



WP11354

DETERMINATION OF WATER RESOURCE CLASSES, RESERVE AND RESOURCE QUALITY OBJECTIVES (RQOS) FOR THE WATER RESOURCES IN THE KEISKAMMA AND FISH TO TSITSIKAMMA CATCHMENT

TECHNICAL TASK GROUP MEETING: PROPOSED RESOURCE QUALITY OBJECTIVES

ORGANISATIONS FOR THE K, L, M, N and P CATCHMENTS (Kouga, Groot, Gamtoos, coastal, Swartkops, Sundays, Bushmans, Kariega, Kowie)

ESTUARIES ONLY

Venue: Dolphins Leap Conference Centre (Gqeberha) 06 June 2025

Chairperson(s): Ms. Lebogang Matlala (DWS)

Agenda: Annexure I

Attendance List: Annexure II

PowerPoint Presentations: Provided with meeting minutes and provided in link: https://www.dws.gov.za/wem/WRCS/kft.aspx

Abbreviations:

CSIR -Council for Scientific and Industrial Research

DWS - Department of Water and Sanitation
EWR - Ecological Water Requirements
IUA - Integrated Units of Analysis

MISA - Municipal Infrastructure Support Agency
NMBM -Nelson Mandela Bay Metropolitan Municipality

NMU - Nelson Mandela University
PES - Present Ecological State
PSC - Project Steering Committee
RQOs - Resource Quality Objectives

SAIAB - South African Institute for Aquatic Biodiversity
SALGA - South African Local Government Association

TEC - Target Ecological Category

		DISCUSSION AND DECISIONS	RESPONSES	ACTIONS
				MATTERS ARISING
1.	Welcome	The Chair, Ms. Lebogang Matlala (DWS) welcomed all attendees and opened the third Keiskamma and Fish to Tsitsikamma Catchment Water Resource Classes, Reserve and RQOs Determination Sectoral Meeting.		
2.	Attendance/Apologies	Attendees' details were noted in the attendance register.		
		Apologies received for the meeting: - Pieter Viljoen (DWS) - Andrew Lucas (DWS) - Cebisa Goboza (DWS) - Onesimo Notobela (Department of Forestry, Fisheries and the Environment) - Cindy Bailey (Nelson Mandela Bay Metro Municipality) - Johan Kotze (Dutoit Agri) - Professor Janine Adams (Nelson Mandela Metropolitan University) - Wentzel Coetzer (Conservation Outcomes) - Bonani Madikizela (Water Research Commission) - Nicky McLeod (Umzimvubu Catchment Partnership Programme) - Dr. Mark Graham (GroundTruth)	The apologies were noted.	
3.	Acceptance of Agenda/ Additions to Agenda	The meeting's agenda was accepted without any changes.		
4.	Purpose of the Technical Task Group Meeting	Ms. Lebogang Matlala (DWS) outlined the purpose of the Technical Task Group Meeting. She highlighted that the project is now at the RQO determination phase for the RQOs that will eventually be gazetted. The RQOs are determined from the water resource classes that have been set in the catchment. She noted that the RQOs need to be monitored and complied by to ensure equitable access to resources and that the resources are used and		

	DISCUSSION AND DECISIONS	RESPONSES	ACTIONS
			MATTERS ARISING
	managed sustainably. Ms. Matlala highlighted that the purpose of the technical task group meetings is to consult with the stakeholders as the users of the resources to ensure that the RQOs are determined, defined and gazetted correctly. Ms. Matlala further noted that the sustainable management and use of the water resource is the responsibility of all stakeholders. All stakeholders (government, municipality, farmers etc.) need to work together to ensure that all water resources are protected and used in a way that will ensure that future generations have access to it, and that all people have access to good quality, clean water.		ANONO
5. Technical presentation	Ms. Kylie Farrell (GroundTruth) introduced the estuarine specialist team, Dr. Lara Van Niekerk (CSIR), Dr Nikki James (NRF SAIAB) and Dr Daniel Lemley (NMU). Dr Lara Van Niekerk who gave an overview of the process of classification and the approach for RQOs determination for estuaries. Dr. Van Niekerk also presented the estuary results (draft RQOs) for the study in the K, L, M, N and P catchments. [Power point presentation is available online at https://www.dws.gov.za/RDM/WRCS/kft.aspx and provided with the meeting minutes].		
5.1 Background, scope of study and study area	Comments and Questions:	Responses to corresponding issues raised by stakeholders:	
5.2 Overview of Reserve, Classification and RQOs	Comments and Questions:	Responses to corresponding issues raised by stakeholders:	

