

CONTENTS

7. KOEBERG NATURE RESERVE ANNUAL PLAN OF OPERATION	Page 1
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LIST OF TABLES

Table 7-1 Koeberg Nature Reserve Annual Plan of Operation	2
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CHAPTER REVISION INFORMATION

Date Signed	Rev.	Remarks
April 2015	0	Sub-Revision 1: 18 July 2014 Included the comments received on 19 June 2014 from CoCT and CapeNature. Sub-Revision 2: August 2014 Included comments received from formal review from Eskom, CapeNature and CoCT. Sub-Revision 3: 20 April 2015 Included updates and comments received from the public review.

7. KOEBERG NATURE RESERVE ANNUAL PLAN OF OPERATION

This Chapter provides the template for the annual review of the Koeberg Nature Reserve Management Plan and will seamlessly generate the Annual Plan of Operations (APO) for the following financial year.

CONTROLLED DISCLOSURE

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Table 7-1 Koeberg Nature Reserve Annual Plan of Operation

REVIEW NO:			DATE OF REVIEW:			
REVIEW PERIOD:			REVIEW COMPLETED BY:			
COMBINING CONSERVATION AND CONSTRUCTION/OPERATIONS ACTIVITIES						
Key Deliverables	Management Activities	Management Target	Status	Comments / Action	Completion Date	Responsibility
Protection of bird breeding sites	Limit activities that could disturb the nesting and breeding habits to those essential to the operation of Koeberg.	Maintain an environment that encourages breeding.				
Waste Management	All personnel, including contractors must ensure that wastes are disposed into the allocated containers clearly marked on site.	Clean and litter-free site Effective waste management Correct disposal of various waste streams				
	No person is allowed to dispose any material into the storm or effluent drains, or into a dedicated container allocated to a different material.					
	Waste handling, collection and disposal operations are managed and controlled by the waste management contractor.					
	The waste management contractor ensures that all wastes are disposed of in accordance with the hazardous nature of the material. The ELM Group will evaluate this on an on-going basis.					
	All waste should be disposed of at a registered waste disposal site.					
	Exact quantities of all waste streams exiting site are compiled by the waste management contractor and monitored by the site and the ELM Group. Waste quantities must be sent to Corporate: Environmental Management on a monthly basis.					

	All appropriate waste disposal certificates must be issued to site. Safe disposal certificates are kept by the site for a period of 3 years.					
	All sites must be cleared of litter on an on-going basis.					
Pollution Control Management	Have effective control measure to deal with any potential spill.	No spills in the CZ Effective pollution control Effective clean-up operations when a spill does occur.				
	Reporting all minor and major spills that can cause pollution within the DZ and CZ, spills such as diesel, cement (during construction activities), and any other such as waste, chemicals, etc.					
Stormwater Management	Effective stormwater management within the DZ to prevent erosion and the formation of artificial wetlands.	No unacceptable stormwater damage				
	Effective stormwater management along gravel routes and structures within the CZ to prevent erosion and the formation of artificial wetlands.					
New Developments within the DZ	Screen all proposed developments within the DZ to assess the environmental impacts on the DZ and CZ.	Maintain the SDP of new and proposed developments. Ensure all development is performed in line with requirements.				
	Update the SDP to reflect the new development.					
	If required, update or amend the Management Plan.					
New Sustainable Developments within the CZ	Screen all proposed developments within the CZ to assess the environmental impacts on the DZ and CZ.	Maintain the SDP of new and proposed developments. Ensure all development is performed in line with requirements.				
	Update the SDP to reflect the new development.					
	If required, update or amend the Management Plan.					

