophytes,ii microalgae nomthamo wamanzi.	linyanga	MMR/MAR (% Nat)	55.6	Oct	54.2	Nov	53.8	Dec	52.9	Jan	51.2	Feb	50.2	Mar	49.7	Apr	49.0	May	50.0	Jun	49.8	Jul	51.7	Aug	54.8	Sep	51.8	Annual
							Ikwaliti	Izondlo	DIN	Ubukho bezondlo ezingezizo zendalo	Amanzi angena echwebeni nasemlanjeni ewonke <300µg/ℓ																									
									DIP	mabungayidluli iTPCs yee macrophytes neemicroalgae	Amanzi angena echwebeni nasemlanjeni ewonke: DIP < 25 µg/ℓ																									
								Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yeziliwanyanaezingenamath ambo, yeemacrophytes neemicroalgae	5 < ubukho beetyuwa <40																									
								Utshintshatshintsho lwamanzi	I-oksijini enyibilikisiweyo	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	Amanzi angena echwebeni nasemlanjeni ewonke: DO >5 mg/ℓ																									
									Ubukho bodaka		Ubukho bodaka <5 NTU																									
								lipathojini	I-Enterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90th percentile)																									
									I-Escherichia coli		≤500 E. coli/100 ml (90th percentile)																									
							Indawo yokuphila	Utshintshatshintsho lwasemanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Ubume bomlomo ovaliweyo mabungandi nge- >10% kumgangatho osekiweyo																									
								Iintlenge	limpawu zeentlenge, ubume/ubukhulu bejelo	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshii nge- >30% kumgangatho osekiweyo.a																									

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
							I-Biota	ii-Microalgae	Ubunzima bendalo nokwakheka komgqeku wee phytoplankton neebenthic microalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Beka izondlo phantsi kweliso elibukhali ukuthintela ukudubula kweemicroalga ngenxa yokuchithakala kwelindle (> 20 µg l^{-1}) nokunganda ukuvela kweendidi zealga ezinobungozi kakhulu; gcina ukusasazeka kwemigqeku eyahlukayo yee-phytoplankton (ukwakhekha kwemiggeku eziintlobo ngeentlobo, futhi ukhusele ukuxaka kwee Cyanophytes (blue-green algae) ezithi zenzeke phantsi kweemeko zokuchuma kwezondlo namanzi ahlaziyekileyo.
								ii-Macrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina ummandla wangoku (ngo 2014) ugqunywe ziindawo zokuphila zemacrophyte: vula ummandla womgangatho wamanzi: 2.59, isanti neziduli: 1.86, Indawo egubungele zingcongolo kufuneka ilawulwe igcinwe ngaphakathi kwecebo lolawulo lwezendalo elivunyiwe, Ukusasazeka ngakumbi kwengcongolo kunye nokwenzeka kongenelo lwasemanzini njenge fem *Azolla* kufuneka ithintelwe ngokunciphisa igalelo lezondlo,nqanda yonke into enokuba sesinye isiphazamiso esikhulayo kumda wonxweme; ncothula izityalo ezingezizo zomthonyama, ubeke nezinto ezikhula egadini ezitshabalalisayo elisweni ukuze zinganweni.
								Izilwanyana ezingenamatha mbo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna.	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Ichweba lomlambo malibe nemigqeku enyakazayo yee*Callianassa kraussi* kwimida yesanti kunye nee *Upogebia africana* kwimida yodaka. Ukuhluma kwazo zombini ezi ndidi kuyadodobala kubukho beetyuwa obungaphantsi kwe- 17 ppt ngamaxa ezihlandlo zomlomo zexesha elide . E- *U. africana* nokukhutshelwa kwemibungu elwandle ze emva kokuba iyekile ukuba yimibungu ibuyiselwe echwebeni kuyema ngxi; ukuvalwa komlomo ixesha elide makungavunyelwa kuba oku kuya kubangela ukulahleka kweendidi zolwandle ((umzekelo ii- *Pseudodiaptomus* sp.)

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								lintlanzi	Ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	Gcina imigqeku yeentlanzi equka iindidi ezi-2 eziphila echwebeni (ibakala I), ezi-2 eziziindidi zolwandle ezixhomekeke kumachweba (Ibakala II), olu-1oluziindidi zecatadromous yomthonyama (Ibakala V) kunye neendidi ezimbini zomthonyama eziphila emanzini ahlaziyekileyo (Ibakala IV). Imigqeku yasechwebeni mayinyakazele ngokobalo (kangange->50%), kodwa ke iindidi zolwandle ezixhomekeke kumachweba, iicatadromous zomthonyama neendidi eziphila emanzini ahlaziyekileyo mazibekho.

UTafile 20: Iinjongo zekwaliti yamanzi ZAMACHWEBA OMLAMBO ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo ye Overberg East Fynbos H17

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo		
H17 Overberg East Fynbos													
	II												
		G40L											
			H17-E06										
				Klein Estuary									
					nxi7	B							
							Umthamo	Amanzi	MMR/MAR (% Nat)	linkqubo zeempuphuma nokutyhoboza ukugcina iipethini zokusasazwa/ukwanda kweentlenge nendawo yokuphila emanzini (ngaphakathi nqo emjelweni) ukuze kungadlulelwa ngaphaya kwee TPCs zebiota	linyanga	MMR/MAR (% Nat)	
												Oct	84.2
												Nov	83.1
												Dec	85.5
												Jan	73.7
												Feb	69.4
												Mar	78.8
												Apr	78.0
												May	83.9
												Jun	82.3
												Jul	86.9
												Aug	89.7
												Sep	90.3
												Annual	85.6
								Izondlo	DIN	Ubukho bezondlo ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae	Amanzi angena kwichweba nasemlanjeni ewonke: DIN <300µg/ℓ		
									DIP		Amanzi angena kwichweba nasemlanjeni ewonke: DIP <25 µg/ℓ		
								Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yezilwanyanaezingenamat hambo, yeemacrophytes neemicroalgae	5 < ubukho beetyuwa <40		
							Ikwaliti						

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Utshintshatshintsho lwamanzi	I-oksijini enyibilikisiweyo	Utshintshatsintsho lwmanzi mabungayidluli iTPCs yebiota	Amanzi angena kwichweba nasemlanjeni ewonke: DO >5mg/ℓ, ubukho bodaka < 5 NTU
									Ubukho bodaka		Ubukho bodaka <5 NTU
								Iipathojini	I-Enterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90th percentile)
									I-Escherichia coli		≤500 E. coli/100 ml (90th percentile)
							Indawo yokuphila	Utshintshatshintsho emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Ubume bomlomo ovaliweyo mabungandi nge- >10% kumgangatho osekiweyo
								Iintlenge	Iimpawu zeentlenge, ubume/ubukhulu bejelo	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshii nge- >30% kumgangatho osekiweyo.a
							IBiota	I-Microalgae	Ubunzima bendalo nokwakheka komgqeku wee phytoplankton neebenthic microalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Ubunzima bendalo bephytoplankton, obulinganiswa njengeKlorofil-a ekuluhlu lwamanzi, mabungadluli ku- 10 µg l^{-1}; gcina ubunzima bendalo be -benthic microalgae exhomekeke kakhulu kumaza ngethuba lokuvaleka komlomo nesebenza kakhulu ngamaza ze ngethuba lokuvuleka komlomo ugcine leyo isebenzisana kakhulu namaza; Ubunzima bendalo bephytoplankton mabungadlili ku- 10 µg $l^{-1;}$ ubunzima bendalo be -benthic microalgae mabungatshintshatshintshi ngaphaya kwe -20 % xa ubuthelekisa nokujiya kwabo kwixesha langoku; makungabikho nesuntswana elimtyuba ngexesha lokuvaleka komlomo.

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								I-Macrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina ummandla wangoku (ngo2014) ogqunywe ziindawo zokuphila zemacrophyte:ummandla womgangatho wamanzi ovulekileyo : 741.6 ha; amanxweme esanti nodaka : 79 ha; iimacrophytes ezintywiliselweyo: 92 ha; umgxobhozo wetyuwa: 170 ha; iingcongolo neenqoboka: 127 ha; ithafa leempuphuma: 280 ha (Iisoloko lisendaweni) ne-110 ha (liphazamisekile); gcina ukusasazeka kweendidi zomgqeku, umzekelo iimacrophytes ezintywiliselweyo, udonga i*Ruppia cirrhosa* ngethuba leemeko ezimtyuba zokuvalwa komlomo, umgxobhozo weetyuwa, i*Salicornia meyeriana* ngethuba leemeko ezimtyuba zovulo lomlomo, iindonga ii*Phragmites australis* kumbindi / okanye kumphezulu weengca zomgxobhozo weetyuwa obonisa iimeko ezimtyuba.
								Izilwanyana ezingenamathambo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna.	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Izilwanyana ezingenamathambo iiBenthic: Ichweba lomlambo malibe nemigqeku enyakazayo yee*Callianassa kraussi* kwimida yesanti kunye nee *U. Africana* kwimida yodaka. Ukuhluma kwazo zombini ezi ndidi kuyadodobala kubukho beetyuwa obungaphantsi kwe- 17 ppt ngamaxa ezihlandlo zomlomo zexesha elide . E- *U. africana* nokukhutshelwa kwemibungu elwandle ze emva kokuba iyekile ukuba yimibungu ibuyiselwe echwebeni kuyema ngxi; ubuninzi buka-C. *kraussi* and *U. africana* mabungehli ngaphantsi kuka- 50% wobuninzi obubhaliweyo bubonke kwixesha ngalinye lomnyaka; ezimenyiweyo mazibhaliswe kuluhlu lwemigqeku (chonga imida apho le migqeku mininzi khona ukwedlula leyo ibhaliswe kuphando olwenziweyo, kulapho ke konke okulapha ngasentla kuya kuvavanywa khona); ii-Zooplankton : ukuvalwa komlomo ixesha elide makungavunyelwa kuba oku kuya kubangela ukulahleka kweendidi zolwandle ((umzekelo ii- *Pseudodiaptomus* sp.) kwimigqeku yeezooplankton; ubuninzi beendidi ezibonakalayo zolwandle (umzekelo ii-*Pseudodiaptomus sp.)* mabungatshintshi ukwedlula u- 50% wamanqanaba angoku.

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
H17 Overberg East Fynbos	II	G40M	H17-E07	Ulikraal Estuary	nxi5	C	Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina inkqubo yokuhamba kwamanzi ukuze kudaleke indawo yokuhlala iintaka, iintlanzi, iimacrophytes,ii microalgae nomthamo wamanzi.	Gcina imigqeku elandelayo yeentlanzi eziphila echwebeni (oko kuxhomekeke kubuninzi): ezasechwebeni lomlambo (20-30%), eziziindidi zolwandle ezixhomekeke kumachweba (60-70%), needidi eziphila kumanzi ahlaziyekileyo (u-<1%); zonke ke iindidi ezongameleyo ngokwamanani zimelwe ngu-0+ juveniles . ubuninzi beendidi zolwandle ezixhomekeke kumachweba mazingehli ngaphantsi ko-50% wobuninzi; ubuninzi bezo zasechwebeni mabungandi ngaphaya kwe-50% wobuninzi bubonke bubonke; iindidi ezingezizo ezomthonyama eziphila emanzini ahlaziyekileyo mazingabikho tu apho echwebeni ; ngu- 0+ juveniles wazo zonke iintlanzi ezongameleyo emazibekho.
											Ichweba malibe nomgqeku ochumileyo we - avifaunal oquka abameli bawo onke amaqela omthonyama.; inani elivisayo lamangabangaba afudukayo noothekwane abafudukayo, ndawonye nomgqeku ophilayo nosempilweni wamangabangaba endlu; ichweba lomlambo malixhase intaphane yeentaka ehlotyeni nenani elivisayo leentaka ebusika; amanani eentaka zasemanzini makangehli ngaphantsi ko- 600, awamangabangaba ngaphantsi ko- 100 ehlotyeni, oothekwane ngaphantsi ko- 250; xa lilonke inani leentaka malingehli ngaphantsi ko -1000 kwizihlandlo ezi- 3 ezilandelelanayo.
								Iintlanzi	Ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	
								Iintaka	Ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	

linyanga	MMR/MAR (% Nat)
Oct	58.8
Nov	58.8
Dec	58.8
Jan	58.8
Feb	58.8
Mar	58.8
Apr	58.8
May	58.8
Jun	58.8
Jul	58.8
Aug	58.8
Sep	58.8
Annual	58.8

Ikwaliti	Izondlo	DIN	Ubukho bezondlo ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae	Amanzi angena echwebeni nasemlanjeni ewonke <300µg/ℓ
		DIP		Amanzi angena echwebeni nasemlanjeni ewonke: DIP < 25 µg/ℓ

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yezilwanyanaezingenamathambo, yeemacrophytes neemicroalgae	10 < Salinity <40
								Utshintshatshintsho lwamanzi	I-oksijini enyibilikisiweyo	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	Amanzi angena echwebeni nasemlanjeni ewonke: DO > 6 mg/ℓ
									Ubukho bodaka		Ubukho bodaka < 5 NTU
								Iipathojini	I-Enterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90th percentile)
									I-Escherichia coli		≤500 E. coli/100 ml (90th percentile)
							Indawo yokuphila	Utshintshatshintsho emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Ubume bomlomo ovaliweyo mabungandi nge- >10% kumgangatho osekiweyo
								Iintlenge	Iimpawu zeentlenge, ubume/ubukhulu bejelo	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshii nge- >30% kumgangatho osekiweyo.a
							IBiota	Ii-Microalgae	Ubunzima bendalo nokwakheka komgqeku wee phytoplankton neebenthic microalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Ubunzima bendalo bephytoplankton, obulinganiswa njengeKlorofil-a ekuluhlu lwamanzi, mabungadluli ku- 10 µg l^{-1}; gcina ubunzima bendalo be -benthic microalgae exhomekeke kakhulu kumaza ngethuba lokuvaleka komlomo nesebenza kakhulu ngamaza ze ngethuba lokuvuleka komlomo ugcine leyo isebenzisana kakhulu namaza.

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
H17 Overberg East Estuary	II	G50A	H17-E08	Ratel Estuary	nxi3	B	Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina amanzi kumanqanaba angoku ubuncikane	linyanga: Oct 90.0, Nov 90.0, Dec 90.1, Jan 90.3, Feb 90.2, Mar 90.2, Apr 90.0, May 90.0, Jun 90.0, Jul 90.0, Aug 90.0, Sep 90.0, Annual 90.0 MMR/MAR (% Nat)
							Ikwaliti	Izondlo	DIN	Ubukho bezondlo ezingezizo zendalo	Amanzi angena echwebeni nasemlanjeni ewonke <300µg/ℓ
									DIP	mabungayidluli iTPCs yee macrophytes neemicroalgae	Amanzi angena echwebeni nasemlanjeni ewonke: DIP < 25 µg/ℓ
								Ii-Macrophytes	ubungakanani, ukusasazeka nokuchuma kwemiggeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemiggeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina ukusasazeka komgqeku weendidi zezityalo umzekelo iimacrophyte ezintywiliselwayo, iindonga i*Ruppia cirrhosa* ngethuba leemeko ezimtyuba zokuvaleka komlomo, umgxobhozo weetyuwa, umgxobhozo wee*Salicornia meyeriana* ngethuba lokuvuleka komlomo, iindonga ii*Phragmites australis* kumbindi/kumphezulu wengca yomgxobhozo weetyuwa obonisa iimeko zobumtyuba .
								Izilwanyana ezingenamatha mbo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna.	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Ichweba malibe nemiggeku enyakazayo ye *Callianassa kraussi* kwimida yesanti ne U. Africana kwimida yodaka
								Iintlanzi	Ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	Gcina imigqeku elandelayo yeentlanzi eziphila echwebeni (oko kuxhomekeke kubuninzi): ezasechwebeni lomlambo (20-30%), eziziindidi zolwandle ezixhomekeke kumachweba (60-70%), needidi eziphila kumanzi ahlaziyekileyo (u-<1%); Zonke ke iindidi ezongameleyo ngokwamanani zimelwe ngu-0+ juveniles
								Iintaka	Ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna.	Ichweba malibe nomgqeku ochumileyo we - avifaunal oquka abameli bawo onke amaqela omthonyama.; inani elivisayo lamangabangaba afudukayo noothekwane abafudukayo, ndawonye nomgqeku ophilayo nosempilweni wamangabangaba endlu; ichweba lomlambo malixhase intaphane yeentaka ehlotyeni nenani elivisayo leentaka ebusika.

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yezilwanyanaezingenamathambo, yeemacrophytes neemicroalgae	10 < ubukho beetyuwa <40
								Utshintshatshintsho lwamanzi	I-oksijini enyibilikisiweyo	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	Amanzi angena echwebeni nasemlanjeni ewonke: DO > 6 mg/ℓ
									Ubukho bodaka		Ubukho bodaka < 5 NTU
								Iipathojini	I-Enterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90th percentile)
									I-Escherichia coli		≤500 E. coli/100 ml (90th percentile)
							Indawo yokuphila	Utshintshatshintsho emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Ubume bomlomo ovaliweyo mabungandi nge- >10% kumgangatho osekiweyo
								Iintlenge	Iimpawu zeentlenge, ubume/ubukhulu bejelo	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshii nge- >30% kumgangatho osekiweyo.a
							IBiota	Ii-Microalgae	Ubunzima bendalo nokwakheka komgqeku wee phytoplankton neebenthic microalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina usasazeko lwemigqeku eyahlukayo ye phytoplankton nobunzima obuphantsi bendalo (< 20 µg l-1)

I-IUA	I-Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Ii-Macrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina usasazeko lweendawo zokuphila zemacrophyte zangoku, utshintsho oluyi-<20 % kummandla ogqunywe ziindawo zokuphila zemacrophyte ezahlukeneyo (oku kumela iinguqu zendalo ngenxa yemeko etshintshatshintshayo yamachweba); iimacrophytes ezintywiliselwayo, njengekhula lechibi (*iPotamogeton pectinatus*), mazibekho ngeemeko zokunqaba kwamanzi ,
								Izilwanyana ezingenamathambo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna.	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi zebenthic macrofauna nezooplankton	Ichweba lomlambo malibe nemigqeku enyakazayo yee*Callianassa kraussi* kwimida yesanti kunye nee *Upogebia africana* kwimida yodaka.
								Iintlanzi	Ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	Gcina imigqeku yeentlanzi equka iindidi ezi-2 eziphila echweben (ibakala I), ezi-2 eziziindidi zolwandle ezixhomekeke kumachweba (Ibakala II), olu-1oluziindidi zecatadromous yomthonyama (Ibakala V); Imigqeku yasechwebeni mayinyakazele ngokobalo (kangange->50%), kodwa ke umlinganiselo weendidi zolwandle ezixhomekeke kumachweba (oko kuxhomekeke kubuninzi) mawungehli ngaphantsi ko- 2%.
H17 Overberg East Fynbos	II	G50F	H17-E09	Heuningnes Estuary	nxi1	B	Umthamo	Amanzi	MMR/MAR (% Nat)	linkqubo zeempuphuma nokutyhoboza ukugcina iipethini zokusasazwa/ukwanda kweentlenge nendawo yokuphila emanzini (ngaphakathi nqo emjelweni) ukuze kungadlulelwa ngaphaya kwee TPCs zebiota.	linyanga / MMR/MAR (% Nat): Oct 79.6; Nov 77.5; Dec 73.1; Jan 71.5; Feb 72.5; Mar 76.2; Apr 79.1; May 79.2; Jun 79.0; Jul 78.4; Aug 78.7; Sep 78.2; Annual 78.2
							ikwaliti	Izondlo	DIN	Ubukho bezondlo ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae	Amanzi angena echwebeni nasemlanjeni ewonke <300µg/ℓ
									DIP		Amanzi angena echwebeni nasemlanjeni ewonke: DIP < 25 µg/ℓ

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yezilwanyanaezingenamathambo, yeemacrophytes neemicroalgae	Ubukho beetyuwa (obuphakathi) echwebeni inyuswe ngesheyi okwangoku ngenxa yokuncipha kwamanzi ahlaziyekileyo angenayo; sixhibe ukufikelela kula manqanaba kule mida ngemida: uMda A: 30, uMda B: 14, uMdaC: 6, uMda D: 2
								Utshintshatshintsho lwamanzi	I-oksijini enyibilikisiweyo	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	Amanzi angena echwebeni nasemlanjeni ewonke: DO >5 mg/ℓ
									Ubukho bodaka		8< pH <9
								Iipathojini	I-Enterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90th percentile)
									I-Escherichia coli		≤500 E. coli/100 ml (90th percentile)
							Indawo yokuphila	Utshintshatshintsho emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Ubume bomlomo ovaliweyo mabungandi nge- >10% kumgangatho osekiweyo
								Iintlenge	Iimpawu zeentlenge, ubume/ubukhulu bejelo	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshii nge- >30% kumgangatho osekiweyo-a
							i-Biota	Ii-Microalgae	Ubunzima bendalo nokwakheka komgqeku wee phytoplankton neebenthic microalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Ubunzima bendalo bephytoplankton, obulinganiswa njengeKlorofil-a ekuluhlu lwamanzi, mabungadluli ku- 10 µg l^{-1} kwichweba nakwi Soetendalsvlei (uMdaD); gcina ukwahluka kwemigqeku yephytoplankton umzekelo amasuntswana abemaninzi ngethuba lolwandle.

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Ii-Macrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Ummandla ogqunywe ziindawo zokuphila zemacrophyte ezahlukayo, ngakumbi ezo zomgxobhozo weetyuwa osebenzisana namaza naleyo ixhomekeke kakhulu emazeni mawuvunyelwe ubuyele kwimeko yesiqhelo ngokuthi kubuyiselwe inkqubo yendalo yokuhamba kwamanzi (ngakumbi loomanzi omgangatho ehlotyeni) nangokuvumela umlomo ukuba usebenze njengesiqhelo kangangoko (ubuncikane bobude bomlwatyuzo wesheyi mabandiswe bubeyi- 2.5 m), nto leyo iza kwandisa iimpuphuma zangasemva nobukho beetyuwa emhlabeni ; ummandla wangoku (ngo2014) ogqunywe ziindawo zokuphilisana zemacrophyte uyalandela: ummandla ovulekileyo wamanzi omgangatho:907.92, Isanti neeziduli :43.35, iimacrophytes ezintywiliselweyo :10.17, iingcongolo neenqoboka:1154.98, umgxobhozo osebenzisana namaza:16.18 , umgxobhozo oxhomekeke kumaza amaninzi:942.4
								Izilwanyana ezingenamathambo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna.	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Izilwanyana ezinamathambo zeBenthic: ubuninzi be *C. kraussi ne-U. Africana* mabungehli ngaphantsi kwe- 50% kobuninzi obubhalisiweyo bubonke ngexesha ngalinye lomnyaka, ezimenyiweyo mazibhaliswe phantsi koluhlu lwemigqeku elapho (chonga imida apho zininzi kakhulu ukwedlula oko kubhalisiweyo kuphando olwenziweyo, kulapho ke konke okulapha ngasentla kuya kuvavanywa khona; Zooplankton: ukuvalwa komlomo ixesha elide kuza kunciphisa iindidi zolwandle (umzekelo ii *Pseudodiaptomus sp.)* kwimigqeku ye zooplankton, ubununzi beendidi ezibonakalayo zolwandle (umzekelo ii*Pseudodiaptomus sp.) mazingajiki zibe ngaphaya kwe-* 50% yamanqanaba angoku amanzi .

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
H17 Overberg East Exmbos	II	G50K	H17-E10	Klipdriftsfontein Estuary	bxi3	A	Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina amanzi kumanqanaba angoku ubuncikane	linyanga: Oct 62.5, Nov 68.0, Dec 63.3, Jan 58.4, Feb 58.3, Mar 65.7, Apr 68.6, May 64.4, Jun 60.2, Jul 61.2, Aug 66.8, Sep 64.3, Annual 64.8 MMR/MAR (% Nat): Ichweba malibe nomgqeku ochumileyo we - avifaunal oquka abameli bawo onke amaqela omthonyama.; inani elivisayo lamangabangaba afudukayo noothekwane abafudukayo, ndawonye nomgqeku ophilayo nosempilweni wamangabangaba endlu; ichweba lomlambo malixhase intaphane yeentaka ehlotyeni nenani elivisayo leentaka ebusika; amanani eentaka zasemanzini makangehli ngaphantsi ko- 600, awamangabangaba ngaphantsi ko- 100 ehlotyeni, oothekwane ngaphantsi ko- 250; xa lilonke inani leentaka malingehli ngaphantsi ko -1000 kwizihlandlo ezi- 3 ezilandelelanayo.	Gcina imigqeku elandelayo yeentlanzi eziphila echwebeni (oko kuxhomekeke kubuninzi): ezasechwebeni lomlambo (20-30%), eziziindidi zolwandle ezixhomekeke kumachweba (60-70%), needidi eziphila kumanzi ahlaziyekileyo (u-<1%); zonke ke iindidi ezongameleyo ngokwamanani zimelwe ngu-0+ juveniles . ubuninzi beendidi zolwandle ezixhomekeke kumachweba mazingehli ngaphantsi ko-50% wobuninzi; ubuninzi bezo zasechwebeni mabungandi ngaphaya kwe-50% wobuninzi bubonke bubonke; iindidi ezingezizo ezomthonyama eziphila emanzini ahlaziyekileyo mazingabikho tu apho echwebeni ; ngu- 0+ juveniles wazo zonke iintlanzi ezongameleyo emazibekho.
								lintlanzi	Ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	
								lintaka	Ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	
							lkwaliti	Izondlo	DIN	Ubukho bezondlo ezingezizo zendalo	Amanzi angena echwebeni nasemlanjeni ewonke <300µg/ℓ
									DIP	mabungayidluli iTPCs yee macrophytes neemicroalgae	Amanzi angena echwebeni nasemlanjeni ewonke: DIP < 25 µg/ℓ

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yezilwanyanaezingenamathambo, yeemacrophytes neemicroalgae	10 < ubukho beetyuwa <40
								Utshintshatshintsho lwamanzi	I-oksijini enyibilikisiweyo	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	Amanzi angena echwebeni nasemlanjeni ewonke: DO > 6 mg/ℓ
									Ubukho bodaka		Ubukho bodaka urbidity < 5 NTU
								Iipathojini	I-Enterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90th percentile)
									I-Escherichia coli		≤500 E. coli/100 ml (90th percentile)
							Indawo yokuphila	Utshintshatshintsho emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Ubume bomlomo ovaliweyo mabungandi nge- >10% kumgangatho osekiweyo
								Iintlenge	Iimpawu zeentlenge, ubume/ubukhulu bejelo	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshii nge- >30% kumgangatho osekiweyo.a
							IBiota	Ii-Microalgae	Ubunzima bendalo nokwakheka komgqeku wee phytoplankton neebenthic microalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina usasazeko lwemigqeku eyahlukayo ye phytoplankton nobunzima obuphantsi bendalo (< 20 µg l-1)

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Ii-Macrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina usasazeko lweendawo zokuphila zemacrophyte zangoku, utshintsho oluyi-<20 % kummandla ogqunywe ziindawo zokuphila zemacrophyte ezahlukeneyo (oku kumela iinguqu zendalo ngenxa yemeko etshintshatshintshayo yamachweba); iimacrophytes ezintywiliselwayo, njengekhula lechibi (i*Potamogeton pectinatus*), mazibekho ngeemeko zokunqaba kwamanzi ,
								Izilwanyana ezingenamatha mbo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna.	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Ichweba lomlambo malibe nemigqeku enyakazayo yee*Callianassa kraussi* kwimida yesanti kunye nee *Upogebia africana* kwimida yodaka.
								Iintlanzi	Ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	Gcina imigqeku yeentlanzi equka iindidi ezi-2 eziphila echwebeni (ibakala I), ezi-2 eziziindidi zolwandle ezixhomekeke kumachweba (Ibakala II), olu-1oluziindidi zecatadromous yomthonyama (Ibakala V); Imigqeku yasechwebeni mayinyakazele ngokobalo (kangange->50%), kodwa ke umlinganiselo weendidi zolwandle ezixhomekeke kumachweba (oko kuxhomekeke kubuninzi) mawungehli ngaphantsi ko- 2%.

UTafile 21: Iinjongo zekwaliti yamanzi ZAMACHWEBA OMLAMBO ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo ye Lower Breede Renosterveld F11

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo													
F11 Lower Breede Renosterveld	II	H70K	F11-E11	Breede Estuary	nxi2	B	Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina inkqubo yeempuphuma ngokwebakala lamanzi elindululiweyo	linyanga	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Annual
											MMR/MAR (% Nat)	57.6	50.1	34.0	33.0	34.6	41.7	59.7	56.6	61.2	47.6	51.3	27.3	47.2
							Ikwaliti	Izondlo	DIN	Ubukho bezondlo ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae	Amanzi angena echwebeni nasemlanjeni ewonke <300µg/ℓ													
									DIP		Amanzi angena echwebeni nasemlanjeni ewonke: DIP < 25 µg/ℓ													

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yezilwanyanaezingenamathambo, yeemacrophytes neemicroalgae	UMda A (0-15 km kunxweme oluphezulu lomlomo): 40> ubukho beetyuwa >20, Zone B (15-30 km): 30> Salinity >10, Zone C (30-40 km): 20> ubukho beetyuwa >5, Zone D (40-50 km): <10
								Utshintshatshintsho lwamanzi	I-oksijini enyibilikisiweyo	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	Amanzi angena echwebeni nasemlanjeni ewonke: DO >5 mg/ℓ
								Iipathojini	I-Enterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90th percentile)
									I-Escherichia coli		≤500 E. coli/100 ml (90th percentile)
							Indawo yokuphila	Utshintshatshintso emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Umlomo wechweba uhlala uvuliwe permanently open
									Uguquguquko lwamaza		Ukulwatyuza kwamaza ubuncikane kufuphi nomlomo wechweba akutshintshi ngaphezu ko- 10% ukusukela ngoku ngethuba lamanzi amancinci (ehlotyeni).
								Iintlenge	Iimpawu zeentlenge, ubume/ubukhulu bejelo	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume/ubukhulu bejelo, ubukhulu bekhozo lentlenge nezinto zendalo mazingatshintshi ngo->10% kumgangatho osekiweyo .
							IBiota	Ii-Microalgae	Ubunzima bendalo nokwakheka komgqeku wee phytoplankton neebenthic microalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Iklorofil yephytoplankton esembindini (izikhundla ezi-5 ubuncikane) ingadluli ku-3.5 µg/ℓ; thintela ukuvela kweentyatyambo zengingqi ze phytoplankton; Gcina ubunzima be- benthic microalgal kumphezulu wombindi wamaza; ibenthic chlorophyll a ekumbindi wamaza (izikhundla ezi-5 ubuncikane) ingadluli ku- 42 mg/m$^{2;\ s}$ite ubukho beklorofil yengingqi bungadluli ku- 20 µg/ℓ ze ukushinyana kwendlwana kungadluli ku- 10 000 cells/ℓ.

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								li-Macrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina ummandla wangoku (ngo 2014) ugqunywe ziindawo zokuphila ze-macrophyte: ummandla wamanzi omgangatho: 20.5 ha, umgxobhozo weetyuwa wamaza amakhulu: 29.55 ha, iimacrophytes ezintywiliselweyo : 6 ha, iingcongolo neenqoboka : 4.8 ha, amanxweme esanti nodaka : 136 ha; gcina imfezeko yomgxobhozo weetyuwa oseleyo wamaza amakhulu; gcina iindonga zeengcongolo neenqoboka kumphezulu wechweba; vuselela i- 20% yendawo yokuphila elithafa leempuphuma ngokuthi ususe imida yezolima nezityalo ezitshabalalisayo; gcina imfezeko yomda wonxweme; izityalo ezitshabalalisayo (umzekelo i-*Eucalyptus*, ipere elihlabayo, i*Tamarix*) umggumo mawungabethi ngaphaya kwe -5% yommandla wethafa leempuphuma uwonke .
								Izilwanyana ezingenamathambo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna.	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Gcina ummandla wangoku wango (2014) ugqnywe ziindawo zokuphila zemacrophyte; gcina usasazeko lweendawo zokuphila zemacrophyte e-ethe-ethe (umzekelo umgxobhozo weetyuwa, iimacrophytes) ezintywiliselweyo; kungabikho zityalo zitshabalalisayo; thintela ukunwenwela kweengcongolo emanzini.
								Iintlanzi	Ukwakheka, ubuninzi nokuchuma komggeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	Iingqokelela zeentlanzi maziquke amahlelo ezo zinxulumene namachweba ama -5 ngokwemilinganiselo efanayo (ukwahluka nobuninzi) ukuya kutsho kwezo zingaphantsi kwale referensi (jonga ingxelo ka2015 ye EWR); ngokobalo, ingqokelela mayiquke: imigqeku yasechwebeni (u-50-80% yobuninzi bubonke), ezikhula elwandle nasechwebeni lomlambo (10-20%), I-IIa obligate ezixhomekeke echwebeni (10-20%),I- IIb yeendidi ezinxulumene namachweba omlambo (5-15%), IIc marine opportunists (20-80%), i-III ezibhadulayo zolwandle (hayi ngaphezu kwe - 5%), IV iintlanzi zomthonyama (1-5%), V iindidi ze-catadromous (1-5%); iindidi zehlelo la maziquke imigqeku eqhubayo zeendidi ezi-4 ubuncikane; ezixhomekekileyo zehlelo lla mazibe nabameli neendidi ezininzi ezixhatshazwayo.

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Iintaka	Ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Ichweba malibe nemigqeku ye- avifaunal eyahlukayo equka abameli bawo onke amaqela angundoqo emizobo (jonga ingxelo ka2015 yeEWR t).; imiqhagi yoothekwane mayibonwe rhoqo echwebeni; ngaphandle nje kwamangabangaba, oothekwane neendidi ezandayo ngokweengingqi ezifana namadada aseYiphutha, ichweba malixhase iintaka ezingaphezu kwama- 200; iintaka ezininzi ngaphandle kwamangabangaba, oothekwane neendidi ezandayo ngokweengingqi mazingabethi ngaphantsi kwe- 120 kwizihlandlo ezintathu ezilandelelanayo; iindidi ezininzi zeentaka zasemanzini mazingabethi ngaphantsi kwe- 15 kwizihlandlo ezintathu ezilandelelanayo.

UTafile 22: Iinjongo zekwaliti yamanzi ZAMACHWEBA OMLAMBO ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo ye Lower Gouritz F13

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo													
F13 Lower Gouritz	II	J40E	F13-E12	Gouritz Estuary	gxi1	C	Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina inkqubo yeempuphuma ngokwebakala lamanzi elindululiweyo	linyanga	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Annual
											MMR/MAR (% Nat)	53.2	59.8	53.5	46.4	53.3	59.7	61.8	66.7	62.2	62.8	74.1	57.8	59.7
							Ikwaliti	Izondlo	DIN	Ubukho bezondlo ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae	Amanzi angena emlanjeni : NOx-N angadluli ku- - 100 µg/ℓ kwiinyanga ezi- 2 ezilandelelanayo, NH_3-N angadluli ku- 20 µg/ℓ kwiinyanga ezi- 2 ezilandelelanayo; Ichweba (ngaphandle xa amanzi enyuka ngeliwa okanye ngeempuphuma): I-avareji NOx-N angadluli ku-100 µg/ℓ, namnye umlinganiselo omakadlule ku-150 µg/ℓ, i-avareji NH_3-N angadluli ku- 20 µg/ℓ ngethuba lophando, namnye umlinganiselo omakadlule ku 100 µg/ℓ											

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
									DIP		Amanzi angena emlanjeni: PO_4-P angadluli ku- 20 µg/ℓ kwiinyanga ezi- 2 ezilandelelanayo Ichweba (ngaphandle xa amanzi enyuka ngeliwa okanye ngeempuphuma): i-avareji PO_4-P not to exceed 20 µg/ℓ ngethuba lophando, namnye umlinganiselo omakadlule ku -50 µg/ℓ
								Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yezilwanyanaezingenamat hambo, yeemacrophytes neemicroalgae	Ubukho beetyuwa mabungadluli ku-0 kwintloko yechweba, iavareji yobukho beetyuwa kuMda C < 20, iavareji yobukho beetyuwa ku-11 km kumphezulu ukusuka echwebeni > 20 ngaphezulu kwe\enyanga ezintathu zonyka
								Utshintshatshint sho lwamanzi	I-oksijini enyibilikisiweyo	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	Amanzi angena echwebeni nasemlanjeni ewonke: DO >5 mg/ℓ
								Iipathojini	I-Enterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml (90^{th} percentile)
									I-Escherichia coli		≤500 E. coli/100 ml (90^{th} percentile)
							Indawo yokuphila	Utshintshatshint so emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Umlomo wechweba uhlale uvuliwe
									Uguquguquko lwamaza		Ukulwatyuza kwamaza ubuncikane kufuphi nomlomo wechweba akutshintshi ngaphezu ko- 30% ukusukela ngoku ngethuba lamanzi amancinci (ehlotyeni).
								Iintlenge	Iimpawu zeentlenge, ubume/ubukhul u bejelo	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume/ubukhulu bejelo, ubukhulu bekhozo lentlenge nezinto zendalo mazingatshintshi ngo- >10% kumgangatho osekiweyo .

