

PLANT RESCUE AND PROTECTION PLAN

1. PURPOSE

The purpose of the plant rescue and protection plan is to implement avoidance and mitigation measures, in addition to the mitigations included in the Environmental Management Programme (EMPr) to reduce the impact of the development of the Karusa Wind Energy Facility on listed and protected plant species and their habitats and to provide guidance on search and rescue of species of conservation concern.

2. RELEVANT ASPECTS OF THE SITE

The selected property falls within the Central Free State Grassland (GH 6) as defined by Mucina and Rutherford (2006). A total of 1432 plant species have been recorded in the Sasolburg/Vereeniging Area according to the SANBI database. This high number is largely attributable to the many diverse habitats within the grid, but will not all be found within any one habitat type. Only 115 indigenous plant species could be verified on site, with an additional 22 alien invasive species (excluding planted exotic trees).

The following red data species have been recorded from the area (2827) according to the red data species list of SANBI and the ADU database. *Boophane disticha* was observed in the development site and is protected by the Nature Conservation Ordinance 8 of 1969, Schedule 6: Protected Species. Permits from the relevant authority should be obtained for these species prior to any form of disturbance.

Species	RD Status	Suitable Habitat	Possibility of being present	Threat
<i>Plants</i>				
<i>Trachyandra erythrorrhiza</i>	NT	Black turf marshes	Not expected	Habitat destruction
<i>Stenostelma umbelluliferum</i>	NT	Riparian areas	Not expected	Habitat destruction
<i>Miraglossum laeve</i>	VU	High altitude grasslands	Unlikely	Habitat destruction
<i>Kniphofia typhoides</i>	NT	Wetlands	Unlikely	Habitat destruction
<i>Khadia beswickii</i>	VU	Rocky outcrops	Unlikely	Illegal trade
<i>Hypoxis hemerocallidea</i>	Declining	Variable	Slight	Medicinal Trade
<i>Habenaria barbertoni</i>	NT	Rocky hillsides	Not expected	Habitat destruction

Species	RD Status	Suitable Habitat	Possibility of being present	Threat
<i>Gunnera perpensa</i>	Declining	Wetlands	Unlikely	Habitat destruction
<i>Drimia elata</i>	DDT	Variable habitats	Slight	Medicinal Trade
<i>Crinum bulbispermum</i>	Declining	Grasslands and wetlands	Slight	Habitat destruction
<i>Cineraria austrotransvaalensis</i>	NT	High altitude grasslands	Unlikely	Habitat destruction
<i>Boophone disticha</i>	Declining	Variable habitats	Observed	Medicinal Trade
<i>Acalypha caperonioides</i> var. <i>caperonioides</i>	DDT	Grasslands	Slight	Habitat destruction
<i>Adromischus umbraticola</i> subsp. <i>umbraticola</i>	NT	Rocky outcrops	Unlikely	Habitat destruction
<i>Alepidea attenuata</i>	NT	Highveld wetlands	Unlikely	Habitat destruction
<i>Brachycorythis conica</i> subsp. <i>transvaalensis</i>	EN	Dolomite grasslands	Unlikely	Habitat destruction
<i>Brachystelma incanum</i>	VU	Sandy loam Bushveld	Unlikely	Habitat destruction
<i>Callilepis leptophylla</i>	Declining	Rocky slopes	Unlikely	Medicinal trade
<i>Cineraria longipes</i>	VU	South-facing basalt Koppies	Unlikely	Habitat destruction
<i>Drimia sanguinea</i>	NT	Variable veld	Slight	Medicinal trade
<i>Gnaphalium nelsonii</i>	Rare	Seasonal wetlands	Slight	Habitat destruction
<i>Lepidium mossii</i>	DDD	Grassland	Slight	Habitat destruction
<i>Lessertia mossii</i>	DDT	Variable plains	Unlikely	Habitat destruction
<i>Lithops lesliei</i> subsp. <i>lesliei</i>	NT	Rocky outcrops	Unlikely	Illegal trade
<i>Myrothamnus flabellifolius</i>	DDT	Rocky outcrops	Unlikely	Medicinal trade
<i>Pearsonia bracteata</i>	NT	Plateau grassland	Unlikely	Habitat destruction
<i>Stapelia paniculata</i> subsp. <i>paniculata</i>	NT	Rocky outcrops	Unlikely	Illegal trade
Terrestrial Vertebrates				
Giant Girdled Lizard <i>Smaug (Cordylus) giganteus</i>	VU	Grassland	Slight	Habitat destruction
Giant Bull Frog <i>Pyxicephalus adspersus</i>	NT	Wetlands	Slight	Habitat destruction
Coppery Grass Lizard <i>Chamaesaura aenea</i>	NT	Grasslands	Slight	Habitat destruction

3. PRINCIPLES FOR SEARCH AND RESCUE

Successful plant rescue can only be achieved if:

- » Species can be removed from their original habitat with minimal damage to the plant, especially the roots.
- » All plants removed are safely stored and treated according to their specific requirements prior to being transplanted again.
- » They are relocated into a suitable habitat and protected from further damage and all disturbances to aid their re-establishment.
- » Timing of planting activities is planned with the onset of the growing season.
- » Steps are taken where necessary to aid the initial establishment of vegetation, including occasional watering.

The following principles apply in terms of plant rescue and protection:

- » A permit is required from the Department of Economic Development, Tourism and Environmental Affairs to translocate or destroy any listed and protected species identified by the ecological walkthrough survey undertaken for the optimised final Lethabo PV Facility layout, even if they do not leave the property. This permit should be obtained prior to any search and rescue operations being undertaken.
- » Where suitable species are identified, a search and rescue operation of these species should be undertaken within the development footprint, where these species would be affected, and prior to the commencement of construction.
- » As far as possible, timing of search and rescue activities should be planned with the onset of the growing season.
- » Affected individuals should be translocated to a similar habitat outside of the development footprint and marked and recorded for monitoring purposes. For each individual plant that is rescued, the plant must be photographed before removal, tagged with a unique number or code and a latitude longitude position recorded using a hand-held GPS device.
- » The rescued plants must be planted into a container to be housed within a temporary nursery on site or immediately planted into the target habitat.
- » Rescued plants, if re-planted back in the wild, should be placed as close as possible to where they were originally removed. Re-planting into the wild must cause as little disturbance as possible to existing natural ecosystems. The position of the rescued individual/s must be recorded to aid in future monitoring of that plant as noted earlier.
- » During construction, the Environmental Control Officer (ECO)/ Contractor's Environmental Officer (EO)/ Environmental Representative must monitor vegetation clearing at the site. Any deviations from the plans that may be required should first be checked for listed species by the Environmental Control Officer (ECO)/ Contractor's Environmental Officer (EO/ SHE

Representative) and any listed species present which are able to survive translocation should be translocated to a safe site.

- » Any listed species suitable for translocation observed within the development footprint, and that would be affected, that were not previously observed be translocated to a safe site.
- » The collecting of plants or their parts should be strictly forbidden. Staff should be informed of the legal and conservation aspects of harvesting plants from the wild as part of the environmental induction training.
- » Sensitive habitats and area outside project development should be clearly demarcated as no go areas during the construction and operational phase to avoid accidental impacts.