Rehabilitation of disturbed land	Rehabilitate any land within the CZ disturbed by construction, operational, or emergency activities to acceptable rehabilitation standards.	Land to be rehabilitated in appropriate timescales.				
FIRE MANAGEMENT						
Key Deliverables	Management Activities	Management Target	Status	Comments / Action	Completion Date	Responsibility
Reduce wildfires due to human negligence.	Create Fire Awareness amongst staff and visitors.	No wild fires in the Nature Reserve				
		SHE talks (for staff) and printed media.				
	Eradication and control of alien infestations (where necessary)	See Invasive Vegetation Management in Section 5.2.2.				
Reduce/prevent the spread of fires.	Monitoring and maintenance of the Nature Reserve fire breaks and hydrants	Fire breaks, servitudes and corridors in an appropriate condition.				
	To maintain the state of servitudes and corridors in required state.	No fires underneath powerlines.				
	Ensure the appointment and training of firefighting staff and maintenance of firefighting equipment.	Equipment checked once a week. Maintenance is as per factory requirements. Firefighting staff undergoes annual training.				
	Fuel reduction around infrastructure to minimise risk.					
Maintain partnerships to improve fire management	Attend Local FPA Meetings.	Regular attendance FPA meeting every two months.				
	Maintain Firebreak Agreements with Neighbours.	Agreements in place with neighbours and FPA.				
Control of Burning Programme to assist in maintaining the ecological integrity of the Nature Reserve	Any burn must be done in accordance with relevant legislation	Obtaining relevant permits prior to any controlled burn.				
	Elimination of alien vegetation through controlled burning programme.	Use of controlled burning programme, as a last resort, for invasive vegetation clearing due to concerns associated with running fires.				

	Burning of Fynbos to germinate and spread seeds.	Frequency to be determined by the KMA on guidance of 12 to 15 years for Atlantis Sand Fynbos and 20 to 100 years for Cape Flats Dune Strandveld (McDonalds, 2013)				
	Burning within and along the transmission corridor is not allowed.	If considered necessary, an option of reseedling can be considered to maintain the ecological integrity underneath powerlines.				

INVASIVE VEGETATION MANAGEMENT

Key Deliverables	Management Activities	Management Target	Status	Comments / Action	Completion Date	Responsibility
Eradicate alien and invasive species	Annually identify and map the alien invasive flora within or threatening the Nature Reserve and identify areas in "Maintenance Phase".	Areas infested by aliens (rooikrans & Port Jackson) to be reduced year on year. Desired fynbos types are restabilising in cleared areas as expected.				
Implement biological control	Identify Potential Biological Control Sites and Prioritise Accordingly.	Eskom has agreements in place with neighbours when required, and consult with CapeNature as and when required.				
	Map and Update Biological Control Sites.					
Prevent further introduction of aliens	Rehabilitate any land within the CZ disturbed by construction, operational, or emergency activities to acceptable rehabilitation standards.	Land to be rehabilitated in appropriate timescales.				

GAME MANAGEMENT

Key Deliverables	Management Activities	Management Target	Status	Comments / Action	Completion Date	Responsibility
Monitoring - Game Numbers and Impact	Conduct reliable game counts for each species of game. This is done by dividing the Nature Reserve in compartments or drive counts.	Maintain a stable population of animals that is not significantly impacting the ecosystems.				
	Monitoring the impact of the animals on the ecosystems.					

Monitoring – Health and parasite control	To get animals together to assess the condition, external parasite infestation, conditions of new born and general health (by making bales of Lucerne routinely available).	To have animals in a healthy condition.				
	Supply of game pallets containing IVOMEK and game lick blocks as a form of supplement feeding and nutritional supplement.	Continuous parasite control.				
	Two dip dispensers placed in strategic locations for the transmittance of Deadline onto animals.					
Game Capture and Relocation (including injuries and rehabilitation)	Maintain a valid Certificate of Adequate Enclosure for the capture and keeping of animals on the permit.	Maintain the permit in terms of section 35 of the CapeNature Ordinance.				
	Ensure valid permits for the Capture and Transport (relocation) of wild animals.	Animals will only be captured and transported under a valid permit under section 44(1) of the CapeNature Ordinance.				
	Ensure the safe immobilisation of animals, i.e. chemical immobilisation (larger game) or capture in nets (smaller game).	Appropriate capture of animals that do not harm animals.				
	Ensure compliance with the Medicine Control Act, Act No. 101 of 1965 and the Veterinary and Para-Veterinary Professions Act, Act No 19 of 1982, respectively	Compliance with requirements for control and conditions of use of potential narcotic anaesthetics.				
Management of Game Mortalities	Disposal of carcasses (natural or non-chemical induced mortalities and chemical induces mortalities)	Record all mortalities. Correct disposal of animal carcasses.				
Water Supply	Ensure safe drinking water for game – the 3 dams constructed and a number of drinking troughs.	Water in dams is sampled weekly to assess the water quality. Troughs are cleaned out weekly to prevent the spread of disease.				
Poaching Control	Regular patrols are done by conservation staff and security staff to deter poaching.	Detect and prevent the poaching of animals within the Nature Reserve.				