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
							IBiota	Ii-Microalgae	Ubunzima bendalo nokwakheka komgqeku wee phytoplankton neebenthic microalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Iklorofil yephytoplankton esembindini (izikhundla ezi-5 ubuncikane) ingadluli ku-3.5 µg/ℓ; thintela ukuvela kweentyatyambo zenginggi ze phytoplankton; Gcina ubunzima be- benthic microalgal kumphezulu wombindi wamaza; ibenthic chlorophyll a ekumbindi wamaza (izikhundla ezi-5 ubuncikane) ingadluli ku- 42 mg/m$^{2;}$ site ubukho beklorofil yenginggi bungadluli ku- 20 µg/ℓ ze ukushinyana kwendlwana kungadluli ku- 10 000 cells/ℓ.
								Ii-Macrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina ummandla wangoku (ngo 2013) ugqunywe ziindawo zokuphila ze-macrophyte: ummandla wamanzi omgangatho: 298.04 ha, amanxweme esanti nodaka : 81.02 ha, iingcongolo neenqoboka: 6.72 ha, ithafa leempuphuma (umgxobhozo weetyuwa wamaza amakhulu: 137.77 ha; gcina imfezeko yomgxobhozo weetyuwa wamaza amakhulu; gcina iindonga zeengcongolo neenqoboka kumbindi nakumphezulu wechweba; vuselela i- 20% yendawo yokuphila yethafa leempuphuma ngokuthi ususe yonke imida yezolimo nezityalo ezitshabalalisayo; gcina imfezeko yomda wonxweme; tshintsha kummandla oggunywe ngumgxobhozo weetyuwa, iingcongolo neenqoboka ukuze zingabethi ngaphaya ko -20% yomgangatho osekiweyo ; izityalo ezitshabalalisayo (umzekelo i-Eucalyptus, ipere elihlabayo, i Tamarix) ugqumo lungabeti ngaphaya kwe5% yommandla wethafa leempuphuma uphela .
								Izilwanyana ezingenamathambo	Ukwakheka, ubuninzi nokuchuma komgqeku weeMacrofauna.	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Gcina imiqeku echumileyo yeeproni zodaka –ii *Upogebia africana* – kumanxweme odaka kumbindi wochweme (uMda A no B); ukushinyana kweeproni zodaka mabungajiki kwi-avareji yamanqanaba omgangatho ngaphaya kwe 25% kwixesha ngalinye lomnyaka; gcina imiqeku yezilwanyana ezingemnamathambo ezinxulunyaniswa nomda i REI kumphezulu wochweme (izooplankton nebenthos); iindidi ezongameleyo kuloo mda (izooplankton nebenthos) mazingajiki kumanqanaba omgangatho ngaphaya kwe -40% kwixesha ngalinye lomnyaka .

I-RQO yobalo	I-RQO yobaliso	Isalathiso	ICandelwana	ICandelo	I-TEC	Igama leqhubu elinenkange leko yendalo	Igama lomjelo	I-RU	Ummandla woboniselo	Ihlelo	I-IUA
lingqokelela zeentlanzi maziquke amahlelo ezo zinxulumene namachweba ama -5 ngokwemilinganiselo efanayo (ukwahluka nobuninzi) ukuya kutsho kwezo zingaphantsi kwale referensi (jonga ingxelo ka2015 ye EWR); ngokobalo, ingqokelela mayiquke: imigqeku yasechwebeni (u-50-80% yobuninzi bubonke), ezikhula elwandle nasechwebeni lomlambo (10-20%), I-IIa obligate ezixhomekeke echwebeni (10-20%),I- IIb yeendidi ezinxulumene namachweba omlambo (5-15%), IIc marine opportunists (20-80%), i-III ezibhadulayo zolwandle (hayi ngaphezu kwe - 5%), IV iintlantsi zomthonyama (1-5%), V iindidi ze-catadromous (1-5%); iindidi zehlelo la maziquke imigqeku eqhubayo zeendidi ezi-4 ubuncikane; ezixhomekekileyo zehlelo IIa mazibe nabameli neendidi ezininzi ezixhatshazwayo.	Gcina ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	Ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi	lintlanzi								
Ichweba malibe nemigqeku ye- avifaunal eyahlukayo equka abameli bawo onke amaqela angundoqo emizobo (jonga ingxelo ka2015 yeEWR t).; imiqhagi yoothekwane mayibonwe rhoqo echwebeni; ngaphandle nje kwamangabangaba, oothekwane neendidi ezandayo ngokweengingqi ezifana namadada aseYiphutha, ichweba malixhase iintaka ezingaphezu kwama- 200; iintaka ezininzi ngaphandle kwamangabangaba, oothekwane neendidi ezandayo ngokweengingqi mazingabethi ngaphantsi kwe- 120 kwizihlandlo ezintathu ezilandelelanayo; iindidi ezininzi zeentaka zasemanzini mazingabethi ngaphantsi kwe- 15 kwizihlandlo ezintathu ezilandelelanayo.	Gcina ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	lintaka							

UTafile 23: linjongo zekwaliti yamanzi ZAMACHWEBA OMLAMBO ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo ye Duiwenhoks F12

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo											
											iinyanga	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Annual
F12 Duiwenhoks	III	H80E	F12-E13	Duiwenhoks Estuary	gxi2	B	Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina inkqubo yamanzi ngokweTEC	MMR/MAR (% Nat)	92.2	92.0	87.7	84.0	84.7	90.7	92.9	93.5	93.5	93.8	94.4	93.5	91.9
							Ikwaliti	Izondlo	DIN	Ubukho bezondlo ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae	Amanzi angena emlanjeni : NOx-N angadluli ku- -100 µg/ℓ kwiinyanga ezi- 2 ezilandelelanayo, NH_3-N angadluli ku- 20 µg/ℓ kwiinyanga ezi- 2 ezilandelelanayo; Ichweba (ngaphandle xa amanzi enyuka ngeliwa okanye ngeempuphuma): I-avareji NOx-N angadluli ku-100 µg/ℓ, namnye umlinganiselo omakadlule ku-150 µg/ℓ, i-avareji NH_3-N angadluli ku- 20 µg/ℓ ngethuba lophando, namnye umlinganiselo omakadlule ku 100 µg/ℓ											
									DIP		Amanzi angena emlanjeni: PO_4-P angadluli ku- 20 µg/ℓ kwiinyanga ezi- 2 ezilandelelanayo Ichweba (ngaphandle xa amanzi enyuka ngeliwa okanye ngeempuphuma): i-avareji PO_4-P not to exceed 20 µg/ℓ ngethuba lophando, namnye umlinganiselo omakadlule ku -50 µg/ℓ											
								Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yezilwanyanaezingen amathambo, yeemacrophytes neemicroalgae	Ubukho beetyuwa mabungadluli ku-0 kwintloko yechweba, iavareji yobukho beetyuwa kuMda C < 20, iavareji yobukho beetyuwa ku-11 km kumphezulu ukusuka echwebeni > 20 ngaphezulu kwe\enyanga ezintathu zonyka											
								Utshintshatshintsho lwamanzi	I-oksijini enyibilikisiweyo	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	Amanzi angena echwebeni nasemlanjeni ewonke: DO >5 mg/ℓ											
								lipathojini	I-Enterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90th percentile)											
									I-Escherichia coli		≤500 E. coli/100 ml (90th percentile)											

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
							Indawo yokuphila	Utshintshatshintso emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Umlomo wechweba uhlale uvuliwe
									Ugugugugukolwamaza		Ukulwatyuza kwamaza ubuncikane kufuphi nomlomo wechweba akutshintshi ngaphezu ko- 30% ukusukela ngoku ngethuba lamanzi amancinci (ehlotyeni).
								Iintlenge	Iimpawu zeentlenge, ubume/ubukhulu bejelo	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume/ubukhulu bejelo, ubukhulu bekhozo lentlenge nezinto zendalo mazingatshintshi ngo- >10% kumgangatho osekiweyo .
							IBiota	Ii-Microalgae	Ubunzima bendalo nokwakheka komgqeku wee phytoplankton neebenthic microalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Iklorofil yephytoplankton esembindini (izikhundla ezi-5 ubuncikane) ingadluli ku-3.5 µg/ℓ; thintela ukuvela kweentyatyambo zengingqi ze phytoplankton; Gcina ubunzima be- benthic microalgal kumphezulu wombindi wamaza; ibenthic chlorophyll a ekumbindi wamaza (izikhundla ezi-5 ubuncikane) ingadluli ku- 42 mg/$m^{2;\ site}$ ubukho beklorofil yengingqi bungadluli ku- 20 µg/ℓ ze ukushinyana kwendlwana kungadluli ku- 10 000 cells/ℓ.
								Ii-Macrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina ummandla wangoku (ngo 2013) ugqunywe ziindawo zokuphila ze-macrophyte: ummandla wamanzi omgangatho: 40 ha, amanxweme esanti nodaka : 29 ha, umgxobhozo weetyuwa: 26 ha, iingcongolo neenqoboka: 3 ha, ithafa leempuphuma: 6 ha; izityalo ezitshabalalisayo (umzekelo ubilo lwentaka olumnyama, ipere elihlabayo , iTamarix) ugqumo malusale nge- < 5% yommandla wethafa leempuphuma uwonke; gcina imfezeko yomgxobhozo weetyuwa; gcina iindonga zeengcongolo neenqoboka kumbindi nakumphezulu wechweba; vuselela i- 10% yendawo yokuphila yethafa leempuphuma ngokuthi ususe yonke imida yezolimo nezityalo ezitshabalalisayo; gcina imfezeko yomda wonxweme

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Izilwanyana ezingenamatha mbo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna.	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze- benthic macrofauna nezooplankton	Gcina imiggeku echumileyo yeeproni zodaka –ii *Upogebia africana* – kumanxweme odaka kumbindi wochweme (uMda A no B); ukushinyana kweeproni zodaka mabungajiki kwi-avareji yamanqanaba omgangatho ngaphaya kwe 25% kwixesha ngalinye lomnyaka; gcina imigqeku yeziIwanyana ezingemmamathambo ezinxulunyaniswa nomda i REI kumphezulu wochweme (izooplankton nebenthos); iindidi ezongameleyo kuloo mda (izooplankton nebenthos) mazingajiki kumanqanaba omgangatho ngaphaya kwe -40% kwixesha ngalinye lomnyaka.
								lintlanzi	Ukwakheka, ubuninzi nokuchuma komggeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komggeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	Iinggokelela zeentlanzi maziquke amahlelo ezo zinxulumene namachweba ama -5 ngokwemilinganiselo efanayo (ukwahluka nobuninzi) ukuya kutsho kwezo zingaphantsi kwale referensi (jonga ingxelo ka2015 ye EWR); ngokobalo, inggokelela mayiquke: imiggeku yasechwebeni (u-50-80% yobuninzi bubonke), ezikhula elwandle nasechwebeni lomlambo (10-20%), I-IIa obligate ezixhomekeke echwebeni (10-20%),I- IIb yeendidi ezinxulumene namachweba omlambo (5-15%), IIc marine opportunists (20-80%), i-III ezibhadulayo zolwandle (hayi ngaphezu kwe - 5%), IV iintlantsi zomthonyama (1-5%), V iindidi ze-catadromous (1-5%); iindidi zehlelo la maziquke imigqeku eqhubayo zeendidi ezi-4 ubuncikane; ezixhomekekileyo zehlelo Ila mazibe nabameli neendidi ezininzi ezixhatshazwayo.
								lintaka	Ukwakheka, ubuninzi nokuchuma komggeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komggeku wee-Avifauna	Ichweba malibe nemiggeku ye- avifaunal eyahlukayo equka abameli bawo onke amaqela angundoqo emizobo (jonga ingxelo ka2015 yeEWR t),; imiqhagi yoothekwane mayibonwe rhoqo echwebeni; ngaphandle nje kwamangabangaba, oothekwane neendidi ezandayo ngokweengingqi ezifana namadada aseYiphutha, ichweba malixhase iintaka ezingaphezu kwama- 200; iintaka ezininzi ngaphandle kwamangabangaba, oothekwane neendidi ezandayo ngokweengingqi mazingabethi ngaphantsi kwe- 120 kwizihlandlo ezintathu ezilandelelanayo; iindidi ezininzi zeentaka zasemanzini mazingabethi ngaphantsi kwe- 15 kwizihlandlo ezintathu ezilandelelanayo.

UTafile 24: linjongo zekwaliti yamanzi ZAMACHWEBA OMLAMBO ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo ye Hessequa I18

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo	
I18 Hessequa	III	H90E	I18-E14	Goukou Estuary	gxi3	B/C	Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina inkqubo yeempuphuma ngokwebakala lamanzi elindululiweyo Qinisekisa ukuqhuba kwezikhundla zofunxo lwamanzi ahlaziyekileyo kumazantsi nakumantla echweba. Amanzi angena emlanjeni makangehli. Gcina amanqanaba amanzi ezingxangxasini Thelekelela (thelekelela uphando lomkhombe wenqanaba elisekilweyo)	linyanga	MMR/MAR (% Nat)
											Oct	81.7
											Nov	81.4
											Dec	72.8
											Jan	70.0
											Feb	71.2
											Mar	81.9
											Apr	85.0
											May	85.0
											Jun	84.1
											Jul	84.5
											Aug	85.7
											Sep	83.8
											Annual	81.4
							Ikwaliti	Izondlo	DIN	Ubukho bezondlo ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae	Amanzi angena emlanjeni : NOx-N angadluli ku- -100 µg/ℓ kwiinyanga ezi- 2 ezilandelelanayo, NH_3-N angadluli ku- 20 µg/ℓ kwiinyanga ezi- 2 ezilandelelanayo; Ichweba (ngaphandle xa amanzi enyuka ngeliwa okanye ngeempuphuma): I-avareji NOx-N angadluli ku-100 µg/ℓ, namnye umlinganiselo omakadlule ku-150 µg/ℓ, i-avareji NH_3-N angadluli ku-20 µg/ℓ ngethuba lophando, namnye umlinganiselo omakadlule ku 100 µg/ℓ
									DIP		Amanzi angena emlanjeni: PO_4-P angadluli ku- 20 µg/ℓ kwiinyanga ezi- 2 ezilandelelanayo Ichweba (ngaphandle xa amanzi enyuka ngeliwa okanye ngeempuphuma): i-avareji PO_4-P not to exceed 20 µg/ℓ ngethuba lophando, namnye umlinganiselo omakadlule ku -50 µg/ℓ
							Ubukho beetyuwa	Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yezilwanyanaezingenama thambo, yeemacrophytes neemicroalgae	Ubukho beetyuwa mabungadluli ku-0 kwintloko yechweba, iavareji yobukho beetyuwa kuMda C < 20, iavareji yobukho beetyuwa ku-11 km kumphezulu ukusuka echwebeni > 20 ngaphezulu kwelenyanga ezintathu zonyka		

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Utshintshatshintsho lwamanzi	I-oksijini enyibilikisiweyo	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	Amanzi angena echwebeni nasemlanjeni ewonke: DO >5 mg/ℓ
									I-Enterococci		6.0 < pH > 8.0 (inkqubo yamanzi amnyama)
								Iipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90th percentile)
											≤500 E. coli/100 ml (90th percentile)
							Indawo yokuphila	Utshintshatshintsho emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Umlomo wechweba uhlale uvuliwe
									Ugugugquko lwamaza		Ukulwatyuza kwamaza ubuncikane kufuphi nomlomo wechweba akutshintshi ngaphezu ko- 10% ukusukela ngoku ngethuba lamanzi amancinci (ehlotyeni).
								Iintlenge	Iimpawu zeentlenge, ubume/ubukhulu bejelo	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume/ubukhulu bejelo, ubukhulu bekhozo lentlenge nezinto zendalo mazingatshintshi ngo- >30% kumgangatho osekiweyo .
							IBiota	I-Microalgae	Ubunzima bendalo nokwakheka komgqeku wee phytoplankton neebenthic microalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Iklorofil yephytoplankton esembindini (izikhundla ezi-5 ubuncikane) ingadluli ku-3.5 µg/ℓ; thintela ukuvela kweentyatyambo zengingqi ze phytoplankton; Gcina ubunzima be- benthic microalgal kumphezulu wombindi wamaza; ibenthic chlorophyll a ekumbindi wamaza (izikhundla ezi-5 ubuncikane) ingadluli ku- 42 mg/m$^{2;s}$ite ubukho beklorofil yengingqi bungadluli ku-20 µg/ℓ ze ukushinyana kwendlwana kungadluli ku-10 000 cells/ℓ.

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								li-Macrophytes	ubungakanani, ukusasazeka nokuchuma kwemiggeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemiggeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina ummandla wangoku (ngo 2014) ugqunywe ziindawo zokuphila ze-macrophyte: ummandla wamanzi omgangatho: 206 ha, amanxweme esanti nodaka : 35 ha, iimacrophytes ezintywiliselweyo: 5 umgxobhozo weetyuwa: 57 ha, iingcongolo neenqoboka: 21 ha; gcina ingqokelela yeengcongolo, kumazantsi nakumbindi wechweba (eziqhotyoshelwe kwizikhundla zofunxo lwamanzi ahlaziyekileyo; gcina iindonga zeengcongolo neenqoboka kumbindi nakumphezulu wechweba; vuselela i- 20% yendawo yokuphila yethafa leempuphuma ngokuthi ususe yonke imida yezolimo nezityalo ezitshabalalisayo; gcina imfezeko yomda wonxweme;
								Izilwanyana ezingenamathambo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna.	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Gcina imiggeku echumileyo yeeproni zodaka –ii *Upogebia africana* – kumanxweme odaka kumbindi wochweme (uMda A no B); ukushinyana kweeproni zodaka mabungajiki kwi-avareji yamanqanaba omgangatho ngaphaya kwe 25% kwixesha ngalinye lomnyaka; gcina imiggeku yeziIwanyana ezingemnamathambo ezinxulunyaniswa nomda i REI kumphezulu wochweme (izooplankton nebenthos); iindidi ezongameleyo kuloo mda (izooplankton nebenthos) mazingajiki kumanqanaba omgangatho ngaphaya kwe -40% kwixesha ngalinye lomnyaka .
								lintlanzi	Ukwakheka, ubuninzi nokuchuma komggeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komggeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	lingqokelela zeentlanzi maziquke amahlelo ezo zinxulumene namachweba ama -5 ngokwemilinganiselo efanayo (ukwahluka nobuninzi) ukuya kutsho kwezo zingaphantsi kwale referensi (jonga ingxelo ka2015 ye EWR); ngokobalo, inggokelela mayiquke: imiggeku yasechwebeni (u-50-80% yobuninzi bubonke), ezikhula elwandle nasechwebeni lomlambo (10-20%), I-IIa obligate ezixhomekeke echwebeni (10-20%),I- IIb yeendidi ezinxulumene namachweba omlambo (5-15%), IIc marine opportunists (20-80%), i-III ezibhadulayo zolwandle (hayi ngaphezu kwe - 5%), IV iintlantsi zomthonyama (1-5%), V iindidi ze-catadromous (1-5%); iindidi zehlelo la maziquke imiggeku eqhubayo zeendidi ezi-4 ubuncikane; ezixhomekekileyo zehlelo lla mazibe nabameli neendidi ezininzi ezixhatshazwayo.

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								lintaka	Ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Ichweba malibe nemigqeku ye- avifaunal eyahlukayo equka abameli bawo onke amaqela angundoqo emizobo (jonga ingxelo ka2015 yeEWR t).; imiqhagi yoothekwane mayibonwe rhoqo echwebeni; ngaphandle nje kwamangabangaba, oothekwane neendidi ezandayo ngokweengingqi ezifana namadada aseYiphutha, ichweba malixhase iintaka ezingaphezu kwama- 200; iintaka ezininzi ngaphandle kwamangabangaba, oothekwane neendidi ezandayo ngokweengingqi mazingabethi ngaphantsi kwe- 120 kwizihlandlo ezintathu ezilandelelanayo; iindidi ezininzi zeentaka zasemanzini mazingabethi ngaphantsi kwe- 15 kwizihlandlo ezintathu ezilandelelanayo.

UTafile 25: linjongo zekwaliti yamanzi ZAMACHWEBA OMLAMBO ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo ye Groot-Brak G14

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo		
G14 Groot-Brak	III	K10F	G14-E15	Klein-Brak Estuary	gxi4	C	Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina inkqubo yokuhamba kwamanzi ukuze kudaleke indawo yokuhlala iintaka, iintlanzi, iimacrophytes,ii microalgae nomthamo wamanzi.	MMR/MAR (% Nat)	linyanga	Oct 77.4
													Nov 77.4
													Dec 75.1
													Jan 71.7
													Feb 70.2
													Mar 75.8
													Apr 77.9
													May 78.5
													Jun 78.0
													Jul 78.1
													Aug 79.5
													Sep 78.8
													Annual 77.0
							Ikwaliti	Izondlo	DIN	Ubukho bezondlo ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae	Amanzi angena emlanjeni : NOx-N angadluli ku- - 100 µg/ℓ kwiinyanga ezi- 2 ezilandelelanayo, NH_3-N angadluli ku- 20 µg/ℓ kwiinyanga ezi- 2 ezilandelelanayo; Ichweba (ngaphandle xa amanzi enyuka ngeliwa okanye ngeempuphuma): I-avareji NOx-N angadluli ku-100 µg/ℓ, namnye umlinganiselo omakadlule ku-150 µg/ℓ, i-avareji NH_3-N angadluli ku- 20 µg/ℓ ngethuba lophando, namnye umlinganiselo omakadlule ku 100 µg/ℓ		

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
									DIP		Amanzi angena emlanjeni: PO_4-P angadluli ku- 20 µg/ℓ kwiinyanga ezi- 2 ezilandelelanayo lchweba (ngaphandle xa amanzi enyuka ngeliwa okanye ngeempuphuma): i-avareji PO_4-P not to exceed 20 µg/ℓ ngethuba lophando, namnye umlinganiselo omakadlule ku -50 µg/ℓ
								Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungadluli iTPCs yeentlanzi, yeziManyanaezingenamath ambo, yeemacrophytes neemicroalgae	Ubukho beetyuwa mabungadluli ku-0 kwintloko yechweba, iavareji yobukho beetyuwa kuMda C < 20, iavareji yobukho beetyuwa ku-11 km kumphezulu ukusuka echwebeni > 35 ngaphezulu kwelenyanga ezintathu zonyaka
								Utshintshatshintsho lwamanzi	I-oksijini enyibilikisiweyo	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	Amanzi angena echwebeni nasemlanjeni ewonke: DO >5 mg/ℓ
									I-TSS		TSS <5 mg/ ℓ (low flow)
									I-pH		7.0 < pH > 8.5
								lipathojini	I-Enterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90^{th} percentile)
									I-Escherichia coli		≤500 E. coli/100 ml (90^{th} percentile)
							Indawo yokuphila	Utshintshatshintsho emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Ubume bomlomo ovaliweyo mabungandi nge- >10% kumgangatho osekiweyo
								lintlenge	Iimpawu zeentlenge, ubume/ubukhulu bejelo	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshii nge- >30% kumgangatho osekiweyo.a

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
							IBiota	I-Microalgae	Ubunzima bendalo nokwakheka komgqeku wee phytoplankton neebenthic microalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ubunzima bendalo bephytoplankton/benthic microalgae esezantsi/ephakathi : iphytoplankton mayingabethi ngaphaya ko- 3.5 µg/ℓ (kumbindi), iphytoplankton mayingabethi ngaphaya ko 20 µg/ℓ futhi/okanye ukushinyana kwendlwana makungabethi ngaphaya kwe 10 000 cells/ml (once-off); ibenthic microalgae mayingabethi ngaphaya kwe 23 mg/m^2 (kumbindi); thintela ukukhula kweentyatyambo zephytoplankton
								ii-Macrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina usasazo lweendawo zokuphila ze macrophyte; thintela ukunwenwema kweengcongolo emanzini avulekileyo ; Thintela ukwanda kwezondlo neentyatyambo zemacroalgal; Thintela ukunwenwa kwemithi etshabalalisayo (njengomnga) kumda oselunxwemeni .
								Izilwanyana ezingenamathambo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna .	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Gcina imiggeku echumileyo yeeproni zodaka –ii *Upogebia africana* – kumanxweme odaka kumbindi wochweme (uMda A no B); ukushinyana kweeproni zodaka mabungajiki kwi-avareji yamanqanaba omgangatho ngaphaya kwe 25% kwixesha ngalinye lomnyaka; gcina imiggeku yezilwanyana ezingemnamathambo ezinxulunyaniswa nomda i REI kumphezulu wochweme (izooplankton nebenthos); iindidi ezongameleyo kuloo mda (izooplankton nebenthos) mazingajiki kumanqanaba omgangatho ngaphaya kwe -40% kwixesha ngalinye lomnyaka .

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Iintlanzi	Ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	lingqokelela zeentlanzi maziquke amahlelo ezo zinxulumene namachweba ama -5 ngokwemilinganiselo efanayo (ukwahluka nobuninzi) ukuya kutsho kwezo zingaphantsi kwale referensi (jonga ingxelo ka2015 ye EWR); ngokobalo, ingqokelela mayiquke: imigqeku yasechwebeni (u-50-80% yobuninzi bubonke), ezikhula elwandle nasechwebeni lomlambo (10-20%), I-IIa obligate ezixhomekeke echwebeni (10-20%),I- IIb yeendidi ezinxulumene namachweba omlambo (5-15%), IIc marine opportunists (20-80%), i-III ezibhadulayo zolwandle (hayi ngaphezu kwe - 5%), IV iintlantsi zomthonyama (1-5%), V iindidi ze-catadromous (1-5%); iindidi zehlelo la maziquke imigqeku eqhubayo zeendidi ezi-4 ubuncikane; ezixhomekekileyo zehlelo IIa mazibe nabameli neendidi ezininzi ezixhatshazwayo.
								Iintaka	Ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Ichweba malibe nemigqeku ye- avifaunal eyahlukayo equka abameli bawo onke amaqela angundoqo emizobo; imigxobhozo yeetyuwa /imiwonyo kwithafa leempuphuma mayichume ngempilo yeentaka. Imimandla esebenzisana namaza mayibe nemigqeku eshinyeneyo neyahlukayo yamangabangaba amancinane namakhulu; inani leentaka ezininzi zasemanzini ezigcwalise yonke le ndawo malingehli ngaphantsi kweendidi ezingama-30 okanye ngaphantsi kweentaka ezingama-250 kwizihlandlo ezintathu ezilandelelanayo ; inani leentaka ezisechwebeni elisezantsi malingehli ngaphantsi kweendidi ezili- 10 okanye iintaka ezingama- 50 (ngaphandle koothekwane namangabangaba kwizihlandlo ezintathu ezilandelelanayo .

I-IUA	G14 Groot-Brak																							
I-Ihlelo	III																							
Ummandla wobuniselo	K20A																							
I-RU	G14-E16																							
Igama lomjelo	Groot-Brak Estuary																							
Igama leqhubu elinenkange leko yendalo	gxi5																							
I-TEC	D																							
ICandelo	Umthamo		Ikwaliti																					
ICandelwana	Amanzi		Izondlo																					
Isalathiso	MMR/MAR (% Nat)		DIN							DIP			Ubukho beetyuwa			Utshintshatshintl sho lwamanzi		I-pH		I-Enterococci		lipathojini	
I-RQO yobaliso	Gcina inkqubo yokuhamba kwamanzi ukuze kudaleke indawo yokuhlala iintaka, iintlanzi, iimacrophytes,ii microalgae nomthamo wamanzi		Ubukho bezondlo ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae										Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yeziwanyanaezingenamath ambo, yeemacrophytes neemicroalgae			Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota				Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.			
I-RQO yobalo	linyanga	MMR/MAR (% Nat)	Amanzi angena emlanjeni : NOx-N angadluli ku- - 100 µg/ℓ kwiinyanga ezi- 2 ezilandelelanayo, NH_3-N angadluli ku- 20 µg/ℓ kwiinyanga ezi- 2 ezilandelelanayo; Ichweba (ngaphandle xa amanzi enyuka ngeliwa okanye ngeempuphuma): I-avareji NOx-N angadluli ku-100 µg/ℓ, namnye umlinganiselo omakadlule ku-150 µg/ℓ, i-avareji NH_3-N angadluli ku- 20 µg/ℓ ngethuba lophando, namnye umlinganiselo omakadlule ku 100 µg/ℓ							Amanzi angena emlanjeni: PO_4-P angadluli ku- 20 µg/ℓ kwiinyanga ezi- 2 ezilandelelanayo Ichweba (ngaphandle xa amanzi enyuka ngeliwa okanye ngeempuphuma): i-avareji PO_4-P not to exceed 20 µg/ℓ ngethuba lophando, namnye umlinganiselo omakadlule ku -50 µg/ℓ							Ubukho beetyuwa mabungadluli ku-0 kwintloko yechweba, iavareji yobukho beetyuwa kuMda C < 20, iavareji yobukho beetyuwa ku-11 km kumphezulu ukusuka echwebeni > 35 ngaphezulu kwe\enyanga ezintathu zonyaka			Amanzi angena echwebeni nasemlanjeni ewonke: DO >5 mg/ℓ	6 < pH > 8.5 echwebeni	≤185 Enterococci/100 ml) (90^{th} percentile)	≤500 E. coli/100 ml (90^{th} percentile)
	Oct	62.2																						
	Nov	67.3																						
	Dec	55.3																						
	Jan	48.2																						
	Feb	43.4																						
	Mar	55.7																						
	Apr	49.2																						
	May	54.9																						
	Jun	38.3																						
	Jul	43.7																						
	Aug	63.4																						
	Sep	63.8																						
	Annual	56.2																						

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
							Indawo yokuphila	Utshintshatshintsho emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Ubume bomlomo ovaliweyo mabungandi nge->10% kumgangatho osekiweyo
								Iintlenge	Iimpawu zeentlenge, ubume/ubukhulu bejelo	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshii nge->30% kumgangatho osekiweyo.a
							IBiota	IMicroalgae	Ubunzima bendalo nokwakheka komgqeku wee phytoplankton neebenthic microalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ubunzima bendalo bephytoplankton/benthic microalgae esezantsi/ephakathi : iphytoplankton mayingabethi ngaphaya ko- 3.5 µg/ℓ (kumbindi), iphytoplankton mayingabethi ngaphaya ko 20 µg/ℓ futhi/okanye ukushinyana kwendlwana makungabethi ngaphaya kwe 10 000 cells/ml (once-off); ibenthic microalgae mayingabethi ngaphaya kwe 23 mg/m^2 (kumbindi); thintela ukukhula kweentyatyambo zephytoplankton.
								IiMacrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina ummandla wangoku (ngo2013) ogqunywe ziindawo zokuphila zemacrophyte:ummandla womgangatho wamanzi ovulekileyo : 741.6 ha; amanxweme esanti nodaka : 79 ha; iimacrophytes ezintywiliselweyo: 92 ha; umgxobhozo wetyuwa: 170 ha; iingcongolo neenqoboka: 127 ha; ithafa leempuphuma: 280 ha (lisoloko lisendaweni) ne-110 ha (liphazamisekile); gcina ukusasazeka kweendidi zomgqeku, umzekelo iimacrophytes ezintywiliselweyo, udonga i*Ruppia cirrhosa* ngethuba leemeko ezimtyuba zokuvalwa komlomo, umgxobhozo weetyuwa, i*Salicornia meyeriana* ngethuba leemeko ezimtyuba zovulo lomlomo, iindonga ii*Phragmites australis* kumbindi / okanye kumphezulu weengca zomgxobhozo weetyuwa obonisa iimeko ezimtyuba.

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
G14 Groot-Brak	III	K10A	G14-E17	Blinde Estuary	gxi19	B	Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina inkqubo yokuhamba kwamanzi ikufuphi kweyakuqala kangangoko (iinkqubo ezincinane zifuna awona manzi maninzi)	linyanga
											MMR/MAR (% Nat)
							Ikwaliti	Izondlo	DIN	Ubukho bezondlo	DIN ingabethi ngaphaya kwe 100 µg/ℓ (average)
								lzilwanyana ezingenamathambo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna .	Gcina ukwakheka, ubuninzi nokuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Ukushinyana kweeproni zadaka mabubethe ngaphaya ko-100 – 150 burrow counts per m2 kweyona mimandla ishinyeneyo; kwi zooplankton, ukushinyana kwePseudodiaptomus hessei makubethe ngaphaya kwamanqanaba angana-5000-10000 m3 kwichweba eliphezulu entlakohlaza. Ukuguquguquka kobukho beeechwebeni kuyatshintshatshintsha futhi umlomo uhlala uvaliwe kangangexesha elide. Oku kungakhokelela ekusweleni eziye iindidi zezilwanyana ezingenamathambo eziiindelekileyo ukuba zibekho kulo mmandla.
								lintlanzi	Ukwakheka, ubuninzi nokuchuma komggeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	lingqokelela zeentlanzi maziquke amahlelo ezo zinxulumene namachweba ama -5 ngokwemilinganiselo efanayo (ukwahluka nobuninzi) ukuya kutsho kwezo zingaphantsi kwale referensi (jonga ingxelo ka2015 ye EWR); ngokobalo, ingqokelela mayiquke: imigqeku yasechwebeni (u-50-80% yobuninzi bubonke), ezikhula elwandle nasechwebeni lomlambo (10-20%), I-IIa obligate ezixhomekeke echwebeni (10-20%),I- IIb yeendidi ezinxulumene namachweba omlambo (5-15%), IIc marine opportunists (20-80%), i-III ezibhadulayo zolwandle (hayi ngaphezu kwe - 5%), IV iintlantsi zomthonyama (1-5%), V iindidi ze-catadromous (1-5%); iindidi zehlelo la maziquke imigqeku eqhubayo zeendidi ezi-4 ubuncikane; ezixhomekekileyo zehlelo lla mazibe nabameli neendidi ezininzi ezixhatshazwayo.
								lintaka	Ukwakheka, ubuninzi nokuchuma komggeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina ukuchuma noubuninzi nokushinyana beendidi nokushinyana kwemiggeku yeentaka , amangabangaba ahlalayo nafudukayo, oothekwane iintaka ezingabazayo neentaka zesemanzini ziphakathi kuka- 15 % wemeko yangoku (ngo2006).

