

Appendix 10: FROGS: Available habitat, expected occurrence and observed presence of frog species during surveys (Jacobsen, 1989: Interpreted distribution map; Minter et al, 2004).

Frogs expected to occur in the available natural habitats in the Ngodwana Dam project area are listed below. The shaded cells indicate the presence or absence of the species based on available habitat, and the number inside a cell gives the number of individuals observed or definite signs of the species detected during surveys.

FROG SPP	All habitats	RSA STATUS	SAPPI Ngodwana
Family: Arthroleptidae			
Mozambique forest tree frog (<i>Leptopelis mossambicus</i>)	Breeds in wooded savanna, sand forest and mangrove swamps in the vicinity of streams and pans. Burrows underground during dry periods.	Least concern.	
Family: Breviceptidae			
Common rain frog (<i>Breviceps adspersus</i>)	Savannah biome: Semi-arid habitats with sandy to sandy-loam soils. Bushveld vegetation with a grassy ground layer and distinct upper layer of woody plants. Breeds in burrows in open and closed woodland with sandy soils. No standing water needed.	Least concern. Does not appear to be at risk – game and cattle farming and reserves.	
Mozambique rain frog (<i>Breviceps mossambicus</i>)	Found in a variety of habitats, including open woodland or grassland. Shallow, well-drained, humus-rich rocky soils. No standing water needed.	Least concern	
Family: Bufonidae			
African common toad (<i>Sclerophrys gutturalis</i>)	Savannah, Grassland & Thicket biome: Breeds in open shallow pools, vleis, dams, rivers, streams or other more or less permanent water. Common in suburban gardens and farmland. Excavate burrows in soft ground. Tadpole metamorphosis complete after 5-6 weeks.	Least concern. Population trend: increasing. Not threatened. Relatively secure as it is widely distributed, locally abundant and highly adaptable to human settlement.	
Hallowell's toad (<i>Sclerophrys maculatus</i>)	Associated with riverine habitats; medium and larger rivers. Savannah and grassland, larger river valleys. Call from amongst reeds, grass or rocks next to or in rivers and streams - fast flowing water. Breeding habitat is riverine; alongside rivers in small shallow inlets and puddles created by rising and falling water, also rock pools. Breeds in rivers and streams in savannahs. Eggs in marginal pools and backwaters.	Least concern	

Raucous toad (<i>Sclerophrys capensis</i>)	Mesic temperate areas: Fynbos and Grassland biomes. Breeds in rivers (pools along slow-flowing streams), streams and ponds in grassland or woodland. Suburban gardens and farmland. Favour running water sources. Call from floating vegetation, shallow water near banks, or among reeds. Breeds in still reaches of rivers, streams and man-made ponds; in rivers (pools along slow-flowing streams), streams in grassland or woodland. In still reaches of rivers, streams. Favour running water sources. Tadpole metamorphosis complete after 64-91 days. Eggs entangled in aquatic vegetation.	Least concern. Not threatened. Species secure, however decline along north-eastern escarpment. SA endemic (Incl. Lesotho & Swaziland). Population trend: decreasing.	
African split-skin toad (<i>Schismaderma carens</i>)	Wide variety of vegetation types in savannah biome, also in Rocky Highveld, and Grassland. Breeds in permanent, often fairly deep, muddy - pools, dams or waterholes in open or wooded savannah. Wanders to forage. Hibernates at a considerable distance from water, under stones, logs and piles of dead vegetation. Tadpole metamorphosis complete after 37-52 days. Breeds in permanent, often fairly deep, muddy - pools, dams or waterholes in open or wooded savannah.	Least concern. Not threatened. Adapts in disturbed areas. Tadpole survives in polluted water.	1
Family: Heleophrynidae			
Natal cascade frog (<i>Hadromophryne natalensis</i>)	Restricted to perennial forest streams along the Natal monocline and Drakensberg escarpment. Forest and Grassland biomes. At low and high altitudes in cold, clear, swiftly flowing, densely vegetated mountain streams, in kloofs, forest and grassland. Forested ravines and high altitude montane grasslands. Clear, swift-flowing streams in mountainous terrain. Flow through wooded and forested habitat; headwaters in montane grassland. Annual rainfall: 800-2700mm. Adults often frequent waterfalls and cascades - beneath submerged rocks, in rock cracks, in caves, exposed on wet rock faces. Tadpoles: Rocky substrates in swift-flowing streams - take cover beneath rocks or in cracks. Sometimes found quite far from water, under vegetation or rocks. Tadpoles in Rocky substrates in swift-flowing streams - take cover beneath rocks or in cracks. Scrapes algae from rocks, even feeding outside water. May climb vertical rock faces.	Least concern. SA endemic	
Family: Hyperoliidae. Subfamily: Hyperoliinae			
Painted reed frog (<i>Hyperolius marmoratus taeniatus</i>)	Aestivates under stones and logs. Canopy of surrounding trees or emergent vegetation. Call sites: emergent reeds and sedges, trees, grasses, bushes, floating vegetation. Breeds in almost any permanent body of water in the lowveld and coastal regions. Temporary ponds, pans and vleis; permanent water bodies: marshes, reedbeds, sluggish rivers and streams.	Least concern	
Family: Hyperoliidae Subfamily: Kassiniinae			

Bubbling kassina (<i>Kassina senegalensis</i>)	Wide variety of vegetation types in savannah and Grassland biomes. Breeds in both temporary and permanent water bodies: ponds, vleis, well-vegetated shallow pans, marshes and deeper dams in grassland. Tadpole metamorphosis slow: 2-3 months.	Least concern. Not threatened. Widely distributed and abundant. Does not require conservation attention. Dams improve breeding habitat. Population trend: stable.	
Family: Phrynoatrachidae			
Dwarf Puddle Frog (<i>Phrynobatrachus mababiensis</i>)	Open to wooded savannah; less frequently grassland; high & low altitudes. Summer rainfall: 500-1000mm p.a. Calls from water's edge well concealed by vegetation. Breeds in any moist, marshy area, vlei, including those at edges of pans among emergent vegetation in permanent, semi-permanent and temporary habitats: shallow stagnant water amongst emerging vegetation on the edges of grassy pans, small dams and ponds, and in the backwaters of slow-flowing streams and shallow stagnant water. Eggs laid in a dense mass among emergent vegetation on water.	Least concern. Not threatened.	
Natal dwarf puddle frog (<i>Phrynobatrachus natalensis</i>)	A variety of vegetation types in the savannah and Grassland biome. Shelter under rocks near breeding sites. Fairly deep water - slow-flowing streams. Temporary pans and pools, vleis and dams, and even small, slow-flowing streams. Breeding sites usually have vegetation or other types of cover along their banks. Eggs on water surface, hatch in 3-4 days; metamorphosis 4-5 weeks.	Least concern. Not threatened. Abundant and often near human habitation. Population trend: stable.	
Family: Ptychadenidae			
Anchieta's ridged frog (<i>Ptychadena anchietae</i>)	Savannah biome. Found sheltering amongst grass and plant and plant debris on edges of breeding sites. Adults occur in the grassy edges of rivers and streams, escape into the water. Temporary pans, shallow pools in riverbeds, waterholes, and more permanent vleis.	Least concern. Does not appear to be at risk.	
Sharp-nosed Grass Frog (<i>Ptychadena oxyrhynchus</i>)	Moist open savannah and woodland. Breeds in sedge pans, vleis, inundated grasslands, pools in rock outcrops and other temporary pools.	Least concern.	
Family: Xenopodinae			
African clawed frog (<i>Xenopus laevis</i>)	Most of the biomes. Restricted to aquatic habitats. Historically occurred in streams, rivers and their pools. Currently in man-made water bodies. Breeds in any more or less permanent bodies of water. Eutrophic waters seem to produce the highest densities. Burrow into dry mud to aestivate when pools dry up. Washed down during heavy rains into dry river courses. Breeds in remnant pools. Breeding and non-breeding habitats the same. Hatch in 2-3 days; metamorphosis within 2 months.	Least concern. Not threatened. Not threatened in any part of its range. Unprotected. Population trend: Increasing. Common and widespread.	
Family: Pyxicephalidae			

<p>Delelände's river frog (<i>Amietia delalandii</i>)</p>	<p>Grassland and savannah biomes; grassland streams and forest fringes. Wide range of wetland habitats. Adults occur in the grassy edges of rivers and streams, escape into the water. Banks of slow flowing streams or other permanent bodies of water favoring those with aquatic vegetation. Edges of pools, dams, streams and slow-flowing rivers. Jump in water and hide in soft mud to escape. Spend day floating amongst vegetation or basking on rocks above water level. Call from floating vegetation or from shallow water at the edge. Breeds in both standing and flowing water: edges of pools, streams and slow-flowing rivers. Both standing water in flat areas, and running water traversing slopes of more than 14 degrees. Tadpoles complete development in 9-12 months, but take up to 2 years if food is in short supply or water is very cold.</p>	<p>Least concern. Not threatened. Widespread – found in all rivers, ponds, farm dams and other wetlands in its range. Not generally threatened. Population trend: stable.</p>	<p>1</p>
<p>Gray's stream frog (<i>Strongylopus grayii</i>)</p>	<p>It inhabits all biomes of South Africa, excluding the arid areas, such as forest, fynbos heath land, thicket, savannah and grassland, as well as modified habitats. It breeds in almost any well vegetated shallow body of water, such as pools, dams, ponds, ditches, and brackish pools along the coast within the spray zone, and shallow seeps. It can also tolerate polluted waters. It lays its eggs out of the water in moist situations, and the tadpoles enter the water to complete their development. Breeds in almost any shallow body of water which is well provided with vegetation.</p>	<p>Least concern. Not threatened. SA endemic. Population trend: stable.</p>	
<p>Natal sand frog (<i>Tomopterna natalensis</i>)</p>	<p>Variety of vegetation types in the Grassland and savannah biome. Annual rainfall: 300-1000mm. Call from: exposed positions near water edge on bare rock, sand or mud. Breeds in shallow permanent streams, rivers, and other places where water flows slowly, but also in standing water: furrows or vleis in grassland. Eggs laid in running water. Metamorphosis within 2-3 weeks.</p>	<p>Least concern. Not threatened. This widespread species does not appear to require conservation action. Population trend: stable.</p>	

Appendix 11: REPTILES: Available habitat, expected occurrence and observed presence of reptile species during surveys (Jacobsen, 1989; Interpreted distribution map - Branch, 1988; Atlas and Red List - Bates, et al 2014).