	DISCUSSION AND DECISIONS	RESPONSES	ACTIONS
			MATTERS ARISING
5.3 What are RQOs and their importance?			
5.4 Methodology to establish RQOs			
6. Presentation of RQO results	Comments and Questions:	Responses to corresponding issues raised by stakeholders:	
6.1 IUA_P01 and IUA_M01 (Estuaries only) 6.2 Discussions and consensus on the proposed RQOs	M01 1. Mr. Matthew Hills (NMBM) commented that to plan or expect for the licensed water quality output to be exceeded is unrealistic, there is a massive post-drought realisation that investment needs to move away from water to sanitation. He noted that the municipality has a small effluent recycling system in place and that to expect no organic after wastewater treatment works is unrealistic. He noted that it may be impossible unless various technology (desalination) is considered. He urged the project team to look at what the general limits are and use those as best input cases.	1. Dr. Daniel Lemley (NMU) responded and noted that part of the Water Master Plan update is closing the water cycle in the next 10 years. Water cannot be sourced from water resources in any manner anymore and, therefore, reusing wastewater that is within the city rivers is cost effective. This initiative is 3 rd in the list of priority initiatives. There are 6 wastewater works where these schemes will be implemented. It may be easy to justify reclaiming effluent for irrigation, however, DWS license requirements are quite restrictive. It would be expected that boreholes and wells will be installed for these schemes. Although there is a need for these schemes, it may not be fulfilled quickly.	
	Dr. Lara Van Niekerk (CSIR) directed a question to Dr. Daniel Lemley (NMU) and asked if there is	The comment was responded to in the above response	

D	DISCUSSION AND DECISIONS	RESPONSES	ACTIONS
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	no option to increase the reuse in the next 10 years? 3. Mr. Andrew Lucas (DWS) commented and noted that there are flows that exceed the natural flows in the system and therefore, there needs to be an understanding of the opportunities that can be used. The proximity of some of the saltpan areas to the extra flows e.g. the sewer works, the stormwater drains for better management. He commended the idea of using saltpans to reduce the freshwater input directly into the channel. Furthermore, when there are flooded areas, the invasion of people and homes is reduced and, therefore, in the short term, this could be considered but in the long-term recycling and putting that source of water back into the domestic and industrial uses should be considered. Mr. Lucas also recommended better nutrient removal in sewage treatment works i.e. how to use excess volumes of water in saltmarsh areas for short-term and long-term goals.	The comment was noted by Dr. Lara Van Niekerk (CSIR)	
	4. Ms Lebogang Matlala (DWS) commented and noted the study must focus on the short (10 years) and long-term goals. As the Reserve will likely be reviewed within the 10 year period, it may be better to put the short term in the gazette and not the long term as the short term covers the 10 year period.	4. The comment was noted	
	 Ms. Ilse Chilton (DWS) commented and that in the long-term, there could be gains that can be made. Habitat restoration can be considered as the part 	5. The comment was noted	

