

Appendix 1: Final Prioritisation of Resource Units in the Olifants-Doorn WMA for the Development of RQOs

RIVERS (continued)			Koue Bokkeveld with								Disagg. Nodes								Knersvlakte								Sandveld											
Criterion	Sub-criteria	Rating Guideline	R37	R38	R39	R41	R43	R45	R46	R48	R49	A1	A2	A3	A4	A5	A6	A7	A8	R1	R2	R3	R4	R5	R8	R58	Q2	Q3	Q4	R51	R52	R53	R54	R55	R56	R57	Q5	
Position of RU within IUA	RUs located on mainstem river at down-stream end of IUA (IUA outlet node)	1 - RU on mainstem river and at base of IUA 0 - RUs not associated with keystone sites	1	0	0	1	0	0	0	0	0	1	0	0	0		0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	0	0	0	1	1	1
Importance for users (Current & future use)	RUs which provide important cultural services to society	0 - RUs with no known / limited provision of cultural services 0.5 - RUs providing some cultural services 1 - RUs providing very important or numerous cultural services	0.5	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
	RUs which are important in supporting livelihoods of significant vulnerable communities	0 - RUs which do not support / provide limited support for vulnerable communities 0.5 - RUs providing some support for vulnerable communities 1 - RUs playing an important role in supporting vulnerable communities	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0				0	1	0	0	0	1	0	0	
	RUs which are important in meeting strategic requirements and international obligations	0 - RUs not used for strategic purposes or to meet international obligations 0.5 -RUs moderately important for strategic purposes or useful for verifying compliance with international obligations 1 - RUs extremely important for strategic purposes or are ideally suited for verifying compliance with international obligations	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0	0	0	0	0	0
	RUs that provide supporting and regulating services	0 - RUs which supply limited supporting & regulating services 0.5 - RUs which supply moderate supporting & regulating services 1 - RUs which supply extensive supporting & regulating services	0	0	0	1	0	0	0	0	0	1	0	0	0		0	0	0	0	0	0	0	0	0	0				0	1	0	0	0	0	0	0	0
	RUs most important in supporting activities contributing to the economy in catchment	0 - RUs which don't directly support any activities which contribute to the economy 0.5 - RUs which support activities which provide a moderate contribution to the economy 1 - RUs which support activities which contribute significantly to the economy	0	0	0	1	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0				0	0.5	0	0	1	0	0	0	
Threat posed to users	Level of threat posed to users	0 - RUs where potential threat to users is low 0.5 - RUs where potential threat to users is moderate 1 - RUs where potential threat to users is high	1	0	0	1	0	0	0	0	0	1	0	0	0		0	0	0	0	0	0	0	0	0	1				1	1	1	1	1	1	1	1	1
Ecological Importance	RUs with a high or very high EIS category	0 - RUs with a low or moderate EIS Category 0.5 - RUs with a high EIS Category 1 - RUs with a very high EIS Category	1	0.5	0.5	0	0.5	0	0.5	0	0	0.5	0.5	0.5	0		0	0	0	0.5	0.5	0.5	0.5	0.5	0	0.5	0.5	0.5	0	0	0	0	0	0	0	0	0	
	RUs which have an A/B NEC and / or PES	0 - RUs with a PES or NEC lower than a B Category 0.5 - RUs with a PES or NEC in a B Category 1 - RUs with a PES or NEC in an A or A/B Category	1	1	0.5	0	0.5	0	0	0	0	1	0	0	0		0	0	0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0	0	0	0	0	0	0	0	
	RUs identified as National Freshwater Ecosystem Priority Areas	0 - RUs which do not identified as a priority area 0.5 - RUs located within 'Freshwater Ecosystem Support Areas' 1 - RUs located within 'Freshwater Ecosystem Priority Areas'	1	1	0	0.5	1	0	0	0	0	1	1	1	0		0	0	0	0	0.5	1	0.5	0.5	0.5	0	1	0	0	0	0.5	0.5	0	1	1	1	0	
	RUs identified as a priority in provincial / fine scale aquatic biodiversity plans	NOT USED																																				