Reptiles expected to occur in the available natural habitats in the Ngodwana Dam project area are listed below. The shaded cells indicate the presence or absence of the species based on available habitat, and the number inside a cell gives the number of individuals observed or definite signs of the species detected during surveys.

SPECIES	Total habitat	Status	Ngodwana
Family Testudinidae (Land tortoises)			
Leopard tortoise (<i>Stigmochelys pardalis</i>)	Montane grassveld, fynbos, valley bushveld, arid and mesic Savanna. Level areas in open woodland and scrub or wooded grassland. A shelter in crevices in rock outcrops, under rocks or in burrows dug into old termitaria or earthen banks. Aestivates – in old termitaria or tightly fitting burrows, excavate under rocks, logs – scrape into earth embankments.	Protected. Widespread. Vulnerable but secure. Global: Least Concern (2014).	
Family:Gekkonidae			
Spotted dwarf gecko (<i>Lygodactylus ocellatus ocellatus</i>)	Rocky hillsides. Exclusive rupicolous; among rocks and stones on exposed hillsides.	Endemic to South Africa. Protected. Common, status is secure.	
Common dwarf gecko (<i>Lygodactylus capensis capensis</i>)	Well-wooded dry Savanna: Open woodland and well-wooded dry Savanna country. Diurnal and arboreal gecko. Inhabiting trees with holes or loose bark, which provides shelter. Also shelters among rocks and dead vegetation. Marked preference for Baobab, Acacia and Mopane – plenty suitable rough bark as cover. Eggs are laid in rock cracks, crevices, under stones or under loose bark. Forage in low scrub and on dead trees. Observed clinging, head down, near base of tree waiting for prey.	Protected. Widespread, abundant. Under no threat.	2
Wahlberg's velvet gecko (<i>Homopholis wahlbergii</i>)	Land type varied - mesic and arid Savanna, Coastal bush. Living in holes of old tree trunks, holes in dead trees and branches, under bark, in holes in baobab trees, empty swallow nests in caves and rock overhangs, or amongst rocks and boulders – latter case prefer those lying in river-beds near the water; rock fissures, particularly on overgrown koppies along river beds. Feeding both day and night but forage away from their retreat only at night. Eggs are laid in a rock cracks or/ crevices or beneath loose bark and in holes in trees.		
Van Son's gecko (<i>Pachydactylus vansoni</i>)	Land type: Varied – karroid veld, grassland and mesic Savanna. Terrestrial; inhabits rocky outcrops and more frequently - tunnel under rotting rocks or logs on soil; disused termitaria, occasionally low rock cracks. Solitary, nocturnal. At night – emerge to forage, it moves about on the ground in search of food. Eggs laid in soil under rocks or stones, under bark; or logs; in old termitaria in summer.	Protected. Status is secure.	
Transvaal gecko (<i>Pachydactylus affinis</i>)	Widespread in TVL. Rocky outcrops and dead termite nest in Highveld grassland. Nocturnal; Largely rupicolous: Seek refuge during day and move about slowly in crevices and under stones on rocky outcrops and hillsides; moribund termitaria, piles of rubble or other suitable refuges. Eggs deposited in any suitable spot under bark, under stones and in rock cracks.	South African endemic. Widespread in TVL.	
Family Typhlopidae			

Bibron's blind snake (<i>Afrotrophlops bibronii</i>)	Highveld and coastal grassland. Under stones and in termitaria. Underground.	Partially protected. Widespread. Secure and out of danger.	
Family Leptotyphlopidae			
Jacobsen's Thread Snake (<i>Leptotyphlops jacobsoni</i>)	Grassland and moist Savanna at an altitude of between 1300 and 1700. Found under stones and in deserted termite mounds.	Endemic to South Africa.	
Incognito thread snake (<i>Leptotyphlops incognitus</i>)	Varied: grassland, coastal bush, mesic and arid Savanna. Burrow underground. Lives underground and only wriggle to surface after being flooded by heavy rains from their underground retreats. In or under rotting logs, among the roots of grass and small bushes. In particularly in or near termitaria where there is an abundance of termites.		
Peter's thread snake (<i>Leptotyphlops scutifrons scutifrons</i>)	Varied: grassland, coastal bushland, mesic and arid Savanna. Burrow underground. Usually taken under stones, under rocks on soil, under rotting logs, among grass roots.	Least concern. Partially protected. Secure.	
Family Boidae			
Southern African python (<i>Python natalensis</i>)	Open Savanna regions, particularly rocky areas and riverine scrub. Moist, rocky, well-wooded valleys, reed-beds or even bush country, seldom venture far from permanent water. Eggs are laid in hollow tree trunks, antbear holes, caves or old termite hills. Fond of water in which they may lie and hunt. Dive into deep pools, remain submerged for long periods.	NEMBA TOPS (2015): Protected; SA Red Data (1988): Vulnerable. SARCA (2014): Least concern.	
Family Colubridae			
Brown water snake (<i>Lycodonomorphus rufulus</i>)	Small streams, pans and vleis. Water-living and confined to rivers, streams and other permanent water or the immediate vicinity thereof. Under cover around water margins. Under rocks, debris, holes in the ground. Among swampy vegetation. Small streams, pans and vleis.	Partially protected. Widespread. Secure. Least concern.	
Spotted house snake (<i>Lamprophis guttatus</i>)	Karroid areas to mesic Savanna. Variety of habitats: Rocky and mountainous areas. Under rocks or in cracks/crevices between rocks at altitudes ranging from 800-2300m. Rock crevices, exfoliating flakes of rock, under rocks on rock.	Partially protected. Uncommon but secure.	
Brown house snake (<i>Boaedon capensis</i>)	Wide distribution: Highveld grassland and arid karroid regions. Terrestrial Nocturnal. Eggs being laid in decaying vegetable matter, termite hills or other suitable location. Variety of habitats: Moribund termitaria or any form of shelter. Tolerant of urban sprawl.	Partially protected. Widespread, adaptable. Under no threat.	
Swazi rock snake (<i>Inyoka swazicus</i>)	Rock outcrops in Savanna. Nocturnal, sheltering in rock cracks.	Endemic to South Africa. IUCN Least Concern	
Cape wolf snake (<i>Lycophidion capense capense</i>)	Varied: Grassland and Savanna (open woodland), entering coastal bush and fynbos in Cape. Well-vegetated situations. Damp situations under stones and vegetable debris. Under rocks, logs, in moribund termitaria and under debris.	Partially protected. Widespread, considered secure.	
South African slug-eater (<i>Duberria lutrix</i>)	Highveld grassland & Savanna, entering coastal bush and fynbos. Variable habitats – moist areas. Under stones, rotting logs, under plant litter. Moribund termitaria.	Partially protected. Currently secure.	
Western yellow-bellied sand snake (<i>Psammophis subtaeniatus</i>)	Open woodland and scrub in arid areas, open dry Savanna, thorn- or bushveld. Dry rocky hillsides in crevices between rocks, large termitaria, under loose bark or dead logs.	Partially protected. Widespread, under no immediate danger.	
Olive grass snake (<i>Psammophis mossambicus</i>)	Coastal plains and upland Savanna. Bush along streams and rivers rather than the more open dry area. Mainly ground-living – in grass; may resort climbing on tops of bushes and shrubs in order to bask in sun. Pursued: quick moving, dash into thick cover where it lies still. Eggs are laid in piles of dead leaves or other similar location.		