DIS	SCUSSION AND DECISIONS	RESPONSES	ACTIONS
			MATTERS ARISING
	of the interventions. She noted that the RQOs could be refined and the suggested to look into the treatment works and look what is coming in i.e. provide detail in the recommendations. She further commended the push for restoration and improving quality as it would be an aesthetic asset.		
	6. Ms Barbara Weston (DWS) commented and noted that three manholes were reported to be overspilling into the Chatty Wetland. She noted that the report must state an intervention for this as it is unlawful. She also noted that whatever is changed for the estuary must also be changed for the associated wetland.	6. Ms. Kylie Farrell (GroundTruth) responded and noted that the driver of the wetland was sewage and high nutrient loads which is the same driver of water quality expected in the Swartkops. Comment was noted and that recommendations will be provided within the mitigation and management report being the subsequent deliverable.	
	7. Mr. Ncamile Dweni (DWS) noted that pump stations are bad and infrastructure is compromised.	7. The comment was noted	
	8. Mr. Andrew Lucas (DWS) commented and noted that in the study, there are 2 ways that have been described on the higher flows and nutrients in the system - 1. through sewage works with a lower load and a higher volume and, 2. a spillage, blocked sewer and a pumpstation failure which may have a higher load but a slightly lower volume. He asked which, of the two, had a greater impact, noting that with urbanisation there are multiple small spillages and the return effluent ones. He asked if the return effluent would have the greatest impact or if the spillages occurring in	8. Dr. Daniel Lemley (NMU) responded and noted that it is the day-to-day flow that enters the system. The sewage spillages, depending on their severity, and which can have lasting effects, as the case with the Swartkops Estuary which continues to receive nutrient-rich baseflows coming from the wastewater treatment works, having detrimental impacts on the fish, even resulting in fish kills.	

DISCU	ISSION AND DECISIONS	RESPONSES	ACTIONS / MATTERS ARISING
	the catchment have as big of an impact on the river system		
9.	Mr. Matthew Hills (NMBM) commented and noted the differences of the waste and pollution and that there are different methods that have been employed to address the issue.	9. Dr. Lara Van Niekerk responded in agreement and noted that a recommendation would be made to continue the support of the waste management initiative. There is a lot of plastic waste that enters the wetlands and canals especially the Chatty wetland and the Motherwell canal and, therefore, initiatives must be taken to clean it up.	
10.	Ms. Sibulele Gaulana (DEDEAT) commented and noted that local municipalities are often missing from these meetings whereas the issue of waste and pollution management is a major mandate of theirs and therefore they should be a part of the discussions to understand how pollution affects the water resources and, ultimately, the municipality itself.	10. The comment was noted.	
P01 1.	Ms Lebogang Matlala (DWS) asked for clarification on the target for the fish species threshold in the Swartkops.	1. Dr Nikki James (NRF SAIAB) responded and noted that similar estuary types and the number of fish that had been caught was observed in those estuary types and the targets were set in those ranges. Ms Lara Van Niekerk (CSIR) also responded and noted that if the system is healthy then the fish catch may be greater than the number set as a target. She noted that after a flood event there may be less fish species i.e. fish may move out of the	

	DISCUSSION AND DECISIONS	RESPONSES	ACTIONS
			MATTERS ARISING
		estuary so the RQO is set so that it is not too sensitive to this anomaly.	
	 Mr. Andrew Lucas (DWS) asked about the lack of mullet or similar fish as they are not observed as much now than in the past. He asked what significance do the water column species of fish shoaling in the estuaries. Mr. Lucas also asked if a reduction of mullets has been observed in the estuaries. 	and noted that the mullet was not included as they always exist in an estuary. She noted that the RQO could specify that	
6.3 IUA_ N01, KL01 and K01 (Estuaries only)			
6.4 Discussions and consensus on the proposed RQOs	1. Mr. Matthew Hills commented and noted that taking effluent from the wastewater works out of the system (or agricultural runoff and extra flows through canals) may not take away the nutrient load. He noted that the clean water is separated from this water and used for the economy and the nutrient components still exist and they may still enter the system.	and noted that it is unlikely that all of the nutrients will be taken out of the system. She noted that the top of the Sundays	

