

- 41 species are listed as Near Threatened (NT);
- 30 species are listed as Vulnerable (VU);
- 11 species are listed as Endangered (EN); and
- 4 species are listed as Critically Endangered (CR)

Estimations for the probability of occurrence (PoC) for Red Data fauna taxa for the study area yielded the following results (**Table 6.4**):

- 40 species have a low PoC;
- 21 species have a moderate-low PoC;
- 25 species have a moderate PoC;
- 8 species have a moderate-high PoC; and
- 15 species have a high PoC.

Table 6.4: Red Data assessment for the study area

Species Details			Probability
Biological Name	English Name	RD	Assessment
Butterflies			
<i>Aloeides barbara</i>	Barbara's Copper	Endangered	low
<i>Aloeides merces</i>	Wakkerstroom Copper	Vulnerable	moderate-low
<i>Aloeides nubilus</i>	Cloud Copper	Endangered	low
<i>Aloeides rossouwii</i>	Rossouw's Copper	Endangered	low
<i>Chrysothrix aureus</i>	Heidelberg Opal	Vulnerable	low
<i>Chrysothrix phosphor borealis</i>	Scarce Scarlet	Data Deficient	moderate-low
<i>Lepidochrysops irvingi</i>	Irving's Blue	Vulnerable	low
<i>Lepidochrysops jefferyi</i>	Jeffrey's Blue	Endangered	low
<i>Lepidochrysops swanepoeli</i>	Swanepoel's Blue	Vulnerable	low
<i>Metisella meninx</i>	Marsh Sylph	Vulnerable	moderate
Frogs			
<i>Breviceps sopranus</i>	Whistling Rain Frog	Data Deficient	low
<i>Hemisus guttatus</i>	Spotted Shovel-nosed Frog	Vulnerable	moderate-low
<i>Pyxicephalus adspersus</i>	Giant Bullfrog	Near Threatened	moderate
<i>Strongylopus wageri</i>	Plain Stream Frog	Near Threatened	low
Reptiles			
<i>Acontias breviceps</i>	Short-headed Legless Skink	Near Threatened	moderate-low
<i>Afroedura major</i>	Swazi Flat Gecko	Near Threatened	low
<i>Chamaesaura aenea</i>	Coppery Grass Lizard	Near Threatened	moderate
<i>Chamaesaura macrolepis</i>	Large-scaled Grass Lizard	Near Threatened	low
<i>Homoroselaps dorsalis</i>	Striped Harlequin Snake	Near Threatened	moderate-low
<i>Kinixys natalensis</i>	Natal Hinged Tortoise	Near Threatened	low
<i>Lamprophis fuscus</i>	Yellow-bellied House Snake	Near Threatened	moderate-low
<i>Smaug giganteus</i>	Giant Girdled Lizard	Vulnerable	moderate
<i>Tetradactylus breyeri</i>	Breyer's Long-tailed Seps	Vulnerable	moderate-low
Birds			
<i>Phoenicopus roseus</i>	Greater Flamingo	Near Threatened	moderate-high
<i>Phoenicopus minor</i>	Lesser Flamingo	Near Threatened	moderate-high
<i>Mycteria ibis</i>	Yellow-billed Stork	Near Threatened	moderate-low
<i>Ciconia nigra</i>	Black Stork	Near Threatened	moderate
<i>Leptoptilos crumeniferus</i>	Marabou Stork	Near Threatened	moderate-low
<i>Geronticus calvus</i>	Southern Bald Ibis	Vulnerable	moderate
<i>Botaurus stellaris</i>	Eurasian Bittern	Critically Rare	moderate
<i>Sagittarius serpentarius</i>	Secretarybird	Near Threatened	high