Short-snouted grass snake (<i>Psammophis brevirostris brevirostris</i>)	Highveld & montane grassland. Grassland, moist Savanna and lowland forest in the east, and Karoo scrub and Namib desert in the west.	Partially protected. Common, under no immediate threat.	
Cross-marked whip snake (<i>Psammophis crucifer</i>)	Highveld and montane grassland, entering fynbos. Mountain plateaus and moist grasslands.	Partially protected. Uncommon, considered secure.	
Black-headed centipede-eater (<i>Aparallactus capensis</i>)	Varied: Highveld and montane grassland, open woodland, open scrub veld, grassland and coastal bush. Open bush or Savanna country. Found in moribund termitaria, which offer shelter, warmth and food. Under stones, under logs, among roots of shrubs and grasses.	Partially protected. Common, not threatened or endangered. Adequately protected.	
Western Natal green snake (<i>Philothamnus natalensis occidentalis</i>)	Varied: Wet montane, miombo woodland and dry forest. In shrubs or trees close to water. Home near water bodies where it hunts for frogs, frequenting marshes, ponds, rivers, reedbeds, pans, vleis and streams.	Endemic to South Africa. Partially protected. Uncommon, secure.	
Red-lipped snake (<i>Crotaphopeltis hotamboeia</i>)	Most habitats: Savanna and open woodland; Grassland to coastal forest but not in desert. Preference for damp localities. Marshy areas. Under virtually any available cover: Under rocks, in termitaria. Eggs laid in vegetable matter.	Partially protected. Occurs widely. Considered secure.	
Eastern tiger snake (<i>Telescopus semiannulatus semiannulatus</i>)	Savanna and sandveld: Well-wooded areas from sea level to 1600m. May be found in grassland. Terrestrial, old dead trees, under rocks, in crevices, in small shrubs and weavers' nests.	Partially protected. Uncommon, low densities. Secure.	
Family:Elapidae			
Mozambique spitting cobra (<i>Naja mossambica</i>)	Savanna: Rocky outcrops and hillsides in fairly closed woodland at altitudes from sea-level to 1750m along rivers or localities near water. Cleared areas in former forests. Holes in termitaria and other small animal burrows.	Partially protected. Widespread, common. Status is secure.	
Rinkhals (<i>Hemachatus haemachatus</i>)	Grassland, from the coast up to 2 500m. Montane grasslands of old escarpment. Close to vleis. Rodent and mole burrows, under rocks, among thick grass tussocks.	Partially protected. Declined in numbers. Indeterminate.	
Black mamba (<i>Dendroaspis polylepis</i>)	Savanna & open coastal bush below 1500m: Lower lying, drier more open woodland and scrub to wooded grassland, moist Savanna and lowland forest (900m-1200m). Ground living snake, also at home in bush, shrubs or trees - in thickets, commonly on hillsides and outcrops, granite hillocks, termite mounds, hollow tree trunks. Female will find a good place to lay eggs, burrow must be damp but not wet, and warm, but not too hot (termite nests).	Partially protected. Widespread, mostly uncommon. In need of greater conservation effort.	
Family:Viperidae			
Puff adder (<i>Bitis arietans arietans</i>)	Widespread: Fynbos, grassland, scrub and woody Savannas, from sea level to 1800m. Absent only from desert, dense forest and mountain tops. Any sort: rock on rock, rock on soil, logs, moribund grass.	Partially protected. Widespread, status is secure.	
Cape berg adder (<i>Bitis atropos</i>)	Montane species. Montane grasslands (up to 3000m), and coastal and montane fynbos. Rocky slopes and hillsides. Under slabs of rock and grass tussocks.	Partially protected. Rare, vulnerable.	
Rhombic night adder (<i>Causus rhombeatus</i>)	Mesic Savanna. In undergrowth, under stones or logs, in termitaria. Forages at night.	Partially protected. Widely distributed, uncommon. Status currently secure.	
Family:Scincidae			

Montane dwarf burrowing skink (<i>Scelotes mirus</i>)	Rocky montane grassland. Live in grass among rocks on upper mountain slopes and summits.	Endemic to South Africa. Least concern	
Mozambique dwarf burrowing skink (<i>Scelotes mossambicus</i>)	Prefers rocky grassland and alluvial sand. Found under stones on mountain slopes, or logs on alluvial sand or loamy soils.		
Rainbow rock skink (<i>Trachylepis margaritifer</i>)	Rock-living form: Confined to rocky outcrops and koppies in bushveld country: Sandstone, granite, rhyolite, dolerite and basalt, in vertical and horizontal crevices. Granite domes and other hard rock surfaces (paragneiss and some sandstone).	Protected. Status currently secure and under no threat.	1
Striped skink (<i>Trachylepis striata</i>)	Variety of bushveld and Savanna types, and a wide range of ecological conditions from sea level to high mountain tops, desert to tropical bush. Although mainly arboreal, they also inhabit rocky koppies and will cross open ground readily. Among rocks and boulders, on the ground and in trees.	Protected. Widespread, adaptable. Considered secure.	2
Speckled Rock Skink (<i>Trachylepis punctatissima</i>)	Variety of bushveld and Savanna types, and a wide range of ecological conditions from sea level to high mountain tops, desert to tropical bush. Although mainly arboreal, they also inhabit rocky koppies and will cross open ground readily. Among rocks and boulders, on the ground and in trees. Forages on rock outcrops as well as trees.	Least concern. Protected. Widespread, abundant and adaptable. Status is currently secure.	
Variable skink (<i>Trachylepis varia</i>)	Varied: Very adaptive, wide variety of habitats: from sea level to high mountain slopes: Bushveld, open woodland and scrubby grasslands without rocks and grassland. Desert, karroid veld, montane grassland, Savanna, coastal bush, mesic thicket. Terrestrial and diurnal: Amongst rocks and stones at rocky or stony localities, but avoids extensive rocky areas. Broken ground, rocks and tree bases. Also running on ground surface. Uses boles of trees, rocks or logs as vantage points to survey surroundings for prey. Forage among leaf litter under trees or shrubs or amongst grass tussocks, under grass tufts, tree trunks or in any convenient hole in the ground. At night: among stones, beneath bark of fallen logs, in holes in the ground or buried in leaf-litter. Small rocky outcrops, sheltering in burrows under rocks and logs, soil-filled rock cracks.	Protected. Widespread. Considered secure.	1
Sundevall's writhing skink (<i>Mochlus sundevallii sundevallii</i>)	Sandy Savanna and open bushveld country. A nocturnal fossorial to terrestrial species - lead largely a sub-terrestrial existence. In search of food they often burrow to the surface of the ground. Shelter under stones, rotting logs, accumulations of dead leaves and other debris. Eggs laid in a suitable nook underground, particularly termitaria.	Protected. Widespread. Under no immediate threat.	
Wahlberg's snake-eyed skink (<i>Panaspis wahlbergi</i>)	Arid & mesic Savanna. From highveld grasslands and mountain tops through the bushveld and into the lowveld. Forage among grass and leaf-litter, seeking prey under fallen leaves. Shelter among grass tussocks, grass roots, under stones and rotting logs, in moribund termitaria and among leaf-litter in shady places under shrubs, in termite hills, and on broken ground. Eggs laid under a stone or log or sheltered, under stones and rotting logs or among fallen leaves and brushwood lying in shady places, lying on moist ground or among the roots of a tree or shrub, grassy spots, shrubs and trees. Rocky outcrops and rocky hillsides.	Protected. Widespread. Considered secure.	
Family: Gerrhosauridae			
Yellow-throated plated lizard (<i>Gerrhosaurus flavigularis</i>)	Wide range of habitat: Scrub- or bush-covered flats near coast to high mountain slopes and plateau; including highveld, bushveld and lowveld. Bushveld, lowveld, grasslands (highveld) Savanna. On stony hillsides, sandy flats, woodland and grassland. Burrows of considerable lengths dug in ground under suitable sheltering bushes, shrubs, under boulders etc. Also shelters in rodent burrows, under rocks (lay half buried in soil), moribund termitaria. Escape to suitable refuge through low matted vegetation. Lays eggs in small chamber dug in leaf litter or on soil under a stone or rock in a hole which the female excavates, buried and left to incubate.	Protected. Status – secure.	

Large-scaled grass lizard (<i>Chamaesaura macrolepis</i>)	Montane grassland. Rocky hillsides covered with grass; flat rocks and grass tussocks.	IUCN 2015: Near-threatened; SARCA 2015: Near- threatened. Protected. Rare and could be endangered.	
Cape grass lizard (<i>Chamaesaura anguina</i> <i>anguina</i>)	Montane grassland, gentle slopes. Flat rocks and grass tussocks.	Protected. Appears currently to be secure.	
Family:Cordylidae			
Common girdled lizard (<i>Cordylus</i> <i>vittifer</i>)	Rock outcrops in Grassland. In cracks in small rock outcrops.	Protected. Widespread, status is secure.	
Wilhelm's flat lizard (<i>Platysaurus</i> <i>intermedius wilhelmi</i>)	Lowveld; mesic highveld grassland. Commonly occurs on granite outcrops and inselbergs where it uses open, exposed rock with associated boulders. Narrow rock crevices are important for refuge. Vegetation surrounding rock outcrops is frequently quite dense and juveniles may escape predators by running into it.	Endemic to South Africa. Least concern.	
Family:Varanidae			
Water monitor (<i>Varanus niloticus</i> <i>niloticus</i>)	Near water: rivers, dams, pans and major lakes. Major river valleys. Shelter in holes in banks, in animal burrows or in crevices between rocks or under rocks, marginal vegetation. Basking in sun on rocks, outcrops, tree stumps, and branches of overhanging trees or amongst vegetation on banks - never far from water. Escape into water – swim swiftly. Forage in marginal vegetation. Hibernate in large rock crag on rocky cliff or koppie bordering river. Young – marginal reed beds. Eggs deposited in hole dug deep into a living termite nest or sandbank by female, roughly covered over – termites seal up securely.	Protected by Provincial legislation (CITES, Appendix 11). Widespread, status considered secure.	
Family:Agamidae			
Distant's ground agama (<i>Agama</i> <i>aculeata distanti</i>)	Semi-desert and Savanna: Open highveld (Grassland) and sandy thornbush (woodland) country with suitable rodent and other small animal burrows for shelter. Utilize rodent and other small animal burrows for shelter; burrows in termitaria; under stones and debris, partly buries in soil.	Endemic to South Africa. Least concern. Protected. Widespread in TVL. Sparsely distributed. Secure.	
Southern rock agama (<i>Agama</i> <i>atra atra</i>)	Semi-desert to fynbos, from sea level to mountain tops. Rock outcrops and mountain plateaus, also rocky plains. May shelter under bark of dead trees. Shelter in deep cracks. Eggs in hole in damp soil.	Protected. Widespread, locally common. Secure.	
Family:Chamaeleonidae			
Common flap-necked chameleon (<i>Chamaeleo dilepis</i> <i>dilepis</i>)	Various kinds of woodland: Savanna woodland; and wooded grassland, along streams. Wooded areas; branches of trees; branches of shrubs; Open forest and bush country, Savanna woodland. Lays eggs in tunnel in damp soft soil at a sheltered spot. Diurnal, arboreal species, common in suitable habitat.	Protected. Widespread, out of danger.	
Wolkberg dwarf chameleon (<i>Bradypodion transvaalense</i>)	Prefers forested or thick, bushy habitats, usually with closed canopy. Not found in Savanna areas outside forest fragments.	Endemic to South Africa	

Appendix 12: BIRDS: Available habitat, expected occurrence and observed presence of bird species during surveys (Gibbons, 1997; Harrison et al, 1997; Hockey et al, 2005 – latest name changes).