Threat faced by ecology of the RU	Level of threat posed to ecological components of the RU	0 - RUs where potential threat to ecology is low 0.5 - RUs where potential threat to ecology is moderate 1 - RUs where potential threat to ecology is high	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Management Considerations	RUs with PES lower than D or lower than the gazetted category (NEC)	0 - RUs with PES higher than a D or lower than the NEC 1 - RUs with a PES lower than a D or lower than the NEC	0	0	0	0	0	0	0	1	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Practical Considerations	Availability of EWR site data or other monitoring data(RHP, DWAF gauging weirs etc) located within reach?	0 - RUs where no resource quality information exists 0.5 - RUs with moderate level of resource quality information 1 - RUs with good availability of resource quality information	1	1	0	1	0.5	0	0	0.5	0	0.5	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0	0	0	0	0	
	Accessibility of RU for monitoring	0 - RUs with very poor accessibility 0.5 - RUs with moderate accessibility 1 - RUs with good accessibility	1	0.5	0.5	1	0.5	0.5	0.5	1	1	1	0.5	0.5	0.5		0.5	0.5	0.5	1	1	0.5	0.5	0.5	1	1				1	1	1	1	1	1	1	0.5	
	Safety risk associated with monitoring RUs.	0 - RUs which are not safe to monitor 0.5 - RUs where safety is questionable 1 - Rus where safety is not a concern	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1				1	1	1	1	1	1	1	1	1	
		Priority Rating	0.92	0.51	0.31	0.84	0.42	0.26	0.28	0.47	0.28	0.85	0.34	0.34	0.26	N/A	0.26	0.26	0.26	0.32	0.35	0.36	0.34	0.34	0.54	0.47	0.25	0.40	0.38	0.63	0.78	0.51	0.42	0.51	0.75	0.69	0.75	
	Rivers	Select RU for RQO determination?	Y			Y						Y													Y						Y				Y			
		Focus	Y																						Y						Y							

GROUNDWATER			Lower Olifants Irrig			OD Dryland Farming							Doring Rangelands												Upper Olifants Irrig.													
Criterion	Sub-criteria	Rating Guideline	E	R7	R9	R11	R14	R15	R16	R17	R19	Q1	R12	R20	R21	R22	R25	R26	R27	R28	R29	R30	R31	R32	R36	R50	R13	R23	R24	R33	R34	R40	R42	R44	R47	Q6	Q7	
Importance for users (Current & anticipated future use)	RUs which are important in supporting livelihoods of significant <u>vulnerable communities</u>	0 - RUs which do not support / provide limited support for vulnerable communities 0.5 - RUs providing some support for vulnerable communities 1 - RUs playing an important role in supporting vulnerable communities	0	0	0.5	0	0	0	0	0	0	0.5	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0	0	0	0	0			
	RUs most important in supporting activities contributing to the economy	0 - RUs which do not directly support any activities which contribute to the economy 0.5 - RUs which support activities which provide a moderate contribution to the economy 1 - RUs which support activities which contribute significantly to the economy	0	0	1	0	0	0.5	0	0	0.5	1	0.5	0	0	0	0	0	0.5	0	0	0	0	0	0	0	0	0.5	1	0	1	0	1	0	1	1		
Threat posed to users	Medium to Long-term decline in natural water or piezometric levels	0 - RUs where potential threat to users is low 0.5 - RUs where potential threat to users is moderate 1 - RUs where potential threat to users is high	0	0	0.5	0	0	0	0	0	0.5	0.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.5	0	0.5	0	0.5	0	0.5	0.5		
	Medium to Long-term decline in natural water quality	0 - RUs where potential threat to users is low 0.5 - RUs where potential threat to users is moderate 1 - RUs where potential threat to users is high	0.5	0.5	0.5	0	0	0	0	0	0.5	0.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.5	0.5	0	0.5	0.5	0	0.5	0.5			
	Paucity of monitoring and management system	0 - RUs where potential threat to users is low 0.5 - RUs where potential threat to users is moderate 1 - RUs where potential threat to users is high	1	0.5	0.5	1	0.5	0.5	1	1	0.5	0	0.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5	1	0.5	0.5	0.5	0.5	1	1			