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Annual
69.6	69.9	67.8	65.6	64.8	68.7	69.3	70.1	69.0	69.9	70.7	70.3	69.2

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
							Indawo yokuphila		DIP	ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae	DIP ingabethi ngaphaya kwe 20 µg/ℓ (average)
								Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yezilwanyanaezingenamathambo, yeemacrophytes neemicroalgae	<20 (iqondo elilindelekileyo 5-15)
								Utshintshatshintsho lwamanzi	I-oksijini enyibilikisiweyo	Utshintshatsintsho lwamanzi mabungayidluli	>5 mg/l
									Ubukho bodaka	iTPCs yebiota	Ubukho bodaka bungadluli ku- 10 NTU ngexesha lemvula eziphantsi
								lipathojini	I-Enterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90th percentile)
									I-Escherichia coli		≤500 E. coli/100 ml (90th percentile)
								Utshintshatshintsho emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Ubume bomlomo ovaliweyo mabungandi nge->10% kumgangatho osekiweyo
								lintlenge	Iimpawu zeentlenge, ubume/ubukhulu bejelo	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshii nge->30% kumgangatho osekiweyo.a
							IBiota	IMicroalgae	Ubunzima bendalo nokwakheka komgqeku wee phytoplankton neebenthic microalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ubunzima bendalo bephytoplankton/benthic microalgae esezantsi/ephakathi : iphytoplankton mayingabethi ngaphaya ko- 3.5 µg/ℓ (kumbindi), iphytoplankton mayingabethi ngaphaya ko 20 µg/ℓ futhi/okanye ukushinyana kwendlwana makungabethi ngaphaya kwe 10 000 cells/ml (once-off); ibenthic microalgae mayingabethi ngaphaya kwe 23 mg/m^2 (kumbindi); thintela ukukhula kweentyatyambo zephytoplankton.

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo		
G14 Groot-Brak	III	K10A	G14-E18	Tweekuilen Estuary	gxi20	D	Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina inkqubo esondeleyo kweyangoku kangangoko (inkqubo ezincinci zifuna amanzi amaninzi)	linyanga	Oct	72.3
												Nov	72.3
												Dec	72.3
												Jan	72.3
												Feb	72.3
												Mar	72.3
												Apr	72.3
												May	72.3
												Jun	72.3
												Jul	72.3
												Aug	72.3
												Sep	72.3
											MMR/MAR (% Nat)	Annual	72.3
							Ikwaliti	Izondlo	DIN	Ubukho bezondlo	I-DIN mayingadluli ku-100 µg/ℓ (average)		
								li-Macrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina ukusasazeka kweendawo zikuphila ze macrophyte: lingcongolo neenqoboka : 0.04 ha, amanxweme esanti nodaka: 0.05 ha, amanzi avulekileyo : 1.66 ha; theintela ukunwenwela kweengcolo emanzini avulekileyo; thintela ukwanda kwezondlo neentyatyambo zemacroalgal; thintela ukunwenwa kwemithi etshabalalisayo (njenomnga) kumda wonxweme .		
								lzilwanyana ezingenamathambo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna .	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Seka ubukho/ukungabikho kweeproni zesanti i-*Callichirus kraussi* kunxweme lwesanti kwichweba elisezantsi, on sand banks in lower estuary; seka ubukho/ukungabikho kwee- copepod *Pseudodiaptomus hessei okanye ii*-congeneric zechweba kwi- zooplankton yechweba; imigqeku yezi ndidi mazinggaguquki kwi-avareji yomgangatho osekiweyo (njengoko sele kuqinggiwe kumatyelelo amathathu okuqala) ngaphaya kwe- 30%		
								lintlanzi	Ukwakheka, ubuninzi nokuchuma komggeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	Gcina imiggeku yeentlanzi equka iindidi eziphila kumachweba ubuncikane (Ibakala I), iindidi zolwandle ezi-2 ezixhomekeke kumachweba omlambo (Amabakala IIa & IIb) kunye nodidi olu-1 lwecatadromous yomthonyama (Ibakala V). Abahlali basemachwebeni mabanyakazele ngokwamanani, kodwa ke loo mlinganiselo wodidi lolwandle oluxhomekeke kumachweme (oko kuxhomekeke kubunizi) mawungawi ngaphantsi kwe- 2%.		
								lintaka	Ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina imiggeku yee yokuqala yeentaka ezikhoyo echwebeni; inani leentaka nakweliphi na iqela ezandayo enginggini ezifana namadada aseYiphutha, malingehli ngaphantsi komgangatho osekiweyo osembindini (oqinggwe ziinkcukhaca zolwazi zexesha elidlulileyo okanye uphando lokuqala) inani leendidi neentaka ezibaliweyo kangangeenyanga ezintathu ezilandelelanayo		

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
									DIP	ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae	I-DIP mayingadluli ku 20 µg/ℓ (average)
								Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yezilwanyanaezingenamath ambo, yeemacrophytes neemicroalgae	<20 (iqondo elilindelekileyo 5-15)
								Utshintshatshinti sho lwamanzi	-oksijini enyibilikileyo	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	>5 mg/l
								lipathojini	I-Enterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugciniwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90^{th} percentile)
									I-Escherichia coli		≤500 E. coli/100 ml (90^{th} percentile)
							Indawo yokuphila	Utshintshatshinti sho emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele edla ngokufumaneka echwebeni lomlambo.	Ubume bomlomo ovaliweyo mabungandi nge->10% kumgangatho osekiweyo
								lintlenge	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshii nge->30% kumgangatho osekiweyo.a

I-IUA	I-Ihlelo	I-Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
							I-Biota	I-Microalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ubunzima bendalo bephytoplankton/benthic microalgae esezantsi/ephakathi : iphytoplankton mayingabethi ngaphaya ko- 3.5 µg/ℓ (kumbindi), iphytoplankton mayingabethi ngaphaya ko 20 µg/ℓ futhi/okanye ukushinyana kwendlwana makungabethi ngaphaya kwe 10 000 cells/ml (once-off); ibenthic microalgae mayingabethi ngaphaya kwe 23 mg/m^2 (kumbindi); thintela ukukhula kweentyatyambo zephytoplankton.
								Ii-Macrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina ukusasazeka kweendawo zikuphila ze macrophyte: lingcongolo neenqoboka : 0.04 ha, amanxweme esanti nodaka: 0.05 ha, amanzi avulekileyo : 1.66 ha; theintela ukunwenwela kweengcolo emanzini avulekileyo; thintela ukwanda kwezondlo neentyatyambo zemacroalgal; thintela ukunwenwa kwemithi etshabalalisayo (njenomnga) kumda wonxweme.
								Izilwanyana ezingenamathambo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna .	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Seka ubukho/ukungabikho kweeproni zesanti i-*Callichirus kraussi* kunxweme lwesanti kwichweba elisezantsi, on sand banks in lower estuary; seka ubukho/ukungabikho kwee- copepod *Pseudodiaptomus hessei okanye ii*-congeneric zechweba kwi- zooplankton yechweba; imigqeku yezi ndidi mazingaguquki kwi-avareji yomgangatho osekiweyo (njengoko sele kuqinggiwe kumatyelelo amathathu okuqala) ngaphaya kwe- 30%
								Iintlanzi	Ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	Gcina imigqeku yeentlanzi equka iindidi ezi-2 eziphila echwebeni (ibakala I), ezi-2 eziziindidi zolwandle ezixhomekeke kumachweba (Ibakala II), olu-1oluziindidi zecatadromous yomthonyama (Ibakala V); Imigqeku yasechwebeni mayinyakazele ngokobalo (kangange->50%), kodwa ke umlinganiselo weendidi zolwandle ezixhomekeke kumachweba (oko kuxhomekeke kubuninzi) mawungehli ngaphantsi ko- 2%.

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								lintaka	Ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina umgqeku wokuqala wamaqela eentaka ezikhoyo echwebeni,; amanani eentaka kulo naliphi na iqela, ngaphandle kweendidi ezandayo ngokwendalo, njengamadada aseYiphutha, makangehli ngaphaya kombindi osisiseko (athelekelelwa ziinkcukhacha zolwazi ezidlulileyo okanye uphando lokuqala) amanani eendidi okanye eentaka ezibalelwa amahlobo amathathu okanye izihlandlo zasebusika.
G14 Groot-Brak	III	K10A	G14-E19	Gericke Estuary	gxi21	C	Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina amanzi esondele kwimeko yangoku kangangoko (inkqubo encinane ifuna amanzi ameninzi)	linyanga	MMR/MAR (% Nat)	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	I-DIN mayingadluli kwi -100 µg/ℓ (average)
									DIN	Ubukho bezondlo	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Annual	
								Izondlo	DIP	ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae	I-DIP mayingadluli kwi -20 µg/ℓ (i-avareji)												
							Ikwaliti	Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yeziIwanyanaezingenamath ambo, yeemacrophytes neemicroalgae	<20 (iqondo elilindelekileyo 5-15)												
								Utshintshatshinto sho lwamanzi	-oksijini enyibilikileyo	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	>5 mg/l												
								lipathojini	I-Enterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90^{th} percentile)												
									I-Escherichia coli		≤500 E. coli/100 ml (90^{th} percentile)												
							Indawo yokuphila	Utshintshatshinto sho emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Ubume bomlomo ovaliweyo mabungandi nge->10% kumgangatho osekiweyo												

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Iintlenge	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshii nge->30% kumgangatho osekiweyo.a
							IBiota	IMicroalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ubunzima bendalo bephytoplankton/benthic microalgae esezantsi/ephakathi : iphytoplankton mayingabethi ngaphaya ko- 3.5 µg/ℓ (kumbindi), iphytoplankton mayingabethi ngaphaya ko 20 µg/ℓ futhi/okanye ukushinyana kwendlwana makungabethi ngaphaya kwe 10 000 cells/ml (once-off); ibenthic microalgae mayingabethi ngaphaya kwe 23 mg/m^2 (kumbindi); thintela ukukhula kweentyatyambo zephytoplankton.
								IiMacrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina ukusasazeka kweendawo zikuphila ze macrophyte: Iingcongolo neenqoboka : 0.04 ha, amanxweme esanti nodaka: 0.05 ha, amanzi avulekileyo : 1.66 ha; theintela ukunwenwela kweengcolo emanzini avulekileyo; thintela ukwanda kwezondlo neentyatyambo zemacroalgal; thintela ukunwenwa kwemithi etshabalalisayo (njenomnga) kumda wonxweme .
								Izilwanyana ezingenamathambo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna.	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Seka ubukho/ukungabikho kweeproni zesanti i-*Callichirus kraussi* kunxweme lwesanti kwichweba elisezantsi, on sand banks in lower estuary; seka ubukho/ukungabikho kwee- copepod *Pseudodiaptomus hessei okanye ii*-congeneric zechweba kwi- zooplankton yechweba; imigqeku yezi ndidi mazingaguquki kwi-avareji yomgangatho osekiweyo (njengoko sele kuqingqiwe kumatyelelo amathathu okuqala) ngaphaya kwe- 30%

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								lintlanzi	Ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	Gcina imigqeku yeentlanzi equka iindidi ezi-2 eziphila echwebeni (ibakala I), ezi-2 eziziindidi zolwandle ezixhomekeke kumachweba (Ibakala II), olu-1oluziindidi zecatadromous yomthonyama (Ibakala V); Imigqeku yasechwebeni mayinyakazele ngokobalo (kangange->50%), kodwa ke umlinganiselo weendidi zolwandle ezixhomekeke kumachweba (oko kuxhomekeke kubuninzi) mawungehli ngaphantsi ko- 2%.
								lintaka	Ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina umgqeku wokuqala wamaqela eentaka ezikhoyo echwebeni,; amanani eentaka kulo naliphi na iqela, ngaphandle kweendidi ezandayo ngokwendalo, njengamadada aseYiphutha, makangehli ngaphaya kombindi osisiseko (athelekelelwa ziinkcukhacha zolwazi ezidlulileyo okanye uphando lokuqala) amanani eendidi okanye eentaka ezibalelwa amahlobo amathathu okanye izihlandlo zasebusika.
G14 Groot-Brak	III	K10B	G14-E20	Hartenbos Estuary	gxi22	C	Ikwaliti	Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina amanzi exesha langoku ubuncikane	linyanga	Oct 59.7 Nov 64.0 Dec 68.7 Jan 71.1 Feb 67.4 Mar 60.3 Apr 64.2 May 64.7 Jun 65.9 Jul 60.8 Aug 66.1 Sep 66.9 Annual 65.0
												MMR/MAR (% Nat)	
								Izondlo	DIN	Ubukho bezondlo ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae	Amanzi angena echwebeni nasemlanjeni ewonke: DIN <200µg/ℓ
									DIP		Amanzi angena echwebeni nasemlanjeni ewonke: DIP <50 µg/ℓ
								Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yeziIwanyanaezingenamath ambo, yeemacrophytes neemicroalgae	i-avareji yobukho beetyuwa ngasechwebeni mayingehli ngaphaya ko- 5 ngaphantsi kwe-avareji esisiseko
								Utshintshatshint sho lwamanzi	i-oksijini enyibilikileyo	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	Ubukho bodaka <20 NTU ngexesha lomnyaka elingenazimvula
									I-Enterococci		Ubunzuly be-Sechii mabube ngu->0.5 m kwindawo ehlaziyekileyo yechweba
									I-Escherichia coli		>5 mg/l
								lipathojini	Enterococci	Ubukho bepathojini	≤185 Enterococci/100 ml) (90th percentile)

I-IUA	I-Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
							Indawo yokuphila		Escherichia coli	ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤500 E. coli/100 ml (90th percentile)
								Utshintshatshintsho emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Ubume bomlomo ovaliweyo mabungandi nge->10% kumgangatho osekiweyo
								Iintlenge	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshii nge->30% kumgangatho osekiweyo.a
							IBiota	IMicroalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ubunzima bendalo bephytoplankton/benthic microalgae esezantsi/ephakathi : iphytoplankton mayingabethi ngaphaya ko- 3.5 µg/ℓ (kumbindi), iphytoplankton mayingabethi ngaphaya ko 20 µg/ℓ futhi/okanye ukushinyana kwendlwana makungabethi ngaphaya kwe 10 000 cells/ml (once-off); ibenthic microalgae mayingabethi ngaphaya kwe 42 mg/m^2 (kumbindi); iiDinoflagellates, iichlorophytes nee/okanye iicyanobacteria > 10% yobuninzi obubandakanyekayo .
								IMacrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina ukusasazeka kweendawo zokuphila ze macrophyte; thintela ukunwenwela kweengcongolo emanzini; thintela ukwanda kwezondlo neentyatyambo zemacroalgal; Thintela ukunwenwa kwemithi etshabalalisayo (umzekelo umnga.) kumda wonxweme

I-IUA	I-Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								lzilwanyana ezingenamatha mbo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna .	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Seka ubukho/ukungabikho kweeproni zesanti i-*Callichirus kraussi* kunxweme lwesanti kwichweba elisezantsi; seka ubukho/ukungabikho kwee-copepod *Pseudodiaptomus hessei okanye ii-*congeneric zechweba kwi- zooplankton yechweba; imiggeku yezi ndidi mazingaguquki kwi-avareji yomgangatho osekiweyo (njengoko sele kuqingqiwe kumatyelelo amathathu okuqala) ngaphaya kwe-30%
								lintlanzi	Ukwakheka, ubuninzi nokuchuma komggeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komggeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	Imiggeku yeentlanzi mayiquke amahlelo eembutho zechweba ezi- 5 ngokwamanqanaba afanayo (ngokwahluka nobuninzi) kulawo kubhekiswa kuwo (kwingxelo ye –EWR ka2015); ngokobalo, umggeku mawuquke: iintlanzi zechweba (eziyi- 50-80% yobuninzi bazo xa zizonke, ezikhula elwandle nasechwebeni Ib (i-10-20%),ezinyanzelekileyo ukuba zixhomekeke elunxwemeni (i-10-20%), iindidi IIb ezidityaniswa namachweba (i-5-15%), ii-IIc ezilangazelela ukuphila elwandle (i-20-80%), i-III yezibhadubhadu zaselwandle (ezingekho ngaphaya kwe 5%), I-IV zeentlanzi zomthonyama (i-1-5%), I-V zeendidi zecatadromous (i-1-5%); iindidi zehlelo - Ia maziquke imiggeku efudukayo eziziindidi ezi-4 ubuncikane; Ihlelo - IIa ezinyanzelekileyo ukuba zixhomekeke mazimelwe ziindidi ezinkulu ezixhaphazekayo
								lintaka	Ukwakheka, ubuninzi nokuchuma komggeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komggeku wee-Avifauna	Gcina umgqeku wokuqala wamaqela eentaka ezikhoyo echwebeni,; amanani eentaka kulo naliphi na iqela, ngaphandle kweendidi ezandayo ngokwendalo, njengamadada aseYiphutha, makangehli ngaphaya kombindi osisiseko (athelekelelwa ziinkcukhacha zolwazi ezidlulileyo okanye uphando lokuqala) amanani eendidi okanye eentaka ezibalelwa amahlobo amathathu okanye izihlandlo zasebusika.

Table 3: Resource Quality Objectives for ESTUARIES in priority Resource Units in the Integrated Unit of Analysis G15 Coastal

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso		I-RQO yobaliso	I-RQO yobalo												
G15 Coastal												linyanga	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Annual
	II											MMR/MAR (% Nat)	80.3	79.1	74.5	73.4	71.3	80.5	82.1	82.7	85.9	84.3	83.7	81.9	79.3
		K30A																							
			G15-E21																						
				Maalgate Estuary																					
					gxi6	B	Umthamo	Amanzi	MMR/MAR (% Nat)		Gcina inkqubo esondeleyo kweyangoku kangangoko (inkqubo ezincinci zifuna amanzi amaninzi)													
							Ikwaliti	Izondlo	DIN		Ubukho bezondlo ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae	Amanzi angena echwebeni nasemlanjeni ewonke: DIN <100µg/ℓ												
									DIP			Amanzi angena echwebeni nasemlanjeni ewonke: DIP <20 µg/ℓ												
								Ubukho beetyuwa	Ubukho beetyuwa		Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yezilwanyanaezingenamat hambo, yeemacrophytes neemicroalgae	I-avareji yobukho beetyuwa >10												
								Utshintshatshintsho	i-oksijini enyibilikileyo		Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	<10 NTU ngexesha lomnyaka leemvula ezisezantsi												
									I-Enterococci			>5 mg/l												
								Iipathojini	I-Escherichia coli		Ubukho bepathojini ezibangelwa ngamanzi mabugciniwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90th percentile)												
									Escherichia coli			≤500 E. coli/100 ml (90th percentile)												
							Indawo yokuphila	Utshintshatshintsho emanzini	Ubume bomlomo		Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Ubume bomlomo ovaliweyo mabungandi nge- >10% kumgangatho osekiweyo												
								Iintlenge	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi		Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshii nge- >30% kumgangatho osekiweyo.a												

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
							IBiota	IMicroalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ubunzima bendalo bephytoplankton/benthic microalgae esezantsi/ephakathi : iphytoplankton mayingabethi ngaphaya ko- 3.5 µg/ℓ (kumbindi), iphytoplankton mayingabethi ngaphaya ko 20 µg/ℓ futhi/okanye ukushinyana kwendlwana makungabethi ngaphaya kwe 10 000 cells/ml (once-off); ibenthic microalgae mayingabethi ngaphaya kwe 23 mg/m^2 (kumbindi); thintela ukukhula kweentyatyambo zephytoplankton.
								liMacrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina usasazo lweendawo zokuphila ze macrophyte; thintela ukunwenwema kweengcongolo emanzini avulekileyo ; Thintela ukwanda kwezondlo neentyatyambo zemacroalgal; Thintela ukunwenwa kwemithi etshabalalisayo (njengomnga) kumda oselunxwemeni .
								lziIwanyana ezingenamathambo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna.	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Seka ubukho/ukungabikho kweeproni zesanti i-*Callichirus kraussi* kunxweme lwesanti kwichweba elisezantsi, on sand banks in lower estuary; seka ubukho/ukungabikho kwee- copepod *Pseudodiaptomus hessei okanye ii*-congeneric zechweba kwi- zooplankton yechweba; imigqeku yezindidi mazingaguquki kwi-avareji yomgangatho osekiweyo (njengoko sele kuqingqiwe kumatyelelo amathathu okuqala) ngaphaya kwe- 30%.
								lintlanzi	Ukwakheka, ubuninzi nokuchuma komggeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	Gcina imigqeku yeentlanzi equka iindidi eziphila kumachweba ubuncikane (Ibakala I), iindidi zolwandle ezi-2 ezixhomekeke kumachweba omlambo (Amabakala IIa & IIb) kunye nodidi olu-1 lwecatadromous yomthonyama (Ibakala V). Abahlali basemachweben mabanyakazele ngokwamanani, kodwa ke loo mlinganiselo wodidi lolwandle oluxhomekeke kumachweme (oko kuxhomekeke kubunizi) mawungawi ngaphantsi kwe- 2%.

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo		
G15 Coastal	II	K30B	G15-E22	Gwaing Estuary	gxi7	B	Umthamo lkwaliti	lintaka	Ukwakheka, ubuninzi nokuchuma komggeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina imiggeku yee yokuqala yeentaka ezikhoyo echwebeni; inani leentaka nakweliphi na iqela ezandayo enginggini ezifana namadada aseYiphutha, malingehli ngaphantsi komgangatho osekiweyo osembindini (oqingqwe ziinkcukhaca zolwazi zexesha elidlulileyo okanye uphando lokuqala) inani leendidi neentaka ezibaliweyo kanganeenyanga ezintathu ezilandelelanayo	linyanga	Annual
												MMR/MAR (% Nat)	85.0
								Amanzi	MMR/MAR (% Nat)	Gcina inkqubo esondeleyo kweyangoku kangangoko (inkqubo ezincinci zifuna amanzi amaninzi)		Oct	84.9
												Nov	84.3
												Dec	82.8
												Jan	83.0
												Feb	81.6
												Mar	84.8
												Apr	86.3
												May	87.0
												Jun	89.1
												Jul	87.8
												Aug	86.8
												Sep	86.1
								Izondlo	DIN	Ubukho bezondlo ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae	Amanzi angena echwebeni naemlanjeni ewonke : DIN <100µg/ℓ		
									DIP	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yezilwanyanaezingenamat hambo, yeemacrophytes neemicroalgae	Amanzi angena echwebeni nasemlanjeni ewonke: DIP <20 µg/ℓ		
								Ubukho beetyuwa	Ubukho beetyuwa		I-avareji yobukho beetyuwa >10		
								Utshintshatshinti shano lwamanzi	-oksijini enyibilikileyo	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	<10 NTU ngexesha lomnyaka elineemvula eziphantsi		
									I-Enterococci		>5 mg/l		
								Iipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90th percentile)		
									Escherichia coli		≤500 E. coli/100 ml (90th percentile)		
							Indawo yokuphila	Utshintshatshint shano emanzini	Ubume bomlomo	Gcina usondelelwano nendalo yasemanzini.	Ubume bomlomo ovaliweyo mabungandi nge- >10% kumgangatho osekiweyo		

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Iintlenge	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshii nge->30% kumgangatho osekiweyo.a
							I-Biota	IMicroalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ubunzima bendalo bephytoplankton/benthic microalgae esezantsi/ephakathi : iphytoplankton mayingabethi ngaphaya ko- 3.5 µg/ℓ (kumbindi), iphytoplankton mayingabethi ngaphaya ko 20 µg/ℓ futhi/okanye ukushinyana kwendlwana makungabethi ngaphaya kwe 10 000 cells/ml (once-off); ibenthic microalgae mayingabethi ngaphaya kwe 23 mg/m^2 (kumbindi); thintela ukukhula kweentyatyambo zephytoplankton.
								IMacrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina usasazo lweendawo zokuphila ze macrophyte; thintela ukunwenwema kweengcongolo emanzini avulekileyo ; Thintela ukwanda kwezondlo neentyatyambo zemacroalgal; Thintela ukunwenwa kwemithi etshabalalisayo (njengomnga) kumda oselunxwemeni.
								Izilwayana ezingenamathambo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna.	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Seka ubukho/ukungabikho kweeproni zesanti i-*Callichirus kraussi* kunxweme lwesanti kwichweba elisezantsi, on sand banks in lower estuary; seka ubukho/ukungabikho kwee- copepod *Pseudodiaptomus hessei okanye ii-*congeneric zechweba kwi- zooplankton yechweba; imigqeku yezi ndidi mazingaguquki kwi-avareji yomgangatho osekiweyo (njengoko sele kuqingqiwe kumatyelelo amathathu okuqala) ngaphaya kwe- 30%

| I-RQO yobalo | | |

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
							Indawo yokuphila	Utshintshatshintsho emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Umlomo wechweba uhlala uvulekile
									Uguquguquko lwamaza		Ukulwatyuza kwamaza ubuncikane kufuphi nomlomo xa emanzi emancinci (ehlotyeni) makungaguquki ngo- >10% kumgangatho osekiweyo.
								Iintlenge	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ikhozo lentlenge nezinto zendalo mazingaguquki ngo- >30% kumgangatho osekiweyo
							IBiota	IMicroalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ubunzima bendalo bephytoplankton/benthic microalgae esezantsi/ephakathi : iphytoplankton mayingabethi ngaphaya ko- 3.5 µg/ℓ (kumbindi), iphytoplankton mayingabethi ngaphaya ko 20 µg/ℓ futhi/okanye ukushinyana kwendlwana makungabethi ngaphaya kwe 10 000 cells/ml (once-off); ibenthic microalgae mayingabethi ngaphaya kwe 23 mg/m^2 (kumbindi); thintela ukukhula kweentyatyambo zephytoplankton.
								iiMacrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina usasazo lweendawo zokuphila ze macrophyte; thintela ukunwenwema kweengcongolo emanzini avulekileyo ; Thintela ukwanda kwezondlo neentyatyambo zemacroalgal; Thintela ukunwenwa kwemithi etshabalalisayo (njengomnga) kumda oselunxwemeni.

I-IUA	Ihlelo	Ummandla wobonisel o	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo		ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo		
G15 Coastal	II	K30D	G15-E24	Wilderness Estuary	6xi9	B	Umthamo	Amanzi	Izilwanyana ezingenamatha mbo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofaun a.	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Seka ubukho/ukungabikho kweeproni zesanti i-*Callichirus kraussi* kunxweme lwesanti kwichweba elisezantsi, on sand banks in lower estuary; seka ubukho/ukungabikho kwee- copepod *Pseudodiaptomus hessei okanye ii*-congeneric zechweba kwi- zooplankton yechweba; imigqeku yezi ndidi mazingaguquki kwi-avareji yomgangatho osekiweyo (njengoko sele kuqinggiwe kumatyelelo amathathu okuqala) ngaphaya kwe- 30%		
									lintlanzi	Ukwakheka, ubuninzi nokuchuma komggeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	Gcina imigqeku yeentlanzi equka iindidi eziphila kumachweba ubuncikane (Ibakala I), iindidi zolwandle ezi-2 ezixhomekeke kumachweba omlambo (Amabakala IIa & IIb) kunye nodidi olu-1 lwecatadromous yomthonyama (Ibakala V). Abahlali basemachwebeni mabanyakazele ngokwamanani, kodwa ke loo mlinganiselo wodidi lolwandle oluxhomekeke kumachweme (oko kuxhomekeke kubunizi) mawungawi ngaphantsi kwe- 2%.		
									lintaka	Ukwakheka, ubuninzi nokuchuma komggeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina imigqeku yee yokuqala yeentaka ezikhoyo echwebeni; inani leentaka nakweliphi na iqela ezandayo enginggini ezifana namadada aseYiphutha, malingehli ngaphantsi komgangatho osekiweyo osembindini (oqingqwe ziinkcukhaca zolwazi zexesha elidlulileyo okanye uphando lokuqala) inani leendidi neentaka ezibaliweyo kangangeenyanga ezintathu ezilandelelanayo		
													linyanga	Oct	89.7
														Nov	90.9
														Dec	87.2
														Jan	84.5
														Feb	83.5
														Mar	85.5
														Apr	86.9
														May	90.8
														Jun	88.7
														Jul	88.1
														Aug	93.1
														Sep	92.8
														Annual	88.6
							Ikwaliti	Izondlo		DIN	Ubukho bezondlo ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae	Amanzi angena emlanjeni : NOx-N angadluli ku- -100 µg/ℓ kwiinyanga ezi- 2 ezilandelelanayo, NH_3-N angadluli ku- 20 µg/ℓ kwiinyanga ezi- 2 ezilandelelanayo; Ichweba (ngaphandle xa amanzi enyuka ngeliwa okanye ngeempuphuma): I-avareji NOx-N angadluli ku-100 µg/ℓ, namnye umlinganiselo omakadlule ku-150 µg/ℓ, i-avareji NH_3-N angadluli ku-20 µg/ℓ ngethuba lophando, namnye umlinganiselo omakadlule ku 100 µg/ℓ		

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
							Indawo yokuphila		DIP		Amanzi angena emlanjeni: PO_4-P angadluli ku- 20 µg/ℓ kwiinyanga ezi- 2 ezilandelelanayo Ichweba (ngaphandle xa amanzi enyuka ngeliwa okanye ngeempuphuma): i-avareji PO_4-P not to exceed 20 µg/ℓ ngethuba lophando, namnye umlinganiselo omakadlule ku -50 µg/ℓ
								Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yezilwanyanaezingenamat hambo, yeemacrophytes neemicroalgae	Ubukho beetyuwa mabungadluli ku-0 kwintloko yechweba, iavareji yobukho beetyuwa kuMda C < 20, iavareji yobukho beetyuwa ku-11 km kumphezulu ukusuka echwebeni > 20 ngaphezulu kwelenyanga ezintathu zonyka
								Utshintshatshintsho lwamanzi	Ubukho bodaka	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	Amanzi angena echwebeni nasemlanjeni ewonke: DO >5 mg/ℓ
									i-oksijini enyibilikileyo		>5 mg/l ngalo lonke ixesha
									ipH		Amanzi angena emlanjeni 6.0 < pH > 7.0 (Touw), 7.0 < pH > 8.0 (Duiwe), kwichweba : 6.0 < pH > 8.5, Lakes: 7.0 < pH > 8.5
								Iipathojini	i-Enterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90^{th} percentile)
									i-Escherichia coli		≤500 E. coli/100 ml (90^{th} percentile)
								Utshintshatshintsho emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Ubume bomlomo ovaliweyo mabungandi nge- >10% kumgangatho osekiweyo
								Iintlenge	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshii nge- >30% kumgangatho osekiweyo.a

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
							IBiota	IMicroalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ubunzima bendalo bephytoplankton/benthic microalgae esezantsi/ephakathi : iphytoplankton mayingabethi ngaphaya ko- 3.5 µg/ℓ (kumbindi), iphytoplankton mayingabethi ngaphaya ko 20 µg/ℓ futhi/okanye ukushinyana kwendlwana makungabethi ngaphaya kwe 10 000 cells/ml (once-off); ibenthic microalgae mayingabethi ngaphaya kwe 23 mg/m^2 (kumbindi); thintela ukukhula kweentyatyambo zephytoplankton.
								IiMacrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina ummandla wangoku wango (2014) ugqnywe ziindawo zokuphila zemacrophyte; gcina usasazeko lweendawo zokuphila zemacrophyte e-ethe-ethe (umzekelo umgxobhozo weetyuwa, iimacrophytes) ezintywiliselweyo; kungabikho zityalo zitshabalalisayo; thintela ukunwenwela kweengcongolo emanzini.
								Izilwanyana ezingenamathambo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna.	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Gcina ubukho beeproni zesanti iiCallichirus kraussi kumanxweme esanti kumazantsi echweba lomlambo iTouw; gcina imigqeku echumileyo ye - benthic amphipod Grandidierella lignorum kwichibi nechweba xa lilonke

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
G15 Coastal	II	K40D	G15-E25	Swartvlei Estuary	gxi10	B	Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina inkqubo yokuhamba kwamanzi ukuze kudaleke indawo yokuhlala iintaka, iintlanzi, iimacrophytes,ii microalgae nomthamo wamanzi.	Amanzi angenayo: i-NOx-N mayingadluli kwi -50 µg/ℓ kwiinyanga ezimbini ezilandelelanayo, i- NH3-N mayingadluli kwi -50 µg/ℓ kwiinyanga ezimbini; Ichweba: I-avareji NOx-N <50 µg/ℓ, akukho namnye umlinganiselo >100 µg/ℓ, I-avareji NH3-N <10 µg/ℓ, akukho namnye umlinganiselo >100 µg/ℓ, akukho namnye umlinganiselo >100 µg/ℓ, I-avareji NH3-N <20 µg/ℓ
										linyanga	Annual 86.6
										MMR/MAR (% Nat)	Sep 90.2 Aug 90.9 Jul 88.4 Jun 85.9 May 88.5 Apr 86.8 Mar 86.8 Feb 81.3 Jan 78.7 Dec 80.9 Nov 87.6 Oct 89.5
							Ikwaliti	Izondlo	DIN	Ubukho bezondlo ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae	

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
									DIP		Amanzi angenayo, i-PO_4-P mayingadluli kwi 10 µg/ℓ kwiinyanga ezimbini ezilandelelanayo; Ichweba: I-avareji PO_4-P <10 µg/ℓ, akukho nanye isampulu >50 µg/ℓ ; Ichibi: i-avareji PO_4-P <20 µg/ℓ
								Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yezilwanyanaezingenamathambo, yeemacrophytes neemicroalgae	Ichweba likwimo yokuvaleka : i-avareji yobukho beetyuwa <12; i-avareji yobukho beetyuwa kumachibi ngu-+2 ukususela kuleyo yesiseko (yango2013)
								Utshintshatshintsho lwamanzi	Ubukho bodaka	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	I-avareji <5 NTU (amanzi ahamba kancinci) okokoko
									i-oksijini enyibilikileyo		>5 mg/l okokoko
									ipH		Amanzi angena emlanjeni : 6.0 < pH > 7.0 (Touw), 7.0 < pH > 8.0 (Duiwe), Ichweba : 6.0 < pH > 8.5, Amachibi 7.0 < pH > 8.5
								Iipathojini	iEnterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90^{th} percentile)
									iEscherichia coli		≤500 E. coli/100 ml (90^{th} percentile)
							Indawo yokuphila	Utshintshatshintsho emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Ubume bomlomo ovaliweyo mabungandi nge- >10% kumgangatho osekiweyo
								Iintlenge	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshii nge- >30% kumgangatho osekiweyo.a

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
							IBiota	IMicroalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ubunzima bendalo bephytoplankton/benthic microalgae esezantsi/ephakathi : iphytoplankton mayingabethi ngaphaya ko- 3.5 µg/ℓ (kumbindi), iphytoplankton mayingabethi ngaphaya ko 20 µg/ℓ futhi/okanye ukushinyana kwendlwana makungabethi ngaphaya kwe 10 000 cells/ml (once-off); ibenthic microalgae mayingabethi ngaphaya kwe 23 mg/m^2 (kumbindi); thintela ukukhula kweentyatyambo zephytoplankton.
								IiMacrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina ummandla wangoku (ngo 2014) ugqunywe ziindawo zokuphila ze-macrophyte: gcina ukusasazeka kweendawo zokuphila ezi-ethe-ethe (umzekelo umgxobhozo weetyuwa wamaza amakhulu, iimacrophytes ezintywiliselweyo); makungabikho zityalo zitshabalalisayo. Thintela ukunwenwela kweengcongolo emanzini avulekileyo.
								Izilwanyana ezingenamathambo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna.	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Gcina ubukho beeproni zesanti ii -Callichirus kraussi kumanxweme esanti kwichweba elisezantsi iTouw; Gcina imigqeku echumileyo ye -benthic amphipod Grandidierella lignorum kuwo onke amachibi namachweba

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo		ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo		
G15 Coastal	II	K40E	G15-E26	Goukamma Estuary	gxi11	A/B	Umthamo	Amanzi	lintlanzi	Ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	Iinggokelela zeentlanzi maziquke amahlelo ezo zinxulumene namachweba ama -5 ngokwemilinganiselo efanayo (ukwahluka nobuninzi) ukuya kutsho kwezo zingaphantsi kwale referensi (jonga ingxelo ka2015 ye EWR); ngokobalo, iingqokelela mayiquke: imigqeku yasechwebeni (u-50-80% yobuninzi bubonke), ezikhula elwandle nasechwebeni lomlambo (10-20%), I-IIa obligate ezixhomekeke echwebeni (10-20%),I- IIb yeendidi ezinxulumene namachweba omlambo (5-15%), IIc marine opportunists (20-80%), I-III ezibhadulayo zolwandle (hayi ngaphezu kwe - 5%), IV iintlantsi zomthonyama (1-5%), V iindidi ze-catadromous (1-5%); iindidi zehlelo la maziquke imigqeku eqhubayo zeendidi ezi-4 ubuncikane; ezixhomekekileyo zehlelo lla mazibe nabameli neendidi ezininzi ezixhatshazwayo.		
									lintaka	Ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Inkqubo yechibi emachwebeni mayibe neentlobo ngeentlobo zemigqeku ye -avifaunal equka abameli bawo onke amaqela oqobo, nagcina imigqeku egcinelwe isimo seRamsar yinkqubo leyo; amanani eentaka zasemanzini kwinkqubo leyo iyonke, ngaphandle kwezo ziya ngokubakho ezingingqini njengamadada aseYiphutha – makangehli ngaphaya kweendidi ezingama- 40 okanye ngaphantsi kweentaka ezingama-1500 kwiminyaka emithathu elandelelanayo.		