Species Details			Probability
Biological Name	English Name	RD	Assessment
<i>Gyps coprotheres</i>	Cape Vulture	Vulnerable	moderate
<i>Circus ranivorus</i>	African Marsh Harrier	Vulnerable	high
<i>Circus maurus</i>	Black Harrier	Vulnerable	high
<i>Circus macrourus</i>	Pallid Harrier	Near Threatened	high
<i>Hieraaetus ayresii</i>	Ayres's Hawk-Eagle	Near Threatened	moderate-low
<i>Polemaetus bellicosus</i>	Martial Eagle	Vulnerable	moderate-high
<i>Falco naumanni</i>	Lesser Kestrel	Vulnerable	high
<i>Falco biarmicus</i>	Lanner Falcon	Near Threatened	high
<i>Eupodotis caerulescens</i>	Blue Korhaan	Near Threatened	high
<i>Crex crex</i>	Corn Crake	Vulnerable	moderate
<i>Balearica regulorum</i>	Grey Crowned Crane	Vulnerable	moderate-high
<i>Anthropoides paradisea</i>	Blue Crane	Vulnerable	high
<i>Charadrius pallidus</i>	Chestnut-banded Plover	Near Threatened	moderate-low
<i>Rostratula benghalensis</i>	Greater Painted-snipie	Near Threatened	moderate-low
<i>Glareola nordmanni</i>	Black-winged Pratincole	Near Threatened	moderate
<i>Hydroprogne caspia</i>	Caspian Tern	Near Threatened	moderate-low
<i>Tyto capensis</i>	African Grass-owl	Vulnerable	high
<i>Alcedo semitorquata</i>	Half-collared Kingfisher	Near Threatened	moderate
<i>Mirafraga cheniana</i>	Melodious Lark	Near Threatened	moderate
<i>Heteromirafraga ruddi</i>	Rudd's Lark	CR Critically Rare	moderate-low
<i>Spizocorys fringillaris</i>	Botha's Lark	Endangered	moderate-low
Mammals			
<i>Chrysoxalax villosus</i>	Rough-haired Golden Mole	Critically Rare	moderate-low
<i>Amblysomus hottentotus</i>	Hottentot's Golden Mole	Data Deficient	moderate-low
<i>Amblysomus robustus</i>	Robust Golden Mole	Endangered	low
<i>Amblysomus septentrionalis</i>	Highveld Golden Mole	Near Threatened	high
<i>Neamblysomus julianae</i>	Juliana's Golden Mole	Vulnerable	low
<i>Atelerix frontalis</i>	South African Hedgehog	Near Threatened	moderate
<i>Elephantulus brachyrhynchus</i>	Short-snouted Elephant-shrew	Data Deficient	low
<i>Myosorex cafer</i>	Dark-footed Forest Shrew	Data Deficient	moderate-low
<i>Myosorex varius</i>	Forest Shrew	Data Deficient	high
<i>Crocidura cyanea</i>	Reddish-grey Musk Shrew	Data Deficient	high
<i>Crocidura flavescens</i>	Greater Musk Shrew	Data Deficient	moderate-high
<i>Crocidura fuscomurina</i>	Tiny Musk Shrew	Data Deficient	moderate
<i>Crocidura hirta</i>	Lesser Red Musk Shrew	Data Deficient	moderate
<i>Crocidura maquassiensis</i>	Maquassie Musk Shrew	Vulnerable	low
<i>Crocidura mariquensis</i>	Swamp Musk Shrew	Data Deficient	high
<i>Crocidura silacea</i>	Lesser Grey-brown Musk Shrew	Data Deficient	moderate-high
<i>Suncus infinitesimus</i>	Least Dwarf Shrew	Data Deficient	moderate
<i>Suncus lixus</i>	Greater Dwarf Shrew	Data Deficient	low
<i>Suncus varilla</i>	Lesser Dwarf Shrew	Data Deficient	moderate
<i>Cloeotis percivali</i>	Percival's Short-eared Trident Bat	Vulnerable	moderate-low
<i>Rhinolophus blasii</i>	Blasius's Horseshoe Bat	Near Threatened	moderate
<i>Rhinolophus swinnyi</i>	Swinny's Horseshoe Bat	Near Threatened	moderate-low
<i>Miniopterus natalensis</i>	Natal Long-fingered Bat	Near Threatened	moderate-high
<i>Scotophilus nigrita</i>	Giant Yellow House Bat	Near Threatened	low
<i>Cercopithecus mitis</i>	Samango Monkey	Vulnerable	low
<i>Cercopithecus mitis labiatus</i>	Samango Monkey	Endangered	low
<i>Manis temminckii</i>	Ground Pangolin	Vulnerable	low
<i>Graphiurus platyops</i>	Rock Dormouse	Data Deficient	low
<i>Mystromys albicaudatus</i>	White-tailed Rat	Endangered	moderate
<i>Tatera leucogaster</i>	Bushveld Gerbil	Data Deficient	low
<i>Lemniscomys rosalia</i>	Single-striped Mouse	Data Deficient	moderate