Practical Considerations	Availability of water quality monitoring data (WMS) located within RU?	0 - RUs where no resource quality information exists 0.5 - RUs with a moderate level of resource quality information 1 - RUs with good availability of resource quality information	0	0	1	0	0	0	0	0	0.5	1	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0	1	1	1	0	0	0			
	Availability of water level monitoring data (DWAF monitoring boreholes) located within RU?	0 - RUs where no information exists 0.5 - RUs with a moderate level of information 1 - RUs with good availability of resource quality information	0	0.5	0.5	0	0	0	0	0	0	1	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.5	0	0	0	0.5		
Level of surface water – groundwater interaction	Relevance of groundwater contribution to maintain required low flow conditions	0 - RUs without relevant groundwater contribution 0.5 - RUs where groundwater contribution supports low flow condition 1 - RUs where groundwater contribution is crucial to maintain low flow condition	0	0	0.5	0.5	1	1	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	1	1	0	0.5	0	0	0	0	0.5	0.5	1	1	1	1	1	1	1	1	1			
	Alluvial aquifer associated with main stem rivers with short residence time	0 - RUs without alluvial aquifer on mainstem 0.5 - RUs with small alluvial aquifer on mainstem 1 - RUs with significant alluvial aquifer on mainstem	0	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.5	0	1	0.5	1	0	0	0			
	Primary aquifer not associated with main stem rivers	0 - RUs without primary aquifer 0.5 - RUs with small primary aquifers, not associated with mainstem 1 - RUs with significant primary aquifer, not associated with mainstem	1	1	0.5	0	0	0	0	0	0	0.5	0	0	0	0	0.5	0	0	0.5	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Fractured aquifer with long residence time (>2 years) prior to groundwater discharge	0 - RUs without fractured rock aquifer 0.5 - RUs with fractured rock aquifer of medium size 1 - RUs with large fractured rock aquifer. Straddling several Rus	0	0	0	0	1	1	0.5	0.5	0.5	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.5	1	1	1	1	1	1	0.5	0.5			
	Relevance of groundwater contribution to maintain required water quality	0 - RUs without relevant groundwater contribution 0.5 - RUs where groundwater contribution supports water quality during low flow condition 1 - RUs where groundwater contribution is crucial to maintain good water quality during low flow condition	0	0	0.5	0.5	1	1	0.5	1	0.5	0.5	0	0.5	0.5	0	0	1	0.5	0	0.5	0	0	0	0	0	0.5	1	1	1	1	1	1	1	1			
		Priority Rating	0.17	0.19	0.67	0.26	0.42	0.48	0.28	0.44	0.42	0.66	0.38	0.26	0.19	0.21	0.58	0.35	0.17	0.26	0.12	0.09	0.09	0.09	0.19	0.29	0.59	0.69	0.47	0.88	0.65	0.77	0.42	0.63	0.69	N/A	N/A	
	Groundwater	Select RU for RQO determination?										Y																		Y		Y						

GROUNDWATER (continued)			Koue Bokkeveld									Disagg. Nodes								Knervlakte								Sandveld									
Criterion	Sub-criteria	Rating Guideline	R37	R38	R39	R41	R43	R45	R46	R48	R49	A1	A2	A3	A4	A5	A6	A7	A8	R1	R2	R3	R4	R5	R8	R8	Q2	Q3	Q4	R51	R52	R53	R54	R55	R56	R57	Q5
Importance for users (Current & anticipated future use)	RUs which are important in supporting livelihoods of significant vulnerable communities	0 - RUs which do not support / provide limited support for vulnerable communities 0.5 - RUs providing some support for vulnerable communities 1 - RUs playing an important role in supporting vulnerable communities	0	0	0	0	0	0.5	0	0	0									0	0	0	0	1	1	1	0	0	0	0	1	0	0	0.5	0	1	0.5
	RUs most important in supporting activities contributing to the economy	0 - RUs which do not directly support any activities which contribute to the economy 0.5 - RUs which support activities which provide a moderate contribution to the economy 1 - RUs which support activities which contribute significantly to the economy	0	0.5	0	1	1	1	0.5	1	0.5									0	0	0.5	0.5	0	0.5	0.5	0	0	0	1	1	1	1	0	1	1	0