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
							Indawo yokuphila	Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yeziwanyanaezingenamat hambo, yeemacrophytes neemicroalgae	
								Utshintshatshintsho lwamanzi	i-oksijini enyibilikileyo	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	Ubukho bodaka >10 NTU kumanzi amancinci
									I-ph		>5 mg/L in estuary.
								lipathojini	I-Enterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90^{th} percentile)
									Escherichia coli		≤500 E. coli/100 ml (90^{th} percentile)
							IBiota	Utshintshatshintsho emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Umlomo wechweba uhlale uvuliwe
									Uguguguquko lwamaza		Ukulwatyuza kwamaza ubuncikane kufuphi nomlomo xa emanzi emancinci (ehlotyeni) makungaguquki ngo- >10% kumgangatho osekiweyo.
								lintlenge	limpawu zeentlenge, ubume/ubukhulu bejelo	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ikhozo lentlenge nezinto zendalo mazingaguquki ngo- >30% kumgangatho osekiweyo
									I-Microalgae	Ubunzima bendalo nokwakheka komgqeku weephytoplankton neebenthic microalgae	Gcina ukwakheka nokuchuma komgqeku weephytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ubunzima bendalo bephytoplankton/benthic microalgae esezantsi/ephakathi : iphytoplankton mayingabethi ngaphaya ko- 10 µg/ℓ (kumbindi), iphytoplankton mayingabethi ngaphaya ko 20 µg/ℓ futhi/okanye ukushinyana kwendlwana makungabethi ngaphaya kwe 10 000 cells/ml (once-off); ibenthic microalgae mayingabethi ngaphaya kwe > 11 mg/m^2 (kumbindi); thintela ukukhula kweentyatyambo zephytoplankton.

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								ii-Macrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina ukusasazeka kweendawo zokuphila ze macrophyte; Thintela ukunwenwa kwemithi etshabalalisayo (umzekelo umnga) kumda wonxweme .
								Izilwanyana ezingenamathambo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna.	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Seka ubukho/ukungabikho kweeproni zesanti i-*Callichirus kraussi* kunxweme lwesanti kwichweba elisezantsi, on sand banks in lower estuary; seka ubukho/ukungabikho kwee- copepod *Pseudodiaptomus hessei okanye ii*-congeneric zechweba kwi- zooplankton yechweba; imigqeku yezi ndidi mazingaguquki kwi-avareji yomgangatho osekiweyo (njengoko sele kuqingqiwe kumatyelelo amathathu okuqala) ngaphaya kwe- 30%
								Iintlanzi	Ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	Imigqeku yeentlanzi mayiquke amahlelo eembutho zechweba ezi- 5 ngokwamanqanaba afanayo (ngokwahluka nobuninzi) kulawo kubhekiswa kuwo (kwingxelo ye –EWR ka2015); ngokobalo, umgqeku mawuquke: iintlanzi zechweba (eziyi- 50-80% yobuninzi bazo xa zizonke, ezikhula elwandle nasechwebeni Ib (i-10-20%),ezinyanzelekileyo ukuba zixhomekeke elunxwemeni (i-10-20%), iindidi IIb ezidityaniswa namachweba (i-5-15%), ii-IIc ezilangazelela ukuphila elwandle (i-20-80%), i-III yezibhadubhadu zaselwandle (ezingekho ngaphaya kwe 5%), I-IV zeentlanzi zomthonyama (i-1-5%), I-V zeendidi zecatadromous (i-1-5%); iindidi zehlelo - Ia maziquke imigqeku efudukayo eziziindidi ezi-4 ubuncikane; Ihlelo - IIa ezinyanzelekileyo ukuba zixhomekeke mazimelwe ziindidi ezinkulu ezixhaphazekayo

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
G15 Coastal	II	K50B	G15-E27	Knysna Estuary	gxi12	B	Ikwaliti	lintaka	Ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina umgqeku wokuqala wamaqela eentaka ezikhoyo echwebeni,; amanani eentaka kulo naliphi na iqela, ngaphandle kweendidi ezandayo ngokwendalo, njengamadada aseYiphutha, makangehli ngaphaya kombindi osisiseko (athelekelelwa ziinkcukhacha zolwazi ezidlulileyo okanye uphando lokuqala) amanani eendidi okanye eentaka ezibalelwa amahlobo amathathu okanye izihlandlo zasebusika.
							Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina kangangoko inkqubo yamanzi ikufuphi kweyendalo	Months / MMR/MAR (% Nat): Oct 87.5; Nov 87.6; Dec 82.7; Jan 83.9; Feb 86.1; Mar 82.5; Apr 84.7; May 87.1; Jun 87.5; Jul 86.8; Aug 88.3; Sep 90.5; Annual 86.8
								izondlo	DIN	Ubukho bezondlo	DIN not >100 µg/L once-off.
									DIP	ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae	DIP not > 20 µg/L once-off.
								Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yeziliwanyanaezingenamat hambo, yeemacrophytes neemicroalgae	
								Utshintshatshintsho lwamanzi	i-oksijini enyibilikileyo	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	Ubukho bodaka >10 NTUkumanzi amancinci
									I-Enterococci		>5 mg/L in estuary.
								lipathojini	I-Escherichia coli	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90^{th} percentile)
											≤500 E. coli/100 ml (90^{th} percentile)
							Indawo yokuphila	Utshintshatshintsho emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele edla ngokufumaneka echwebeni lomlambo.	Umlomo wechweba uhlale uvuliwe
									Utshintshatshintshi ntsho lwamaza		Ukulwatyuza kwamaza ubuncikane kufuphi nomlomo xa emanzi emancinci (ehlotyeni) makungaguquki ngo- >10% kumgangatho osekiweyo.

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Iintlenge	Iimpawu zeentlenge, ubume/ubukhulu bejelo	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ikhozo lentlenge nezinto zendalo mazingaguquki ngo- >30% kumgangatho osekiweyo
							I-Biota	ii-Microalgae	Ubunzima bendalo nokwakheka komgqeku wee phytoplankton neebenthic microalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ubunzima bendalo bephytoplankton/benthic microalgae esezantsi/ephakathi : iphytoplankton mayingabethi ngaphaya ko- 3.5 µg/ℓ (kumbindi), iphytoplankton mayingabethi ngaphaya ko 20 µg/ℓ futhi/okanye ukushinyana kwendlwana makungabethi ngaphaya kwe 10 000 cells/ml (once-off); ibenthic microalgae mayingabethi ngaphaya kwe 23 mg/m^2 (kumbindi); thintela ukukhula kweentyatyambo zephytoplankton.
								ii-Macrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina ummandla wangoku wango (2014) ugqnywe ziindawo zokuphila zemacrophyte; gcina usasazeko lweendawo zokuphila zemacrophyte e-ethe-ethe (umzekelo umgxobhozo weetyuwa, iimacrophytes) ezintywiliselweyo; kungabikho zityalo zitshabalalisayo; thintela ukunwenwela kweengcongolo emanzini.
								Izilwanyana ezingenamathambo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna.	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Gcina imigqeku echumileyo yeeproni zodaka –ii *Upogebia africana* – kumanxweme odaka kumbindi wochweme (uMda A no B); ukushinyana kweeproni zodaka mabungajiki kwi-avareji yamanqanaba omgangatho ngaphaya kwe 25% kwixesha ngalinye lomnyaka; gcina imigqeku yezilwanyana ezingemnamathambo ezinxulunyaniswa nomda i REI kumphezulu wochweme (izooplankton nebenthos); iindidi ezongameleyo kuloo mda (izooplankton nebenthos) mazingajiki kumanqanaba omgangatho ngaphaya kwe -40% kwixesha ngalinye lomnyaka .

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
G15 Coastal	II	K60G	G15-E28	Noetsie Estuary	gxi13	B		iintlanzi	Ukwakheka, ubuninzi nokuchuma komggeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komggeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	linggokelela zeentlanzi maziquke amahlelo ezo zinxulumene namachweba ama -5 ngokwemilinganiselo efanayo (ukwahluka nobuninzi) ukuya kutsho kwezo zingaphantsi kwale referensi (jonga ingxelo ka2015 ye EWR); ngokobalo, ingqokelela mayiquke: imigqeku yasechwebeni (u-50-80% yobuninzi bubonke), ezikhula elwandle nasechwebeni lomlambo (10-20%), I-IIa obligate ezixhomekeke echwebeni (10-20%),I- IIb yeendidi ezinxulumene namachweba omlambo (5-15%), IIc marine opportunists (20-80%), I-III ezibhadulayo zolwandle (hayi ngaphezu kwe - 5%), IV iintlantsi zomthonyama (1-5%), V iindidi ze-catadromous (1-5%); iindidi zehlelo la maziquke imigqeku eqhubayo zeendidi ezi-4 ubuncikane; ezixhomekekileyo zehlelo lla mazibe nabameli neendidi ezininzi ezixhatshazwayo.
								iintaka	Ukwakheka, ubuninzi nokuchuma komggeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komggeku wee-Avifauna	Ichweba malibe nemigqeku ye- avifaunal eyahlukayo equka abameli bawo onke amaqela angundoqo emizobo; imigxobhozo yeetyuwa /imiwonyo kwithafa leempuphuma mayichume ngempilo yeentaka. Imimandla esebenzisana namaza mayibe nemigqeku eshinyeneyo neyahlukayo yamangabangaba iamancinane namakhulu; inani leentaka ezininzi zasemanzini ezigcwalise yonke le ndawo malingehli ngaphantsi kweendidi ezingama-30 okanye ngaphantsi kweentaka ezingama-250 kwizihlandlo ezintathu ezilandelelanayo ; inani leentaka ezisechwebeni elisezantsi malingehli ngaphantsi kweendidi ezili- 10 okanye iintaka ezingama- 50 (ngaphandle koothekwane namangabangaba kwizihlandlo ezintathu ezilandelelanayo .

	Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina inkqubo yamanzi (inkqubp encinci ifuna awona manzi maninzi	iinyanga	
					Oct	93.5
					Nov	93.4
					Dec	90.7
					Jan	87.1
					Feb	85.5
					Mar	89.8
					Apr	92.1
					May	94.0
					Jun	93.0
					Jul	92.8
					Aug	94.3
					Sep	94.3
	Ikwaliti	Izondlo	DIN	Ubukho bezondlo	Annual	92.5

DIN not >100 µg/L once-off.

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
									DIP	ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae	DIP not > 20 µg/L once-off.
								Ubukho beetyuwa	Ubukho bodaka	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yezilwanyanaezingenamathambo, yeemacrophytes neemicroalgae	10 < ubukho beetyuwa <40
								Utshintshatshintsho lwamanzi	Turbidity	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	>10 NTU kumanzi amancinci
									Dissolved oxygen		>5 mg/L echwebeni .
								Iipathojini	Enterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90th percentile)
									Escherichia coli		≤500 E. coli/100 ml (90th percentile)
							Indawp yokuphila	Utshintshatshintsho emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Ubume bomlomo ovaliweyo mabungandi nge- >10% kumgangatho osekiweyo
								Iintlenge	Iimpawu zeentlenge, ubume/ubukhulu bejelo	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshii nge- >30% kumgangatho osekiweyo.a
							IBiota	IiMicroalgae	Ubunzima bendalo nokwakheka komgqeku wee phytoplankton neebenthic microalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ubunzima bendalo bephytoplankton/benthic microalgae esembindini: iphytoplankton hayi u- > 1.0 µg/L (umbindi)., ibenthic microalgae hayi u- > 11 mg/m^2 (umbindi); iPhytoplankton hayi u- > 20 µg/L nokushinyana kweendlwana hayi u- >10 000 cells/ml (once-off); Thintela ukukhula kweentyatyambo zephytoplankton .

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								ii-Macrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina usasazo lweendawo zokuphila ze macrophyte; thintela ukunwenwema kweengcongolo emanzini avulekileyo ; Thintela ukwanda kwezondlo neentyatyambo zemacroalgal; Thintela ukunwenwa kwemithi etshabalalisayo (njengomnga) kumda oselunxwemeni.
								Izilwanyana ezingenamathambo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna.	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Seka ubukho/ukungabikho kweeproni zesanti i-*Callichirus kraussi* kunxweme lwesanti kwichweba elisezantsi, on sand banks in lower estuary; seka ubukho/ukungabikho kwee- copepod *Pseudodiaptomus hessei okanye ii*-congeneric zechweba kwi- zooplankton yechweba; imigqeku yezi ndidi mazingaguquki kwi-avareji yomgangatho osekiweyo (njengoko sele kuqingqiwe kumatyelelo amathathu okuqala) ngaphaya kwe- 30%
								Iintlanzi	Ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	Iingqokelela zeentlanzi maziquke amahlelo ezo zinxulumene namachweba ama -5 ngokwemilinganiselo efanayo (ukwahluka nobuninzi) ukuya kutsho kwezo zingaphantsi kwale referensi (jonga ingxelo ka2015 ye EWR); ngokobalo, ingqokelela mayiquke: imigqeku yasechwebeni (u-50-80% yobuninzi bubonke), ezikhula elwandle nasechwebeni lomlambo (10-20%), I-IIa obligate ezixhomekeke echwebeni (10-20%),I- IIb yeendidi ezinxulumene namachweba omlambo (5-15%), IIc marine opportunists (20-80%), i-III ezibhadulayo zolwandle (hayi ngaphezu kwe - 5%), IV iintlanzi zomthonyama (1-5%), V iindidi ze-catadromous (1-5%); iindidi zehlelo Ia maziquke imigqeku eqhubayo zeendidi ezi-4 ubuncikane; ezixhomekekileyo zehlelo IIa mazibe nabameli neendidi ezininzi ezixhatshazwayo.

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
G15 Coastal	II	K60G	G15-E29	Piesang Estuary	gxi14	C	Ikwaliti	lintaka	Ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Ichweba malibe nemigqeku ye- avifaunal eyahlukayo equka abameli bawo onke amaqela angundoqo emizobo (jonga ingxelo ka2015 yeEWR t),; imiqhagi yoothekwane mayibonwe rhoqo echwebeni; ngaphandle nje kwamangabangaba, oothekwane neendidi ezandayo ngokweengingqi ezifana namadada aseYiphutha, ichweba malixhase iintaka ezingaphezu kwama- 200; iintaka ezininzi ngaphandle kwamangabangaba, oothekwane neendidi ezandayo ngokweengingqi mazingabethi ngaphantsi kwe- 120 kwizihlandlo ezintathu ezilandelelanayo; iindidi ezininzi zeentaka zasemanzini mazingabethi ngaphantsi kwe- 15 kwizihlandlo ezintathu ezilandelelanayo.
							Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina amanzi kumgangatho wangoku ubuncikane	linyanga / MMR/MAR (% Nat): Oct 71.4, Nov 77.2, Dec 69.5, Jan 68.8, Feb 63.6, Mar 69.2, Apr 70.9, May 81.5, Jun 68.1, Jul 66.8, Aug 74.7, Sep 86.1, Annual 73.8
								Izondlo	DIN	Ubukho bezondlo ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae	DIN not >100 µg/L Kanye .
									DIP		DIP not > 20 µg/L Kanye
								Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yeziIwanyanaezingenamat hambo, yeemacrophytes neemicroalgae	5 < ubukho beetyuwa <40
								Utshintshatshintsho lwamanzi	Ubukho bodaka	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	>10 NTU kumanzi amancinci
									I-oksijini enyibilikileyo		>5 mg/Lechwebeni .
								lipathojini	I-Enterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90^{th} percentile)
									I-Escherichia coli		≤500 E. coli/100 ml (90^{th} percentile)

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
							Indawo yokuphila	Utshintshatshint shp emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Ubume bomlomo ovaliweyo mabungandi nge- >10% kumgangatho osekiweyo
								lintlenge	Iimpawu zeentlenge, ubume/ubukhu lu bejelo	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshii nge- >30% kumgangatho osekiweyo.a
							IBiota	li-Microalgae	Ubunzima bendalo nokwakheka komggeku wee phytoplankton neebenthic microalgae	Gcina ukwakheka nokuchuma komggeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ubunzima bendalo bephytoplankton/benthic microalgae esezantsi/ephakathi : iphytoplankton mayingabethi ngaphaya ko- 3.5 µg/ℓ (kumbindi), iphytoplankton mayingabethi ngaphaya ko 20 µg/ℓ futhi/okanye ukushinyana kwendlwana makungabethi ngaphaya kwe 10 000 cells/ml (once-off); ibenthic microalgae mayingabethi ngaphaya kwe 23 mg/m^2 (kumbindi); thintela ukukhula kweentyatyambo zephytoplankton.
								li-Macrophytes	ubungakanani, ukusasazeka nokuchuma kwemiggeku yeemacrophyt e	Gcina ubungakanani, ukusasazeka nokuchuma kwemiggeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina ukusasazeka kweendawo zokuphila ze macrophyte: lingcongolo neenqoboka okwangoku ziggume i-3.14 ha, iindawo zokuphila zeemacrophytes ezintywiliselweyo nomgcobhozo weetyuwa ukho; thintela ukunwenwa kwemithi etshabalalisayo (njenomnga) kumda wonxweme .
								Izilwanyana ezingenamatha mbo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofaun a.	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze- benthic macrofauna nezooplankton	Seka ubukho/ukungabikho kweeproni zesanti i-*Callichirus kraussi* kunxweme lwesanti kwichweba elisezantsi, on sand banks in lower estuary; seka ubukho/ukungabikho kwee- copepod *Pseudodiaptomus hessei okanye ii*-congeneric zechweba kwi- zooplankton yechweba; imigqeku yezi ndidi mazingaguquki kwi-avareji yomgangatho osekiweyo (njengoko sele kuqingqiwe kumatyelelo amathathu okuqala) ngaphaya kwe- 30%

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobolo
G15 Coastal	II	K60G	G15-E30	Keurbooms Estuary	gxi15	A/B	Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina inkqubo yamanzi ikufuphi kweyendalo ubuncikane	Imigqeku yeentlanzi mayiquke amahlelo eembutho zechweba ezi- 5 ngokwamanqananaba afanayo (ngokwahluka nobuninzi) kulawo kubhekiswa kuwo (kwingxelo ye –EWR ka2015); ngokobalo, umgqeku mawuquke: iintlanzi zechweba (eziyi- 50-80% yobuninzi bazo xa zizonke, ezikhula elwandle nasechwebeni Ib (i-10-20%),ezinyanzelekileyo ukuba zixhomekeke elunxwemeni (i-10-20%), iindidi IIb edityaniswa namachweba (i-5-15%), ii-IIc ezilangazelela ukuphila elwandle (i-20-80%), i-III yezibhadubhadu zaselwandle (ezingekho ngaphaya kwe 5%), I-IV zeentlanzi zomthonyama (i-1-5%), I-V zeendidi zecatadromous (i-1-5%); iindidi zehlelo - Ia maziquke imigqeku efudukayo eziziindidi ezi-4 ubuncikane; Ihlelo - IIa ezinyanzelekileyo ukuba zixhomekeke mazimelwe ziindidi ezinkulu ezixhaphazekayo

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yezilwanyanaezingenamathambo, yeemacrophytes neemicroalgae	I-avareji yobukho beetyuwa >10 kumphezulu wechweba eliseKeurbooms nakwiBitou Arm, I-avareji yobukho beetyuwa >20 ngakubude bendawo
								Utshintshatshintsho lwamanzi	Ubukho bodaka	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	>10 NTU kumanzi amancinci
									I-oksijini enyibilikileyo		>5 mg/L echwebeni
								Iipathojini	I-Enterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90th percentile)
									I-Escherichia coli		≤500 E. coli/100 ml (90th percentile)
							Indawo yokuphila	Utshintshatshintsho emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Umlomo wechweba uhlale uvuliwe
									Tidal variation	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ukulwatyuza kwamaza ubuncikane kufuphi nomlomo xa emanzi emancinci (ehlotyeni) makungaguquki ngo- >10% kumgangatho osekiweyo.
								Iintlenge	Iimpawu zeentlenge, ubume/ubukhulu bejelo	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ikhozo lentlenge nezinto zendalo mazingaguquki ngo- >30% kumgangatho osekiweyo

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
							IBiota	IiMicroalgae	Ubunzima bendalo nokwakheka komgqeku wee phytoplankton neebenthic microalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ubunzima bendalo bephytoplankton/benthic microalgae esezantsi/ephakathi : iphytoplankton mayingabethi ngaphaya ko- 3.5 µg/ℓ (kumbindi), iphytoplankton mayingabethi ngaphaya ko 20 µg/ℓ futhi/okanye ukushinyana kwendlwana makungabethi ngaphaya kwe 10 000 cells/ml (once-off); ibenthic microalgae mayingabethi ngaphaya kwe 23 mg/m^2 (kumbindi); thintela ukukhula kweentyatyambo zephytoplankton.
								IiMacrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina usasazeko lweendawo zokuphila ze macrophyte (umzekelo, umgxobhozo weetyuwa, iimacrophytes ezintywliselweyo, iingcongolo neenkqoboka kwiBitou Arms njengendawo yokuphila amahashe aselwandle *H. capensis*); vuselela imiwonyo yeBitou ngokususa amadonga anqamlezayo, iinduli ezimthabazi, neebhulorho ezindala; nciphisa ukwanda kwezityalo ezitshabalalisayo, ugcine nemfezeko yomda wonxweme
								Izilwanyana ezingenamathambo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna.	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Gcina ubunzima bendalo nokwahluka kwezilwandana ezingenamathambo zebenthic kwichibi lechweba elikumazantsi echweba; Gcina imigqeku yezilwanyana ezingenamathambo ezichumileyo ezinxulunyaniswa nomda weREI okumantla echweba (i-zooplankton ne-benthos).

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
G15 Coastal	II	K70A	G15-E31	Matjies Estuary	gxi16	A/B	Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina inkqubo yamanzi (inkqubo encinci ifuna amanzi amaninzi)	Iinyanga
											MMR/MAR (% Nat)
											Oct 73.9
											Nov 73.8
											Dec 69.1
											Jan 68.0
											Feb 65.0
											Mar 67.9
											Apr 67.9
											May 68.4
											Jun 65.8
											Jul 66.8
											Aug 71.6
											Sep 74.1
											Annual 70.5
							Ikwaliti	Izondlo	DIN	Ubukho bezondlo ezingezizo zendalo	DIN not >100 µg/L once-off.
									DIP	mabungayidluli iTPCs yee macrophytes neemicroalgae	DIP not >20 µg/L once-off.
								lintlanzi	Ukwakheka, ubuninzi nokuchuma komggeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komggeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	Imiggeku yeentlanzi mayiquke amahlelo eembutho zechweba ezi- 5 ngokwamanqanaba afanayo (ngokwahluka nobuninzi) kulawo kubhekiswa kuwo (kwingxelo ye –EWR ka2015); ngokobalo, umgqeku mawuquke: iintlanzi zechweba (eziyi- 50-80% yobuninzi bazo xa zizonke, ezikhula elwandle nasechwebeni Ib (i-10-20%),ezinyanzelekileyo ukuba zixhomekeke elunxwemeni (i-10-20%), iindidi IIb ezidityaniswa namachweba (i-5-15%), ii-IIc ezilangazelela ukuphila elwandle (i-20-80%), i-III yezibhadubhadu zaselwandle (ezingekho ngaphaya kwe 5%), I-IV zeentlanzi zomthonyama (i-1-5%), I-V zeendidi zecatadromous (i-1-5%); indidi zehlelo - la maziquke imiggeku efudukayo eziziindidi ezi-4 ubuncikane; Ihlelo - IIa ezinyanzelekileyo ukuba zixhomekeke mazimelwe ziindidi ezinkulu ezixhaphazekayo
								lintaka	Ukwakheka, ubuninzi nokuchuma komggeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komggeku wee-Avifauna	Gcina umgqeku wokuqala wamaqela eentaka ezikhoyo echwebeni,; amanani eentaka kulo naliphi na iqela, ngaphandle kweendidi ezandayo ingokwendalo, njengamadada aseYiphutha, makangehli ngaphaya kombindi osisiseko (athelekelelwa ziinkcukhacha zolwazi ezidlulileyo okanye uphando lokuqala) amanani eendidi okanye eentaka ezibalelwa amahlobo amathathu okanye izihlandlo zasebusika.

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yezilwanyanaezingenamat hambo, yeemacrophytes neemicroalgae	I-avareji yobukho beetyuwa > 20 ngaphezulu kwe-20% yexesha (elibonisa ukuncipha kwamanzi), I-avareji yobukho beetyuwa < 5 ngaphezulu kwe 20% yexesha (elibonisa uvalo olwandisiweyo).
								Utsintshatshintsho lwamanzi	Ubukho bodaka	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	>10 NTU kumanzi amancinci
									I-oksijini enyibilikileyo		>5 mg/L echwebeni.
								Iipathojini	I-Enterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90th percentile)
									I-Escherichia coli		≤500 E. coli/100 ml (90th percentile)
							Indawo yokuphila	Utshintshatshintsho emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Ubume bomlomo ovaliweyo mabungandi nge- >10% kumgangatho osekiweyo
								Iintlenge	Iimpawu zeentlenge, ubume/ubukhulu bejelo	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshii nge- >30% kumgangatho osekiweyo.a
							IBiota	IiMicroalgae	Ubunzima bendalo nokwakheka komgqeku wee phytoplankton neebenthic microalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ubunzima bendalo bephytoplankton/benthic microalgae esezantsi/ephakathi : iphytoplankton mayingabethi ngaphaya ko- 3.5 µg/ℓ (kumbindi), iphytoplankton mayingabethi ngaphaya ko 20 µg/ℓ futhi/okanye ukushinyana kwendlwana makungabethi ngaphaya kwe 10 000 cells/ml (once-off); ibenthic microalgae mayingabethi ngaphaya kwe 23 mg/m^2 (kumbindi); thintela ukukhula kweentyatyambo zephytoplankton.

I-IUA Ihlelo	Ummandla wobuniselo I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
G15 Coastal	K70A	G15-E32	gxi17	A	Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina inkqubo yamanzi (inkqubo encinci ifuna amanzi amaninzi)	Gcina usasazeko lweendawo zokuphila ze-macrophyte, thintela ukwanda kwezondlo okuya kukhokelela ekudubuleni kweemacroalgal, ulawule ukwanda kwezityalo ezitshabalalisayo kumda wonxweme.
II		Sout (Oos) Estuary			Ikwaliti	Izondlo	DIN	Ubukho bezondlo	DIN not >100 µg/L once-off.
						liMacrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	
						Izilwanyana ezingenamathambo l	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna.	Gcina ukwakheka, ubuninzi nokuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Seka ubukho/ukungabikho kweeproni zesanti i-*Callichirus kraussi* kunxweme lwesanti kwichweba elisezantsi, on sand banks in lower estuary; seka ubukho/ukungabikho kwee- copepod *Pseudodiaptomus hessei okanye ii*-congeneric zechweba kwi- zooplankton yechweba; imigqeku yezi ndidi mazingaguquki kwi-avareji yomgangatho osekiweyo (njengoko sele kuqingqiwe kumatyelelo amathathu okuqala) ngaphaya kwe- 30%.
						Iintlanzi	Ukwakheka, ubuninzi nokuchuma komggeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	Gcina imigqeku yeentlanzi equka iindidi eziphila kumachweba ubuncikane (Ibakala I), iindidi zolwandle ezi-2 ezixhomekeke kumachweba omlambo (Amabakala IIa & IIb) kunye nodidi olu-1 lwecatadromous yomthonyama (Ibakala V). Abahlali basemachwebeni mabanyakazele ngokwamanani, kodwa ke loo mlinganiselo wodidi lolwandle oluxhomekeke kumachweme (oko kuxhomekeke kubunizi) mawungawi ngaphantsi kwe- 2%.
						Iintaka	Ukwakheka, ubuninzi nokuchuma komggeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina umgqeku wokuqala wamaqela eentaka ezikhoyo echwebeni,; amanani eentaka kulo naliphi na iqela, ngaphandle kweendidi ezandayo ingokwendalo, njengamadada aseYiphutha, makangehli ngaphaya kombindi osisiseko (athelekelelwa ziinkcukhacha zolwazi ezidlulileyo okanye uphando lokuqala) amanani eendidi okanye eentaka ezibalelwa amahlobo amathathu okanye izihlandlo zasebusika.

linyanga	
MMR/MAR (% Nat)	Oct 86.7
	Nov 86.8
	Dec 86.0
	Jan 83.2
	Feb 81.7
	Mar 83.1
	Apr 84.2
	May 86.1
	Jun 85.6
	Jul 84.6
	Aug 85.8
	Sep 86.8
	Annual 85.6

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
									DIP	ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae	DIP not >20 µg/L once-off.
								Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yezilwanyanaezingenamathambo, yeemacrophytes neemicroalgae	I-avareji yobukho beetyuwa <10 kwintloko yechweba (iqondo le-avareji elindelekileyo 5 - 10 kwiindawo ezininzi)
								Utshintshatshintsho lwamanzi	Ubukho bodaka	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	>10 NTU kumanzi amancinci
									I-oksijini enyibilikileyo		>5 mg/L echwebeni .
								Iipathojini	I-Enterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90th percentile)
									I-Escherichia coli		≤500 E. coli/100 ml (90th percentile)
							Indawo yokuphila	Hydrodynamics	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.	Ubume bomlomo ovaliweyo mabungandi nge- >10% kumgangatho osekiweyo
								Iintlenge	Iimpawu zeentlenge, ubume/ubukhulu bejelo	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshii nge- >30% kumgangatho osekiweyo.a
							IBiota	ii-Microalgae	Ubunzima bendalo nokwakheka komgqeku wee phytoplankton neebenthic microalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ubunzima bendalo bephytoplankton/benthic microalgae esezantsi/ephakathi : iphytoplankton mayingabethi ngaphaya ko- 3.5 µg/ℓ (kumbindi), iphytoplankton mayingabethi ngaphaya ko 20 µg/ℓ futhi/okanye ukushinyana kwendlwana makungabethi ngaphaya kwe 10 000 cells/ml (once-off); ibenthic microalgae mayingabethi ngaphaya kwe 23 mg/m^2 (kumbindi); thintela ukukhula kweentyatyambo zephytoplankton.

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								ii-Macrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina usasazeko lweendawo zokuphila ze-macrophyte, thintela ukwanda kwezondlo okuya kukhokelela ekudubuleni kweemacroalgal, ulawule ukwanda kwezityalo ezitshabalalisayo kumda wonxweme.
								Izilwanyana ezingenamathambo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna.	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Seka ubukho/ukungabikho kweeproni zesanti i-*Callichirus kraussi* kunxweme lwesanti kwichweba elisezantsi, on sand banks in lower estuary; seka ubukho/ukungabikho kwee- copepod *Pseudodiaptomus hessei okanye ii*-congeneric zechweba kwi- zooplankton yechweba; imigqeku yezindidi mazingaguquki kwi-avareji yomgangatho osekiweyo (njengoko sele kuqingqiwe kumatyelelo amathathu okuqala) ngaphaya kwe- 30%.
								Iintlanzi	Ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	Gcina imigqeku yeentlanzi equka iindidi eziphila kumachweba ubuncikane (Ibakala I), iindidi zolwandle ezi-2 ezixhomekeke kumachweba omlambo (Amabakala IIa & IIb) kunye nodidi olu-1 lwecatadromous yomthonyama (Ibakala V). Abahlali basemachwebeni mabanyakazele ngokwamanani, kodwa ke loo mlinganiselo wodidi lolwandle oluxhomekeke kumachweme (oko kuxhomekeke kubunizi) mawungawi ngaphantsi kwe- 2%.
								Iintaka	Ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina umgqeku wokuqala wamaqela eentaka ezikhoyo echwebeni,; amanani eentaka kulo naliphi na iqela, ngaphandle kweendidi ezandayo ngokwendalo, njengamadada aseYiphutha, makangehli ngaphaya kombindi osisiseko (athelekelelwa ziinkcukhacha zolwazi ezidlulileyo okanye uphando lokuqala) amanani eendidi okanye eentaka ezibalelwa amahlobo amathathu okanye izihlandlo zasebusika.

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo		
											Iinyanga	Oct	87.9
												Nov	88.0
												Dec	87.2
												Jan	84.3
												Feb	82.7
												Mar	84.1
												Apr	85.3
												May	87.3
												Jun	86.7
												Jul	85.7
												Aug	86.9
												Sep	87.9
												Annual	86.7
G15 Coastal							Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina inkqubo yamanzi (inkqubo encinci ifuna amanzi amaninzi)	MMR/MAR (% Nat)	DIN not >100 µg/L once-off.	
	II						Ikwaliti	Izondlo	DIN	Ubukho bezondlo ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae			
									DIP			DIP not >20 µg/L once-off.	
								Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yezilwanyanaezingenamat hambo, yeemacrophytes neemicroalgae		I-avareji yobukho beetyuwa <10 kwintloko yechweba (iqondo le-avareji elindelekileyo 5 - 10 kwiindawo ezininzi)	
								Utshintshatshintsho lwamanzi	Ubukho bodaka	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota		>10 NTU in low flow	
									I-oksijini enyibilikileyo			>5 mg/L in estuary.	
								lipathojini	I-Enterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.		≤185 Enterococci/100 ml) (90th percentile)	
									I-Escherichia coli			≤500 E. coli/100 ml (90th percentile)	
							Indawo yokuphila	Utshintshatshintsho emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele ibiota edla ngokufumaneka echwebeni lomlambo.		Ubume bomlomo ovaliweyo mabungandi nge- >10% kumgangatho osekiweyo	
								Iintlenge	limpawu zeentlenge, ubume/ubukhulu bejelo	Inkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi		Ubume nobukhulu bejelo, ubukhulu bokhozo lwentlenge nezinto zendalo mazingatshintshii nge- >30% kumgangatho osekiweyo.a	
		Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo		

K70A

G15-E33

Groot (Wes) Estuary

gxi23

B

I-IUA	Ihlelo	Ummandla woboniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
							IBiota	ii-Microalgae	Ubunzima bendalo nokwakheka komgqeku wee phytoplankton neebenthic microalgae	Gcina ukwakheka nokuchuma komgqeku wee phytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ubunzima bendalo bephytoplankton/benthic microalgae esezantsi/ephakathi : iphytoplankton mayingabethi ngaphaya ko- 3.5 µg/ℓ (kumbindi), iphytoplankton mayingabethi ngaphaya ko 20 µg/ℓ futhi/okanye ukushinyana kwendlwana makungabethi ngaphaya kwe 10 000 cells/ml (once-off); ibenthic microalgae mayingabethi ngaphaya kwe 23 mg/m^2 (kumbindi); thintela ukukhula kweentyatyambo zephytoplankton.
								ii-Macrophytes	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte, thintela ukusasazeka kweEFZ ngenxa yobukho beendidi zezityalo ezingezizo ezomthonyama.	Gcina usasazeko lweendawo zokuphila ze-macrophyte, thintela ukwanda kwezondlo okuya kukhokelela ekudubuleni kweemacroalgal, ulawule ukwanda kwezityalo ezitshabalalisayo kumda wonxweme.
								Izilwanyana ezingenamathambo	Ukwakheka, ubuninzi nokuchuma komggeku weeMacrofauna.	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi ze-benthic macrofauna nezooplankton	Seka ubukho/ukungabikho kweeproni zesanti i-*Callichirus kraussi* kunxweme lwesanti kwichweba elisezantsi, on sand banks in lower estuary; seka ubukho/ukungabikho kwee- copepod *Pseudodiaptomus hessei okanye ii*-congeneric zechweba kwi- zooplankton yechweba; imigqeku yezi ndidi mazingaguquki kwi-avareji yomgangatho osekiweyo (njengoko sele kuqingqiwe kumatyelelo amathathu okuqala) ngaphaya kwe- 30%.
								Iintlanzi	Ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komgqeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	Gcina imigqeku yeentlanzi equka iindidi eziphila kumachweba ubuncikane (Ibakala I), iindidi zolwandle ezi-2 ezixhomekeke kumachweba omlambo (Amabakala IIa & IIb) kunye nodidi olu-1 lwecatadromous yomthonyama (Ibakala V). Abahlali basemachwebeni mabanyakazele ngokwamanani, kodwa ke loo mlinganiselo wodidi lolwandle oluxhomekeke kumachweme (oko kuxhomekeke kubunizi) mawungawi ngaphantsi kwe- 2%.

