

PROJECT: Wetland Baseline & Risk Assessment for the Mooiplaats Colliery Operations

RISK ASSESSMENT MATRIX for Section 21 (c) and (i) Water Use activities - Version 2.1.1

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The best case PES and EIS of the identified wetlands were used in this assessment which would theoretically enable the worst case scenario in terms of expected potential impact significance.

Phase	Activity	Impact	Potentially affected watercourses			Intensity of Impact on Resource Quality					Overall Intensity (max = 10)	Spatial scale (max = 5)	Duration (max = 5)	Severity (max = 20)	Importance rating (max = 5)	Consequence (max = 100)	Likelihood (Probability) of impact	Significance (max = 100)	Risk Rating	Confidence level	
			Name/s	PES	Overall Watercourse Importance	Abiotic Habitat (Drivers)			Biota (Responses)												
						Hydrology	Water Quality	Geomorph	Vegetation	Fauna											
OPERATIONAL	Water Usage Vehicle Access Maintenance of equipment and machinery	Altered hydrology reducing wetland health and functioning.	HGM 1 - 6	C	High		2	1	1	1	1	4	2	4	10	4	40	80%	32	M	High
		Introduction and / or proliferation of alien invasive vegetation from disturbed areas.		C	High		1	1	2	3	2	6	1	4	11	4	44	40%	17,6	L	High
		Chemical contaminants and coal sediment deposits entering watercourses.		C	High		1	5	2	3	3	10	3	4	17	4	68	60%	40,8	M	High
		Overall wetland degradation.		C	High		2	3	1	3	3	6	2	4	12	4	48	40%	19,2	L	High
		Depletion and/ or contamination of groundwater reserves.		C	High		4	4	3	3	3	8	2	4	14	4	56	40%	22,4	L	High
		Altered overland flow from increased hardened surfaces.		C	High		2	2	2	2	2	4	1	4	9	4	36	60%	21,6	L	High
		Vegetation and biodiversity disturbance.		C	High		2	2	2	2	2	4	1	4	9	4	36	60%	21,6	L	High
		Induced erosion and sedimentation.		C	High		1	2	1	1	1	4	1	4	9	4	36	44%	15,84	L	High
		Water quality impairment from stochastic fuel and oil spills.		C	High		1	3	1	3	2	6	1	4	11	4	44	40%	17,6	L	High
DECOMMISSIONING	Reshaping Waste Management	Filling excavations with topsoil.	HGM 1 - 6	C	High		-3	2	-3	2	-2	4	1	1	6	4	24	80%	19,2	L	High
		Re-vegetating bare soils.		C	High		-3	-2	-4	-5	-3	-10	1	2	-13	4	-52	60%	-31,2	+	High
		Treating affected areas to prevent AMD contamination and water pollution from runoff.		C	High		1	3	2	3	3	6	2	2	10	4	40	60%	24	L	High