Bird species expected to occur in the available natural habitats in the Ngodwana Dam project area are listed below. The shaded cells indicate the presence or absence of the species based on available habitat, and the number inside a cell gives the number of individuals observed or definite signs of the species detected during surveys.

BIRD	All habitats	SA status	SAPPI distribution
Grebes			
Little Grebe (<i>Tachybaptus ruficollis</i>)	More permanent waters: lakes, ephemeral pans and dams; emergent or overhanging vegetation, weedy shores. Backwaters in slow flowing rivers and streams. More permanent water. Infrequent: slow-flowing streams. Rarely in estuaries and sheltered bays. Nest - floating heap of water plants, either on open water or concealed in vegetation.	Common resident or nomad	
Great Crested Grebe (<i>Podiceps cristatus</i>)	Inland waters at higher elevations: more permanent waters – lakes & dams, endorheic pans with emergent vegetation; clean oligotrophic waters.	Sparse over most of southern Africa, can be locally common; resident or nomadic	
Cormorants			
White-breasted cormorant (<i>Phalacrocorax lucidus</i>)	Coastal and fresh waters: Dams and impoundments, streams and rivers. Mainly aquatic, in both salt and freshwater. Interior - streams and rivers. Colonial nester. Nest fixed to tree - islands, trees along rivers.	Common resident	
Reed cormorant (<i>Microcarbo africanus</i>)	Virtually all freshwater habitats except fast flowing streams. Prefers gently sloping shores. Also estuaries, lagoons and sheltered coastal waters. Freshwater wetlands (any size) and water bodies: ephemeral habitats, major rivers and fast-flowing streams with pools, artificial wetlands: dams, sewage works. Nest in fork of tree over water or on an island. Also in large reed bed or on ground or rocky outcrop on islands.	Common resident	
Darters			
African Darter (<i>Anhinga rufa</i>)	Freshwater wetlands, rivers and streams; avoids fast-flowing and turbulent water; adapted to artificial wetlands. Still and slow-moving freshwater bodies with open water. Scarce on fast flowing rivers and in areas with dense floating vegetation. Prefers areas with dead trees, rocks or banks where it can rest after feeding. Nest built in tree fork, often over water or on a island; also in large reedbed.	Common resident	
Egrets, herons and bitterns			

Grey heron (<i>Ardea cinerea</i>)	Bodies of shallow open water. Wetlands – rivers, dams, pans, marshes and estuaries – provided there is sufficient shallow water to feed in. Mountainous areas: keep to valleys. Tall trees, reed beds and cliffs for roosting. Also marine intertidal zone, estuaries, lagoons. Rarely in dry grasslands. Tall trees, reed beds and cliffs for breeding and roosting. Nest placed in tree fork on bush or 1.5-2.0m above water in a reedbed.	Relatively uncommon; resident Breeding resident. Numbers augmented by Palearctic migrants Expansion in range – artificial water bodies. Common.	
Little egret (<i>Egretta garzetta</i>)	Open areas of shallow water: margins of lakes, dams, rivers, marshes, salt pans, estuaries and mangrove swamps. Breeds near water in trees or bushes. Edges of rivers and lakes, estuaries, pans, marshes, and salt pans. Also mangroves, open coastal. Nest placed in tree or bush above water or reedbed.	Fairly common resident	
Intermediate egret (<i>Egretta intermedia</i>)	Shallow water or wet grasslands. Margins of lakes, rivers, salt pans and estuaries; especially seasonal waterbodies, marshes and flooded grasslands. Prefers shallow water, but also forages in dry grassland close to water. Breeds in reedbeds or trees.	Uncommon to locally common; local movements, possibly migratory in part	
Western Great Egret (<i>Egretta alba</i>)	Shallow open water at lakes, rivers, floodplains, flooded grasslands, marshes, salt pans and estuaries. Breeds in reedbeds or trees. Nest on platform 2-3m above water in reedbed or 1-5m up in a tree standing in water or island.	Uncommon resident	
Black-headed heron (<i>Ardea melanocephala</i>)	Open habitats, preferring grasslands. Pastures and field of stubble near wetlands. Tall trees for breeding and roosting.	Common resident	
Goliath heron (<i>Ardea goliath</i>)	Open water: lakes, dams, large wide rivers and estuaries with extensive shallows and where there are extensive reeds or papyrus. Nests on islands. Shallow margins of large water bodies. Nest in tall tree, but also on ground on islands, mats of trampled reeds, and in flooded bushes or trees.	Uncommon resident generally, but common and conspicuous on larger rivers.	
Purple heron (<i>Ardea purpurea</i>)	Larger water bodies and wetlands: Reedbeds, marshes, reed-fringed rivers and lakes; flooded areas with tall grasses, rushes and sedges. Dense emergent vegetation, especially reed beds fringing shallow wetlands; also mangroves. Nest in reedbeds on platform.	Uncommon to common resident	
Western Cattle egret (<i>Bubulcus ibis</i>)	Terrestrial; open short grassland. Nests in trees and reedbeds.	Very common resident	6
Squacco heron (<i>Ardeola ralloides</i>)	Freshwater habitats: dense emerging/fringing vegetation in the quiet backwaters of ponds and the edges of slow-flowing rivers and streams. Adequate reed cover and a few bushes or trees are prerequisites. Flooded grasslands and ephemeral pans with emergent vegetation. Nest: A platform placed in bush or tree over water or in reed bed. <1m above water.	Uncommon to locally common resident	
Black-crowned night heron (<i>Nycticorax nycticorax</i>)	Dense vegetation along the edges of shallow, still or slow-moving water such as rivers, lakes, pans, marshes or seasonal floodplains. Well-vegetated and slow-moving water - estuaries, mangroves. Roosts in trees and reedbeds. Nest: Usually in reedbeds; less often in tree or bush over water.	Common resident	
Storks			
White stork (<i>Ciconia ciconia</i>)	Open woodland, grassland, grassy Karoo and wetland areas.	Non-breeding Palearctic migrant	
Cranes			

Grey Crowned Crane (<i>Balearica regulorum</i>)	Associated with wetlands: forage in dryland habitat – grassland, open savannah, agricultural fields. High altitude temperate wetlands.	NEMBA TOPS (2015): Protected species; IUCN 2010 VU Vulnerable A2cd+4cd. SA Red Data (Barnes 2000): Vulnerable. Population trend: decreasing. Common resident	
Blue Crane (<i>Anthropoides paradiseus</i>)	Karoo and grassland biome. Croplands.	IUCN 2017 VU Vulnerable; SA Red Data (Taylor 2015): Vulnerable; NEMBA TOPS (2015): Protected species; Common resident with local movements. Population trend: decreasing.	
Ibis			
Glossy ibis (<i>Plegadis falcinellus</i>)	Grassland habitats, associated with freshwater habitats: shallow inland waters, lake and river-edge marshes, seasonal pans, flooded grassland. Riparian marshes, shallow rivers. Favours swamps with stands of tall reeds and sedges. Nest in most dense patches of reeds or rushes, large reedbed islands.	Locally common to rare Increasing in numbers.	
Hadedda Ibis (<i>Bostrychia hagedash</i>)	Open moist grasslands & savannah, along well-vegetated river courses; also marshes, flooded grasslands, edges of large wetlands, gardens.	Very common resident	3
Southern Bald Ibis (<i>Geronticus calvus</i>)	High rainfall, sour and alpine grasslands – absence of trees, short dense grass sward. Montane grassland of Eastern Transvaal escarpment. Cliffs for breeding.	IUCN 2017 VU: Vulnerable; SA Red Data (Taylor 2015): Vulnerable; NEMBA TOPS (2015): Vulnerable species; SA endemic.	
African Sacred ibis (<i>Threskiornis aethiopicus</i>)	Grassland habitats, associated with freshwater habitats: marshes, estuaries and dams.	Common to very common resident	
Hamerkop			
Hamerkop (<i>Scopus umbretta</i>)	Large perennial waterbodies (lakes, dams and rivers), vleis and ephemeral wetlands, perennial and seasonal rivers with pools. Edges and shallow waters of lakes, pans, swamps and marshes, rivers, streams and seasonally flooded ponds, including relatively small puddles. Nest in sturdy tree or on cliff ledge. Adjacent to or over water.	Common resident	
Ducks & geese			