I-IUA	Ihlelo	Ummandla wobonise lo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								lintaka	Ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komgqeku wee-Avifauna	Gcina umgqeku wokuqala wamaqela eentaka ezikhoyo echwebeni,; amanani eentaka kulo naliphi na iqela, ngaphandle kweendidi ezandayo ingokwendalo, njengamadada aseYiphutha, makangehli ngaphaya kombindi osisiseko (athelekelelwa ziinkcukhacha zolwazi ezidlulileyo okanye uphando lokuqala) amanani eendidi okanye eentaka ezibalelwa amahlobo amathathu okanye izihlandlo zasebusika.
											linyanga: Annual 98.0; Sep 98.9; Aug 98.2; Jul 97.7; Jun 97.6; May 98.1; Apr 97.2; Mar 97.1; Feb 96.8; Jan 96.7; Dec 98.3; Nov 99.0; Oct 98.7
G15 Coastal						A	Umthamo	Amanzi	MMR/MAR (% Nat)	Gcina inkqubo yamanzi (inkqubo encinci ifuna amanzi amaninzi)	MMR/MAR (% Nat): DIN not >100 µg/L Kanye .
							Izondlo		DIN	Ubukho bezondlo ezingezizo zendalo mabungayidluli iTPCs yee macrophytes neemicroalgae	DIP not >20 µg/L kanye.
									DIP		
	II		G15-E34	Bloukrans Estuary	gxi18		Ikwaliti	Ubukho beetyuwa	Ubukho beetyuwa	Ukusasazeka kobukho beetyuwa mabungayidluli iTPCs yeentlanzi, yezilwanyanaezingenamat hambo, yeemacrophytes neemicroalgae	I-avareji yobukho beetyuwa <10 kwintloko yechweba (iqondo le-avareji elindelekileyo 5 - 10 kwiindawo ezininzi)
		K70B						Utshintsha tshintsho lwamanzi	Ubukho bodaka	Utshintshatsintsho lwamanzi mabungayidluli iTPCs yebiota	>10 NTU in low flow
									I-oksijini enyibilikileyo		>5 mg/L in estuary.
								lipathojini	I-Enterococci	Ubukho bepathojini ezibangelwa ngamanzi mabugcinwe bukwibakala elivumelekileyo ngamaxa olonwabo.	≤185 Enterococci/100 ml) (90th percentile)
									I-Escherichia coli		≤500 E. coli/100 ml (90th percentile)
							Indawo yokuphila	Utshintshatshintsho emanzini	Ubume bomlomo	Gcina usondelelwano nommandla wolwandle kwinqanaba eliqinisekisa ukuba ikwaliti nendawo yokuphila ziyilungele edla ngokufumaneka echwebeni lomlambo.	Umlomo wechweba uhlale uvuliwe
									Tidal variation		Ukulwatyuza kwamaza ubuncikane kufuphi nomlomo xa emanzi emancinci (ehlotyeni) makungaguquki ngo- >10% kumgangatho osekiweyo.

I-IUA	Ihlelo	Ummandla wobuniselo	I-RU	Igama lomjelo	Igama leqhubu elinenkange leko yendalo	I-TEC	ICandelo	ICandelwana	Isalathiso	I-RQO yobaliso	I-RQO yobalo
								lintlenge	limpawu zeentlenge, ubume/ubukhulu bejelo	lnkqubo yeempuphuma yanele ukuze igcine ubunzulu bomjelo neempawu zeentlenge zamanzi	Ubume nobukhulu bejelo, ikhozo lentlenge nezinto zendalo mazingaguquki ngo- >30% kumgangatho osekiweyo
								ii-Microalgae	Ubunzima bendalo nokwakheka komggeku weephytoplankton neebenthic microalgae	Gcina ukwakheka nokuchuma komggeku weephytoplankton nebenthic microalgae kunye nobunzima bendalo buphakathi	Gcina ubunzima bendalo bephytoplankton/benthic microalgae esezantsi/ephakathi : iphytoplankton mayingabethi ngaphaya ko- 3.5 µg/ℓ (kumbindi), iphytoplankton mayingabethi ngaphaya ko 20 µg/ℓ futhi/okanye ukushinyana kwendlwana makungabethi ngaphaya kwe 10 000 cells/ml (once-off); ibenthic microalgae mayingabethi ngaphaya kwe 11 mg/m^2 (kumbindi); thintela ukukhula kweentyatyambo zephytoplankton.
							IBiota	Izilwanyana ezingenamathambo	ubungakanani, ukusasazeka nokuchuma kwemigqeku yeemacrophyte	Gcina ukwakheka, ukuchuma nobuninzi beendidi ngeendidi zebenthic macrofauna nezooplankton	Seka ubukho/ukungabikho kweeproni zesanti i-*Callichirus kraussi* kunxweme lwesanti kwichweba elisezantsi, on sand banks in lower estuary; seka ubukho/ukungabikho kwee- copepod *Pseudodiaptomus hessei okanye ii*-congeneric zechweba kwi- zooplankton yechweba; imigqeku yezindidi mazingaguquki kwi-avareji yomgangatho osekiweyo (njengoko sele kuqinggiwe kumatyelelo amathathu okuqala) ngaphaya kwe- 30%.
								lintlanzi	Ukwakheka, ubuninzi nokuchuma komggeku weentlanzi	Gcina ukwakheka, ubuninzi nokuchuma komggeku weentlanzi Thintela ubukho/ukwanda beendidi zezityalo ezingezizo ezomthonyama	Gcina imigqeku yeentlanzi equka iindidi eziphila kumachweba ubuncikane (Ibakala I), iindidi zolwandle ezi-2 ezixhomekeke kumachweba omlambo (Amabakala IIa & IIb) kunye nodidi olu-1 lwecatadromous yomthonyama (Ibakala V). Abahlali basemachwebeni mabanyakazele ngokwamanani, kodwa ke loo milinganiselo wodidi lolwandle oluxhomekeke kumachweme (oko kuxhomekeke kubunizi) mawungawi ngaphantsi kwe- 2%.
								lintaka	Ukwakheka, ubuninzi nokuchuma komggeku wee-Avifauna	Gcina ukwakheka, ubuninzi nokuchuma komggeku wee-Avifauna	Gcina umgqeku wokuqala wamaqela eentaka ezikhoyo echwebeni,; amanani eentaka kulo naliphi na iqela, ngaphandle kweendidi ezandayo ingokwendalo, njengamadada aseYiphutha, makangehli ngaphaya kombindi osisiseko (athelekelelwa ziinkcukhacha zolwazi ezidlulileyo okanye uphando lokuqala) amanani eendidi okanye eentaka ezibalelwa amahlobo amathathu okanye izihlandlo zasebusika.

UTafile 27: Iinjongo zekwaliti yamanzi ZAMANZI APHANTSI KOMHLABA ekwii-Yunithi zomjelo zongxamiseko kwi-Yunithi ebumbeneyo yoHlalutyo kuMmandla wolawulo lwamanzi Breede-Gouritz

I-IUA	ihlelo	Indawo yoboniselo ngamanzi	IRU	Igama loMjelo	Icandelo	ICandelwana	Isalathisi/ umlinganiselo	IRQO yobaliso	IRQO yobalo
A1 Upper Breede Tributaries	II	H10A, H10B, H10C	BB-1	Umthombo (yonke)	Umthamo	Utsalo	Utsalo lamaxesha omnyaka: inqanaba lamanzi liba ngcono emva kwefuthe lotsalo ngamaxesha eemvula, phantsi kocingelo lotshintsho lwemozulu nemijikelo yembalela. Utsalo olusisigxina: ukwehla kwenqanaba lamanzi kubangcono phantsi kocingelo lwexesha evakalelwa ngalo i-akwifa	Usetyenziso lwemithombo maluzinzele ukusetyenziswa nguye wonke umntu nakokusingqongileyo	n/a
		H10L, H10F, H10G, H10J	BB-3						
A3 Breede Working Tributaries	III	H20A, H20B, H20C, H20F	BB-2						
		H40B	BB-4						
		H20H, H10H, H40C	BB-5						
		H30B	BB-6						
A3 Breede Working Tributaries	III	H40J	BB-7						
A2 Middle Breede Renosterveld	III	H40K							
B4 Riversonderend Theewaters	III	H60A, H60B, H60C	BR-1						
B5 Overberg West	II	G40C, G40D	BO-1						
H16 Overberg West Coastal	II	G40H	BO-2						
F10 Overberg East Renosterveld	II	G50B	BO-3						
H17 Overberg East Fynbos	II	G50D, G50E							
E8 Touws	III	J12C, J12D	GGr-1						
C6 Gamka Buffels	II	J11E	GGr-3						
		J24B	GGa-1						
		J21A, J21B, J23A	GGa-2a, 2b and 2c						
D7 Gouritz-Olifants	III	J35B	GO-4						
F13 Lower Gouritz	II	J40C, J40D	GGo-1						
I18 Hessequa	III	H90E	GGo-2						
G15 Coastal	II	K40D	GC-2						
H16 Overberg West Coastal	II	G40H	BO-2	Umthombo (yonke)	Umthamo	Inqanaba lomthobo	Inqanaba lomthobo	Inqanaba lamanzi ubuncikane kwizitsali-mngxuma-manzi ezikumda we 2.5km ukusuka elunxwemeni ukunqanda ukungena kweetyuwa	>1 mamsl
F10 Overberg East Renosterveld	II	G50B	BO-3						
H17 Overberg East Fynbos	II	G50D, G50E							
G15 Coastal	II	K40D	GC-2	Umthombo (amanzi agalela elunxwemeni iCenozoic)					>0.5 mamsl

I-IUA	ihlelo	Indawo yoboniselo ngamanzi	IRU	Igama loMjelo	Icandelo	ICandelwana	Isalathisi/ umlinganiselo	IRQO yobaliso	IRQO yobalo
A3 Breede Working Tributaries	III	H20H, H10H, H40C	BB-5	Umthombo (ogalela elunxwemeni lwe Cenozoic)	Umthamo	Aphumayo	Amanqanaba amanzi abalekayo phakathi kwamamanzi aphantsi komhlaba nangaphezu komhlaba (ngokwee-mamsl)	Ithambeka lendalo phakathi kwamamanzi aphantsi komhlaba nangaphezu komhlaba maligcinwe	n/a
G15 Coastal	II	K40D	GC-2						
		K70A	GC-3						
A3 Breede Working Tributaries	III	H40J	BB-7	Umthombo (ii-akwifa ezinganzulwanga)					
A2 Middle Breede Renosterveld	III	H40K							
B4 Riversonderend Theewaters	III	H60A, H60B, H60C	BR-1						
B5 Overberg West	II	G40C, G40D	BO-1						
H16 Overberg West Coastal	II	G40H	BO-2						
F10 Overberg East Renosterveld	II	G50B	BO-3						
H17 Overberg East Fynbos	II	G50D, G50E							
F13 Lower Gouritz	II	J40C, J40D	GGo-1	Umthombo (yonke)					
G15 Coastal	II	K20A	GC-1						
A1 Upper Breede Tributaries	II	H10L, H10F, H10G, H10J	BB-3	Umthombo (yonke)	Umthamo	Aphumayo	Umda wodambiso	Akukho tsalo lwamanzi angaphantsi komhlaba kumda womwonyo nomlambo iFEPAs ngokwencwadana yeengcebiso eyenzelwe FEPAs.	250m
A3 Breede Working Tributaries	III	H40J	BB-7						
A2 Middle Breede Renosterveld	III	H40K							
B4 Riversonderend Theewaters	III	H60A, H60B, H60C	BR-1						
H16 Overberg West Coastal	II	G40H	BO-2						
F10 Overberg East Renosterveld	II	G50B	BO-3						
H17 Overberg East Fynbos	II	G50D, G50E							
B5 Overberg West	II	G40C, G40D	BO-1						
C6 Gamka Buffels	II	J11E, J21A, J21B, J23A	GGr-3						
			GGa-2a, 2b and 2c						
F13 Lower Gouritz	II	J40C, J40D	GGo-1						

I-IUA	ihlelo	Indawo yoboniselo ngamanzi	IRU	Igama loMjelo	Icandelo	ICandelwana	Isalathisi/ umlinganiselo	IRQO yobaliso	IRQO yobalo
G15 Coastal	II	K20A	GC-1						
		K70A	GC-3						
A3 Breede Working Tributaries	III	H20H, H10H, H40C	BB-5	Umthobo (angena elunxwemeni lwe-Cenozoic)					
G15 Coastal	II	K40D	GC-2						
A1 Upper Breede Tributaries	II	H10L, H10F, H10G, H10J	BB-3	Umthobo (yonke)	Umthamo	Amanzi mancinci emlanjeni r	Gcina (icandelo lamanzi angaphantsi komhlaba)leemfuno zamanzi lisezantsi emlanjeni ukuthotyelwa kweemfuneko zamanzi amancinci emlanjeni (ngokweRQO yemilambo)	Iimfuno zamanzi asezantsi ziyagcinwa: 56.125Mm^3/a (12.90%MAR) at H1H001; 30.215Mm^3/a (28.63%MAR) at H1H018	n/a
B4 Riversonderend Theewaters	III	H60A,H60B, H60C	BR-1					Iimfuno zamanzi asezantsi ziyagcinwa: 12.567Mm3/a (28.63%MAR) at Nvii10	n/a
B5 Overberg West	II	G40C, G40D	BO-1					Iimfuno zamanzi asezantsi ziyagcinwa: 12.669Mm3/a (31.79%MAR) at Piii1; 54.260Mm3/a (26.26%MAR) at G4H030; 77.111Mm3/a (30.79%MAR) at G4H007	n/a
F10 Overberg East Renosterveld	II	G50B	BO-3					Iimfuno zamanzi asezantsi ziyagcinwa: 0.490Mm3/a (3.93%MAR) at Ni4; 2.067Mm3/a (13.40%MAR) at G5H003.	n/a
H17 Overberg East Fynbos	II	G50D, G50E							
A1 Upper Breede Tributaries	II	H10A, H10B, H10C	BB-1	Umthombo (yonke)	Ikwaliti	Iipathojini	I-E-coli	Amanzi angaphantsi komhlaba makalungele ukusetyenziswa ekhayeni emva kokucocwa; futhi ke ikwaliti yala manzi mayingabonakali iguquguquka kuleyo yemveli	0 izihlandlo / 100ml
		H10L, H10F, H10G, H10J	BB-3						
A3 Breede Working Tributaries	III	H20A, H20B, H20C, H20F	BB-2						
		H40B	BB-4						
		H20H, H10H, H40C	BB-5						
		H30B	BB-6						
A3 Breede Working Tributaries	III	H40J	BB-7						
A2 Middle Breede Renosterveld	III	H40K							
B4 Riversonderend Theewaters	III	H60A, H60B, H60C	BR-1						
B5 Overberg West	II	G40C, G40D	BO-1						
H16 Overberg West Coastal	II	G40H	BO-2						

I-IUA	ihlelo	Indawo yoboniselo ngamanzi	IRU	Igama loMjelo	Icandelo	ICandelwana	Isalathisi/ umlinganiselo	IRQO yobaliso	IRQO yobalo
F10 Overberg East Renosterveld	II	G50B	BO-3						
H17 Overberg East Fynbos	II	G50D, G50E							
E8 Touws	III	J12C, J12D	GGr-1						
C6 Gamka Buffels	II	J11E	GGr-3						
		J24B	GGa-1						
		J21A, J21B, J23A	GGa-2a, 2b and 2c						
D7 Gouritz-Olifants	III	J35B	GO-4						
F13 Lower Gouritz	II	J40C, J40D	GGo-1						
I18 Hessequa	III	H90E	GGo-2						
G15 Coastal	II	K40D	GC-2						
A1 Upper Breede Tributaries	II	H10A, H10B, H10C	BB-1	Umthombo (yonke)	Ikwaliti	Iipathojini	I-Coliform iyonke	Amanzi angaphantsi komhlaba makalungele ukusetyenziswa ekhayeni emva kokucocwa; futhi ke ikwaliti yala manzi mayingabonakali iguquguquka kuleyo yemveli	<10 izihlandlo/ 100ml
		H10L, H10F, H10G, H10J	BB-3						
A3 Breede Working Tributaries	III	H20A, H20B, H20C, H20F	BB-2						
		H40B	BB-4						
		H20H, H10H, H40C	BB-5						
		H30B	BB-6						
A3 Breede Working Tributaries	III	H40J	BB-7						
A2 Middle Breede Renosterveld	III	H40K							
B4 Riversonderend Theewaters	III	H60A, H60B, H60C	BR-1						
B5 Overberg West	II	G40C, G40D	BO-1						
H16 Overberg West Coastal	II	G40H	BO-2						
F10 Overberg East Renosterveld	II	G50B	BO-3						
H17 Overberg East Fynbos	II	G50D, G50E							
E8 Touws	III	J12C, J12D	GGr-1						
C6 Gamka Buffels	II	J11E	GGr-3						
		J24B	GGa-1						
		J21A, J21B, J23A	GGa-2a, 2b and 2c						
D7 Gouritz-Olifants	III	J35B	GO-4						
F13 Lower Gouritz	II	J40C, J40D	GGo-1						

I-IUA	ihlelo	Indawo yoboniselo ngamanzi	IRU	Igama loMjelo	Icandelo	ICandelwana	Isalathisi/ umlinganiselo	IRQO yobaliso	IRQO yobalo
I18 Hessequa	III	H90E	GGo-2						
G15 Coastal	II	K40D	GC-2						
A1 Upper Breede Tributaries	II	H10A, H10B, H10C	BB-1	Umthombo (agalela kunxweme iCenozoic)	Ikwaliti	Nutrients	NO3 (as N)	Amanzi angaphantsi komhlaba makalungele ukusetyenziswa ekhayeni emva kokucocwa; futhi ke ikwaliti yala manzi mayingabonakali iguquguquka kuleyo yemveli	<6.8 mg/l
						Salts	EC		<311 mS/m
				Umthombo (Bokkeveld Group)	Ikwaliti	Nutrients	NO3 (as N)		<2.4 mg/l
						Salts	EC		<236 mS/m
				Umthombo (Nardouw Group)	Ikwaliti	Nutrients	NO3 (as N)		<4.4 mg/l
						Salts	EC		<119 mS/m
		H10F, H10G, H10J, H10L	BB-3	Umthombo (agalela kunxweme iCenozoic)	Ikwaliti	Nutrients	NO3 (as N)		<9.6 mg/l
						Salts	EC		<73 mS/m
				Umthombo (Table Mountain Group)	Ikwaliti	Nutrients	NO3 (as N)		<1.8 mg/l
						Salts	EC		<109 mS/m
A3 Breede Working Tributaries	III	H20A, H20B, H20C, H20F	BB-2	Umthombo (agalela kunxweme iCenozoic)	Ikwaliti	Nutrients	NO3 (as N)		<11.0 mg/l
						Salts	EC		<168 mS/m
				Umthombo (Bokkeveld Group)	Ikwaliti	Nutrients	NO3 (as N)		<1.8 mg/l
						Salts	EC		<329 mS/m
				Umthombo (Table Mountain Group)	Ikwaliti	Nutrients	NO3 (as N)		<3.7 mg/l
						Salts	EC		<63 mS/m
		H10H, H20H, H40C	BB-5	Umthombo (agalela kunxweme iCenozoic)	Ikwaliti	Nutrients	NO3 (as N)		<3.1 mg/l
						Salts	EC		<591 mS/m
		H30B	BB-6	Umthombo (agalela kunxweme iCenozoic)	Ikwaliti	Nutrients	NO3 (as N)		<9.8 mg/l
						Salts	EC		<170 mS/m
				Umthombo (Bokkeveld Group)	Ikwaliti	Nutrients	NO3 (as N)		<3.6 mg/l
						Salts	EC		<589 mS/m
				Umthombo (Nardouw Group)	Ikwaliti	Nutrients	NO3 (as N)		<4.4 mg/l
						Salts	EC		<119 mS/m
		H40J, H40K	BB-7	Umthombo (agalela kunxweme iCenozoic)	Ikwaliti	Nutrients	NO3 (as N)		<10 mg/l
						Salts	EC		<280 mS/m
				Umthombo (Bokkeveld Group)	Ikwaliti	Nutrients	NO3 (as N)		<3.6 mg/l
						Salts	EC		<741 mS/m
				Umthombo (Table Mountain Group)	Ikwaliti	Nutrients	NO3 (as N)		<3.8 mg/l
						Salts	EC		<117 mS/m
B4 Riversonderend Theewaters	III	H60A, H60B, H60C	BR-1	Umthombo (agalela kunxweme iCenozoic)	Ikwaliti	Nutrients	NO3 (as N)		<10 mg/l
						Salts	EC		<280 mS/m
				Umthombo (Bokkeveld Group)	Ikwaliti	Nutrients	NO3 (as N)		<3.6 mg/l
						Salts	EC		<741 mS/m
				Umthombo (Table Mountain Group)	Ikwaliti	Nutrients	NO3 (as N)		<3.8 mg/l
						Salts	EC		<70 mS/m
B5 Overberg West	II	G40A, G40C, G40D	BO-1	Umthombo (Bokkeveld Group)	Ikwaliti	Nutrients	NO3 (as N)		<3.6 mg/l
						Salts	EC		<589 mS/m

I-IUA	ihlelo	Indawo yoboniselo ngamanzi	IRU	Igama loMjelo	Icandelo	ICandelwana	Isalathisi/ umlinganiselo	IRQO yobaliso	IRQO yobalo
				Umthombo (Table Mountain Group)	Ikwaliti	Nutrients	NO3 (as N)		<3.8 mg/l
						lityuwa	EC		<117 mS/m
H16 Overberg West Coastal	II	G40H	BO-2	Umthombo (agalela kunxweme iCenozoic)	Ikwaliti	izondlo	NO3 (as N)		<9.8 mg/l
						iityuwa	EC		<280 mS/m
				Umthombo (Bokkeveld Group)	Ikwaliti	Izondlo	NO3 (as N)		<3.6 mg/l
						lityuwa	EC		<589 mS/m
				Umthombo (Table Mountain Group)	Ikwaliti	izondlo	NO3 (as N)		<3.8 mg/l
						iityuwa	EC		<117 mS/m
F10 Overberg East Renosterveld	II	G50B	BO-3	Umthombo (agalela kunxweme iCenozoic)	Ikwaliti	Izondlo	NO3 (as N)		<10 mg/l
H17 Overberg East Fynbos	II	G50D, G50E				lityuwa	EC		<280 mS/m
F10 Overberg East Renosterveld	II	G50B	BO-3	Umthombo (Bokkeveld Group)	Ikwaliti	izondlo	NO3 (as N)		<3.6 mg/l
H17 Overberg East Fynbos	II	G50D, G50E				iityuwa	EC		<741 mS/m
F10 Overberg East Renosterveld	II	G50B	BO-3	Umthombo (Table Mountain Group)	Ikwaliti	Izondlo	NO3 (as N)		<3.8 mg/l
H17 Overberg East Fynbos	II	G50D, G50E				lityuwa	EC		<117 mS/m
C6 Gamka Buffels	II	J11E	GGr-3	Umthombo (yonke)	Ikwaliti Ikwaliti	Izondlo	NO3 (as N)		<11.7 mg/l
						iityuwa	SO4		< 600 mg/l
						lityuwa	EC		<231 mS/m
		J24B	GGa-1	Umthombo (Beaufort Group)	Ikwaliti	Izondlo	NO3 (as N)		<12.0 mg/l
						iityuwa	SO4		< 237 mg/l
						lityuwa	EC		<226 mS/m
		J21A, J21B, J21D, J23A	GGa-2a, 2b and 2c	Umthombo (agalela kunxweme iCenozoic)	Ikwaliti	Izondlo	NO3 (as N)		<15.8 mg/l
						iityuwa	SO4		<525 mg/l
						lityuwa	EC		<310 mS/m
				Umthombo (Beaufort Group, Karoo Supergroup)	Ikwaliti Ikwaliti	Izondlo	NO3 (as N)		<15.9 mg/l
						iityuwa	SO4		<634 mg/l
						lityuwa	EC		<367 mS/m
E8 Touws	III	J12C, J12D	GGr-1	Umthombo (agalela kunxweme iCenozoic)	Ikwaliti	Izondlo	NO3 (as N)		<9.8 mg/l
						iityuwa	EC		<170 mS/m
				Umthombo (Witteberg Group)	Ikwaliti	Izondlo	NO3 (as N)		<11.0 mg/l
						lityuwa	EC		<420 mS/m
				Umthombo (Bokkeveld Group)	Ikwaliti	Izondlo	NO3 (as N)		<3.6 mg/l
						iityuwa	EC		<589 mS/m
D7 Gouritz-Olifants	III	J35B	GO-4	Umthombo (Bokkeveld Group)		Izondlo	NO3 (as N)		<11.0 mg/l
						lityuwa	EC		<589 mS/m

I-IUA	ihlelo	Indawo yoboniselo ngamanzi	IRU	Igama loMjelo	Icandelo	ICandelwana	Isalathisi/ umlinganiselo	IRQO yobaliso	IRQO yobalo
				Umthombo (Table Mountain Group)	ikwaliti	Izondlo	NO3 (as N)		<11.0 mg/l
						iityuwa	EC		<170 mS/m
F13 Lower Gouritz	II	J40C, J40D	GGo-1	Umthombo (agalela kunxweme iCenozoic)	ikwaliti	Izondlo	NO3 (as N)		<3.3 mg/l
						Iityuwa	EC		<170 mS/m
I18 Hessequa	III	H90E	GGo-2a and 2b	Umthombo (agalela kunxweme iCenozoic)	ikwaliti	Izondlo	NO3 (as N)		<4.5 mg/l
						iityuwa	EC		<316 mS/m
G15 Coastal	II	K40D	GC-2	Umthombo (agalela kunxweme iCenozoic)	ikwaliti	Izondlo	NO3 (as N)		<11.0 mg/l
						iityuwa	EC		<170 mS/m

DEPARTMENT OF WATER AND SANITATION

NO. 1009 **18 SEPTEMBER 2020**

NATIONAL WATER ACT, 1998 (ACT NO. 36 OF 1998)

PROPOSED RESERVE DETERMINATION FOR WATER RESOURCES OF THE MOKOLO AND MATLABAS CATCHMENTS

I Lindiwe Sisulu, in my capacity as Minister of Human Settlements, Water and Sanitation, having complied with section 13 of the National Water Act, 1998 (Act No. 36 of 1998) ("the Act"), and Regulation 3 of the Regulations for the Establishment of Water Resource Classification System (No. R. 810 *Gazette* No. 33541, 17 September 2010), and duly authorised in terms of section 16(1) of the Act, hereby publish for public comment, the proposed Reserve for water resources of the Mokolo and Matlabas catchments, as set out in the Schedule to this Notice.

Any person who wishes to submit written comments with regards to the proposed Reserve should submit the comments within 60 days from the date of publication of this Notice to:

Director: Reserve Determination
Attention: Mr Yakeen Atwaru
Department of Water and Sanitation
Ndinaye Building 185 Francis Baard Street
Private Bag X313
Pretoria
0001
Email: atwaruy@dws.gov.za

MS LINDIWE SISULU
MINISTER OF HUMAN SETTLEMENT, WATER AND SANITATION

PROPOSED RESERVE FOR WATER RESOURCES OF THE MOKOLO AND MATLABAS CATCHMENTS TO BE DETERMINED IN TERMS OF SECTION 16(1) AND (2) OF THE NATIONAL WATER ACT, 1998 (ACT NO. 36 OF 1998)

SCHEDULE

DESCRIPTION OF WATER RESOURCE

1. (1) The proposed Reserve is determined for all or part of every significant water resource within the Mokolo and Matlabas catchments as set out below:

- Water Management Area: Limpopo
- Drainage Regions: A Primary Drainage Region (A41 and A42)
- Rivers: Mokolo, Mamba and Matlabas

(2) The Minister has in terms of section 12 of the National Water Act, 1998 (Act No.36 of 1998) ("the Act"), prescribed a system for classifying water resources by issuing Government Notice No. R. 810, published in *Gazette* No. 33541 dated 17 September 2010. In terms of section 16(1) of the Act, the Minister must, as soon as reasonably practicable after the class of all or part of a water resource has been determined, by Notice in the *Gazette*, determine the Reserve for all or part of that water resource.

(3) The Minister, in terms of section 16(3) of the Act, proposes, for the purpose of section 16(1) of the Act, the following Reserve determination for the Mokolo and Matlabas catchments.

2. ACRONYMS AND DEFINITIONS

2.1 Acronyms

BAS	Best attainable state
BHN	Basic Human Needs
CAWC	Co-ordinated Water Bird Counts
CBA	Critical Biodiversity Areas
EC	Ecological Category
EcoSpecs	Ecological Specifications
EIA	Environmental Impact Assessment
EIS	Ecological Importance and Sensitivity
ESA	Ecological Support Areas
EWR	Ecological Water Requirement
EWR Site	Ecological Water Requirement Site
GRAII	Groundwater Resource Assessment Phase II
GRDM	Groundwater Resource Directed Measures
GRUs	Groundwater Resource Units
MAR	Mean Annual Runoff
MCM	Million Cubic Metres
MLF	Maintenance Low Flow
NMAR	Natural Mean Annual Runoff
PES	Present Ecological Status
RC	Reference conditions
REC	Recommended Ecological Category
TEACHA	Tools for Ecological Aquatic Chemical Habitat Assessment
TEC	Target Ecological Category
TPCs	Thresholds of Potential Concern
WUL	Water Use Licence
WQSU	Water quality sub-unit

2.2 Definitions

In this Notice, unless the context otherwise indicates—

"**Act**" means the National Water Act, 1998 (Act No. 36 of 1998).

"**Baseflow**" means a sustained low flow in rivers during dry or fair weather conditions, but not necessarily all contributed by groundwater; includes contribution from delayed interflow and groundwater discharge.

"**Biophysical Node**" means the modelling point's which is a representative of an upstream reach or area of an aquatic eco-system such as rivers, wetlands, estuaries and groundwater for which a suite of relationships apply.

"**Ecological Importance and Sensitivity**" means key indicators in the ecological classification of water resources. Ecological importance relates to the presence, representativeness and diversity of species of biota and habitat. Ecological sensitivity relates to the vulnerability of the habitat and biota to modifications that may occur in flows, water levels and physico-chemical conditions.

"**Ecological Water Requirements**" means the flow patterns such as the magnitude, timing and duration, and water quality needed to maintain a riverine ecosystem in a particular condition. This term refers to both the quantity and the quality of the components.

"**Ecological Water Requirement Sites**" means specific points on the river as determined through the site selection process which consists of a length of a river of various cross-sections for both hydraulic and ecological purposes. These sites provide sufficient indicators to assess environmental flows and assess the condition of biophysical components drivers such as hydrology, geomorphology and physico-chemical and biological responses such as fish, invertebrates and riparian vegetation.

"**Present Ecological Status**" means a category indicating the current health or integrity of various biological attributes of the water resource, compared to the natural or close to

natural reference conditions. The results of the process are provided as Ecological Categories ranging from a (near natural) to F (completely modified) for the PES.

"**Recharge**" means the addition of water to the zone of saturation, either by downward percolation of precipitation or surface water or the lateral migration of groundwater from adjacent aquifers.

"**Recommended Ecological Category**" means an ecological category indicating the ecological management target for a water resource based on its ecological classification that should be attained. Categories range from Category A which refers to unmodified, natural to Category D which refers to largely modified.

"**Reserve**" means the quantity and quality of the water required to satisfy the basic human needs by securing a basic water supply and to protect the aquatic ecosystem in order to secure ecologically sustainable development and use of the relevant water resource.

"**Target Ecological Category**" means the assigned ecological condition by the Minister to a water resource that reflects the ecological condition of that water resource in terms of the deviation of its biophysical components from the natural reference condition. The ultimate target to achieve a sustainable system both ecologically and economically taking into account the PES and REC.

PROPOSED RESERVE DETERMINATION IN TERMS OF SECTION 16(1) AND (2) OF THE ACT

3. (1) The proposed Reserve which includes the Ecological Water Requirements and the Basic Human Needs Reserve for the Rivers at EWR sites and selected biophysical nodes in the Mokolo and Matlabas catchments are set out in Paragraph 4.

(2) The Mokolo and Matlabas catchments locality and EWR sites are indicated in Figure 1.

(3) The water quality component of the proposed Reserve for the Rivers at the EWR sites in Mokolo and Matlabas catchments in terms of section 16(1) of the Act is set out in Pargraph 5.

(4) The proposed Groundwater Reserve for Water Quantity in terms of section 16(1) of the Act for the Mokolo and Matlabas catchments are set out in Paragraph 6.

(5) The proposed Groundwater Reserve for Water Quality in terms of section 16(1) of the Act for the Mokolo and Matlabas catchments are set out in Paragraph 6.

(6) The Reserve will apply from the date signed off as determined in terms of section 16(1) of the Act, unless otherwise specified by the Minister.

4. SURFACE WATER QUANTITY COMPONENT FOR RIVERS

Proposed results for the Reserve determination and ecological categorisation for the Mokolo and Matlabas Catchments, where the Reserve amounts are expressed as a percentage of the NMAR for the respective catchments (cumulative) in terms of section (16)(1) of the Act .