DISCUSSION AND DECISIONS	RESPONSES	ACTIONS
		MATTERS ARISING
 Ms. Ilse Chilton (DWS) commented and noted that when water allocations are reduced the water savings should go somewhere else. She noted that the Recon Strategy for the Algoa system indicates the reuse of water as a potential viable option. She further commented on the sewage spills going directly into the canals as well as the backwash of the water treatment works going into the canal, therefore, it may be difficult to differentiate between the agricultural and the municipal contributions to the pollution of the main canal. Ms Rienette Colesky (Gamtoos WUA) commented and noted the salinity issues may also be attributed to the geology and that is why there must be releases. She noted that geology, agricultural return flows and municipal use (spills, discharges etc.) are three factors contributing to water quality issues. She queried about the water sampling in the different sections of the system and noted operational management that becomes operational releases. This may be an operational loss. However, this may be beyond the scope of the project. 	3. Dr. Lara Van Niekerk (CSIR) responded and noted that the agricultural return flows were also pushing up the salinity in addition to the nutrients. Therefore, any potential expansion of agriculture will increase the nutrients in the inflow. Buffer zones around estuaries can be very helpful where possible.	
 Ms Rienette Colesky (Gamtoos WUA) asked if the recommendation is for no expansion of agriculture as the discussion on this will have to be to communicated to the irrigators. 	4. Dr. Lara Van Niekerk (CSIR) responded and noted that if the agricultural expansion will increase agricultural return flows then it should not be considered. The continuous input of nutrients will have to be limited. She further noted that there are ways and means to expand agriculture without the increase of agricultural nutrient loads.	

DISCU	SSION AND DECISIONS	RESP(ONSES	ACTIONS / MATTERS
5.	Dr. Lara Van Niekerk (CSIR) commented and asked if there are opportunities for agricultural improvements in the next 10 years or over the long term. She noted that when the issues of the treatment works have been addressed, there will still be agricultural practices issues. She asked if there's an opportunity to improve fertilisation strategies and implement buffer zones in the estuary to improve conditions of the estuary and improve the oxygen levels.	5.	Ms Lebogang Matla (DWS) responded and noted that the attainment of and compliance with the RQOs is the responsibility of all stakeholders. The compliance and enforcement efforts must be put in place to ensure compliance	ARISING
KL01				
1.	Ms. Barbara Weston (DWS) asked about how the algae blooms operate in this type of system as they would need light etc.	1.	Dr. Daniel Lemley (NMU) responded and noted that the algae is not right at the bottom and noted that their survival is also dependent on if there is flooding or if the water is a bit more turbulent. Dr. Lara Van Niekerk (CSIR) further responded and noted the differences of the systems. Systems like the Kariega Estuary are quite clear, the Sundays Estuary is also very clear from top to bottom, as they are very marine like compared with systems like the Gamtoos, which is more turbid. On the alternative scale, there is the Mbashe, the Great Kei and the Umzimvubu estuaries which are the most turbid estuaries during high flows.	
2.	Mr Matthew Hills (NMBM) commented and noted that the Gamtoos and the Swartkops are different. The Gamtoos is more likely to have mud blooms and water quality is an issue. There are 2 main river systems (Kouga and the Groot).	2.	The comment was noted.	