White-faced whistling duck (<i>Dendrocygna viduata</i>)	Inland waters, mainly in savannah and grassland. Expanses of shallow water with emergent vegetation: backwaters of larger rivers, grassy floodplains, small ephemeral pans. Feeds in water - usually in shallows of permanent or seasonal wetlands, or flooded grasslands; on land - natural grasslands. Ephemeral wetlands. Dense grass or sedges - sometimes over water or island. Dense, long grass or sedges near water edge. Grassy island surrounded by shallow water.	Common resident. Nomadic when breeding. Not threatened.	
White-backed duck (<i>Thalassornis leuconotus</i>)	Quite, clear inland waters with emergent of floating vegetation, natural pans, open vleis, floodplains and river backwaters. Diving to bottom muds in open water. Seasonal pans and floodplains. Ephemeral pans with stable water levels and isolated stands of sedges, rushes or reeds, and are well covered with aquatic grasses.	Uncommon resident or nomadic at times. Not threatened.	
Maccoa duck (<i>Oxyura maccoa</i>)	Deep, highly nutritious inland waters with emergent vegetation; also salt pans.	IUCN 2017 VU Vulnerable. SA Red Data (Taylor 2015): Near threatened; Uncommon resident; sometimes locally common; local movements	
Egyptian goose (<i>Alopochen aegyptiaca</i>)	Inland waters: rivers, dams, lakes, marshes, pans, and estuaries with some exposed shoreline; wetland edges. Rich aquatic plant growth. Naturally: Restricted to flood plains and large rivers with broad sandbanks. Currently: Crop fields and cereal fields. Nests usually on ground, typically in dense vegetation or among rocks; often on small islands in water bodies. Always near water. Also old nests of other birds.	Very common resident	2
Spur-winged goose (<i>Plectropterus gambensis</i>)	Inland waters / wetland: larger bodies of water, floating vegetation; croplands. Flightless moult: Dams and dense swamp. Breeding: smaller system or secluded bay, emerging fringing vegetation. Rivers - shallow areas in open. Nest: Shallow scrape in ground near water. Island, dense grass or reeds, sometimes in burrow.	Common to very common resident	
Knob-billed duck (<i>Sarkidiornis melanotos</i>)	Inland waters: seasonal flooded pans and vleis. Rivers - shallow areas in open. Nest in cavity of tree (dead, hollow), rotten palm stump, old hamerkop nests. 4-12m above ground.	Locally common ; seasonal movements	
African black duck (<i>Anas sparsa</i>)	Rivers with running water, pools with wooded banks. Mainly perennial rivers and streams, from fast-flowing mountain streams to wide sandy river mouths, preferring shallow stony bottom streams with wooded banks. Molt: lodged branches undercut banks. Nest on ground in dense grass or other ground cover on river bank, or in lodged flood debris, tangled roots or hollow stump.	Uncommon localized resident.	
Yellow-billed duck (<i>Anas undulata</i>)	Inland waters: Sluggish or still waters and still waters of rivers and streams; mostly with marginal vegetation such as reeds. Avoid fast flow and saline/ acidic water bodies. Usually floats near emergent aquatic vegetation, occasionally on open water. Breeds on a variety of freshwater wetlands. Shallow seasonal waterbodies. Nest amongst rushes reeds, dense grass or sedges, often within dense patch of vegetation, screened from above. Close to water - within 20m.	Very common resident	
Red-billed teal (<i>Anas erythrorhyncha</i>)	Shallow, permanent or temporary eutrophic fresh water with grassy surroundings.	Common resident but nomadic	

Southern pochard (<i>Netta erythrophthalma</i>)	Deep, permanent or seasonal fresh water pans, vleis, clear water; emergent vegetation and seasonal floodplains.	Common to very common resident	
Vultures			
Cape Vulture (<i>Gyps coprotheres</i>)	Both open country (grasslands) and woodland. Reliant on tall cliffs for breeding and roosting. Wanders widely.	IUCN 2015 EN Endangered; SA Red Data (Taylor 2015): Endangered. NEMBA TOPS (2015): Endangered species; Locally common.	
Secretary bird			
Secretary bird (<i>Sagittarius serpentarius</i>)	Open country: Savanna, open woodland, grassland and dwarf shrubland. Avoids mountain fynbos, forests, dense woodland and very rocky or hilly or mountainous areas.	IUCN 2017 VU Vulnerable; SA Red Data (Taylor 2015): Vulnerable. NEMBA (TOPS 2007): Vulnerable species.	
Hawks and eagles			
Black-winged Kite (<i>Elanus caeruleus</i>)	Wide distribution: Most abundant in grassland and fynbos with cultivated areas.	Common resident & nomad	
Yellow-billed Kite (<i>Milvus parasitus</i>)	Great variety of habitats: especially woodlands (higher rainfall areas)	Common breeding Palaearctic migrant	
African fish eagle (<i>Haliaeetus vocifer</i>)	Widespread. Coastal along the sea shore, and at estuaries and lagoons; inland on lakes and large rivers. Usually associated with large water bodies, either flowing or still, including estuaries. Sometimes along open coastline. May remain on seasonally dry rivers once last pools dry up, subsisting on birds and scavenging carcasses. Absent from rivers that flow for only a few weeks a year. Nest in tall tree (including dead and drowned trees) or on cliff. 12-15m above ground.	Uncommon resident	1
Brown Snake Eagle (<i>Circaetus cinereus</i>)	Arid woodland. Breeds and roosts in trees.	Uncommon to fairly common resident.	
African marsh harrier (<i>Circus ranivorus</i>)	Nests in extensive reedbeds; forage over reeds, lake margins, floodplains and woodland.	IUCN 2017: Least concern; SA Red Data (Taylor 2015): Endangered; Common resident.	
African Harrier-Hawk (<i>Polyboroides typus</i>)	Mainly in forests. Dense woodland, tall riparian vegetation and well-wooded ravines. Partial to stands of alien trees.	Locally common resident	
African Goshawk (<i>Accipiter tachiro</i>)	Mainly indigenous forest; also dense riverine woodland and exotic plantations.	Common resident	
Little Sparrowhawk (<i>Accipiter minullus</i>)	Forest and woodland types: Dense vegetation - forests, riparian bush and thickets.	Uncommon resident	
Red-breasted Sparrowhawk (<i>Accipiter rufiventris</i>)	Afromontane forest patches in montane grasslands and fynbos (forest-grassland mosaic). Copses of alien trees; above 1800m. Wooded kloofs. Hunts over open grassland and fynbos near forest.	Uncommon but regular resident; probably increased range and numbers because able to exploit exotic plantations	

Black Sparrowhawk (<i>Accipiter melanoleucus</i>)	Forest, wooded kloofs and gorges, exotic plantations (especially Eucalyptus) in grassveld.	Uncommon to fairly common resident; numbers increasing - able to exploit exotic plantations	
Common Buzzard (<i>Buteo buteo</i>)	Open country: dwarf shrubland, grassland, savannah, open woodland, thornveld & fynbos. Also found in dense woodland.	Common non-breeding Palaearctic migrant	
Forest Buzzard (<i>Buteo trizonatus</i>)	Edge of indigenous and exotic forest, especially pine plantations; not in high mountains.	South African endemic. Uncommon localized resident; probably a threatened species	
Jackal Buzzard (<i>Buteo rufoscus</i>)	Mountainous and hilly areas: grass and other short vegetation. Nests on cliffs and in trees.	Locally common	
Verreaux's Eagle (<i>Aquila verreauxii</i>)	Rocky habitats in hills and mountains with nest sites; vegetation types associated with mountainous regions - Alpine grasslands. Need dassies as food.	Locally fairly common resident	
Long-crested Eagle (<i>Lophaetus occipitalis</i>)	Woodland; exotic plantations, forest edge, cultivated land with orchards, grassland and vlei.	Fairly common, but much reduced in southern parts of range; resident	
Crowned Eagle (<i>Stephanoaetus coronatus</i>)	Dense indigenous forest, including riverine gallery forest; may range far from forest to hunt.	IUCN 2015 Status: Near-threatened. SA Red Data (Taylor 2015): Vulnerable. NEMBA (TOPS 2007): Vulnerable species. Common resident in suitable habitat, but numbers declining through deforestation	
Falcons, hobbies and kestrels			
Lesser Kestrel (<i>Falco naumanni</i>)	Non-breeding Palaearctic migrant. Semi-arid grassland. Avoid wooded areas; forage in agricultural fields. Grassy Karoo, Sweet and Mixed grassland, Central Kalahari vegetation types.	IUCN 2014 Status: Least concern. SA Red Data (Taylor 2015): Least concern; merit monitoring; Population trend: stabilized; Abundant non-breeding Palaearctic migrant.	
Rock Kestrel (<i>Falco rupicolus</i>)	Wide variety of habitat types: arid to mesic conditions. Mountainous areas for breeding. Montane grassveld with rocky outcrops.	Common resident	
Greater Kestrel (<i>Falco rupicoloides</i>)	Open, arid and grassland habitats.	Common resident	
Amur Falcon (<i>Falco amurensis</i>)	Open and high-rainfall (sour) grasslands. Also open areas in woodland.	Very common non-breeding Palaearctic migrant	
Eurasian Hobby (<i>Falco subbuteo</i>)	Mostly lightly wooded country; avoids arid zones and forests.	Uncommon non-breeding Palaearctic migrant	

Lanner Falcon (<i>Falco biarmicus</i>)	Open habitats. Most frequent in open grassland, open or cleared woodland, and agricultural areas. Cliff-nester, also in old nests in trees or electricity pylons and buildings.	IUCN 2017 Status: Least concern (Global). SA Red Data (Taylor 2015): Vulnerable ; Fairly common resident	
Peregrine Falcon (<i>Falco peregrinus</i>)	Cliffs, mountains, steep gorges; may hunt over open grassland, farmland and forests; rarely enters cities to hunt pigeons. Cliff nester.	IUCN 2015 Status: Least concern; SA Red Data (Taylor 2015): Least concern ; . F. p. calidus: Uncommon non-breeding Palearctic migrant F. p. minor: Rare resident	
Francolins and spurfowl			
Coqui Francolin (<i>Peliperdix coqui</i>)	savannah or well-grassed woodland, sandy areas with good bush cover: grassy clearings and along edges of woodland.	Common resident	
Red-winged Francolin (<i>Scleroptila levaillantii</i>)	Open grasslands or grassy fynbos: Hilly, high rainfall areas. Moister montane grassland, usually at somewhat lower elevations, low-lying grasslands.	Fairly common resident.	
Natal spurfowl (<i>Francolinus natalensis</i>)	Woodland types: savannah with scrub understorey, especially along water courses, to thickets and coastal forest. Dry riparian vegetation and wooded hills.	Near-endemic. Common resident	3
Red-necked Spurfowl (<i>Pternistes afer</i>)	Wooded gorges, edges of upland evergreen forests, riverine scrub; feeds in clearings and cultivated lands.	Locally common resident; numbers declining because of habitat destruction.	
Swainson's Spurfowl (<i>Pternistes swainsonii</i>)	Wide variety of habitats. Tall grass in open country (grassland) or woodland. Adjacent to cultivation or close to water.	Near-endemic. Very common resident	
Guineafowl			
Helmeted Guineafowl (<i>Numida meleagris</i>)	savannah mixed with cultivation. Inhabiting most agricultural regions	Very common resident	
Quails			
Common Quail (<i>Coturnix coturnix</i>)	Catholic use of habitats: Prefer perennial grasslands, less than 0.5m in height, fallow weedy fields, and grassland regenerating after burning.	Common resident or migrating	
Crake and rails			
Black crake (<i>Amauornis flavirostris</i>)	Rank grass, sedges, reedbeds, bulrushes, papyrus, swampy thickets, bushes and other vegetation beside flowing, still or open fresh and estuarine waters. Occurs in tangled growth in which birds climb, roost and nest. In thin cover along very small streams in arid regions. Nest well hidden and placed in vegetation just above water, sometimes on ground in grass tuft near water or floating among stiff grass stems.	Common resident	
Flufftails			