Species Details			Probability
Biological Name	English Name	RD	Assessment
<i>Dasymys incomtus</i>	Water Rat	Near Threatened	moderate
<i>Grammomys dolichurus</i>	Woodland Mouse	Data Deficient	low
<i>Otomys slogetti</i>	Sloggett's Rat	Data Deficient	moderate
<i>Panthera pardus</i>	Leopard	Near Threatened	moderate
<i>Panthera leo</i>	Lion	Vulnerable	low
<i>Leptailurus serval</i>	Serval	Near Threatened	high
<i>Acinonyx jubatus</i>	Cheetah	Vulnerable	low
<i>Felis nigripes</i>	Black-footed Cat	Vulnerable	low
<i>Crocuta crocuta</i>	Spotted Hyaena	Near Threatened	low
<i>Parahyaena brunnea</i>	Brown Hyaena	Near Threatened	high
<i>Paracynictis selousi</i>	Selous's Mongoose	Data Deficient	low
<i>Rhynchogale melleri</i>	Meller's Mongoose	Data Deficient	low
<i>Canis adustus</i>	Side-striped Jackal	Near Threatened	low
<i>Lycaon pictus</i>	African Wild Dog	Endangered	low
<i>Mellivora capensis</i>	Honey Badger	Near Threatened	moderate-high
<i>Poecilogle albinucha</i>	African Striped Weasel	Data Deficient	moderate
<i>Hydrictis maculicollis</i>	Spotted-necked Otter	Near Threatened	moderate
<i>Loxodonta africana</i>	African Savanna Elephant	Vulnerable	low
<i>Diceros bicornis</i>	Black Rhinoceros	Critically Rare	low
<i>Ceratotherium simum</i>	White Rhinoceros	Near Threatened	low
<i>Hippopotamus amphibius</i>	Common Hippopotamus	Vulnerable	low
<i>Raphicerus sharpei</i>	Sharpe's Grysbok	Near Threatened	low
<i>Ourebia ourebi</i>	Southern Oribi	Vulnerable	moderate-low
<i>Hippotragus equinus</i>	Roan Antelope	Vulnerable	low
<i>Hippotragus niger</i>	Southern Sable Antelope	Vulnerable	low
<i>Damaliscus lunatus</i>	Western Tsessebe	Endangered	low

Mpumalanga includes 31 provincially listed protected species (www.speciesstatus.sanbi.org – NEMBA status, **Table 6.5**).