Removal of feral and domestic animals	Ensure the removal of feral and stray animals to the local shelter (Peanut Animal Welfare)	To have no feral or domestic animals within the Nature Reserve				
ECOSYSTEM MANAGEMENT						
Key Deliverables	Management Activities	Management Target	Status	Comments / Action	Completion Date	Responsibility
Maintain the ecological integrity of the sensitive vegetation types and its dune systems	Prevent activities that can negatively impact the ecosystem, such as <ul style="list-style-type: none"> - Prohibit the exploitation/harvesting of fauna - Prohibit the feeding of wildlife - Prevent the introduction of wildlife to prevent inbreeding and over population - Prevent the disturbance (erosion or footpaths) of pristine dune ridges. - Limit access and minimise human disturbance in breeding areas (Black Oyster Catcher) 	No recorded incidences of prohibited activities				
Manage wetlands according to recognised best practice knowledge and guidelines	Vehicular traffic prohibited in permanently wet areas	Maintain wetlands to a healthy condition.				
	No excess groundwater to be pumped into any wetland					
	Monitor and ensure to the control of alien encroachment into wetlands					
	Monitor and control reed and bulrush infestation					
Manage seepage and CoCT effluent dams	To ensure that the CoCT's Management and Monitoring Plan is executed as per the agreement between the Eskom and CoCT.	To maintain an appropriate environment for effluent dams.				
	Removal water hyacinth, including reed and bulrush control by cutting.					
SUSTAINABLE HARVESTING (as required)						

Key Deliverables	Management Activities	Management Target	Status	Comments / Action	Completion Date	Responsibility
Minimise harvesting impact	Develop a plan to manage the impact of harvesting, if and when required, that is compliant with relevant legislation and meets harvesting criteria.	When harvesting is done, a harvesting record should be maintained.				
EROSION PREVENTION AND CONTROL						
Key Deliverables	Management Activities	Management Target	Status	Comments / Action	Completion Date	Responsibility
Prevent and mitigate soil erosion <u>during any development</u> in the CZ and DZ	Map erosion sites, such as construction sites, embankments, roads/verges and ensure photographs are available.	Proactively identify areas of erosion to allow timeous prevention and rehabilitation. Record for future follow-up.				
	Develop a method statement/erosion maintenance plan on rehabilitation of areas affected by erosion.					
	Monitor the effectivly of the erosion control mitigation, and site recovery.					
	Clearly demarcate areas being rehabilitated.					
Monitoring and maintenance of access routes, hiking and MTB trails (CZ)	Develop a method statement/erosion maintenance plan on rehabilitation of areas affected by erosion.	Proactively identify areas of erosion to allow timeous prevention and rehabilitation. Record for future follow-up.				
	Monitor the condition of access routes, hiking and MTB trails to prevent soil erosion.					
Monitor and prevent the degradation due to soil erosion in the CZ.	Monitor the CZ for unexpected erosion.	Proactively identify areas of erosion to allow timeous prevention and rehabilitation. Record for future follow-up.				
BASELINE DATA COLLECTION						
Key Deliverables	Management Activities	Management Target	Status	Comments / Action	Completion Date	Responsibility