Threat posed to users	Medium to Long-term decline in natural water or piezometric levels	0 - RUs where potential threat to users is low 0.5 - RUs where potential threat to users is moderate 1 - RUs where potential threat to users is high	0	0	0	1	0.5	0.5	0	0.5	0									0	0	0.5	0	0.5	0.5	0.5	0	0	0	0.5	1	1	1	0	1	1	0
	Medium to Long-term decline in natural water quality	0 - RUs where potential threat to users is low 0.5 - RUs where potential threat to users is moderate 1 - RUs where potential threat to users is high	0	0	0	0.5	0	0.5	0	0	0									0	0	0.5	0	0	0.5	0.5	0	0	0	0.5	1	1	0.5	0	0.5	1	0.5
	Paucity of monitoring and management system	0 - RUs where potential threat to users is low 0.5 - RUs where potential threat to users is moderate 1 - RUs where potential threat to users is high	1	0.5	1	0.5	1	0.5	1	1	1									1	0.5	1	1	1	0.5	0.5	1	1	1	0	0	0	0	0	0	0	0.5
Practical Considerations	Availability of water quality monitoring data (WMS) located within RU?	0 - RUs where no resource quality information exists 0.5 - RUs with a moderate level of resource quality information 1 - RUs with good availability of resource quality information	0.5	1	0	0.5	0	0.5	0	0	0									0	0	0.5	0	0	1	0.5	0	0	1	0	1	1	0.5	1	1	1	0
	Availability of water level monitoring data (DWAF monitoring boreholes) located within RU?	0 - RUs where no information exists 0.5 - RUs with a moderate level of information 1 - RUs with good availability of resource quality information	0	0.5	0	0	0.5	0	0	0	0									0	0	0	0	0	0.5	1	0	0	0	1	1	0	1	0	1	1	1
Level of surface water – groundwater interaction	Relevance of groundwater contribution to maintain required low flow conditions	0 - RUs without relevant groundwater contribution 0.5 - RUs where groundwater contribution supports low flow condition 1 - RUs where groundwater contribution is crucial to maintain low flow condition	1	1	0.5	1	0.5	1	1	1	0.5									0	0	0.5	0.5	0	0	0	0	0	0	1	1	1	1	0	1	1	0.5
	Alluvial aquifer associated with main stem rivers with short residence time	0 - RUs without alluvial aquifer on mainstem 0.5 - RUs with small alluvial aquifer on mainstem 1 - RUs with significant alluvial aquifer on mainstem	0	0	0	0	0	0	0	0	0									0	0	0	0	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0
	Primary aquifer not associated with main stem rivers	0 - RUs without primary aquifer 0.5 - RUs with small primary aquifers, not associated with mainstem 1 - RUs with significant primary aquifer, not associated with mainstem	0	0	0	0.5	0	0	0	0	0									0.5	0.5	0.5	0	0.5	0.5	0.5	1	1	0.5	1	1	1	0	0	1	1	1
	Fractured aquifer with long residence time (>2 years) prior to groundwater discharge	0 - RUs without fractured rock aquifer 0.5 - RUs with fractured rock aquifer of medium size 1 - RUs with large fractured rock aquifer. Straddling several Rus	1	1	0.5	0.5	0.5	0	0	0	0									0	0	0.5	0	0	0	0	0	0	0	1	0.5	0	1	0	1	0.5	0.5
	Relevance of groundwater contribution to maintain required water quality	0 - RUs without relevant groundwater contribution 0.5 - RUs where groundwater contribution supports water quality during low flow condition 1 - RUs where groundwater contribution is crucial to maintain good water quality during low flow condition	1	1	0.5	0.5	0.5	1	0.5	0.5	0.5									0	0	0.5	0	0	0	0	0	0	0	1	1	1	1	0	1	1	0.5
			Priority Rating	0.52	0.65	0.28	0.63	0.49	0.67	0.41	0.50	0.31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.12	0.07	0.49	0.24	0.27	0.51	0.49	0.14	0.14	0.23	0.72	1.00	0.74	0.77	0.17	0.87	1.00
	Groundwater	Select Resource Unit for RQO determination?				Y																									Y	Y				Y	Y

[illegible]

WETLANDS (continued)			Koue Bokkeveld									Disagg. Nodes								Knersvlakte								Sandveld										
Criterion	Sub-criteria	Rating Guideline	R37	R38	R39	R41	R43	R45	R46	R48	R49	A1	A2	A3	A4	A5	A6	A7	A8	R1	R2	R3	R4	R5	R8	R58	Q2	Q3	Q4	R51	R52	R53	R54	R55	R56	R57	Q5	
	Groundwater	Select Resource Unit for RQO determination?																																				