Table 1: Summary of the quantity component for the Rivers which include the EWR & BHN for the priority sites

Node Name	Quaternary Catchment	River Name	PES	EIS	NMAR (MCM)[1]	EWR % NMAR[2]	BHN Reserve[3] (%NMAR)	Total Reserve[4] (%NMAR)
HN51	A42B	Grootspruit (source) to confluence with Sand	D	Moderate	27.8	21.73	0	21.73
EWR Site MOK_EWR1A	A42C	Mokolo to confluence with Dwars	C/D	High	84.84	16.7	0.048	16.748
EWR Site MOK_EWR1B	A42E	Mokolo to confluence with Sterkstroom	B/C	High	135.03	13.6	0.090	13.69
HN54	A42D	Sterkstroom (source) to confluence with Mokolo,	B	Very high	43.45	52.63	0	52.63
EWR Site MOK_EWR2	A42F	Mokolo River in A42F to inflow Mokolo Dam,	B/C	Very high	196.2	11.7	0.103	11.803
EWR Site MOK_EWR3	A42G	Mokolo Dam to upper portion of A42G (10km downstream of dam)	B/C	Very high	214.5	8.9	0.111	9.011
EWR Site MOK_EWR4	A42G	Mokolo main stem	C	Very high	253.3	12.3	0.111	12.411
HN59	A41A	Headwaters Mothlabatsi (Matlabas-Zyn-Kloof, peatlands)	A	Very high	5.23	57.07	0	57.07
MAT Rapid_EWR3	A41B	Mamba to confluence with Mothlabatsi	B/C	High	9.54	35.49	0	35.49
MAT Rapid_EWR2	A41B	Matlabas/Motlhabatsi confluence (outlet of IUA)	B/C	High	32.80	33.23	0	33.23
MAT Rapid_EWR4	A41C	Matlabas	B	Moderate	35.58	33.42	0	33.42

(1) These amounts represent the long term mean based on the NMAR. If the NMAR changes, this volume will also change.

(2) Represents the percentage of BHN.

(3) The total Reserve amount accounts for both the Ecological Reserve and the BHN.

The REC has not been recommended for approval for this preliminary Reserve but the maintenance of the current operating of the system was recommended.

SURFACE-WATER - QUALITY COMPONENT FOR RIVERS

5. Summary of the Quality component at EWR sites

Table 5.1: PES categories and overall site assessment for EWR 1A in the Mokolo River- WQSU1 4

RIVER	Mokolo River		Water Quality Monitoring Points	
WQSU	4		RC	A4H002Q01, '77-'79, n = 68
EWR SITE	1A		PES	A4H002Q01, '02-'07 (with 1 point in 2007), n = 48 (but 37 for F and SO4)
Confidence assessment		Confidence in the assessment is moderate, as little DO, temp., turbidity or toxics data, although the gauging weir is close to the EWR site.		
Water Quality Constituents		RC Value	PES Value	Category (Rating) / Comment
Inorganic Salts* (mg/L)	MgSO4		-	TEACHA could not be used and EC used as surrogate
	Na2SO4		-	
	MgCl2		-	
	CaCl2		-	
	NaCl		-	
	CaSO4		-	
Nutrients (mg/L)	SRP	0.011	0.0165	B (1): Benchmark category was recalibrated
	TIN	0.080	0.123	A (0)
Physical variables	pH (5th and 95th percentiles)	6.68 - 7.70	6.92 - 7.83	A (0)
	Temperature		-	No data, but few impacts expected. Catchment not pristine, so A/B (0.5) – qualitative assessment only
	Dissolved oxygen		-	
	Turbidity (NTU)		-	No data, but loads not expected to be high. B (1) – qualitative assessment only
	Electrical conductivity (mS/m)	12.28	12.05	A (0)
Response variables	Chl-a: periphyton		EWR 1A: 21.58	C/D (2.5) (n=1)
	Chl-a: phytoplankton		-	-

RIVER	Mokolo River		Water Quality Monitoring Points	
WQSU	4		RC	A4H002Q01, '77-'79, n = 68
EWR SITE	1A		PES	A4H002Q01, '02-'07 (with 1 point in 2007), n = 48 (but 37 for F and SO4)
Confidence assessment		Confidence in the assessment is moderate, as little DO, temp., turbidity or toxics data, although the gauging weir is close to the EWR site.		
Water Quality Constituents		RC Value	PES Value	Category (Rating) / Comment
	Biotic community composition: macroinvertebrate (ASPT) score		SASS: 127 ASPT: 5.3	C (62.3)
	Fish		70.3	C - largely flow-related
	Diatoms		EWR 1A: SPI = 17.3 and 16.8	A/B (0.5) (n = 2)
Toxics (mg/L)	Fluoride	0.10	0.18	A (0)
	Ammonia		0.001	A (0)
OVERALL SITE CLASSIFICATION (from PAI)			B/C (80 %)	

* To be generated using TEACHA when the TPC for EC is exceeded or salt pollution is expected

Table 5.2: Ecospecs relating to physico-chemical data: PES

River: Mokolo		EWR Site: 1A	Monitoring site: A4H002Q01
Water quality metrics		ECOSPEC: PES	
Inorganic salts*	MgSO4	The 95th percentile of the data must be ≤ 16 mg/L.	
	Na2SO4	The 95th percentile of the data must be ≤ 20 mg/L.	
	MgCl2	The 95th percentile of the data must be ≤15 mg/L.	
	CaCl2	The 95th percentile of the data must be ≤ 21 mg/L.	
	NaCl	The 95th percentile of the data must be ≤ 45 mg/L.	
	CaSO4	The 95th percentile of the data must be ≤ 351 mg/L.	
Physical variables	EC	The 95th percentile of the data must be ≤ 30 mS/m.	
	pH	The 5th and 95th percentiles of the data must range from 6.5 to 8.0.	
	Temperature	Small deviation from the natural temperature range.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 7.5 mg/L.	
	Turbidity	Vary by a small amount from the natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients (mg/L)	TIN	The 50th percentile of the data must be ≤ 0.25 mg/L.	
	PO4-P	The 50th percentile of the data must be ≤ 0.025 mg/L.	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be < 10 µg/L.**	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 52.5 mg/m2.***	
	Toxics	The 95th percentile of the data must be within the Chronic Effects Value (CEV) as stated in DWAF (1996).	

* To be generated using TEACHA when the TPC for EC is exceeded or salt pollution is expected

** No phytoplankton data were available for this assessment. All EcoSpecs and TPCs need verification as range is based on expert judgement.

*** Periphyton (21.58 mg/m2) is actually in a C/D category (C = 12 - 21 mg/m2 and D = 21 - 84 mg/m2; DWAF, 2008), so therefore the upper boundary of a C/D has been defined as the EcoSpec for the PES.

Table 5.3: PES categories and overall site assessment for EWR 1B in the Mokolo River- WQSU 4

RIVER	Mokolo River		Water Quality Monitoring Points	
WQSU	4		RC	A4H002Q01, '77 - '79, n = 68
EWR SITE	1B		PES	A4H002Q01, '02-'07 (with 1 point in 2007), n = 48 (but 37 for F and SO4)
Confidence assessment		Confidence in the assessment is moderate, as little DO, temp., turbidity or toxics data. Data from A4H002Q01 is used for EWR 1A and B, with modifications to the PAI table – particularly based on on-site indicators.		
Water Quality Constituents		RC Value	PES Value	Category (Rating) / Comment
Inorganic* salts (mg/L)	MgSO4		-	TEACHA could not be used and EC used as surrogate
	Na2SO4		-	
	MgCl2		-	
	CaCl2		-	
	NaCl		-	
	CaSO4		-	
Nutrients (mg/L)	SRP	0.011	0.0165	B (1): Benchmark category was recalibrated
	TIN	0.080	0.123	A (0)
Physical variables	pH (5th and 95th percentiles)	6.68 and 7.70	6.92 – 7.83	A (0)
	Temperature		-	No data, but few impacts expected. Catchment not pristine, so B (1) due to the impact of zero flows – qualitative assessment only
	Dissolved oxygen		-	
	Turbidity (NTU)		-	No data, but loads not expected to be high. B (1) – qualitative assessment only
	Electrical conductivity (mS/m)	12.28	12.05	A (0)
Response variables	Chl-a: periphyton		WQ site 3 (Dwars): 19.04 (high SD)	C (2) (n=1)

RIVER	Mokolo River		Water Quality Monitoring Points	
WQSU	4		RC	A4H002Q01, '77 - '79, n = 68
EWR SITE	1B		PES	A4H002Q01, '02-'07 (with 1 point in 2007), n = 48 (but 37 for F and SO4)
Confidence assessment		Confidence in the assessment is moderate, as little DO, temp., turbidity or toxics data. Data from A4H002Q01 is used for EWR 1A and B, with modifications to the PAI table – particularly based on on-site indicators.		
Water Quality Constituents		RC Value	PES Value	Category (Rating) / Comment
	Chl-a: phytoplankton		-	-
	Biotic community composition: macroinvertebrate (ASPT) score		SASS: 130 ASPT: 5.4 (Jan '08) SASS: 188 ASPT: 6.1 (June '08)	B/C
	Fish		72.4	C
	Diatoms		EWR 1B: SPI = 18.8 WQ site 3 (Dwars): 15.9	A (0) (n=1) B (1) (n=2)
Toxics (mg/L)	Fluoride	0.10	0.18	A (0)
	Ammonia		0.001	A (0)
OVERALL SITE CLASSIFICATION (from PAI)			B/C (80.8%)	

* To be generated using TEACHA when the TPC for EC is exceeded or salt pollution is expected

Table 5.4: EcoSpecs relating to physico-chemical data: PES

River: Mokolo		EWR Site: 1B	Monitoring site: A4H002Q01
Water quality metrics		ECOSPEC: PES	
Inorganic salts* (mg/L)	MgSO4	The 95th percentile of the data must be ≤ 16 mg/L.	
	Na2SO4	The 95th percentile of the data must be ≤ 20 mg/L.	
	MgCl2	The 95th percentile of the data must be ≤15 mg/L.	
	CaCl2	The 95th percentile of the data must be ≤ 21 mg/L.	
	NaCl	The 95th percentile of the data must be ≤ 45 mg/L.	
	CaSO4	The 95th percentile of the data must be ≤ 351 mg/L.	
Physical variables	EC	The 95th percentile of the data must be ≤ 30 mS/m.	
	pH	The 5th and 95th percentiles of the data must range from 6.5 to 8.0.	
	Temperature	Small deviation from the natural temperature range.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 7.0 mg/L.	
	Turbidity	Vary by a small amount from the natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients (mg/L)	TIN	The 50th percentile of the data must be ≤ 0.25 mg/L.	
	PO4-P	The 50th percentile of the data must be ≤ 0.025 mg/L.	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be < 10 µg/L.**.	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 21 mg/m2.	
	Toxics	The 95th percentile of the data must be within the CEV as stated in DWAF (1996).	

* To be generated using TEACHA when the TPC for EC is exceeded or salt pollution is expected

** No phytoplankton data were available for this assessment. All EcoSpecs and TPCs need verification as range is based on expert judgement.

Table 5.5: PES categories and overall site assessment for EWR 2 in the Mokolo River- WQSU 4

RIVER	Mokolo River		Water Quality Monitoring Points	
WQSU	4		RC	A4H005Q01, '77 - '80, n = 85 (but 163 for EC)
EWR SITE	2		PES	A4H005Q01, '98 - '01, n = 39 (but 47 for TIN)
Confidence assessment		Confidence in the assessment is low. Little DO, temp., turbidity or toxics data are available, and although the gauging weir is close to the EWR site, present state data is only available up until 2001.		
Water Quality Constituents		RC Value	PES Value	Category (Rating) / Comment
Inorganic Salts (mg/L)	MgSO4		-	TEACHA could not be used and EC used as surrogate
	Na2SO4		-	
	MgCl2		-	
	CaCl2		-	
	NaCl		-	
	CaSO4		-	
Nutrients (mg/L)	SRP	0.011	0.0059	A (0): Benchmark category was recalibrated – RC data very variable
	TIN	0.06	0.02	A (0). RC data very variable
Physical variables	pH (5th and 95th percentiles)	6.00 and 7.25	7.46 - 7.87	A (0): Benchmark category recalibrated for lower A category
	Temperature		-	No data, but few impacts expected. Some temperature and DO fluctuations may occur at low flows - B (1) – qualitative assessment only
	Dissolved oxygen		-	
	Turbidity (NTU)		-	No data, but loads not expected to be high. A/B (0.5) – qualitative assessment only

RIVER	Mokolo River		Water Quality Monitoring Points	
WQSU	4		RC	A4H005Q01, '77 - '80, n = 85 (but 163 for EC)
EWR SITE	2		PES	A4H005Q01, '98 - '01, n = 39 (but 47 for TIN)
Confidence assessment		Confidence in the assessment is low. Little DO, temp., turbidity or toxics data are available, and although the gauging weir is close to the EWR site, present state data is only available up until 2001.		
Water Quality Constituents		RC Value	PES Value	Category (Rating) / Comment
	Electrical conductivity (mS/m)	9.09	9.4	A (0)
Response variables	Chl-a: periphyton		EWR 2: 25.54 WQ site 4: 18.68 (high SD)	D (3) (n=1). SD high across 3 replicates C (2) (n=1)
	Chl-a: phytoplankton		-	-
	Biotic community composition: macro -invertebrate (ASPT) score		Jan '08: SASS – 82; ASPT - 5.1 March '08: SASS - 126 ; ASPT - 6.6	C
	Fish		65.1	C
	Diatoms		EWR 2: SPI=16.1 WQ site 4: 18.8	B (1) (n=2) A (0) (n=1)
Toxics (mg/L)	Fluoride	0.19	0.15	A (0)
	Ammonia		0.002	A (0)
OVERALL SITE CLASSIFICATION (from PAI)			B (84.2)	

Table 5.6: EcoSpecs relating to physico-chemical data: PES

River: Mokolo		EWR: 2	Monitoring site: A4H002Q01
Water quality metrics		ECOSPEC: PES	
Inorganic salts* (mg/L)	MgSO4	The 95th percentile of the data must be ≤ 16 mg/L.	
	Na2SO4	The 95th percentile of the data must be ≤ 20 mg/L.	
	MgCl2	The 95th percentile of the data must be ≤15 mg/L.	
	CaCl2	The 95th percentile of the data must be ≤ 21 mg/L.	
	NaCl	The 95th percentile of the data must be ≤ 45 mg/L.	
	CaSO4	The 95th percentile of the data must be ≤ 351 mg/L.	
Physical variables	EC	The 95th percentile of the data must be ≤ 30 mS/m.	
	pH	The 5th and 95th percentiles of the data must range from 6.5 to 8.0.	
	Temperature	Small deviation from the natural temperature range.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 7 mg/L.	
	Turbidity	Vary by a small amount from the natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients (mg/L)	TIN	The 50th percentile of the data must be ≤ 0.25 mg/L.	
	PO4-P	The 50th percentile of the data must be ≤ 0.015 mg/L.	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be < 10 µg/L.**	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 52.5 mg/m2. ***	
	Toxics	The 95th percentile of the data must be within the TWQR as stated in DWAF (1996).	

* To be generated using TEACHA when the TPC for EC is exceeded or salt pollution expected.

** No phytoplankton data were available for this assessment. All EcoSpecs and TPCs need verification as based on expert judgement.

*** Periphyton (25.54 mg/m2) is actually in a C/D category (C= 12 - 21 and D= 21 - 84 mg/m2, DWAF 2008), so have defined the upper boundary of a C/D as the EcoSpec for PES.

Table 5.7: PES categories and overall site assessment for EWR 3 in the Mokolo River- WQSU 5

RIVER	Mokolo River		Water Quality Monitoring Points	
WQSU	5		RC	A4H007Q01, '77 - '80, n = 82
EWR SITE	3		PES	A4H010Q01, '92 - '96, n = 27 (but 19 for temp. and 6 for NH3)
Confidence assessment		Confidence in the assessment is low as little DO, temp., turbidity or toxics data are available. Although the gauging weir is close to the EWR site, present state data only until 1996. RC data sourced from A4H007Q01 on the Tambotie River (same EcoRegion level II).		
Water Quality Constituents		RC Value	PES Value	Category (Rating) / Comment
Inorganic salts (mg/L)	MgSO4		-	TEACHA could not be used and EC used as surrogate
	Na2SO4		-	
	MgCl2		-	
	CaCl2		-	
	NaCl		-	
	CaSO4		-	
Nutrients (mg/L)	SRP	0.007	0.015	A (0): Benchmark category was recalibrated – Data very variable
	TIN	0.065	0.067	A (0). Data very variable
Physical variables	pH (5th and 95th percentiles)	5.14 and 6.70	7.2 and 7.76	B (1): RC data 5.14 (5th percentile) and 6.7 (95th percentile) – reliability?
	Temperature (10th and 90th percentiles)		12 – 25	Little data, but site downstream Mokolo Dam (even if multi-level off take, probably bottom release due to low flows in the dam), so dam impacts on temperature and DO expected. C (2)
	Dissolved oxygen		-	
	Turbidity (NTU)		-	No data, but loads not expected to be high. A/B (0.5) – qualitative assessment only

CONTINUES ON PAGE 514 - PART 5

Government Gazette
Staatskoerant

REPUBLIC OF SOUTH AFRICA
REPUBLIEK VAN SUID AFRIKA

Vol. 663 18 September / September 2020 No. 43726

PART 5 OF 5

ISSN 1682-5843

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RIVER	Mokolo River		Water Quality Monitoring Points	
WQSU	5		RC	A4H007Q01, '77 - '80, n = 82
EWR SITE	3		PES	A4H010Q01, '92 - '96, n = 27 (but 19 for temp. and 6 for NH3)
Confidence assessment		Confidence in the assessment is low as little DO, temp., turbidity or toxics data are available. Although the gauging weir is close to the EWR site, present state data only until 1996. RC data sourced from A4H007Q01 on the Tambotie River (same EcoRegion level II).		
Water Quality Constituents		RC Value	PES Value	Category (Rating) / Comment
	Electrical conductivity (mS/m)	15 and 24	10.87	A (0)
Response variable	Chl-a: periphyton		17.28	C (2) (n=1)
	Chl-a: phytoplankton		-	-
	Biotic community composition: macroinvertebrate (ASPT) score		SASS:130 ASPT: 5.0 SASS: 149 ASPT: 5.7	C
	Fish		65.8	C
	Diatoms		SPI=16.6 (Sept 07) SPI=17.4 (Jan 08) SPI=18.4 (Mar 08)	B (1) (n=3) A (0) A (0)
Toxics (mg/L)	Fluoride	6.77	0.278	A (0)
	Ammonia	0.160	0.001	A (0)
OVERALL SITE CLASSIFICATION (from PAI)			B/C (79.2)	

Table 5.8: EcoSpecs relating to physico-chemical data: PES

River: Mokolo		EWR: 3	Monitoring site: A4H010Q01
Water quality metrics		ECOSPEC: PES	
Inorganic salts* (mg/L)	MgSO4	The 95th percentile of the data must be ≤ 16 mg/L.	
	Na2SO4	The 95th percentile of the data must be ≤ 20 mg/L.	
	MgCl2	The 95th percentile of the data must be ≤15 mg/L.	
	CaCl2	The 95th percentile of the data must be ≤ 21 mg/L.	
	NaCl	The 95th percentile of the data must be ≤ 45 mg/L.	
	CaSO4	The 95th percentile of the data must be ≤ 351 mg/L.	
Physical variables (mg/L)	EC	The 95th percentile of the data must be ≤ 30 mS/m.	
	pH	The 5th and 95th percentiles of the data must range from 6.5 to 8.0.	
	Temperature	Vary by more than 2°C, i.e. a large change to the temperature regime occurs often. Most moderately temperature sensitive species would be in lower abundances and frequency of occurrence than expected for reference. Biological assessments therefore recommended and initiate baseline monitoring for this variable if Level II or higher of the DSS.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 6 mg/L.	
	Turbidity	Vary by a small amount from the natural turbidity range; minor silting of instream habitats acceptable.	
Nutrients	TIN	The 50th percentile of the data must be ≤ 0.25 mg/L.	
	PO4-P	The 50th percentile of the data must be ≤ 0.015 mg/L.	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be < 10 µg/L.**	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 21 mg/m2.	
	Toxics	The 95th percentile of the data must be within the TWQR as stated in DWAF (1996).	

* To be generated using TEACHA when the TPC for EC is exceeded or salt pollution expected

** No phytoplankton data were available for this assessment. All EcoSpecs and TPCs need verification as based on expert judgement.

Table 5.9: PES categories and overall site assessment for EWR 4 in the Mokolo River- WQSU 5

RIVER	Mokolo River		Water Quality Monitoring Points	
WQSU	5		RC	A4H007Q01, '77 - '80, n = 82
EWR SITE	4		PES	A4H010Q01, '92-'96, n = 27 (but 19 for temp. and 6 for NH3)
Confidence assessment		Confidence in the assessment is low as little DO, temp., turbidity or toxics data are available. Data from A4H010Q01 is used for EWR 3 and 4, with modifications to the PAI table – particularly based on on-site indicators and the influence of Poer-se-loop tributary joining the Mokolo River between the two sites. Present state data only until 1996 and RC data sourced from A4H007Q01 on the Tambotie River (same EcoRegion level II).		
Water Quality Constituents		RC Value	PES Value	Category (Rating) / Comment
Inorganic salts (mg/L)	MgSO4		-	TEACHA could not be used and EC used as surrogate
	Na2SO4		-	
	MgCl2		-	
	CaCl2		-	
	NaCl		-	
	CaSO4		-	
Nutrients (mg/L)	SRP	0.007	0.015	A (0): Benchmark category was recalibrated – Data very variable
	TIN	0.065	0.067	A (0). Data very variable
Physical variables	pH (5th and 95th percentiles)	5.14 and 6.70	7.2 - 7.76	B (1): RC data 5.14 (5th percentile) and 6.7 (95th percentile) – reliability?
	Temperature		-	No data, but no impacts expected. Small temperature and DO fluctuations may occur - B (1) – qualitative assessment only
	Dissolved oxygen		-	

RIVER	Mokolo River		Water Quality Monitoring Points	
WQSU	5		RC	A4H007Q01, '77 - '80, n = 82
EWR SITE	4		PES	A4H010Q01, '92-'96, n = 27 (but 19 for temp. and 6 for NH3)
Confidence assessment		Confidence in the assessment is low as little DO, temp., turbidity or toxics data are available. Data from A4H010Q01 is used for EWR 3 and 4, with modifications to the PAI table – particularly based on on-site indicators and the influence of Poer-se-loop tributary joining the Mokolo River between the two sites. Present state data only until 1996 and RC data sourced from A4H007Q01 on the Tambotie River (same EcoRegion level II).		
Water Quality Constituents		RC Value	PES Value	Category (Rating) / Comment
	Turbidity (NTU)		-	No data, but loads not expected to be too high and river generally clear. A (0) – qualitative assessment only
	Electrical conductivity (mS/m)	15 and 24	10.87	A (0)
Response variable	Chl-a: periphyton		-	-
	Chl-a: phytoplankton		-	-
	Biotic community composition: macroinvertebrate (ASPT) score		SASS: 126 ASPT: 4.8	C
	Fish		63.73	C
	Diatoms		Sept '07: SPI=17.8 March '08: SPI=17.4	A (0) (n=2)
Toxics (mg/L)	Fluoride	6.77	0.278	A (0)
	Ammonia	0.160	0.001	A (0)
OVERALL SITE CLASSIFICATION (from PAI)			B (86.8)	

Table 5.10: EcoSpecs relating to physico-chemical data: PES

River: Mokolo		EWR: 4	Monitoring site: A4H010Q01
Water quality metrics		ECOSPEC: PES	
Inorganic salts* (mg/L)	MgSO4	The 95th percentile of the data must be ≤ 16 mg/L.	
	Na2SO4	The 95th percentile of the data must be ≤ 20 mg/L.	
	MgCl2	The 95th percentile of the data must be ≤15 mg/L.	
	CaCl2	The 95th percentile of the data must be ≤ 21 mg/L.	
	NaCl	The 95th percentile of the data must be ≤ 45 mg/L.	
	CaSO4	The 95th percentile of the data must be ≤ 351 mg/L.	
Physical variables	EC	The 95th percentile of the data must be ≤ 30 mS/m.	
	pH	The 5th and 95th percentiles of the data must range from 6.5 to 8.0.	
	Temperature	Small to moderate deviation from the natural temperature range. Some highly temperature sensitive species in lower abundances and frequency of occurrence than expected for reference.	
	Dissolved oxygen	The 5th percentile of the data must be ≥ 7 mg/L.	
	Turbidity	No known concerns about turbidity; changes in turbidity appear to be natural.	
Nutrients (mg/L)	TIN	The 50th percentile of the data must be ≤ 0.25 mg/L.	
	PO4-P	The 50th percentile of the data must be ≤ 0.015 mg/L.	
Response variables	Chl-a phytoplankton	The 50th percentile of the data must be < 10 µg/L.**	
	Chl-a periphyton	The 50th percentile of the data must be ≤ 21 mg/m2 .	
	Toxics	An impact is expected if the 95th percentile of the data exceeds the TWQR as stated in DWAF (1996).	

*: To be generated using TEACHA when the TPC for EC is exceeded or salt pollution is expected

**: No phytoplankton data were available for this assessment. All EcoSpecs and TPCs need verification as range is based on expert judgement.

6. GROUNDWATER-QUANTITY COMPONENT

The groundwater quantity component was determined using values such as recharge, baseflow, and stress index, obtained during the determination of water resource classes and associated resource quality objectives in the Mokolo and Matlabas catchments, DWS 2015, shown in Table 6.1. The average annual groundwater recharge for the entire catchment based on the GRA II dataset is estimated to be more than 16.25 Mm^3/a. The EWR MLF values were obtained from the Intermediate groundwater Reserve determination study for the Limpopo catchment (Water Geosciences Consulting, 2011).

Population values were obtained from the Water Services dataset of 2011. BHN provides for the essential needs of individuals served by the water resource in question and includes water for drinking, food preparation and for personal hygiene. A life-line amount of 25 litres per person per day was used. The current study approach also took cognisance of the GRA II and WARMS 2013 datasets to achieve a more balanced estimate of groundwater use. The groundwater stress index reflects groundwater used versus recharge.

Table 6.1: Mokolo and Matlabas Groundwater Reserve

Quat	Area (km)	Recharge (Mm3/a)	Population (Water services) 2011)	Baseflow (Mm3/a)	EWR_MLF (Mm3/a)	BHN Reserve (Mm3/a)	Reserve (Mm3/a)	Reserve as % of Recharge	Current Groundwater Use (Mm3/a)	Stress Index
A41A	692	17.66	6785	5.06	3.18	0.06	3.24	18.34	1.22	0.07
A41B	358	7.86	5175	1.79	0.75	0.05	0.80	10.18	0.15	0.02
A41C	1111	13.23	7749	0.85	0.39	0.07	0.46	3.48	0.25	0.02
A41D	1913	16.71	5483	0.54	0.54	0.05	0.59	3.53	2.76	0.16
A41E	1940	12.41	7886	0.17	0.53	0.07	0.60	4.83	1.79	0.14
A42A	573	18.19	3793	9.46	4.07	0.03	4.10	22.54	4.56	0.25
A42B	522	15.77	3443	8.93	4.05	0.03	4.08	26.90	4.47	0.28
A42C	698	27.02	6031	11.56	2.83	0.06	2.89	10.69	5.51	0.20
A42D	497	16.86	2662	6.49	9.19	0.02	9.21	54.62	2.93	0.17
A42E	1007	32.98	13391	11.87	8.18	0.12	8.30	25.17	8.10	0.24
A42F	1022	22.46	1958	4.23	2.48	0.02	2.50	11.13	2.66	0.12
A42G	1207	26.40	2188	2.53	2.70	0.02	2.72	10.30	0.13	0.004
A42H	1057	18.15	17266	2.02	0.63	0.16	0.79	4.35	0.09	0.004
A42J	1 812	12.81	2812	0.74	0.36	0.03	0.39	3.04	2.12	0.16

Table 6.2: Groundwater quality per Quaternary Catchments (Mokolo and Matlabas)

Chemical Parameter	Unit	Quaternary Catchmentss A41A, A41B, A41C & A41D												
		No. of Samples				Ambient GW quality or median[1)]				BHN Reserve[2)]	Groundwater Quality Reserve[3)]			
		A41 A	A41 B	A41C	A41D	A41A	A41B	A41C	A41D		A41A	A41B	A41C	A41D
pH		70	259	70	259	7.51	7.61	7.51	7.61	5.0 – 9.5	8.26	8.37	8.26	8.37
Electrical Conductivity	mS/m	70	259	70	259	97.50	130.00	97.50	130.00	<150	107.25	143.00	107.25	143.00
Calcium as Ca	mg/l	70	259	70	259	49.90	76.50	49.90	76.50	<150	54.89	84.15	54.89	84.15
Magnesium as Mg	mg/l	70	259	70	259	37.55	52.80	37.55	52.80	<100	41.31	58.08	41.31	58.08
Sodium as Na	mg/l	70	259	70	259	105.70	129.10	105.70	129.10	<200	116.27	142.01	116.27	142.01
Chloride as Cl	mg/l	70	259	70	259	78.30	143.10	78.30	143.10	<200	86.13	157.41	86.13	157.41
Sulphate as SO_4	mg/l	70	259	70	259	21.65	38.87	21.65	38.87	<400	23.82	42.76	23.82	42.76
Nitrate as NO_x-N	mg/l	70	259	70	259	3.90	4.53	3.90	4.53	<10	4.29	4.98	4.29	4.98
Fluoride as F	mg/l	70	259	70	259	1.28	0.85	1.28	0.85	<1.0	1.28	0.94	1.28	0.94

(1) Based on data obtained from the National Groundwater Archive. Values reported are the statistical median of each parameter.

(2) Ref: *Quality of Domestic Water Supplies, Volume 1: Assessment Guide, 2nd Ed.*1998. Water Research Commission Report No: TT 101/98. Pretoria, South Africa (Set for a Class 1).

(3) Where a difference in the water quality values for the ambient groundwater quality and basic human needs was found, the lesser or more protective value was selected for the groundwater quality Reserve. Where the ambient groundwater quality was selected as the groundwater quality Reserve, the value was scaled up by 10 per cent provided that the value does not exceed the BHN Reserve.

Table 6.3: Groundwater quality per Quaternary Catchments (Mokolo and Matlabas)

Chemical Parameter	Unit	Quaternary Catchmentss A41E, A42A, A42B & A42C												
		No. of Samples				Ambient GW quality or median[1)]				BHN Reserve[2)]	Groundwater Quality Reserve[3)]			
		A41E	A42A	A42B	A42C	A41E	A42A	A42B	A42C		A41E	A42A	A42B	A42C
pH		99	4	4	47	7.70	6.88	7.55	8.10	5.0 – 9.5	8.47	7.57	8.30	8.91
Electrical Conductivity	mS/m	99	4	4	47	163.20	14.10	23.75	33.30	<150	163.20	15.51	26.13	36.63
Calcium as Ca	mg/l	96	3	4	41	79.50	3.40	18.85	17.70	<150	87.45	3.74	20.74	19.47
Magnesium as Mg	mg/l	96	3	4	41	47.20	6.10	9.75	5.61	<100	51.92	6.71	10.73	6.17
Sodium as Na	mg/l	96	3	4	41	213.05	5.60	12.30	52.50	<200	213.05	6.16	13.53	57.75
Chloride as Cl	mg/l	97	4	4	41	280.00	14.10	7.25	11.00	<200	280.00	15.51	7.98	12.10
Sulphate as SO_4	mg/l	96	3	4	41	76.50	10.20	8.60	7.78	<400	84.15	11.22	9.46	8.55
Nitrate as NO_x-N	mg/l	97	4	4	42	6.70	0.07	0.19	1.64	<10	7.37	0.07	0.20	1.80
Fluoride as F	mg/l	97	3	4	41	1.10	0.38	0.57	0.42	<1.0	1.10	0.42	0.62	0.46

(1) Based on data obtained from the National Groundwater Archive. Values reported are the statistical median of each parameter.

(2) Ref: *Quality of Domestic Water Supplies, Volume 1: Assessment Guide, 2nd Ed.*1998. Water Research Commission Report No: TT 101/98. Pretoria, South Africa (Set for a Class 1).

(3) Where a difference in the water quality values for the ambient groundwater quality and basic human needs was found, the lesser or more protective value was selected for the groundwater quality Reserve. Where the ambient groundwater quality was selected as

the groundwater quality Reserve, the value was scaled up by 10 per cent provided that the value does not exceed the BHN Reserve.

Table 6.4: Groundwater quality per Quaternary Catchment (A42D, A42E, and A42F & A42G)

Chemical Parameter	Unit	Quaternary Catchments A42D, A42E, A42F & A42G												
		No. of Samples				Ambient GW quality or median[1]				BHN Reserve[2]	Groundwater Quality Reserve[3]			
		A42D	A42E	A42F	A42G	A42D	A42E	A42F	A42G		A42D	A42E	A42F	A42G
pH		3	12	3	20	7.07	7.56	7.93	7.34	5.0 – 9.5	7.78	8.31	8.72	8.07
Electrical Conductivity	mS/m	3	12	3	20	42.10	58.85	25.50	27.60	<150	46.31	64.74	28.05	30.36
Calcium as Ca	mg/l	3	12	2	20	41.60	30.25	10.25	8.35	<150	45.76	33.28	11.28	9.19
Magnesium as Mg	mg/l	3	12	2	20	8.30	17.10	7.55	5.60	<100	9.13	18.81	8.31	6.16
Sodium as Na	mg/l	2	12	2	20	26.20	24.35	17.10	15.40	<200	28.82	26.79	18.81	16.94
Chloride as Cl	mg/l	3	12	3	20	17.00	33.70	6.85	10.90	<200	18.70	37.07	7.54	11.99
Sulphate as SO_4	mg/l	3	12	2	20	14.00	8.55	5.30	6.65	<400	15.40	9.41	5.83	7.32
Nitrate as NO_x-N	mg/l	2	12	2	20	0.22	0.06	0.16	0.09	<10	0.24	0.06	0.18	0.10
Fluoride as F	mg/l	3	12	3	20	0.12	0.35	0.50	0.22	<1.0	0.13	0.39	0.55	0.24

(1) Based on data obtained from the National Groundwater Archive. Values reported are the statistical median of each parameter.

(2) Ref: *Quality of Domestic Water Supplies, Volume 1: Assessment Guide, 2nd Ed.*1998. Water Research Commission Report No: TT 101/98. Pretoria, South Africa (Set for a Class 1).

(3) Where a difference in the water quality values for the ambient groundwater quality and basic human needs was found, the lesser or more protective value was selected for the groundwater quality Reserve. Where the ambient groundwater quality was selected as the groundwater quality Reserve, the value was scaled up by 10 per cent provided that the value does not exceed the BHN Reserve.

Table 6.5: Groundwater quality per Quaternary Catchment (A42H & A42J)

Chemical Parameter	Unit	Quaternary Catchments A42H & A42J						
		No. of Samples		Ambient GW quality or median[1)]		BHN Reserve[2)]	Groundwater Quality Reserve[3)]	
		A42H	A42J	A42H	A42J		A42H	A42J
pH		48	54	8.23	7.44	5.0 – 9.5	9.06	8.18
Electrical Conductivity	mS/m	48	54	159.50	199.85	<150	159.50	199.85
Calcium as Ca	mg/l	47	54	7.50	71.00	<150	8.25	78.10
Magnesium as Mg	mg/l	47	54	1.20	40.35	<100	1.32	44.39
Sodium as Na	mg/l	47	54	313.56	196.45	<200	313.56	200
Chloride as Cl	mg/l	47	54	284.00	302.60	<200	284.00	302.60
Sulphate as SO_4	mg/l	47	54	135.33	129.05	<400	148.86	141.96
Nitrate as NO_x-N	mg/l	47	54	0.08	7.50	<10	0.09	8.25
Fluoride as F	mg/l	43	54	12.62	1.21	<1.0	12.62	1.21

(1) Based on data obtained from the National Groundwater Archive. Values reported are the statistical median of each parameter.

(2) Ref: *Quality of Domestic Water Supplies, Volume 1: Assessment Guide, 2nd Ed.*1998. Water Research Commission Report No: TT 101/98. Pretoria, South Africa (Set for a Class 1).

(3) Where a difference in the water quality values for the ambient groundwater quality and basic human needs was found, the lesser or more protective value was selected for the groundwater quality Reserve. Where the ambient groundwater quality was selected as the groundwater quality Reserve, the value was scaled up by 10 per cent provided that the value does not exceed the BHN Reserve.