DISCU	SSION AND DECISIONS	RESPO	ONSES	ACTIONS
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3.	Ms Rienette Colesky (Gamtoos WUA) asked how the unauthorised extraction that was mentioned during the presentation were verified? She further noted that the water is too saline to farm with. She further noted that the entire Gamtoos valley is dependent on the Kouga Dam and there is no water use licenses.	3.	Dr. Lara Van Niekerk (CSIR) responded and noted that it was part of the information provided by the hydrological scenarios. She noted that she could check but the data was provided from a scenario that was done through the whole catchment. Dr Van Niekerk noted that there were assumptions made in the scenarios and these scenarios are not absolute or fine-tuned.	
K01 1.	Ms Barbara Weston (DWS) commented and asked if the fish triggers would need the triggers to spawn and use these for the releases	1.	Dr. Lara Van Niekerk (CSIR) responded and noted that in Groot Brak when there is a little flow, there are periods in the year (September/October) that are peak migratory periods wherein which juvenile fish need to come into the estuary. Thus, specific releases would be stated around this particular period as cues for the fish, and not every month. At times, there may be a need for smaller release amounts over more days (e.g. 10 instead of 3 days) or it may be best to do it for 2 consecutive months, 3 days each month. Depends on the system. The method is not difficult to monitor. She noted that the modelling done for this study did not quite reflect the practical observations. An assumption is made that the old EWR is no longer applicable.	
2.	Ms Jenny Pashkin (DWS) asked that a final decision is not made on the TEC before NMBM	2.	Ms Lebogang Matla (DWS) responded and noted that a decision would not be made until NMBM has reviewed and commented	

	DISCUSSION AND DECISIONS	RESPONSES	ACTIONS
			/ MATTERS
		11 700	ARISING
7. Next steps for the study: Classification, RQO and Reserve Draft Gazette	has had a chance to review and comment on the Kromme estuary RQOs. She further noted that during the annual operating analysis, the EWR are considered and that there were compensation or agricultural releases that would cover a portion of the EWR, however, they would not be sufficient for the estuary. She further noted that there are different dynamics for the two dams on the system in terms of water supply for the municipality. During the droughts, the municipality was unable to comply with the water use restrictions. The Mpofu Dam failed during this period. She further noted that looking at the current system performance, most of the dams spilled a few years ago but the Mpofu Dam is still only at 50%. She damage done to the dams had particular consequences for the municipality. She expressed a concern with the shortage of data that could be used to make a well defendable proposal. She expressed that there should be more data as this is an update of the RQOs and more informed decisions and recommendations should be provided by the study. Ms. Adaora Okonkwo (DWS) presented the way forward. The next steps of the project included the release of the RQO report for comment by stakeholders who are urged to make comments within two (2) weeks of the report being released. Ms. Okonkwo urged stakeholders to focus on the resource area relevant to their work or operations. She noted the date of the next Project Steering Committee (PSC) meeting which is on 24 June 2025.	on the RQOs and recommendations however, negotiations would take place. She noted that because the estuary is already on a downward trajectory and it is proposed that it be improved to a C category (TEC), DWS is in support of this proposal but understands that there are negotiations that still need to take place.	

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		Ms. Okonkwo lastly noted what the next steps of the gazetting process will be.		
8.	Closure and thank you	Ms. Lebogang Matlala (DWS) urged all stakeholders to review and comment on the RQOs report. She thanked all attendees for attending and closed the Keiskamma and Fish to Tsitsikamma Water Resource Classes, Reserve and RQOs Determination Technical Task Group Meeting.		

Signed:			
	Professional Service Provider: Dr Mark Graham	Chairperson: Ms Lebogang Betty Matlala	
	(GroundTruth)	(Department of Water and Sanitation)	

Annexure I: AGENDA



WP11354

DETERMINATION OF WATER RESOURCE CLASSES, RESERVE AND RESOURCE QUALITY OBJECTIVES (RQOS) FOR THE WATER RESOURCES IN THE KEISKAMMA AND FISH TO TSITSIKAMMA CATCHMENT

TECHNICAL TASK GROUP MEETING: PROPOSED RESOURCE QUALITY OBJECTIVES

ORGANISATIONS FOR THE K, L, M, N and P CATCHMENTS (Kouga, Groot, Gamtoos, coastal, Swartkops, Sundays, Bushmans, Kariega, Kowie)

Estuaries ONLY

Date:	6 June 2025
Time:	09h00 – 12h00
Meeting venue:	Dolphins Leap Conference Centre 35 Humewood Road Gqeberha 6013
Chairperson	Ms Lebogang Matlala