Red-chested flufftail (<i>Sarothrura rufa</i>)	Wide range of freshwater, marshy habitats, from seasonally wet grassland and sedge meadow to permanently flooded reedbeds. Wetland vegetation types, dense cover, firm ground or short vegetation. Marshy, boggy areas, reed-fringed pools, swamps, vleis, dambos, marshy vegetation fringing rivers, streams, lakes. Isolated wetland patches in grassland, woodland and forest.	Fairly common resident	
Coot, moorhens and gallinules			
Common Moorhen (<i>Gallinula chloropus</i>)	Wetlands with emergent fringing vegetation, including lakes, dams, ponds, pans, rivers, streams, canals, swamps and marshes. Flooded grassland. Temp ponds on floodplains. Sheltered sites with some open water, avoids very open situations. Nest usually well concealed in sedges, reeds or bulrushes, lower branches of tree, all above water level.	Common resident	
Lesser Moorhen (<i>Gallinula angulata</i>)	Thick reedbeds and flooded grassland and small, secluded ponds.	Uncommon to locally common breeding migrant from tropical Africa.	
Red-knobbed coot (<i>Fulica cristata</i>)	Open freshwater of lakes, lagoons, ponds, pans and vleis, floodplains, reedy swamps. Occasionally on rivers and tidal lagoons. Favours wetlands with emergent vegetation and pondweed. Spend much time swimming on open water. Nest on shallow (>1m) to deep water, out in the open or among emergent vegetation, sometimes on water lily leaves or mat of reeds.	Abundant resident, highly nomadic	
Korhaans and bustards			
Denham's Bustard (<i>Neotis denhami</i>)	Breeding: High rainfall sour grassveld, fairly high altitudes. Also cultivated pastures. Non-breeding: Lower-lying regions, grassland and woodland, savannah, karoo scrub	IUCN 2017 NT: Near-threatened. NEMBA TOPS (2015): Vulnerable species; SA Red Data (Taylor 2015): Vulnerable. Mostly uncommon resident; undergoes local movements, mostly altitudinal.	
White-bellied korhaan (<i>Eupodotis senegalensis</i>)	Open grassland and lightly wooded savannah; prefer taller grass.	IUCN 2017: Least concern; SA Red Data (Taylor 2015): Vulnerable. Uncommon resident	
Blue korhaan (<i>Eupodotis caerulescens</i>)	Open. Fairly short grassland biomes and a mixture of grassland and Karoo dwarf shrubland (in ecotone). Cropfields and planted pastures. Open grassveld, karoo scrub, cultivated lands.	IUCN 2017 NT: Near-threatened South African endemic. Fairly common to uncommon resident	
Black-bellied Bustard (<i>Lissotis melanogaster</i>)	Bushveld, savannah, grassland, vleis, cultivated lands.	SA Red Data (Barnes 2000): Near-threatened. Uncommon resident; some local southward movement in winter	
Plovers and lapwings			

Three-banded plover (<i>Charadrius tricollaris</i>)	Any freshwater habitat with an open shoreline. Open shores of any freshwater habitat, favouring pools, streams and seeps. Also at tidal pools, estuaries and lagoons. Nest: Simple scrape in sand, dry mud or shingle, usually close to water.	Common resident, nomadic	1
Blacksmith plover (<i>Vanellus armatus</i>)	Moist short grasslands and mudflats on edges of pans, lakes, rivers, and estuaries. Nest: typically close to water or in seasonally inundated areas.	Common resident, nomadic	2
African Wattled plover (<i>Vanellus senegallus</i>)	Wet short grasslands and marshes near vleis, streams and on river floodplains. Waterlogged grasslands at seeps, streams, edges of marshes and flood plains; exposed areas around lakes and pans. Nest: Usually on bare ground or open short or burnt grassland.	Locally common resident	
Black-winged Lapwing (<i>Vanellus melanopterus</i>)	Short and burnt grassland; higher altitudes.	IUCN 2014 Status: Least concern. SA Red Data (Taylor 2015): Merit monitoring. Locally fairly common breeding nomad. Conservation status for Mpumalanga – Near-threatened.	
Crowned Lapwing (<i>Vanellus coronatus</i>)	Dry, short and over-grazed or burnt grassveld. Widespread in a number of grassland and woodland types. Absent from mountainous and desert areas.	Common resident, nomadic	
Sandpipers & other waders			
Common Greenshank (<i>Tringa nebularia</i>)	Aquatic habitats: coastal sites and inland wetlands with shallow margins. Vleis, pans, and rivers.	Common non-breeding Palaearctic migrant	
Wood sandpiper (<i>Tringa glareola</i>)	Marshy shorelines: ephemeral pans, vleis, marshes, streams, floodplains and upper reaches of estuaries. Muddy, sandy or gravel borders of dams and ponds, inundated short grassland, sandy and muddy riverbeds, natural pans, mixed rocky and sandy beaches, salt marshes, estuaries, tidal and non-tidal lagoons and mangroves. Marsh-like conditions favoured over open shore-lines.	Common non-breeding Palaearctic migrant	
Common sandpiper (<i>Actitis hypoleucos</i>)	Any aquatic habitat, but favours streams and rivers shores with sandy, gravelly, stony or rocky substrata, estuaries, tidal creeks in salt marsh, mangroves. Open water edges: streams, rivers, marshes, vleis, coastal lagoons and upper reaches of tidal estuaries. Prefer wet conditions adjacent to water rather than wading in water.	Fairly common non-breeding Palaearctic migrant	
Ruff (<i>Philomachus pugnax</i>)	Shallow water, muddy margins and short emergent vegetation. Vleis, pans and saline wetlands.	Common non-breeding Palaearctic migrant	
Dikkops or thick-knees			
Spotted Thick-knee (<i>Burhinus capensis</i>)	Various types of grasslands; whole of SA highveld. Open grassland and savannah, edges of woodland, semi-desert with scrub, stony slopes of low hills, cultivated land. Sparse ground cover where stony.	Common resident	
Stilts			

Black-winged stilt (<i>Himantopus himantopus</i>)	Extensive open, shallow waters: coastal lagoons and salt pans. Inland and coastal wetlands, ranging from flooded fields, flood plains and papyrus swamps. Typically roosts communally in open areas. Nest: Usually on damp mud, mats of vegetation close to edge of receding water, often on island.	Locally common resident, nomadic	
Terns, gulls & other seabirds			
Grey-hooded gull (<i>Chroicocephalus cirrocephalus</i>)	Shallow, open water.	Common to abundant resident or local migrant	
Doves and pigeons			
Common pigeon (<i>Columba livia</i>)	Urban areas, less often farmland.	Abundant resident; introduced.	
Speckled Pigeon (<i>Columba guinea</i>)	Mountains, cliffs, rocky gorges, boulder-strewn hills. Inhabitant of cliffs and crags, fly out to forage on open ground. Artificial structures. Roosts on cliff ledges, in caves and sometimes on trees. Nests placed on ledge of cliff, in cave, gully or rarely in trees.	Common to abundant resident, nomadic	
African Olive-Pigeon (<i>Columba arquatrix</i>)	Afromontane, lowland and coastal forests, riverine forests.	Locally common resident	
Lemon Dove (<i>Columba larvata</i>)	Understory of evergreen forest and thickets; also exotic plantations.	Common resident, but easily overlooked.	
Laughing dove (<i>Spilopelia senegalensis</i>)	Open savannah, Acacia thornveld and grassland; avoids natural high altitude grasslands.	Very common resident	
Ring-necked Dove (<i>Streptopelia capicola</i>)	Catholic choice of habitats: all vegetation types, except forests.	Very common resident	3
Red-eyed Dove (<i>Streptopelia semitorquata</i>)	Tall trees in the vicinity of water. Riparian woodland, forest verges and other well-wooded country.	Common resident	
Tambourine Dove (<i>Turtur tympanistris</i>)	Lowland evergreen forest, riverine woodland, dense thickets; less often on edges of montane forest.	Fairly common resident	
Namaqua Dove (<i>Oena capensis</i>)	Dry to semi-arid open woodlands and savannahs. More open habitat.	Common resident, nomad	
Louries & Turacos			
Knysna Turaco (<i>Tauraco corythaix</i>)	Evergreen and riverine forest, dense thickets.	SA Endemic. Fairly common resident	
Purple-crested Turaco (<i>Tauraco porphyreolophus</i>)	Closed woodland, particularly riverine woodland, secondary forest, patches where woodland intergrades with forest, coastal forest, dense scrub and thickets on termitaria. Riverine forest, evergreen thickets, woodland, dense thornveld, savannah, parks and gardens. Nest: Mid or upper canopy in densely branched, well-foliaged tree, commonly entwined with creepers, isolated tree 3-9m above ground in well-wooded habitats.	Fairly common resident	1
Coucals			