Table 6.5: Protected species of Mpumalanga

Species Details			Probability
Biological Name	English Name	NEMBA status	Assessment
<i>Aonyx capensis</i>	African Clawless Otter	protected	high
<i>Atelerix frontalis</i>	South African Hedgehog	protected	moderate
<i>Bucorvus leadbeateri</i>	Southern Ground-Hornbill	protected	low
<i>Ceratogyrus bechuanicus</i>	Starbust Horned Baboon Spider	protected	moderate-low
<i>Ceratotherium simum</i>	White Rhinoceros	protected	low
<i>Circus ranivorus</i>	African Marsh Harrier	protected	high
<i>Connachaetus gnou</i>	Black Wildebeest	protected	low
<i>Crocuta crocuta</i>	Spotted Hyaena	protected	low
<i>Dromica species</i>	Flightless Tiger Beetle species	protected	moderate-low
<i>Felis nigripes</i>	Black-footed Cat	protected	low
<i>Graphipterus assimilis</i>	Velvet Ground Beetle	protected	moderate-low
<i>Harpactira gigas</i>	Transvaal Banded Baboon Spider	protected	moderate-low
<i>Hydrictis maculicollis</i>	Spotted-necked Otter	protected	moderate
<i>Leptailurus serval</i>	Serval	protected	high
<i>Loxodonta africana</i>	African Savanna Elephant	protected	low
<i>Manticora species</i>	Monster Tiger Beetle species	protected	moderate-low
<i>Megacephala asperata</i>	Tiger Beetle	protected	moderate-low
<i>Megacephala regalis</i>	Tiger Beetle	protected	moderate-low
<i>Neotis denhami</i>	Denham's Bustard	protected	moderate

<i>Nigidius auriculatus</i>	Stag Beetle	protected	moderate-low
<i>Oonotus adspersus</i>	Stag Beetle	protected	moderate-low
<i>Oonotus interioris</i>	Stag Beetle	protected	moderate-low
<i>Oonotus rex</i>	Stag Beetle	protected	moderate-low
<i>Oonotus sericeus</i>	Stag Beetle	protected	moderate-low
<i>Parahyaena brunnea</i>	Brown Hyaena	protected	high
<i>Prosopocoilus petitclerci</i>	Stag Beetle	protected	moderate-low
<i>Prothyma guttipennis</i>	Tiger Beetle	protected	moderate-low
<i>Pterinochilus breyeri</i>	Malelane Golden-brown Baboon Spider	protected	moderate-low
<i>Pterinochilus nigrofulvus</i>	Transvaal Golden Baboon Spider	protected	moderate-low
<i>Raphicerus sharpei</i>	Sharpe's Grysbok	protected	low
<i>Redunca arundinum</i>	Southern Reedbuck	protected	low

It is estimated that three of the eight species listed in **Table 6.5** are unlikely to occur in the study area (low) and 16 species moderately unlikely (moderate-low). Three species are considered at least moderately likely (moderate) and four species highly likely to occur in the study area (high).

Further detail can be obtained from the Biodiversity Specialist Report in **Appendix I**.

6.3.8 Avifauna

- **Bird Micro Habitats**

It is important to understand the habitats available to birds at a smaller spatial scale, i.e. micro habitats. Micro habitats are shaped by factors other than vegetation, such as topography, land use, food sources and man-made factors. Investigation of this study area revealed the following bird micro habitats.

- *Arable and/or cultivated lands*

Arable or cultivated lands (**Figure 6.12**) can represent significant feeding areas for many bird species in any landscape for the following reasons: through opening up the soil surface (figure 3), land preparation makes many insects, seeds, bulbs and other food sources readily accessible to birds and other predators; the crop or pasture plants cultivated are often eaten themselves by birds, or attract insects which are in turn eaten by birds; during the dry season arable lands often represent the only green or attractive food sources in an otherwise dry landscape. Relevant bird species that may be attracted to these areas include most importantly the Blue Crane, Southern Bald Ibis, Blue Korhaan and White Stork. Marsh owls will also regularly forage over agricultural lands (**Figure 6.13**), especially in the late afternoon.



Figure 6.12: Agricultural lands observed in the study area.



Figure 6.13: One of four Marsh Owls observed in close vicinity to each other, foraging over agricultural lands in the study area.

- *Open Grasslands*

The only vegetation type (Mucina & Rutherford, 2006) present is “Soweto Highveld Grassland”, which falls within the greater Grasslands Biome. It was not surprising, therefore, that the most extensive bird microhabitat available on this site is that of grasslands (**Figure 6.14** and **6.15**). Grassland may attract the Blue Crane, Black-winged Pratincole, Southern Bald Ibis, Blue Korhaan, Secretarybird, and White Stork. Pristine patches of grassland, near to water, may provide breeding habitat for the African Grass Owl, although this species has not been recorded in the SABAP data for