A total of 2 quaternary catchmentss (A41A and A41B) do not have adequate groundwater chemistry data for comprehensive analysis of the ambient status. Therefore the ambient groundwater quality for A41A and A41B was extrapolated from neighbouring quaternary catchments (A41C and A41D) with a similar geology because geology has a huge bearing on the water quality of an area.

Table 6.6: Summary of the water quality class and parameters of concern

Quaternary catchment	Water quality class (WRC, 1998)	Water quality parameters of concern
A41A	II	Fluoride
A41B	I	Electrical Conductivity, Chloride and Sodium
A41C	II	Fluoride
A41D	I	Electrical Conductivity,Chloride and Sodium
A41E	II	Chloride, Electrical Conductivity and sodium
A42A	0	None
A42B	0	None
A42C	0	None
A42D	0	None
A42E	0	None
A42F	0	None
A42G	0	None
A42H	III	Fluoride
A42J	III	Chloride, Electrical Conductivity and fluoride

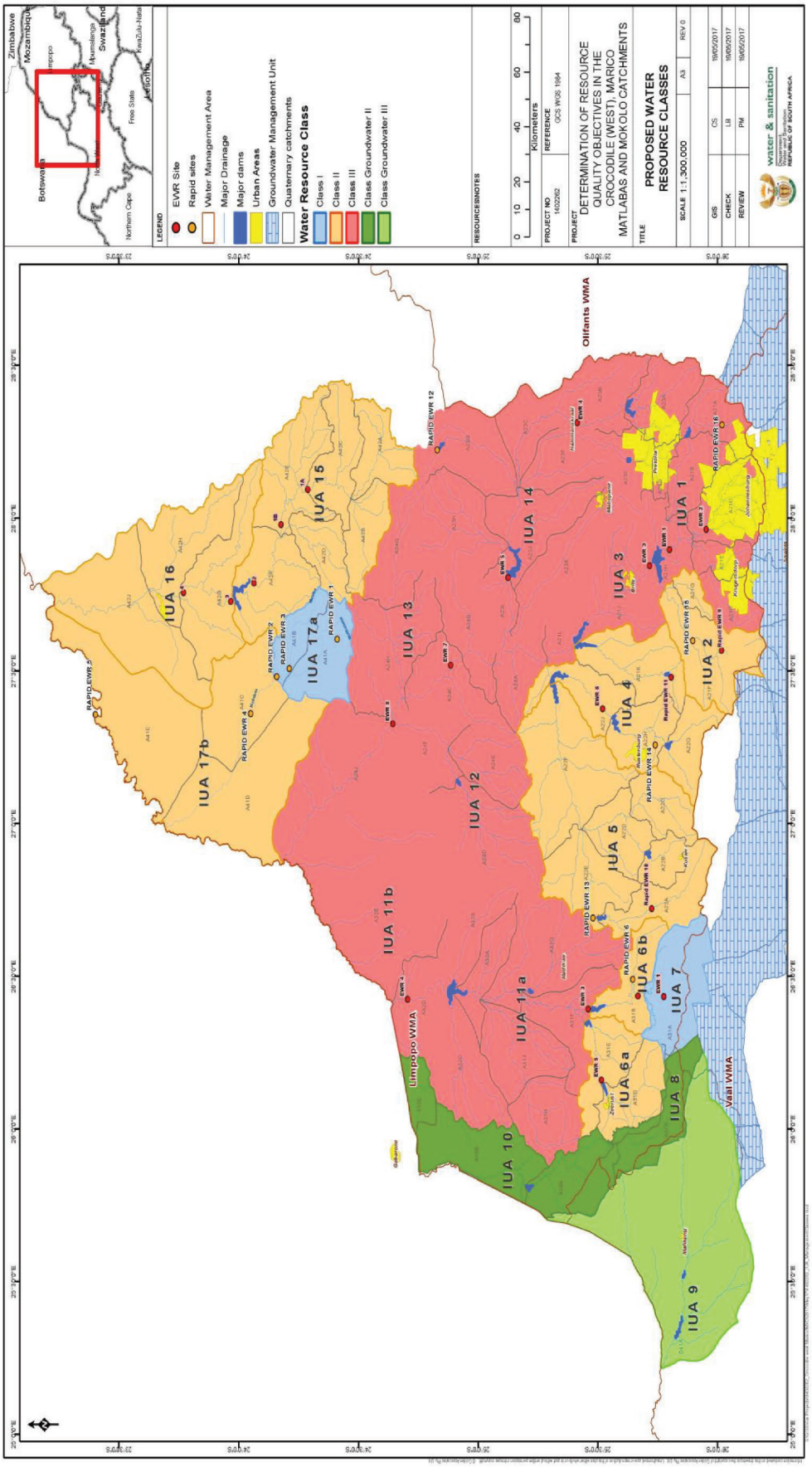

Figure 1: Locality map for the Crocodile (West), Marico, Mokolo and Matlabas catchmentss illustrating the Water Resource class and EWR sites.

32

DEPARTMENT OF WATER AND SANITATION

NO. 1010 **18 SEPTEMBER 2020**

EXTENSION AND ALIGNMENT OF COMPLIANCE PERIOD: INSTRUCTION TO INSTALL WATER MEASURING DEVICES FOR WATER TAKEN FOR IRRIGATION PURPOSES IN TERMS OF GOVERNMENT NOTICE NO. 141, 23 FEBRUARY 2018 (WATER USERS WITHIN WATER MANAGEMENT INSTITUTIONS) AND GOVERNMENT NOTICE NO. 34, 17 JANUARY 2020 (WATER USERS WHO ARE NOT MEMBERS OF WATER MANAGEMENT INSTITUTIONS).

I, Mbulelo Tshangaga, in my capacity as Acting Director General of the Department of Water and Sanitation, after a careful consideration of all submissions made by interested and affected parties hereby extend the period required to install water measuring devices from 30 working days to **120 working days** of this notice. The extension applies to Government Notice No. 34 of 17 January 2020.

Water users instructed to install water measuring devices under Government Notice No. 141 of 23 February 2018 and have not done so, are afforded further opportunity to comply within the 120-day period.

Only the compliance period is affected by this Notice and all other requirements apply as per previous publications. This Notice is issued in terms of Section 26(1)(b) , Schedule 3 item 4 as well as Section 22(2) of the National Water Act, 1998(Act No.36 of 1998).

Failure to comply with this instruction may result in enforcement actions taken against non-compliant users and may culminate in a fine or imprisonment for a period not exceeding five years.

DIRECTOR GENERAL (Act)
DATE: 11/03/2020

PARLIAMENT OF THE REPUBLIC OF SOUTH AFRICA

NOTICE 504 OF 2020

DR DT GEORGE, MP

NOTICE OF INTENTION TO INTRODUCE A PRIVATE MEMBER'S BILL AND INVITATION FOR COMMENT ON THE DRAFT, NAMELY THE PENSION FUNDS AMENDMENT BILL, 2020

Dr Dion George, MP acting in accordance with section 73(2) of the Constitution of the Republic of South Africa, 1996, intends to introduce the Pension Funds Amendment Bill, 2020 ("draft Bill"), in Parliament. An explanatory summary of the Bill is hereby published in accordance with Rule 276(1)*(c)* of the Rules of the National Assembly (9th Edition).

The outbreak of the COVID-19 pandemic in the Republic has had a severe impact on the South African economy and on the personal financial wellbeing of many South Africans who require financial support.

Section 19 of the Pension Funds Act, 1956 (Act No. 24 of 1956) ("the Act") currently enables pension fund members to access a loan, where the pension fund asset acts as security for such a loan, in order to obtain a home loan. However, the Act does not permit pension fund members to obtain a loan for any other purpose.

The draft Bill therefore seeks to amend the Act in order to allow for pension fund members to obtain a loan, secured by a guarantee from a registered pension fund, to alleviate financial pressure during the COVID-19 emergency or any other emergency similar to COVID-19. The draft Bill provides for a registered pension fund to offer a guarantee to a pension fund member of a maximum of 75% of their share in the value of the fund. By enabling a member to access a pension-backed loan, that member will be able to leverage their pension fund investment prior to their retirement date, without eroding their provision for eventual retirement. Lending institutions will be enabled to offer loans to pension fund members at competitive interest rates and over extended or deferred payment periods given that the loan is fully guaranteed.

Interested parties and institutions are invited to submit written representations on the proposed content of the draft Bill to the Speaker of the National Assembly within 30 days of the publication of this notice. Representations can be delivered to the Speaker, New Assembly Building, Parliament Street, Cape Town; mailed to the Speaker, P O Box 15 Cape Town 8000, or emailed to speaker@parliament.gov.za and copied to lurwinj@da.org.za.

Copies of the Pension Funds Amendment Bill, 2020 may, after introduction, be obtained from:
The Democratic Alliance
PO Box 15, Cape Town, 8000
Attention: Mr L Jeneke
Telephone: 021 404 2689
E-mail: lurwinj@da.org.za

DEPARTMENT OF PUBLIC WORKS AND INFRASTRUCTURE

NOTICE 505 OF 2020

Department of Public Works and Infrastructure

cidb Best Practice Project Assessment Scheme

In terms of Section 23 within Chapter Four of the Construction Industry Development Board Act, 2000 (Act no. 38 of 2000) (the Act):

1) *The Board must, within a reasonable period after the establishment of the register of projects, establish a best practice project assessment scheme, based on the best practices identified by the Board in terms of section 5.*
2) *After a date determined by the Minister in the Gazette all construction contracts above a prescribed tender value are subject to an assessment, in the prescribed manner, of compliance with best practice standards and guidelines published by the Board in the Gazette, and different dates may be determined for different practices.*
3) *Every client who engages in the best practice project assessment scheme must pay to the Board a prescribed percentage of the contract sum as determined at the time of the awarding of the contract.*

This Notice specifies the date and the prescribed tender value for projects that are subject to an assessment of best practice standards and guidelines published by the Board.

_____

Ms. PATRICIA DE LILLE, MP

Minister of Public Works and Infrastructure

public works & infrastructure
Department:
Public Works and Infrastructure
REPUBLIC OF SOUTH AFRICA

GOVERNMENT NOTICE

DEPARTMENT OF PUBLIC WORKS AND INFRASTRUCTURE

SEPTEMBER 2020

CONSTRUCTION INDUSTRY DEVELOPMENT BOARD ACT, 2000

DATES ON WHICH ASSESSMENT OF BEST PRACTICE STANDARDS WILL COMMENCE

The Minister of Public Works and Infrastructure, has in terms of section 23(2) of the Construction Industry Development Board Act, 38 of 2000, determined the following dates on which the awarding of a construction works contract become subject to an assessment of compliance with the following Best Practice Standards as identified by the Construction Industry Development Board:

(a) **Standard for Indirect Targeting for Enterprise Development as per regulation 22A:**

Table 1 below contains the dates from which the different classes of construction works with a minimum tender value and a minimum project duration (as indicated in the Table), become subject to an assessment of compliance with the Standard for Indirect Targeting for Enterprise Development;

Table 1: Implementation dates for the Standard for Indirect Targeting for Enterprise Development through Construction Works

Client	Compliance Requirement			
	Implementation Date	Class of Works	Minimum Tender Grade	Minimum Project Duration
National Department Public Works and Infrastructure and Regions	From the commencement of the 2021-22 Financial Year	CE, GB	Grade 7	6 months
National Government Departments		CE, GB	Grade 7	6 months
Public Entities		CE, GB	Grade 7	6 months
All clients implementing Strategic Integrated Projects (SIPs) gazetted in terms of the Infrastructure Development Act No.23 of 2014, as amended	From the date of budget confirmation but not later than the commencement of the 2021-22 Financial Year	CE, GB	Grade 7	6 months
Private Sector	1 year after publication	CE, GB	Grade 7	6 months
Provincial Government Departments	From the commencement of the 2022-23 Financial Year	CE, GB	Grade 7	6 months

Metropolitan Municipalities	From the commencement of the 2022-23 Financial Year	CE, GB	Grade 7	6 months
District and Local Municipalities	From the commencement of the 2023-24 Financial Year	CE, GB	Grade 7	6 months

(b) **Standard for Developing Skills through Infrastructure Contracts as per regulation 22B:** Tables 2a and 2b below contains the dates from which the different classes of construction works with a minimum tender value and a minimum project duration (as indicated in the Table), become subject to an assessment of compliance with the Standard for Developing Skills through Infrastructure Contracts;

Table 2a: Implementation dates for the Standard for Developing Skills through Infrastructure Contracts; for engineering and construction works, or design and build contract or an order issued in terms of such a contract

Client	Compliance Requirement			
	Implementation Date	Class of Works	Minimum Tender Grade	Minimum Project Duration
National Department Public Works and Infrastructure and Regions	From the commencement of the 2021-22 Financial Year	All	Grade 7	12 months
National Government Departments		All	Grade 7	12 months
Public Entities		All	Grade 7	12 months
All clients implementing Strategic Integrated Projects (SIPs) gazetted in terms of the Infrastructure Development Act No.23 of 2014, as amended	From the date of budget confirmation but not later than the commencement of the 2021-22 Financial Year	All	Grade 7	12 months
Private Sector	1 year after publication	CE, GB	Grade 7	12 months
Provincial Government Departments	From the commencement of the 2022-23 Financial Year	All	Grade 7	12 months
Metropolitan Municipalities	From the commencement of the 2022-23 Financial Year	All	Grade 7	12 months
District and Local Municipalities	From the commencement of the 2023-24 Financial Year	All	Grade 7	12 months

public works & infrastructure
Department:
Public Works and Infrastructure
REPUBLIC OF SOUTH AFRICA

Table 2b: Implementation dates for the Standard for Developing Skills through Infrastructure Contracts; for professional service or service contract or an order issued in terms of such a contract

Client	Compliance Requirement			
	Implementation Date	Class of Works	Minimum Tender Value	Minimum Project Duration
National Department Public Works and Infrastructure and Regions	From the commencement of the 2021-22 Financial Year	All	R5m	12 months
National government departments		All	R5m	12 months
Public entities		All	R5m	12 months
All clients implementing Strategic Integrated Projects (SIPs) gazetted in terms of the Infrastructure Development Act No.23 of 2014, as amended	From the date of budget confirmation but not later than the commencement of the 2021-22 Financial Year	All	R5m	12 months
Private Sector	1 year after publication	CE, GB	R10m	12 months
Provincial Government Departments	From the commencement of the 2022-23 Financial Year	All	R5m	12 months
Metropolitan Municipalities	From the commencement of the 2022-23 Financial Year	All	R5m	12 months
District and Local Municipalities	From the commencement of the 2023-24 Financial Year	All	R5m	12 months

DEPARTMENT OF PUBLIC WORKS AND INFRASTRUCTURE

No. 2020

CONSTRUCTION INDUSTRY DEVELOPMENT BOARD ACT, 2000

I, Patricia De Lille, Minister of Public Works and Infrastructure, under section 33 of the Construction Industry Development Board, Act, 2000 (Act No. 38 of 2000), make the Regulations in the Schedule.

P De Lille (MP)
Minister of Public Works and Infrastructure

SCHEDULE

Definition

1. In these regulations, "the Regulations" means the Regulations published under Government Notice No. R. 692 in Government Gazette No. 26427 of 9 June 2004, as amended by Government Notice No. R. 1333 published in Government Gazette No. 26991 of 12 November 2004, Government Notice No. R. 751 published in Government Gazette No. 27831 of 22 July 2005, Government Notice No. R. 842 published in Government Gazette No. 29138 of 18 August 2006, Government Notice No. R. 1121 published in Government Gazette No. 30510 of 23 November 2007, Government Notice No. R. 1224 published in Government Gazette No. 31603 of 14 November 2008 and Government Notice No. R. 464 published in Government Gazette No. 36629 of 2 July 2013.

Amendment of Regulation 1 of Regulations

2. Regulation 1 of the Regulations is hereby amended-

(a) by the insertion after the definition of "programme" of the following definitions:

"**Standard for Developing Skills through Infrastructure Contracts**' means the Standard for Developing Skills through Infrastructure Contracts published by Board Notice No. 180 of 2013 published in Gazette No. 36760 of 23 August 2013 as amended from time to time";

"Standard for Indirect Targeting for Enterprise Development' means the Standard for Indirect Targeting for Enterprise Development through Construction Works Contracts published by Board Notice No. 21 of 2013 published in Gazette No. 36190 of 25 February 2013 as amended from time to time";

Substitution of heading to PART III of Regulations

3. The following heading is hereby substituted for the heading to Part III of the Regulations:

"PART III A
REGISTER OF PROJECTS"

Insertion of heading in Regulations

4. The following heading is hereby inserted after regulation 21 of the Regulations:

"PART III B
BEST PRACTICE PROJECT ASSESSMENT SCHEME"

Insertion of regulations 22A and 22B in Regulations

5. The following regulations are hereby inserted in the Regulations after regulation 22:

"22A. Indirect Targeting for Enterprise Development

From the date and in relation to a project determined by the Minister in terms of section 23(2) of the Act, a client or employer must, within one calendar month of the date of issue of a practical completion certificate referred to in regulation 21(1), on payment of the fees set out in Schedule 2 and on the approved form:-

(a) notify the Board of the compliance of such project with the Standard for Indirect Targeting for Enterprise Development; and

(b) submit to the Board the Targeted Enterprise Declaration Affidavits as specified in the Standard for Indirect Targeting for Enterprise Development through Construction Works Contracts pertaining to the developing enterprises concerned" and

"22B. Developing Skills through Infrastructure Contracts

(1) From the date and in relation to a project determined by the Minister in terms of section 23(2) of the Act, a client or employer must, within one calendar month of the date of issue of a practical completion certificate referred to in regulation 21(1), on payment of the fees set out in Schedule 2 and on the approved form, notify the Board of:

(a) the compliance of such project with the Standard for Developing Skills through Infrastructure Contracts; and

(b) the contract skills development achieved".

Amendment of Schedule 2 of the Regulations

6. Table 1: Registration and Renewal Fees of Schedule 2 of the Regulations is hereby amended by the insertion of the following item:

6. Best Practice Project Assessment Scheme; Assessment Fee; Projects of Tender Grades 7 to 9	0.2% of total tender value of the project on the date of award of that tender, but not more than R2 000 000.00	Section 22(3)

Short title and commencement

7. These Regulations are called the Construction Industry Development Amendment Regulations, 2020 and commence on the date of publication thereof.

UMNYANGO WEZEMISEBENZI YOMPHAKATHI KANYE NENGQALASIZINDA

No. 2020

I-*CONSTRUCTION INDUSTRY DEVELOPMENT BOARD ACT*, KA-2000

Mina, Patricia De Lille, uNgqongqoshe woMnyango Wezemisebenzi Yomphakathi Kanye Nengqalasizinda, ngaphansi kwesigaba sama-33 se-*Construction Industry Development Board,* ka-2000 (uMthetho wama-38 ka-2000), ngenza iMithethozimiso kuSheduli.

P De Lille (MP)
UMNYANGO WEZEMISEBENZI YOMPHAKATHI KANYE NENGQALASIZINDA

ISHEDULI

Incazelo

1. Kulemithethozimiso, "iMithethozimiso" kusho iMithethozimiso eshicilelwe ngaphansi kweSaziso sikaHulumeni No. R. R. 1333 esashicilelwa kuSomqulu kaHulumeni No. 26991 womhla ziyi-12 kuNovemba ke-2004, Isaziso sikaHulumeni No. R. 751 esashicilelwa kuSomqulu kaHulumeni No. 27831 womhla zingama-22 kuJulayi ka-2005, Isaziso sikaHulumeni No. R. 842 esashicilelwa kuSomqulu kaHulumeni No. 29138 womhla ziyi-18 ku-Agasti ka-2006, Isaziso sikaHulumeni No. R. 1121 esashicilelwa kuSomqulu kaHulumeni No. 30510 womhla zingama-23 kuNovemba ka-2007, Isaziso sikaHulumeni No. R. 1224 esashicilelwa kuSomqulu kaHulumeni No. 31603 womhla ziyi-14 kuNovemba ka-2008 kanye neSaziso sikaHulumeni No. R. 464 esashicilelwa kuSomqulu kaHulumeni No. 36629 womhla ziyi kuJulayi ka-2013.

Ukuchibiyelwa koMthethosimiso woku-1 weMithethozimiso

2. Umthethosimiso woku-1 weMithethozimiso lapha uchibiyelwe-

(a) Ngokufaka emuva kwencazelo "yohlelo" izincazelo ezilandelayo:

"**Izinga Lokuthuthukisa Amakhono Ngezinkontileka Zezokwakha'** kusho Izinga Lokuthuthukisa Amakhono Ngezinkontileka Zezokwakha okushicilelwe Yisaziso Sebhodi No.

180 ka-2013 esisicilelwe kuSomqulu No. 36760 womhla zingama- 23 ku-Agasti ka-2013 njengokuba uchibiyelwe esikhathini ngesikhathi";

"Izinga Lokuhlosa Okungaqondile Ngqo Lokuthuthukiswa Ibhizinisi' kusho Izinga Lokuhlosa Okungaqondile Ngqo Lokuthuthukiswa Ibhizinisi Ngezinkontileka Zemisebenzi Yokwakha okushicilelwe Yisaziso Sebhodi No. 21 ka-2013 esisicilelwe kuSomqulu No. 36190 womhla zingama -25 kuFebhuwari ka-2013 njengokuba uchibiyelwe esikhathini ngesikhathi";

Ukufaka endaweni Yesihloko Engxenyeni III yeMithethozimiso

3. Isihloko esilandelayo lapha sifakwe endaweni Yesihloko Engxenyeni III yeMithethozimiso:

"INGXENYE III IREJUSTA YEMISEBENZI"

Ukufakwa kwesihloko kuMithethozimiso

4. Isihloko esilandelayo sifakiwe lapha emuva komthethosismiso wama-21 weMthethozimiso:

"INGXENYE III B UHLELO OLUHLE KAKHULU LOKUHLOLA UMSEBENZI"

Ukufakwa kwemithethozimiso 22A kanye no-22B kuMithethozimiso

5. Imithethozimiso elandelayo ifakiwe lapha kuMithethozimiso emuva komthethosimiso sama-22:

"22A. Ukuhlosa Okungaqondile Ngqo Lokuthuthukiswa Ibhizinisi

Kusukela ngosuku futhi maqondana nomsebenzi onqunywe nguNgqongqoshe ngokwemigomo yesigaba sama-23(2) soMthetho, ikhasimende noma umqashi kumele, enyangeni eyodwa yekhalenda yosuku lokukhishwa kwesitifiketi sokuqeda ukusebenza okukhulunywe ngaso kumthethosismiso wama-21(1), ekukhokhweni Kwezimali ezibekiwe kuSheduli yesi-2 kanye nefomu elivunyelwe:-

(a) azise iBhodi lokulandela ngomsebenzi onjalo Nezinga Lokuhlosa Okungaqondile Ngqo Lokuthuthukiswa Ibhizinisi; futhi

(b) ahambise Ebhodini Lama-afidavidi Esimemezelo Sebhizinisi Elihlosiwe njengokuba kucacisiwe Yizinga Lokuhlosa Okungaqondile Ngqo Lokuthuthukisa Ibhizinisi Ngezinkontileka Zomsebenzi Wokwakha maqondana namabhizinisi afufusayo" kanye

"22B. Ukuthuthukisa amakhono Ngezinkontileka Zezokwakha

(1) Kusukela ngosuku futhi maqondana nomsebenzi onqunywe nguNgqongqoshe ngokwemigomo yesigaba sama-23(2) soMthetho, ikhasimende noma umqashi kumele, enyangeni eyodwa yekhalenda yosuku lokukhishwa kwesitifiketi sokuqeda ukusebenza okukhulunywe ngaso kumthethosismiso wama-21(1), ekukhokhweni Kwezimali ezibekiwe kuSheduli yesi-2 kanye nefomu elivunyelwe, azise iBhodi ngoku:

(a) Landela kwaloyo msebenzi Amazinga Okuthuthukiswa Kwamakhono Ngezinkontileka Zezokwakha; kanye

(b) Namakhono ezinkontileka azuziwe".

Ukuchibiyelwa kweSheduli yesi-2 yeMithethozimiso

6. Ithebula loku-1: Ukubhalisa kanye Nokuvuselelwa Kwezimali zeSheduli yesi-2 yeMithethozimiso lichibiyelwe lapha ngokufaka lokhu okulandelayo:

6. Uhlelo Oluhle Kakhulu Lokuhlola Umsebenzi; Imali Yokuhlola; Imisebenzi Yamathenda Amabanga kusukela kwelesi-7 kuya kwelesi-9	0.2% wenani selilonke lomsebenzi wethenda osukwini lokunikelwa kwalelo thenda, kodwa alikho ngaphezu kwe-R2 000 000.00	Isigaba sama-22(3)

Isihloko esifushane kanye nokuqaliswa

7. Lemithethozimiso ibizwa Ngesichibiyelo Sokuthuthukiswa Kwemboni Yezokwakha, ka-2020 futhi iqaliswa ngosuku lokushicilelwa kwayo.

SOUTH AFRICAN RESERVE BANK

NOTICE 506 OF 2020

South African Reserve Bank
Prudential Authority

Insurance Act, No 18 of 2017
Withdrawal of license in terms of sections 29(1)(b)(iii)

I, Kuben Naidoo, in concurrence with the Financial Sector Conduct Authority in terms of section 126(1)(a) of the Financial Sector Conduct Regulation Act, No.9 of 2017 hereby, give notice acting under section 29(1) of the Insurance Act, No.18 of 2017 that the registration of Netcare Life Limited as has been cancelled with effect from 1 September 2020.

Kuben Naidoo
Deputy Governor and CEO: Prudential Authority

Date: 2020-09-01

DEPARTMENT OF TRADE, INDUSTRY AND COMPETITION

NOTICE 507 OF 2020

COMPETITION TRIBUNAL
NOTIFICATION OF DECISION TO APPROVE MERGER

The Competition Tribunal gives notice in terms of rules 34(b)(ii) and 35(5)(b)(ii) of the "Rules for the conduct of proceedings in the Competition Tribunal" as published in Government Gazette No. 22025 of 01 February 2001 that it approved the following mergers:

Case No.	Acquiring Firm	Target Firm	Date of Order	Decision
LM058Jul20	EA Waterfall Logistics JV (Pty) Ltd	The Trustees for the time being of Truzen 116	05/08/2020	Approved
LM060Jul20	Unilever PLC	Unilever N.V	06/08/2020	Approved
LM001Apr20	Senwesbel Ltd and Senwes Ltd	Suidwes Holdings (Ring Fenced) (Pty) Ltd	18/08/2020	Approved Subject to Conditions
LM155Feb20	Afrocentric Health (RF) (Pty) Ltd	Dental Information Systems (Pty) Ltd	26/08/2020	Approved
IM141Dec19	JSE Ltd	Link Maerket Service Sout Africa (Pty) Ltd	02/09/2020	Approved Subject to Conditions

The Chairperson
Competition Tribunal

DEPARTMENT OF TRADE, INDUSTRY AND COMPETITION

NOTICE 508 OF 2020

INTERNATIONAL TRADE ADMINISTRATION COMMISSION

NOTICE OF INVESTIGATION INTO THE ALLEGED DUMPING OF PASTA ORIGINATING IN OR IMPORTED FROM EGYPT, LATVIA, LITHUANIA AND TURKEY

Bolux Group (Pty) Ltd, Namib Mills (Pty) Ltd, Pioneer Foods (Pty) Ltd and Tiger Brands Limited (The Applicant) submitted an application to the Commission alleging that pasta originating in or imported from Egypt, Latvia, Lithuania and Turkey is being dumped on the Southern African Customs Union (SACU) market, causing material injury and a threat of material injury to the SACU industry concerned.

THE APPLICANT

The application was lodged by Bolux Group (Pty) Ltd, Namib Mills (Pty) Ltd, Pioneer Foods (Pty) Ltd and Tiger Brands Limited. The Applicant alleges that the dumped product is causing material injury and that a threat of material injury exists. The Applicant submitted sufficient evidence and established a *prima facie* case to enable the Commission to arrive at a reasonable conclusion that an investigation should be initiated on the basis of dumping, material injury; threat of material injury and causality.

THE PRODUCT

The product allegedly being dumped is pasta, classifiable under tariff subheading 1902.19 originating in or imported from Egypt, Latvia, Lithuania and Turkey.

The Applicant indicated that there is a possibility that pasta products are incorrectly cleared as pasta containing eggs (classifiable under HS 1902.11), in order to the avoid the payment of the applicable ad valorem duty, which two product categories are fully substitutable.
Therefore, the Commission decided that anti-dumping duties imposed on pasta (classifiable

under tariff subheading HS 1902.19), if any, will also be applied to pasta containing eggs (classifiable under tariff subheading HS 1902.11), as these products are like products.

THE ALLEGATION OF DUMPING

The allegation of dumping is based on the comparison between the normal values in Egypt, Latvia, Lithuania and Turkey and the export prices from Egypt, Latvia, Lithuania and Turkey respectively.

The normal values for Egypt, Latvia, Lithuania and Turkey were determined based on Research Report by an independent and reputed market research company appointed by an Applicant to obtain the domestic prices in Egypt, Latvia, Lithuania and Turkey on behalf of the SACU Industry. The export prices were determined based on import statistics from the South African Revenue Services (SARS). The dumping margins were calculated taking the adjustment claimed for inland transportation cost on export prices into account. On this basis, the Commission found that there was *prima facie* proof of dumping of the subject product from Egypt, Latvia, Lithuania and Turkey. The dumping margins were calculated as follows:

Country	Dumping margin
Egypt	43.27%
Latvia	68.41%
Lithuania	2.45%
Turkey	367.25%

THE ALLEGATION OF MATERIAL INJURY; THREAT OF MATERIAL INJURY AND CAUSAL LINK - CUMULATIVE ASSESSMENT

There are four countries involved in this investigation, namely Egypt, Latvia, Lithuania and Turkey. In terms of the ADR16.3, the Commission may cumulatively assess the effect of the dumped imports only if it finds that cumulating is appropriate. In light of the information available, the Commission decided to do a cumulative assessment of the effect of the dumped imports from Egypt, Latvia, Lithuania and Turkey.

The Applicant submitted evidence showing price undercutting, price depression, price suppression, a decline in net profit, cash flow, market share, return on investment and employment from 2017 to 2019.
The applicant alleged that a threat of material injury exist and submitted evidence with regards to the freely disposable capacity of the exporters, significant increase of the alleged dumped

imports , the state of the economy in Egypt, Latvia, Lithuania and Turkey and prices of imports which will have a significant depressing or suppressing effect on domestic prices .

On this basis the Commission found that there was *prima facie* proof of material injury; a threat of material injury and causal link.

PERIOD OF INVESTIGATION

The period of investigation for purposes of determining the dumping margin in the exporting country of origin will be from 1January 2019 to 31 December 2019. The period of investigation for purposes of determining material injury will be from 1 January 2017 to 31 December 2019.

PROCEDURAL FRAMEWORK

Having decided that there is sufficient evidence and a *prima facie* case to justify the initiation of an investigation, the Commission has begun an investigation in terms of section 16 of the International Trade Administration Act, 2002 (the ITA Act). The Commission will conduct its investigation in accordance with the relevant sections of the ITA Act and the Anti-Dumping Regulations of the International Trade Administration Commission of South Africa (ADR). Both the ITA Act and the ADR are available on the Commission's website (www.itac.org.za) or from the Trade Remedies section, on request.

In order to obtain the information it deems necessary for its investigation, the Commission will send non-confidential versions of the application and questionnaires to all known importers and exporters and known representative associations. The trade representatives of the exporting countries have also been notified. Importers and other interested parties are invited to contact the Commission as soon as possible in order to determine whether they have been listed and were furnished with the relevant documentation. If not, they should immediately ensure that they are sent copies. The questionnaire has to be completed and any other representations must be made within the time limit set out below.

CONFIDENTIAL INFORMATION

Please note that if any information is considered to be confidential then a non-confidential version of the information must be submitted for the public file, simultaneously with the confidential version. In submitting a non-confidential version the following rules are strictly applicable and parties must indicate:

- is under oath or penalty of perjury and this serves as evidence to its veracity and is required for court proceedings

- . where confidential information has been omitted and the nature of such information;
- reasons for such confidentiality;
- a summary of the confidential information which permits a reasonable understanding of the substance of the confidential information; and
- In exceptional cases, where information is not susceptible to summary, a sworn affidavit setting out the reasons why it is impossible to comply should be provided.

A sworn affidavit is defined as a written sworn statement of fact voluntarily made by an affiant or deponent under an oath or affirmation administered by a person authorized to do so by law. Such statement is witnessed as to the authenticity of the affiant's signature by a taker of oaths, such as a notary public or commissioner of oaths. An affidavit is a type of verified statement or showing, or in other words, it contains verification, meaning it

This rule applies to all parties and to all correspondence with and submissions to the Commission, which unless indicated to be confidential and filed together with a non-confidential version, will be placed on the public file and be made available to other interested parties.

If a party considers that any document of another party, on which that party is submitting representations, does not comply with the above rules and that such deficiency affects that party's ability to make meaningful representations, the details of the deficiency and the reasons why that party's rights are so affected must be submitted to the Commission in writing forthwith (and at the latest 14 days prior to the date on which that party's submission is due). Failure to do so timeously will seriously hamper the proper administration of the investigation, and such party will not be able to subsequently claim an inability to make meaningful representations on the basis of the failure of such other party to meet the requirements.

Subsection 33(1) of the ITA Act provides that any person claiming confidentiality of information should identify whether such information is *confidential by nature* or is *otherwise confidential* and, any such claims must be supported by a written statement, in each case, setting out how the information satisfies the requirements of the claim to confidentiality. In the alternative, a sworn statement should be made setting out reasons why it is impossible to comply with these requirements.

Section 2.3 of the ADR provides as follows:

"The following list indicates "information that is by nature confidential" as per section 33(1) (a) of the Main Act, read with section 36 of the Promotion of Access to Information Act (Act 2 of 2000):

(a) management accounts;
(b) financial accounts of a private company;
(c) actual and individual sales prices;
(d) actual costs, including cost of production and importation cost;
(e) actual sales volumes;
(f) individual sales prices;
(g) information, the release of which could have serious consequences for the person that provided such information; and
(h) information that would be of significant competitive advantage to a competitor;

Provided that a party submitting such information indicates it to be confidential."

ADDRESS

The response to the questionnaire and any information regarding this matter and any arguments concerning the allegation of dumping and the resulting material injury and threat of material injury must be submitted in writing to the following address:

Physical address
Senior Manager: Trade Remedies I
International Trade Administration Commission
Block E – The DTI Campus
77 Meintjies Street
SUNNYSIDE
PRETORIA
SOUTH AFRICA

Postal address
Senior Manager: Trade Remedies I
Private Bag X753
PRETORIA
0001
SOUTH AFRICA

PROCEDURES AND TIME LIMITS

All responses, including non-confidential copies of the responses, should be received by the Senior Manager: Trade Remedies I not later than 30 days from the date hereof, or from the date on which the letter accompanying the abovementioned questionnaire was received. The said letter shall be deemed to have been received seven days after the day of its dispatch.

Late submissions will not be accepted except with the prior written consent of the Commission.

The Commission will give due consideration to written requests for an extension of not more than 14 days on good cause shown (properly motivated and substantiated), if received prior to the expiry of the original 30-day period. Merely citing insufficient time is not an acceptable reason for extension. Please note that the Commission will not consider requests for extension by Embassies on behalf of exporters.

The information submitted by any party may need to be verified by the Investigating Officers in order for the Commission to take such information into consideration. The Commission may verify the information at the premises of the party submitting the information, within a short period after the submission of the information to the Commission. Parties should therefore ensure that the information submitted will subsequently be available for verification. It is planned to do the verification of the information submitted by the exporters within three to five weeks subsequent to submission of the information. This period will only be extended if it is not feasible for the Commission to do it within this time period or upon good cause shown, and with the prior written consent of the Commission, which should be requested at the time of the submission. It should be noted that unavailability of, or inconvenience to consultants will not be considered to be good cause.