White-browed Coucal (<i>Centropus superciliosus</i>)	Reedbeds and thickets, usually close to water.		
Burchell's Coucal (<i>Centropus burchellii</i>)	Rank and tangled growth. Reedbeds, marshes, and thickets, coastal bush. Along drainage lines, edges of wetlands.	Common resident	
Cuckoos			
Red-chested Cuckoo (<i>Cuculus solitarius</i>)	Forest and well-wooded habitats: riparian growth, thickets and evergreen forests. Trees around habitation.	Common intra African breeding migrant	
Klaas's Cuckoo (<i>Chrysococcyx klaas</i>)	Forest, moist woodland and savannah. Trees around habitation.	Fairly common resident and intra African breeding migrant	
Diederik Cuckoo (<i>Chrysococcyx caprius</i>)	Variety of habitats: from forest edge to semi desert. Not in forests and uncommon in mopane.	Very common intra African breeding summer visitor	
Black Cuckoo (<i>Cuculus clamosus</i>)	Forest edges, woodland riverine bush exotic plantations farmland, suburban areas. Acacia woodland, riparian thickets and mixed thornveld.	Fairly common intra African breeding migrant	
Owls			
Western Barn owl (<i>Tyto alba</i>)	Wide range of vegetation types. Northern woodlands. Needs large trees to roost. Nomadic owls moving in response to rodent population explosion.	Locally common resident	
African Grass-owl (<i>Tyto capensis</i>)	Rank grass and marshes are the preferred habitat. Usually in open habitat at fairly high altitudes.	IUCN 2017 - Least Concern; SA Red Data (Taylor 2015): Vulnerable. Rare local resident.	
Cape eagle-owl (<i>Bubo capensis</i>)	Wide variety of biomes. Rocky areas	Uncommon to rare resident	
Spotted eagle-owl (<i>Bubo africanus</i>)	Broad range of habitats. Man-made structures. Rocky areas, woodland, forest edge savannah, semi desert. Towns.	Common resident	
African Wood Owl (<i>Strix woodfordii</i>)	Evergreen and riverine forest, dense woodland, coastal bush, pine plantations; seldom in savannah.	Locally fairly common resident	
Marsh owl (<i>Asio capensis</i>)	Open grasslands, marshlands and short scrub with high rodent populations preferred.	Uncommon to rare. IUCN Least concern	
Nightjars			
Fiery-necked nightjar (<i>Caprimulgus pectoralis</i>)	Dense broadleaved woodland, savannah, coastal bush, fynbos and alien plantations. Ground, preferring areas where there is dense leaf litter.	Common partial migrant	
Freckled nightjar (<i>Caprimulgus tristigma</i>)	Favours areas of bare granite, Karoo sandstone, quartzite, mica-schist and weathered basalt substrata on hills, escarpments, boulder-strewn hillsides, in ravines and along dry, rocky river beds. Bare rocky outcrops and escarpments with well-wooded slopes. Requires some vegetation cover. By day roosts on exposed rock or among vegetation, in spite of ground temperatures sometimes reaching 60 degrees C. Nest: Natural hollow on bare rock where stone chips and wind-blown debris of plant material accumulated.	Locally common to very common resident	
Swifts and spinetails			

African Palm-Swift (<i>Cypsiurus parvus</i>)	Governed by the distribution of the flabelliform palms, nests underside dead leaves.	Locally common resident	
Alpine Swift (<i>Tachymarpis melba</i>)	Over all vegetation types: Especially over Alpine grassland and Fynbos – breeding sites. Dry vertical cracks in overhanging cliffs.	Common breeding intra-African migrant	
African Black Swift (<i>Apus barbatus</i>)	Montane habitats: nesting – horizontal cracks on cliffs or in caves. Forage - open country.	Breeding intra-African migrant	
Little Swift (<i>Apus affinis</i>)	Over all vegetation types: prefers open grasslands and Karoo, not high-altitude alpine grasslands. Occur over water and nests under dry overhangs.	Very common partial migrant	
Horus Swift (<i>Apus horus</i>)	Anywhere: common in more humid south and east. Associated with high altitude grasslands. Nests in sandbanks.	Common breeding intra African migrant	
White-rumped Swift (<i>Apus caffer</i>)	Forage over open ground. Cliffs. Anywhere: common in more humid south and east.	Very common breeding intra African migrant	
Mousebirds			
Speckled mousebird (<i>Colius striatus</i>)	Forest, subtropical thicket and mesic woodland. Ecotones: Edges of forests and closed woodland, wooded drainage lines and gardens.	Common resident	
Red-faced Mousebird (<i>Urocolius indicus</i>)	savannah woodlands, moist woodlands, shrubland. Avoiding forest and open grassland.	Very common resident	
Trogons			
Narina Trogon (<i>Apaloderma narina</i>)	Evergreen and riverine forests, dense woodland, moist thornveld, coastal bush, valley bushveld, wattle plantations. Nests in natural hole in tree or dead stump. Forages by sallying from perch, catching prey of leaves, branches or from air.	Uncommon to common mostly resident; possibly breeding migrants from further north	
Hoopoe and woodhoopoes			
African Hoopoe (<i>Upupa africana</i>)	Catholic use of habitats. Tall savannah thornveld. Woodland. Bare ground and short grass.	Sparse to common resident	
Green Wood-Hoopoe (<i>Phoeniculus purpureus</i>)	Arboreal. Most woodland types. Edges of evergreen forests.	Common resident	
Kingfishers			
Half-collared Kingfisher (<i>Alcedo semitorquata</i>)	Clear fast flowing perennial streams, rivers and estuaries; clear water and well-wooded banks; often near rapids; narrow and secluded with dense marginal vegetation. Broken escarpment terrain. Well-vegetated lake shores and coastal lagoons. Breeds along perennial, clear-water streams and rivers that have wooded edges. Nests in low alluvial banks (1-1.5m high) along river edge. Face onto river or open pool, and are screened or concealed to some extent by overhanging vegetation, roots or other growth. Riverbanks to excavate nest tunnels.	IUCN 2017 Status: Least concern; SA Red Data (Taylor 2015): Near-threatened. Uncommon resident.	

Malachite kingfisher (<i>Alcedo cristata</i>)	Strictly aquatic environments – availability of fish. River and stream banks – flanked by trees, shrubs and recumbent riverine grasses and weedy vegetation. Prefer well-vegetated, slow-flowing rivers and streams, but not with canopy closed over river. Sheltered shores, coastal lagoons, tidal estuaries, mangrove swamps. Perennial or seasonal wetlands. Small water courses in breeding season when steep banks required for nest tunnels. Burrow: Earthen bank - along stream, earth mound, soil around upturned roots of fallen tree, wall of aardvark burrow. Low (<1m high).	Common resident	
Woodland Kingfisher (<i>Halcyon senegalensis</i>)	Well-developed woodland; tall riverine <i>Acacia</i> stands & mopane; grass understorey heavily grazed.	Common breeding intra African migrant	
Brown-hooded Kingfisher (<i>Halcyon albiventris</i>)	Edges of evergreen forests, woodland and riverine woodland.	Common resident	1
Giant kingfisher (<i>Megaceryle maxima</i>)	Any water body with sufficient food and overhanging branches to hunt from, - streams, rivers, estuaries, seashores. Perch under canopy in trees alongside streams or at edges of pools. Large rivers and small streams. Nests in hole made in high alluvial bank, usually one overhanging a flowing river. Seldom less than 2m in height, usually 3m, upper third of bank.	Fairly common resident	
Pied kingfisher (<i>Ceryle rudis</i>)	Aquatic environments – availability of fish. Any water body with small fish, including large rivers and perennial streams, estuaries, lakes, temporarily flooded areas, rocky coasts and intertidal zone of coast. Less common along well-wooded, fast flowing streams. Nest: Burrow in vertical alluvial sandbank being cut by flowing water, sometimes quite close to the water level. Usually positioned in the least accessible positions available: over water, in a high bank, and near the top of the bank.	Common resident	
Bee-eaters			
Little Bee-eater (<i>Merops pusillus</i>)	Semi-arid to high rainfall areas. Open spaces to forage – low bushes or reeds. savannah and light woodland.	Common resident	
European Bee-eater (<i>Merops apiaster</i>)	Variety of woodland and shrubby habitats, avoids relatively mesic and arid conditions. Nest in riverbanks or erosion gullies.	Common non-breeding Palaearctic migrant & breeding migrant	
Rollers			
European Roller (<i>Coracias garrulus</i>)	Woodlands, bushveld and grasslands. Open woodland.	IUCN 2018 Least concern; SA Red Data (Taylor 2015): Near-threatened ; Fairly common non-breeding Palaearctic migrant. Population trend: decreasing.	
Hornbills			
Southern Yellow-billed Hornbill (<i>Tockus leucomelas</i>)	Variety of dry, open savannah woodlands (broadleaved & <i>Acacia</i>)	Very common resident	
Barbets & tinker barbets			
Yellow-fronted Tinkerbird (<i>Pogoniulus chrysoconus</i>)	Broad-leaved woodland, moist woodland – mixed woodland and rocky hills.	Common resident	
Acacia Pied Barbet (<i>Tricholaema leucomelas</i>)	Arid savannahs, soft-wooded trees (<i>Acacia</i>) present, wooded drainage lines in grassland.	Common resident	