Purpose of the Technical Task Group Meeting

The purpose of this focused technical task group meeting with key stakeholders on the project is as follows:

- Guide Stakeholders Through the RQO Determination Process
 - Provide a detailed walkthrough of the methodology for establishing Resource Quality Objectives (RQOs), in alignment with Step 6 of the Integrated Framework. This includes defining RQOs with narrative and numerical limits and outlining implementation strategies.
 - Review the steps previously undertaken for the establishment of RQOs (Steps 1 to 5) as per the gazetted process for RQO determination.
- Evaluate RQOs for Selected Indicators
 - Summarise and discuss the proposed RQOs for each prioritised Resource Unit (RU) for rivers, wetlands, estuaries, groundwater and major dams within the respective catchment areas. This will involve analysing specific indicators and their relevance to the water resources under consideration.
- Address Stakeholder Feedback
 - Provide a platform for stakeholders to raise pressing concerns, ask questions, and seek clarifications regarding the proposed RQOs before they are finalised for gazetting.

Your participation in these discussions is vital to ensuring the comprehensive and effective management of the water resources in these catchments.

AGEN	AGENDA				
1.	Welcome	09h00 - 09h05	Ms Lebogang Betty Matlala		
2.	Attendance/Apologies	09h05 09h10	Ms Lebogang Betty Matlala		
3.	Acceptance of Agenda	09h10 - 09h15	All		
4.	Purpose of the Technical Task Group Meeting	09h15 - 09h30	Ms Lebogang Betty Matlala		
5.	Technical presentation	09h30 - 10h00	Ms Kylie Farrell		
5.1	Background, scope of study and study area		raircii		
5.2	Overview of Reserve, Classification and RQOs				
5.3	What are RQOs and their importance?	1			
5.4	Methodology to establish RQOs	1			
6.	Presentation of RQO results	10h00 - 11h30	PSP Team		
6.1	IUA_P01 and IUA_M01 (Estuaries only)				
6.2	Discussions and consensus on the proposed RQOs				
Tea/coffee break (11H30 – 11H45)					
6.3	IUA_ N01, LN01, L01, KL01 and K01 (Estuaries only)	11h45 - 12h30	PSP Team		
6.4	Discussions and consensus on the proposed RQOs				
7.	Next steps for the study: Classification, RQO and Reserve Draft Gazette	12h30 – 12h50	Ms Adaora Okonkwo		
8	Closure and thank you	12h50 – 13h00	Ms Lebogang Betty Matlala		
Light lu	Light lunch break and close				

Website for Reports and Document : https://www.dws.gov.za/RDM/WRCS/kft.aspx

Annexure II: ATTENDANCE LIST

PLEASE NOTE – personal information has been redacted from the attendance list below in line with the Protection of Personal Information Act No 4 of 2013, (POPIA), which came into effect on 1 July 2021.

Organisations in Attendance Department of Water and Sanitation attendance				
7	In-person			
Stakeholder attendance				
In-person				
Department of Economic Development, Environmental Affairs and Tourism	Nelson Mandela University (NMU)			
Department of Economic Development, Environmental Affairs and Tourism	Gamtoos Water Users Association			
Department of Economic Development, Environmental Affairs and Tourism	Nelson Mandela Bay Metropolitan			
South African Local Government Association (SALGA)	Kouga Local Municipality			
Municipal Infrastructure Support Agency (MISA)	Kouga Local Municipality			
	South African Institute for Aquatic Biodiversity (NRF SAIAB)			
Virtua	al			
Department of Economic Development, Environmental Affairs and Tourism				
Department of Economic Development, Environmental Affairs and Tourism				
Department of Economic Development, Environmental Affairs and Tourism				
Project team attendance				
GroundTruth	In person			
GroundTruth	Virtual			
Council for Scientific and Industrial Research (CSIR)	In Person			
National Research Foundation - South African Institute for Aquatic Biodiversity (NRF SAIAB)	In Person			
Nelson Mandela University (NMU)	In Person			