Record Keeping	Record all unique and credible siting of animal species as listed in Table 5-10.	Maintaining an accurate list of siting's with locations.				
Allow the CoCT, CapeNature and any other research initiative to conduct specific conservation monitoring programmes within the CZ	Approve research initiatives and allow access to perform specific conservation monitoring.	Not applicable.				
HERITAGE MANAGEMENT						
Key Deliverables	Management Activities	Management Target	Status	Comments / Action	Completion Date	Responsibility
Conserve the two beacons and dam house	Map and conserve the two identified beacons located within the Nature Reserve.	No damage or vandalism.				
	Area to be out of bounds to any vehicles and pedestrians.	No recorded incidence of damage and trespassing.				
Manage the discovery of any archaeological and/or paleontological artefacts	The collection of archaeological and/or paleontological artefacts is prohibited.	All discoveries are recorded and managed appropriately.				
	Any proposed development within the Nature Reserve, as part of its environmental impact assessment, must consider the presence and impact of archaeological and/or paleontological resources.					
	Liaise with Heritage Western Cape (HWC) on the discovery of any heritage resources to ensure its conservation.					
EDUCATION AND RECREATION						
Key Deliverables	Management Activities	Management Target	Status	Comments / Action	Completion Date	Responsibility
Promote nuclear and environmental education development	Facilitate public visits to the Nature Reserve and Koeberg Visitor's Centre	To increase the number of visitors year on year.				

Support research initiatives	Permit environmental related research projects within the Nature Reserve.	Final research material to be made available to Koeberg				
Maintain recreational facilities in support of activities in the Nature Reserve	Maintain the existing hiking and mountain bike trails, and basic facilities to cater for visitors to the Nature Reserve.	To allow the public to enjoy the hiking and mountain biking routes. Facilitate easy public access without incident.				
	Monitor usage and behaviour of visitors in the Nature Reserve	No incidents of inappropriate behaviour.				
Management of annual events approved by the KMA	Annual Koeberg Nature Reserve Open Day – NSRI (4x4)	To ensure successful events with no sustainable negative impact on the CZ.				
	Annual Koeberg 15km Fun Run					
	Annual Koeberg Cross Country League					

SECURITY

Key Deliverables	Management Activities	Management Target	Status	Comments / Action	Completion Date	Responsibility
Security (Access Control)	Level of access to the site is determined and controlled by Koeberg security and the KMA.	Only authorised persons entering Eskom premises.				
	Access controls (requirements) are determined by the Koeberg Security and the KMA.					
	Where possible, trespassers will be apprehended. KNPS/KMA will maintain a relationship with SAPS for law enforcement.					
Fence Management (Boundary/Game fences)	Maintain existing boundary and game fences.	Maintain fence in good condition.				
	Maintain a firebreak, a road or low fynbos vegetation on the inside of the fence to ensure access for maintenance and patrols.					
	Spray of herbicides underneath the fence to keep clear of plant growth (minimise the impact of veld fires).					

Patrols	Ensure access along fences, the beach and all areas within the DZ and CZ to allow staff to patrol the site for trespassers.	No trespassers or prohibited activities performed in the CZ.				
	Regular inspections of the integrity of fences surrounding DZ and CZ.	Identify areas where fence maintenance is required.				
	Maintain 4x4 access for vehicle patrol purposes					

OPERATIONAL MANAGEMENT OF THE KOEBERG NATURE RESERVE

Key Deliverables	Management Activities	Management Target	Status	Comments / Action	Completion Date	Responsibility
Road Maintenance	Road to be maintained in a serviceable condition.	Acceptable road conditions.				
Maintain infrastructure within the CZ (typically wooden)	Regularly inspect and maintain when necessary.	Maintain the condition of the infrastructure to be safe, user friendly and in a reputable state.				
Legal Compliance	Ensure compliance with existing legislation and policies.	Legal Compliance				
	Ongoing review of new or draft legislation and policies.					
Transmission Corridor Management	To manage and maintain vegetation along the transmission corridor to avoid for damage to the transmission network	Manage vegetation along the corridor and minimise fire hazard to the transmission network				
Monitoring and reporting	Management oversight within the KMA of the status of implementation of the Management Plan.	Quarterly reporting of the status of implementation. (Template provided in Chapter 6)				
	Report to the Authorities on the implementation of the Management Plan.	Proof that the reports were sent.				
Management review of the effectiveness of the Management Plan	Annually review the effectiveness of achieving the objectives of the Management Plan and determine any specific actions needed to resolve or address gaps in the Annual Plan of Operation (APO) for the upcoming	Perform the Management Review internally, present to CapeNature, and submit to the Authorities prior to the end of June each year. (Template provided in Chapter 7)				