Parties should also ensure when they engage consultants that they will be available at the requisite times, to ensure compliance with the above time frames. Parties should also ensure that all the information requested in the applicable questionnaire is provided in the specified detail and format. The questionnaires are designed to ensure that the Commission is provided with all the information required to make a determination in accordance with the rules of Anti-Dumping Agreement. The Commission may therefore refuse to verify information that is incomplete or does not comply with the format in the questionnaire, unless the Commission has agreed in writing to a deviation from the required format. A failure to submit an adequate non-confidential version of the response that complies with the rules set out above under the heading *Confidential Information* will be regarded as an incomplete submission.

Parties, who experience difficulty in furnishing the information required, or submitting in the format required, are therefore urged to make written applications to the Commission at an early stage for permission to deviate from the questionnaire or provide the information in an alternative format that can satisfy the Commission's requirements. The Commission will give due consideration to such a request on good cause shown.

Any interested party may request an oral hearing at any stage of the investigation in accordance with Section 5 of the ADR, provided that the party indicates reasons for not relying on written submission only.
The Commission may refuse an oral hearing if granting such hearing will unduly delay the finalisation of a determination. Parties requesting an oral hearing shall provide the Commission with a detailed agenda for, and a detailed version, including a non-confidential version, of the information to be discussed at the oral hearing at the time of the request.

If the required information and arguments are not received in a satisfactory form within the time

limit specified above, or if verification of the information cannot take place, the Commission may disregard the information submitted and make a finding on the basis of the facts available to it.

Should you have any queries, please do not hesitate to contact the investigating officers Mr Zuko Ntsangani at telephone number + 27 12 394 3662, or Ms Charity Mudzwiri at +27 12 394 1817 and fax number +27 12 394 0518.

DEPARTMENT OF TRANSPORT

NOTICE 509 OF 2020

AIR SERVICE LICENSING ACT, 1990 (ACT NO.115 OF 1990) APPLICATION FOR THE GRANT OR AMENDMENT OF DOMESTIC AIR SERVICE LICENCE

Pursuant to the provisions of section 15 (1) (b) of Act No. 115 of 1990 and Regulation 8 of the Domestic Air Regulations,1991, it is hereby notified for general information that the application detail of which appear in the appendix, will be considered by the Air Service Licensing Council. Representation in accordance with section 15 (3) of the Act No.115 of 1990 in support of, or in position, an application, should reach the Air Service Licensing Council. Private Box X 193, Pretoria, 0001, within 21 days of date of the publication thereof.

APPENDIX I

(A) Full name and trade name of the applicant. (B) Full business or residential address of the applicant. (C) Class of licence applied for. (D) Type of air service to which application applies. (E) Category of aircraft to which application applies.

(A) Drone Systems Africa (Pty) Ltd. (B) 24 Chester Road, Bryanston, Sandton, 2060. (C) Class III. (D) Type G3, G4 & G16 (RPAS). (E) Category H1.

(A) Iglobe Group Control (Pty) Ltd. (B) 67 Blanton Street, Lynwood Glen, Pretoria, 0081. (C) Class III. (D) Type G3, G4 & G16 (RPAS). (E) Category A4 & H1.

APPENDIX II

(A) Full Name and trade name of the applicant. (B) Full business or residential address of the applicant. (C) The Class and number of license in respect of which the amendment is sought (D) Type of air service and the amendment thereto which is being applied for (E) Category of aircraft and the amendment thereto which is being applied for.

(A) Eugene Pretorius and Associates (Pty) Ltd; EPA. (B) 30 Liter Street, Middleburg, Mpumalanga. (C) Class III; G1241D. (D) Type G3, G4 & G16 (Commercial Operations, Aerial applications / RPAS. (E) Category A4, H1 & H2. **Changes to the MP**: W. J. Scholtz replaces S.Museler as the CEO & S. J. E Joubert replaces G. P. Reid as the Air Service Safety Officer and **change to Shareholding & voting rights:** E. Pretorius – 33%, Precision Opencast Mining Services (Pty) Ltd – 35%, Pretorius Business Trust 17% & EPA Employees Share Trust 15%.

(A) Johnie Smith Lugbespuiting CC. (B) 20 Human Street, Frantfort. (C) Class III; G608D. (D) Type G1 & G5. (E) Category A3 & A4. **Addition of type** G8.

(A) Lowveld Aerial Services (Pty) Ltd. (B) Hangar no 4, Tzaneen Airport. (C) Class II & III; (D) N1, N2, G2, G3, G4, G5, G8, G10, G11 & G13. (E) Category A3 & A4. **Change to the MP:** Marius Crause is appointed as the RP: Aircraft, Hein Enslin as the Quality Assurance Manager & Heinrich Albrecht as Air Service Safety Officer

APPENDIX II

(A) Full Name and trade name of the applicant. (B) Full business or residential address of the applicant. (C) The Class and number of license in respect of which the amendment is sought (D) Type of air service and the amendment thereto which is being applied for (E) Category of aircraft and the amendment thereto which is being applied for.

(A) Ronin Inventory Management Systems (Pty) Ltd. (B) 1 Nobel Ave, Modderfontein, Johannesburg, 1645. (C) Class III; G1291D. (D) Type G3, G4 & G16 (RPAS). (E) Category A4, H1 & H2. **Changes to the MP:** Leo Odendaal replaces Matthew Brownson as the Accountable Manager, George Stamatidis replaces D. Vlaskamp as the RP: Aircraft, George Stamatidis replaces E. McGeer as the RP: Flight Operations & John Smith replaces George Stamatidis as the Security Manager.

(A) Sumnrise Aviation CC; Sunrise Aviation. (B) 22 Paradise Street, The Edge, Nelspruit, 1200. (C) Class II & III N555D & G556D. (D) Type N1, N2, G2, G3, G8, G10 & G15. (E) Category H2. **Changes to the MP:** Bryan M. Pingo is appointed as the Air Service Safety Officer.

(A) Cemair (Pty) Ltd; Cemair. (B) Hangar 6 Eastern Precinct, OR Tambo International Airport, Bonaero Park, 1622. (C) Class I & II; S984D & N912D. (D) Type S1, S2, N1 & N2. (E) Category A1, A2 & A3. **Changes to the MP:** Russell Patterson replaces Jaco Scott as the RP: Flight Operations, Johan Liebenberg replaces Willem Liebenberg as the RP: Aircraft, Ernest Claassen replaces Ruan Nel as the Air Service Safety Officer & Graig Ninneman replaces Ross Norval as the Quality Assurance Manager.

(A) National Airways Corporation (Pty) Ltd; NAC. (B) Hangar 104C, Lanseria International Airport, Lanseria. (C) Class II & III; N140D & G141D. (D) Type N1, N2, G1, G2, G3, G4, G5, G6, G7, G8, G10, G11, G12, G13, G14 & G15 (E) Category A21, A2, A3, A4, H1 & H2. **Change to the MP:** Mr G. S. Nieuwoudt replaces Mr D. Jacobs as the RP: Aircraft (Fixed Wing) & **addition of type** G16 (Offshore Operations & Night Vision Google Special Operations).

DEPARTMENT OF TRANSPORT

NOTICE 510 OF 2020

INTERNATIONAL AIR SERVICE ACT, (ACT NO.60 OF 1993)
GRANT /AMENDMENT OF INTERNATIONAL AIR SERVICE LICENSE

Pursuant to the provisions of section 17 (12) of Act No.60 of 1993 and Regulation 15 (1) and 15 (2) of the International Air Regulations,1994, it is hereby notified for general information that the applications, detail of which appear in the Schedules hereto, will be considered by the International Air Services Council (Council)

Representation in accordance with section 16(3) of the Act No. 60 of 1993 and regulation 25(1) of International Air Services Regulation, 1994, against or in favour of an application, should reach the Chairman of the International Air Services Council at Department of Transport, Private Bag X 193, Pretoria, 0001, within 28 days of the application hereof. It must be stated whether the party or parties making such representation is / are prepared to be represent or represented at the possible hearing of the application.

APPENDIX II

(A) Full name, surname and trade name of the applicant. (B) Full business or residential address of the applicant. (C) Class and number of licence in which the amendment is made. (D) Type of International Air Service in respect which amendment was made. (E) Category or kind of aircraft in respect of which license was made. (F) Airport in respect of which the amendment was made. (G) Area to be served. (H) Frequency of flight of which the amendment was made. (I) Condition under which amendment was made.

(A) Cemair (Pty) Ltd; Cemair. (B) Hangar 6 Eastern Precinct, OR Tambo International Airport, Bonaero Park, 1622. (C) Class I & II; I/S231 & I/N189. (D) Type S1, S2, N1 & N2. (E) Category A1, A2 & A3. (F) OR Tambo International Airport. **Changes to the MP:** Russell Patterson replaces Jaco Scott as the RP: Flight Operations, Johan Liebenberg replaces Willem Liebenberg as the RP: Aircraft, Ernest Claassen replaces Ruan Nel as the Air Service Safety Officer & Graig Ninneman replaces Ross Norval as the Quality Assurance Manager **and adding the following to Class I.**

State	Destination	Frequencies
DRC	Lubumbashi	Seven (7) return flight per week.
Angola	Luanda	Seven (7) return flight per week
Nigeria	Lagos	Seven (7) return flight per week
Tanzania	Dar Es Salaam	Seven (7) return flight per week
Mozambique	Maputo	Seven (7) return flight per week /Code-Share with LAM
Zambia	Ndola	Seven (7) return flight per week /Code-Share with Proflight Zambia
Zambia	Lusaka	Seven (7) return flight per week / Code-Share with Proflight Zambia

BOARD NOTICES • RAADSKENNISGEWINGS

BOARD NOTICE 120 OF 2020

ROAD ACCIDENT FUND

ADJUSTMENT OF STATUTORY LIMIT IN RESPECT OF CLAIMS FOR LOSS OF INCOME AND LOSS OF SUPPORT

The Road Accident Fund hereby, in accordance with section 17(4A)(a) of the Road Accident Fund Act, No. 56 of 1996, as amended, adjusts and makes known that the amounts referred to in subsection 17(4)(c) are hereby adjusted to **R295 322**, with effect from **31 July 2020**, to counter the effects of CPI inflation.

Note: Limitations due to COVID-19

The May 2020 CPI index was not published. The last published CPI index is for April 2020. StatsSA advises that the April CPI number is based on a smaller sample since the COVID-19 lockdown dramatically restricted the goods and services available for purchase by consumers. It was also not possible for the CPI data collectors to visit stores. As such, the calculation of the adjustment is based on the March 2020 index.

The CPI index based on the new "basket and weights" was used to calculate this adjustment, **effective from 31 July 2020** (with base year December 2016 = 100). The rebased CPI index for May 2008 was 62.63. The CPI index for March 2020 was 115.6. This adjustment was calculated by multiplying the R 160 000 limit by 115.6/62.63.

RAADSKENNISGEWING 120 VAN 2020

PADONGELUKFONDS

AANPASSING VAN STATUTÊRE LIMIET TEN OPSIGTE VAN EISE VIR VERLIES AAN INKOMSTE EN ONDERHOUD

Die Padongelukfonds maak ooreenkomstig artikel 17(4A)(a) van die Padongelukfondswet, No. 56 van 1996, soos gewysig, bekend dat, met effek vanaf **31 Julie 2020**, die bedrae waarna verwys word in subartikel 17(4)(c) aangepas word tot **R295 322**, ten einde die uitwerking van VPI inflasie teen te werk.

Neem kennis: Beperkings as gevolg van COVID-19

Die Mei 2020 VPI indeks is nie gepubliseer nie. Die mees onlangs gepubliseerde VPI indeks is vir April 2020. StatsSA adviseer dat die April VPI gebaseer is op 'n kleiner steekproef aangesien die COVID-19 inperking die hoeveelheid dienste en goedere beskikbaar vir aankoop deur verbruikers drasties beperk het. Dit was ook nie moontlik vir VPI data versamelaars om winkels te besoek nie. Gevolglik is die aanpassing gebaseer op die Maart 2020 indeks.

Die VPI indeks gebasseer op die nuwe "mandjie en gewigte" is gebruik om hierdie aanpassing, **effektief vanaf 31 Julie 2020**, te bereken (met basisjaar Desember 2016 = 100). Die heraangepaste VPI indeks vir Mei 2008 was 62.63. Die VPI indeks vir Maart 2020 was 115.6. Hierdie aanpassing was bereken deur die R 160 000 limiet te vermenigvuldig met 115.6/62.63

BOARD NOTICE 121 OF 2020

ALLIED HEALTH PROFESSIONS COUNCIL OF SOUTH AFRICA

SAFETY GUIDELINES: CHIROPRACTIC AND OSTEOPATHY: DRY NEEDLING (MYOFASCIAL TRIGGER POINT THERAPY USING FINE FILAMENT NEEDLES)

SEPTEMBER 2020

The Allied Health Professions Council of South Africa (AHPCSA) is a statutory health body established in terms of the Allied Health Professions Act, 63 of 1982 ("the Act") in order to control all allied health professions, which includes Aromatherapy Ayurveda, Chinese Medicine and Acupuncture, Chiropractic, Homeopathy, Naturopathy, Osteopathy, Phytotherapy, Reflexology, Therapeutic Aromatherapy, Therapeutic Massage Therapy, Therapeutic Reflexology and Unani-Tibb.

The AHPCSA, after due consideration and in consultation with the Professional Board: Chiropractic and Osteopathy (PBCO) and taking into account sections 1(2)(a), 3, 4, 10C, and 10D of the Allied Health Professions Act, Act No 63 of 1982 ("the Act") resolved that the following SAFETY GUIDELINES: CHIROPRACTIC AND OSTEOPATHY: DRY NEEDLING (MYOFASCIAL TRIGGER POINT THERAPY USING FINE FILAMENT NEEDLES) shall be applicable to all practitioners registered in the professions of Chiropractic and Osteopathy.

Should the AHPCSA become aware of any practitioner or therapist who does not comply with the guidelines and/or practice outside his/her scope of practice, such person shall make him/her guilty of unprofessional conduct and face disciplinary action in terms of sections 23 to 30 of the Act.

DR LOUIS MULLINDER
REGISTRAR: ALLIED HEALTH PROFESSIONS COUNCIL OF SOUTH AFRICA

CONTENTS

PREFACE 4

1. INTRODUCTION 4

2. INDICATIONS FOR DRY NEEDLING 5

3. CONTRA-INDICATIONS TO DRY NEEDLING 5

3.1 Absolute contra-indications 5

3.2 Relative contra-indications 5

4 ADVERSE EFFECTS 7

5 ANATOMICAL CONSIDERATIONS 9

5.1 Thorax 9

5.2 Lower back region 11

5.3 Areas requiring specialist knowledge 12

5.4 Blood vessels, nerves and organs 12

5.5 Lymph nodes 12

5.6 Joints 12

6 PRINCIPLES FOR SAFE DRY NEEDLING PRACTICE 13

7 HYGIENIC REQUIREMENTS FOR DRY NEEDLING 13

8 LEGAL REQUIREMENTS SPECIFIC TO DRY NEEDLING 14

9 REFERENCES 14

PREFACE

This document is a guideline to safe dry needling practice for Chiropractors and Osteopaths using this skilled intervention in South Africa. The guideline was compiled using various international and local guidelines, journal articles and books, as referred to in the reference list.

1. INTRODUCTION

Dry needling (DN) is within the scope of practice of South African Chiropractors. It is part of the undergraduate education of South African Chiropractors at the Durban University of Technology and the University of Johannesburg, consisting of both theoretical and practical training. In the case of Osteopaths, DN is within the scope of practice, provided it has formed part of the education and training in the foreign qualification. It is a commonly-used intervention by Chiropractors and Osteopaths, locally and internationally as well as by other manual therapists such as physiotherapists.

DN is a 'skilled intervention that uses a filiform needle to penetrate the skin and stimulate underlying myofascial trigger points (MFTP), muscular and connective tissues for the management of neuromusculoskeletal pain and movement impairments' APTA Public Policy Practice and Professional Affairs Unit [1]. It is different from acupuncture [2]. DN targets nerves, muscles or connective tissues [3] and is often used to treat MFTP's. Dependant on the tissue that is been targeted during DN, the physiological impact of the treatment will vary. For example, targeting MFTPs results in a different physiological effect from targeting connective or scar tissue, fascia or muscle tension [1]. MFTP's are hyperirritable spots found in skeletal muscle associated with a taut band that is hypersensitive [4]. They may result in referred pain, tenderness, and autonomic phenomena such as local sweating, vasodilation/constriction or pilomotor activity [4, 5]. MFTPs may be active or latent and must be differentiated from tender points occurring in muscles [2].

DN is considered to be one of the fastest and most effective ways to treat MFTP's [6]. It is considered an invasive therapy [6] with a large body of scientific literature supporting its use and effectiveness [2]. The needle is inserted into the MFTP resulting in a twitch response. Although the exact mechanism is still under debate it is theorised that this results in altered motor end-plate activity and thereby brings about an analgesic effect [7]. The mechanism appears to be centrally mediated as opposed to purely peripheral in nature [8]. Various techniques of DN can be used. The practitioner may employ dynamic needling, whereby the needle is slowly moved in and out of the MFTP. Alternatively, static needling can be used whereby the needle is left *in situ,* or it can be rotated several times to engage the soft tissue [9].

2. INDICATIONS FOR DRY NEEDLING

Dry needling is used by Chiropractors and Osteopaths to treat pain and dysfunction in the neuromusculoskeletal system. This can be in the form of [10-12]:

- Muscles
- Ligaments
- Tendons
- Subcutaneous fascia
- Scar tissue
- Peripheral nerves
- Neurovascular bundles
- Myofascial trigger points

3. CONTRA-INDICATIONS TO DRY NEEDLING

Patients must be appropriately assessed for contraindications for DN. DN should not be administered in the following circumstances or only with special precaution. These recommendations stem from the following sources [2, 13, 14]:

3.1 Absolute contra-indications

3.1.1 Patients, who have needle phobia, are unwilling to have DN or are unable to give consent;
3.1.2 A patient who has had a history of abnormal reaction to DN or injection;
3.1.3 Medical emergency;
3.1.4 Use of DN on an area or limb where there is lymphoedema, due to the increased risk of infection; or
3.1.5 A patient who is currently taking anti-coagulant therapy or who has thrombocytopenia or other clotting disorder and where haemostasis by palpation cannot be performed following the needling procedure, for example psoas and tibialis posterior muscles.

3.2 Relative contra-indications

These include but are not limited to the following:

3.2.1 Abnormal bleeding tendencies. Caution should be taken when using DN in patients on anti-coagulant therapy or who have thrombocytopenia or other clotting disorder. If DN is utilised, light needling techniques must be used and followed by haemostasis applied by palpation after needle withdrawal;

3.2.2 Compromised immunity. Patients with a compromised immune system are more prone to infection, both local and systemic following DN. Thus these patient groups must be assessed for relative contra-indication to DN. Examples include immunocompromise from disease like blood borne disease, cancer, diabetes, human immunodeficiency virus (HIV) infection, acquired immune deficiency syndrome (AIDS), viral hepatitis, bacterial endocarditis, incompetent heart valves or valve replacements;

3.2.3 Vascular disease – where there is increased susceptibility to bleeding, tissue trauma and infection;

3.2.4 Lymphoedema or following lymph node removal due to increased risk of infection;

3.2.5 Diabetes mellitus – poor peripheral circulation and compromised tissue healing requires caution when considering DN. DN should be avoided in the extremities of patients with diabetic neuropathy;

3.2.6 Acute systemic infections, with or without fever, or contagious diseases;

3.2.7 Pregnancy – DN must be used with caution throughout pregnancy, especially in the first trimester due to the high incidence of spontaneous abortions that occur naturally;

3.2.8 Frail patients – ensure DN can be tolerated and that the patient does not suffer from any sensory lose in the area prior to using DN;

3.2.9 Epilepsy – the epileptic patient must be assessed and DN should be used with caution especially with unstable epilepsy. The patient must not be left unattended if DN is utilised;

3.2.10 Allergy to metals or latex – DN should be avoided due to allergic reaction, unless alternatives can be used i.e. latex free gloves;

3.2.11 Children – assent and parental/guardian consent is required. It is advisable to avoid DN in patients younger than 15 years due to their ability to understand and follow the procedure [15].

3.2.12 Skin changes – avoid DN in areas where the skin has an infection, lesion, allergic reaction or acute inflammation. Avoid DN into haematomas due to risk of infection;

3.2.13 Patients on certain prescription medications such as significant psychiatric, anticoagulant and immunosuppressive medicines;

3.2.14 DN near surgical sites within 4 months of surgery, due to increased risk of infection;

3.2.15 Anatomic considerations – extreme caution must be utilised to avoid injuring pleura, lungs, blood vessels, nerves, organs and joints. The practitioner must ensure that their anatomical knowledge in the area is sufficient;

3.2.16 Prosthetic implants and implanted electrical devices – exercise caution and the practitioner must ensure that their anatomical knowledge in the area is sufficient;

3.2.17 Paraesthesia – sensory changes indicate that DN may not be used safely in these patients, as they will not be able to give adequate feedback thus DN should be avoided;

3.2.18 Tumours – do not DN in the area of a tumour; and

3.2.19 Avoid mucous membranes, eyes and genitals.

4 ADVERSE EFFECTS

Adverse effects (AE) can occur with DN [16-18]. Most are mild however it is suggested that they are under reported and documented [19].

Table 1: Adverse events from dry needling [20] [14, 21]

Adverse event	Comment
Pain	Occurring during DN: if the pain is unexpected (i.e. not the pain of trigger point referral) the needle should be removed. If the pain persists after the treatment the patient can use heat or ice over the area. Post-needling soreness: this is the most common AE (Simons, 1999b). Patients should be warned that they may experience post-needling soreness and that they can apply ice or heat to the area to decrease the pain.
Haematoma	Avoidance of blood vessels when DN is necessary. It is good practice to apply haemostasis to the area, using a cotton wool swab, on removing the needle. If bleeding continues, apply further pressure and ice the area to minimize the bruising.
Fainting or autonomic response	This may occur as a result of excessive needle stimulation, pain, psychological stress, fatigue, incorrect patient positioning or in a patient who is autonomically labile. It is necessary to explain the DN procedure prior to its application, preferably place the patient in the lying position during needling and avoid over needling on first treatment. Should the patient faint remove all needles, lie the patient down - if they are not already lying – and raise their legs. Offer water or something sweet and possibly something to eat. Reassure the patient and monitor. With time the symptoms should terminate, however if there are concerns a medical assessment should be sought.
Needle issues	Stuck needle: A muscle may spasm around the needle making it difficult to move, twisting the needling too much or only moving the needle in one direction. To release it leave the needle for a short time, turn it in opposite direction, use massage or ice on the muscle to encourage release. Bent needle: this may occur from the needle hitting a bone or a strong muscle contraction bending the needle. When removing follow the path of the bend in the needle. Patient must remain still and muscle can be encouraged to relax as described above. Broken needle: this is very unlikely to occur when using disposable needles however should it happen the patient must be instructed to not move. If the broken needle is visible use tweezers to remove the needle. If it is not visible, gently depress the skin around the needle to expose the needle and remove

	with tweezers. If the needle cannot be reached, medical attention must be sought for surgical removal. Mark the area of the needle to facilitate further treatment.
Infection	To prevent infection the area to be DN should be cleaned with alcohol prior to treatment and aseptic techniques must be utilised. Avoid needling skin that shows signs of infection.
Excessive drowsiness	Should the patient report feeling drowsy or excessively relaxed they should refrain from driving until returned to an awake state. For future treatments, avoid excessive stimulation or needle time.
Pneumothorax	Only clinicians with adequate training may needle the thorax. Symptoms include: - Shortness of breath – may only occur on exertion - Chest pain - Dry cough - Decreased breath sounds on auscultation These may be immediate or delayed. Special caution must be taken in patients who will be undergoing altitude changes e.g. flying or scuba diving. Immediate referral to an accident and emergency department for further assessment is necessary. Please see anatomical considerations for further detail.
Trauma to internal organs	This may occur via a haematoma or due a needle penetrating the gastrointestinal tract or bladder. Symptoms are variable. The patient must be assessed for shock. If it is suspected that a hollow organ has been penetrated, sepsis and peritonitis may ensue and requires immediate appropriate referral to an accident and emergency department.
Nerve injury [21]	DN may cause nerve injury either through direct trauma or indirectly via a hematoma. Most commonly neuropraxia results, however axonotmesis may also occur, but rarely neurotmesis. Neuropraxia: When the axon is intact but the myelin sheath is damaged this may cause interruption of nerve conduction with temporary loss of function, which is normally restored within hours to months (approximately 6-9 weeks). Axonotmesis: Where the axon is damaged, but the epineurium is maintained. This can result in motor, sensory and autonomic paralysis. Prognosis is good but rehabilitation may take months. Neurotmesis: When the nerve sustains injury from contusion, stretch or laceration, the axon and the connective tissue around the nerve is damaged and continuity is lost. Nerve reinnervation occurs at 1 mm per day, thus the patient should be adequately informed about prognosis.
Needle stick injury	Should the clinician sustain a needle stick injury the area must immediately be washed with warm water, soap and disinfected with 70% alcohol. Allow the area to bleed, do not suck the site. The patient and the clinician should be tested for HIV/AIDS, Hepatitis B and C (if the status is not already known). Immediate

	referral to an accident and emergency department for post-exposure prophylaxis (PEP) is required. It is good practice for a clinician to know their own status regarding HIV/AIDS and to have Hepatitis B immunization.

5 ANATOMICAL CONSIDERATIONS

The following areas require caution:

5.1 Thorax

When using DN on the thorax, penetration of the lung resulting in pneumothorax must be avoided. The incidence of pneumothorax due to DN has been reported to be low, less than one in 100 000 ([22]. This study included patients receiving acupuncture to various body regions and not just the thorax, thus the incidence rate may be higher [19]. It is a serious adverse effect and has been reported following DN [17, 22] and can become a medical emergency [19].

The clinician should be aware that the presentation of pneumothorax following DN can vary with some patients experiencing severe pain immediately, while others may have aching pain, which may or may not be associated with immediate breathing difficulty or shortness of breath. These symptoms may present later and depend on the degree of lung involvement [17, 19, 23].

For a pneumothorax to occur the needle must penetrate through the skin, fascia, muscles, endothoracic fascia, parietal and visceral pleura [24]. Thus consideration for patient body type must be made when deciding on needle length [19]. A needle length of 3.1cm has been documented to reach lung tissue and in cadavers the average distance to the lung field at the angle of the neck was 3.3cm [25]. Thus, the choice of needle length, angle and place of insertion are important decisions that need to be made prior to embarking on DN in the thorax. The needle must always be directed away from underlying lung tissue [20]. Where possible use pincer palpation and needle tangentially to avoid penetration into the thoracic cage. Avoid DN on both sides of the thorax to prevent a bilateral pneumothorax from occurring [21]

In an attempt to minimise pneumothorax a ‘bracketing technique’ must be employed, by the practitioner placing the MFTP to be needled over a bone to prevent the needle penetrating the pleural cavity. This can decrease the chance of an adverse effect but it has., however, been documented that the needle may bypass the bone and pierce the pleural lining resulting in a pneumothorax [16, 22].

In addition, the borders of the lung must be noted. Superiorly the apex of the lung can extend 2 to 3 cm above the clavicle [16, 25] meaning that using DN in the area of the angle of the neck must be conducted with caution, for example, when treating the upper trapezius, levator scapulae, cervical paraspinals and supraspinatus MFTP’s. Inferiorly the lung can extend to the 12th rib [24] and care must be taken when needling

muscles in the lower thoracic and upper lumbar regions, for example the quadratus lumborum and paraspinal muscles.

In addition, precautions are necessary for the following muscles:

1) Trapezius
   Upper fibres - patient is side lying or prone. Using pincer palpation the needle is inserted perpendicular to the skin towards the practitioner's finger. The needle can be inserted from anterior to posterior or from posterior to anterior [26]. The needle must not be left in situ without the lumbrical grip at all times until needle is removed ([27].

   Middle fibres – patient lying prone, block MFTP over rib using bracketing technique, aim toward the bracketed rib and use 0.25x25mm needle [27].

   Lower fibres – patient side lying, using a pincer grip, direct the needle towards the spinous process one level above, use a 0.25x25mm needle[27].

2) Levator scapulae
   Patient should be side lying, using a pincer grip, direct the needle in an antero-posterior direction towards the practitioner's finger. Do not let go of pincer grip till needle is removed [27].

3) Lower cervical paraspinal muscles
   It is recommended that one needles close to the midline and not beyond the transverse process [19].

4) Pectoralis
   Major - bracketing of the MFTP over a rib to act as a backstop, there is potential for the needle to bypass the rib. In addition, this is a gender sensitive area and often the muscle lies deep to breast tissue making it difficult to gauge needle depth. If necessary preferably needle the lateral aspect of the muscle and direct needle obliquely [19]. Alternatively use pincer grip and a 0.25x25mm needle directed towards the practitioner's finger [27].

   Minor – Modified pincer grip, 0.3x40mm aimed antero-medial toward the practitioner's finger [27].

5) Supraspinatus
   Care must be taken that the needle does not go past the supraspinatus fossa into the lung [19]. Patient should be placed in the side lying position, angle the needle towards the spine of the scapulae and use a 0.25x40mm size needle [27].

6) Infraspinatus
   The clinician must map out the boarder of the scapula, needle tangentially, avoiding lung tissue. A rare congenital foramina (incidence of 0.5 to 5.8%) has been reported in the infraspinatus fossa [16], therefore one must not rely on the scapulae bone to stop the progression of a needle [19].

7) Rhomboid major and minor
Patient lies prone, trigger point is secured over a rib, with the middle and index fingers in the intercostal spaces on either side. Insert needle tangentially towards rib [28]. Needle size 0.25x25mm.

8) Serratus anterior
Bracketing techniques over ribs is essential [19] with patient side lying, aim towards the rib and use a 0.25x25mm needle [27].

9) Iliocostalis
Ensure that rib bracketing is used and limit the length of the needle, as it has been reported that the rib contact can occur at a depth of 10 -15 mm. Consideration of adiposity and needle penetration specificity must be given [19].

10) Intercostal muscles
Never to be needled under any circumstances [27].

11) Serratus posterior superior
Patient must be prone, using the rib bracketing technique, with middle and index finger in the intercostal spaces either side of the trigger point. Insert needle perpendicular to the skin and then tangentially towards the rib [28]. Needle size 0.25x25mm.

5.2 Lower back region

1) Longissimus thoracis and Iliocostalis thoracis
Patient should be positioned prone, MFTP bracketed against a rib and needle directed towards rib using a 0.25x25mm needle [27].

2) Multifidus and other paraspinal muscles
The patient must be side lying, the needle should be directed inferomedially to the lamina of the vertebra below and using a 0.25x25mm needle [27].

3) Abdominal muscles
For the muscle where it overlies the ribs use the bracketing technique and short needles (0.25x13mm) [27]. The rest of the abdominals should only be DN if a pincer grasp can be used to draw the muscle away from the peritoneal cavity to protect the organs [21].

4) Latissimus dorsi
Patient must be placed side lying, while using a 0.25x25mm needle size and pincer grip [27] needle away from the thorax.

5) Quadratus lumborum

The insertion of this muscle onto the 12th rib must not be needled [27]. Care must be taken to avoid penetrating the kidney, this muscle is deep and the clinician must be familiar with the local anatomy [29].

5.3 Areas requiring specialist knowledge

Do not DN these areas unless sufficiently trained and an expert [27, 29].

- Muscles around the temporomandibular joint
- Sub occipitals
- Subclavius
- Scalenes

If not mentioned the DN technique should be described in a peer-reviewed publication.

5.4 Blood vessels, nerves and organs

It is imperative that the clinician has a good anatomical knowledge of the area being DN to be able to identify blood vessels, nerves and organs in the area. Where possible an arterial pulse should be palpated to avoid injuring the blood vessels. Map out the blood vessels and nerves where possible. Use pincer palpation, if possible, to bring the muscle away from the blood vessel or nerve. Slowly insert the needle and withdraw it immediately if the patient reports a stinging and/or burning pain possibly indicating penetration of a blood vessel or a shooting, stinging and/or burning pain in the case of a nerve [21]. Special care must be taken around the spine and suboccipital area to avoid penetrating the brain stem or the spinal meninges. Needle length must always be considered to avoid deep penetration and potential puncturing into the peritoneal cavity [14]

5.5 Lymph nodes

Do not DN in areas of enlarged or painful lymph nodes with care to differentiate a lymph node from a MFTP and if in doubt avoid needling [21].

5.6 Joints

Avoid needling in the area of a joint that has an articular infection due to possible penetration of the joint capsule. Use pincer palpation to lift the muscle away from the joint to minimise this [21].

6 PRINCIPLES FOR SAFE DRY NEEDLING PRACTICE

When performing DN the chiropractor/osteopath must ensure the welfare of the patient, him or herself and the third party. Professional judgement must be applied when selecting DN treatments.

DN should be applied within the scope of practice of a Chiropractor in South Africa, with consideration of their training and experience.

The chiropractor should ensure that their skills are appropriate and confined to the areas in which they have received training. Should they wish to extend these skills additional training must be sought.

DN should only be utilised once a comprehensive chiropractic examination of the patient has been undertaken, and it has been established that it is a suitable treatment for the patient and the condition.

Informed consent must be obtained prior to using DN techniques. The patient should be appraised of potential adverse effects and possible risks. In addition the patient should be informed that during the procedure that they must not sneeze, cough or move, and that should they need to they must inform the practitioner so that the needle may be withdrawn [19]. In addition, any advice necessary regarding post-treatment considerations must be given to the patients such as post-needling soreness.

Clear documentation of the DN utilised on a patient must be recorded in the patients file, along with any adverse events that may have occurred [30].

Never insert the needle to the hub as this is an area of weakness and the needle may break at this point [30].

The utilisation of DN should be done with due consideration to evidence informed practice i.e. consultation of the scientific literature, the patient's beliefs and goals for the treatment and due clinical reasoning.

Only sterile, single use, disposable, solid filament needles must be used.

Where possible always position the patient in the recumbent position to avoid psychogenic syncope [30].

Hygiene and waste disposal guidelines must be adhered to.

7 HYGIENIC REQUIREMENTS FOR DRY NEEDLING

Hands should be washed, with soap and water and disinfected before and after DN, especially if blood contact is made.

The use of sterile disposable gloves to prevent infection is recommended.

If coughing or sneezing the practitioner must use their elbow to cover their mouth, as opposed to their hands to avoid transmission of infection [21].

Only use needles within their expiration date, dispose of those needles that have past their expiry date.

Do not contact the needle on any part other than the shaft, to maintain sterility [21].

Skin must be disinfected prior to DN.

Ensure that the needle is well handled and that the direction, depth and choice of needle size and length is given due consideration prior to inserting the needle. Avoid vulnerable anatomy.

On completion, the DN must be disposed of into a medical sharps bin, along with any material that contains blood. Avoid putting the needle back into its packaging. Medical waste must be disposed of accordingly.

Avoid using any medical device in the area where DN was applied that has not been disinfected to prevent the spread of infection [21].

In the instance of a needle stick injury occurring the area must immediately be washed with warm water and soap and disinfected with 70% alcohol. The patient and/or clinician should be tested for HIV/AIDS, Hepatitis B and C, if the status is not already known. Refer to an A + E department for PEP if necessary.

The chiropractor should be appraised of his/her own health status to prevent the transmission of infection to the patient. Relevant vaccinations should be current.

8 LEGAL REQUIREMENTS SPECIFIC TO DRY NEEDLING

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Printed by and obtainable from the Government Printer, Bosman Street, Private Bag X85, Pretoria, 0001
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Publications: Tel: (012) 748 6053, 748 6061, 748 6065