Black-collared Barbet (<i>Lybius torquatus</i>)	Miombo, moist wooded areas, along east facing slopes of the Transvaal escarpment, eastern coastal areas. Drier savannahs: restricted to riverine vegetation. Coastal bush, woodland, forest edge, riverine forest, parks, gardens.	Very common resident	2
Crested Barbet (<i>Trachyphonus vaillantii</i>)	Savannah, woodland and thickets – broadleaved woodlands. Mixed woodland and Acacia habitats. Thornveld, thickets in woodland, riverine bushveld, exotic plantations, parks, gardens.	Common resident	
Honeyguides & honeybirds			
Greater Honeyguide (<i>Indicator indicator</i>)	Arid and moist woodland: Wide range of woodland types.	Fairly common resident	1
Lesser honeyguide (<i>Indicator minor</i>)	Wide range of wooded habitats: savannahs with scattered trees to forest fringes, riverine woodland; exotic plantations, gardens.	Locally common resident	
Woodpeckers			
Golden-tailed Woodpecker (<i>Campethera abingoni</i>)	Wide spectrum of woodland and savannah types.	Fairly common resident	1
Ground Woodpecker (<i>Geocolaptes olivaceus</i>)	Steep boulder strewn slopes of buttes, or cave sandstone regions – Alpine grasslands. Avoid dense vegetation. Mountains, rocky hillsides, dongas.	South Africa endemic. Locally common resident.	
Cardinal Woodpecker (<i>Dendropicos fuscescens</i>)	Wide variety of woodland and savannah.	Common resident	
Olive Woodpecker (<i>Dendropicos griseocephalus</i>)	Evergreen forest, dense coastal and riverine bush; also into fynbos when foraging.	Fairly common resident inland; scarce on coast.	
Wryneck			
Red-throated Wryneck (<i>Jynx ruficollis</i>)	Grassland biome: Sour and Mixed grasslands, not Alpine grasslands; needs trees for nesting. Only found in grassland where trees are present, even exotics. Forage on open ground, absent where trees are too dense or absent. Thornveld, open bushveld, exotic plantations, farmyards, gardens.	Locally fairly common; generally uncommon; migratory in south, resident in north.	
Larks			
Rufous-naped Lark (<i>Mirafra africana</i>)	Variety of habitats: bare patches, sparse grass cover, suitable perches. Open grassland with termitaria or scattered bushes and bare patches, open savannah woodland with sparse grass cover between trees, bare patches in fallow fields and cultivated lands.	Locally common resident. Common & conspicuous spp. No evidence of range contraction. Not threatened by habitat destruction.	
Flappet Lark (<i>Mirafra rufocinnamomea</i>)	Open woodland, savanna and grassland with scattered trees. Prefers rocky broad-leaved woodland. Woodlands: clearings or drainage lines.	Fairly common resident	
Sabota Lark (<i>Calendulauda sabota</i>)	Wide range of savannah habitats; arid open shrubland on rocks and sands, semi-arid Acacia savannahs on clays, calcrete and sands, on rocky slopes with tall shrubs, bushes and trees, on edges of wooded drainage lines, mixed woodlands on stony soils.	Common resident	
Eastern Long-billed Lark (<i>Certhilauda semitorquata</i>)	Upland grassland and mixed shrubland and grassland, usually on rocky ridges.	SA Endemic. Fairly common resident.	

Spike-heeled Lark (<i>Chersomanes albofasciata</i>)	Wide range of vegetation types. Arid gravel plains, semi-arid sparse succulent and non-succulent shrublands, high rainfall grasslands.	Common resident, somewhat nomadic.	
Swallows & martins			
Brown-throated Martin (<i>Riparia paludicola</i>)	Associated with water: Streams, large rivers, dams, estuaries and open wetlands. Forage over dryland habitats far from water. Wetlands in fairly open habitats. Extensive sandbanks along rivers support colonies with hundreds of widely spread burrows. Usually in sandy or friable soil in vertical sandbanks along rivers.	Common resident	
Banded Martin (<i>Riparia cincta</i>)	Natural grassland and cultivated or cleared land. Open grassland, large floodplains, cultivated areas surrounded by woodland, arid areas. Associated with water but not restricted to wetland habitats. Breed in earthen banks and aardvark burrows.	Uncommon and local breeding intra-African migrant	
Barn Swallow (<i>Hirundo rustica</i>)	All habitats: more common in higher-rainfall eastern half: moister grassland, woodlands and fynbos.	Abundant non-breeding Palaearctic migrant	
White-throated Swallow (<i>Hirundo albicularis</i>)	Vicinity of wetlands, especially rivers and other expanses of open water where suitable nesting sites are available.	Common, but localized breeding intra-African migrant	
Greater Striped Swallow (<i>Cecropis cucullata</i>)	Wide variety of fairly open habitats: semi-arid Karoo, fynbos, grassland and lightly wooded savannah.	Common breeding intra-African migrant	
Red-breasted Swallow (<i>Cecropis semirufa</i>)	Open savannah; sweet grassveld.	Scarce breeding intra-African migrant	
South African Cliff-Swallow (<i>Petrochelidon spilodera</i>)	Fairly dry grasslands and lightly wooded savannahs: Forage over disturbed areas.	Locally common breeding intra-African migrant	
Rock Martin (<i>Ptyonoprogne fuligula</i>)	Habitats with rock formations: Rocky terrain. Rocky hills, cliffs, quarries. Nest attached to vertical surface of rock face supported by ledge below.	Common resident	
Common House-Martin (<i>Delichon urbicum</i>)	Wide variety of habitats: fynbos, grassland, savannah woodland and cultivated areas. Hilly open country.	Locally common non-breeding Palaearctic migrant	
Black Saw-wing (<i>Psalidoprocne pristoptera</i>)	Streams, vleis and clearings in forest, dense woodland and exotic plantations.	Breeding intra-African migrant, locally fairly common, resident in some areas.	
Cuckooshrikes			
Black Cuckooshrike (<i>Campephaga flava</i>)	Canopy of moist woodlands, both broadleaved and <i>Acacia</i> woodland. Moist, arid and riparian woodlands.	Uncommon resident	
Drongos			
Fork-tailed Drongo (<i>Dicrurus adsimilis</i>)	Wide range of vegetation types: Open bush and woodland; edges of forest patches; Highveld – alien trees.	Common resident	
Orioles			
Black-headed Oriole (<i>Oriolus larvatus</i>)	Moist woodland; evergreen or lightly deciduous. Afromontane Forests. Overfly extensive unsuitable habitat – grassveld.	Common resident	1
Crows and ravens			

Cape Crow (<i>Corvus capensis</i>)	Open habitats with scattered patches of trees or wooded watercourses. Croplands. East: Montane grassland; West: Open arid areas.	Common resident	
Pied Crow (<i>Corvus albus</i>)	Wide variety of biomes: unrelated to vegetation, not in southern Kalahari.	Very common resident	
White-necked Raven (<i>Corvus albicollis</i>)	Mainly mountains, gorges, cliffs, forages in more open country at times.	Locally common resident, though generally uncommon.	
Bulbuls			
Dark-capped Bulbul (<i>Pycnonotus tricolor</i>)	Wide range of habitats: moister woodland and savannah, riverine bush, forest edge & regenerating forest (not inside) dense montane scrub, scrubby vegetation, alien plantations. Not in open grassland.	Very common resident	2
Sombre Greenbul (<i>Andropadus importunus</i>)	Forest, coastal and riverine bush, dense thicket.	Common resident.	1
Tits			
Southern Black Tit (<i>Parus niger</i>)	Broadleaved woodlands.	Common resident	
Babblers			
Arrow-marked Babbler (<i>Turdoides jardineii</i>)	Thickets or strips of denser vegetation along seasonal drainage lines. Broadleaved and mixed woodlands.	Very common resident	
Rock thrush			
Cape Rock Thrush (<i>Monticola rupestris</i>)	Rocky, mountainous habitats in relatively high-rainfall areas; gorges, incised river valleys, foothills & lowlands adjacent to mountains. Cliffs, rocky gorges, boulder strewn hillsides and scree slopes, usually with scattered low trees, bushes and succulents, such as Euphorbia and Aloe species. Nest placed 3-20m above ground in crevices or on ledge on low cliff.	South Africa endemic. Locally common resident	
Sentinel Rock Thrush (<i>Monticola explorator</i>)	Rocky uplands in grassland biome. High rolling grasslands, rocky slopes, burnt areas, felled plantations.	South Africa endemic. Common resident in lowlands; in highlands subject to seasonal altitudinal movement, breeding mostly above 1200m, some birds moving downward in winter to about 600m.	
Thrushes			
Kurrichane Thrush (<i>Turdus libonyana</i>)	Woodland and thickets. Moist broadleaved and mixed woodland habitat.	Common resident	
Groundscraper thrush (<i>Psophocichla litsitsirupa</i>)	Open parkland woodlands; broad-leaved and Acacia woodland – understory poorly developed & patches of bare ground. Miombo, open overgrazed woodland, plantations.	Fairly common resident	1
Olive Thrush (<i>Turdus olivaceus</i>)	Riverine bush and montane forest. Adapted to plantations. Well-shaded places with damp soil and moist litter.	Common resident	
Karoo thrush (<i>Turdus smithi</i>)	Mostly in riparian woodland in semi-arid Karoo and introduced woodland on the Highveld; common garden bird.	Locally common resident.	
Chats			

African Stonechat (<i>Saxicola torquata</i>)	Grassland biome: High altitude grasslands down to sea level, moist, open country with rank growth of grass and herbs.	Common resident and altitudinal migrant	2
Buff-streaked Chat (<i>Oenanthe bifasciata</i>)	Sour grasslands – rocky habitat on mountains, hills, ridges and escarpments (1500-1700). Avoids woodlands, including aliens.	Fairly common to uncommon resident. SA endemic.	
Mountain Wheatear (<i>Oenanthe monticola</i>)	Rocky habitats in mountains, hills, koppies, scarps and boulder strewn level ground. Scrub or grass. Rocky hills, slopes with boulders and bushes, small cliffs, old mine workings, rocky hillsides. Nest placed under hillside boulder, in hole in rock.	Locally common to fairly common resident.	
Pied Wheatear (<i>Oenanthe pleschanka</i>)			
Familiar Chat (<i>Cercomela familiaris</i>)	Broad range of open vegetation types, broken ground and rocky habitats. Rocky mountain slopes, rocky hills and outcrops, valley slopes, eroded gullies, sparse woodland along drainage lines. Nest: Positioning highly opportunistic; in cavity in wall of erosion gully; on rock face, in old burrow or other burrowing-nesting species.	Common resident	
Mocking Cliff Chat (<i>Thamnolaea cinnamomeiventris</i>)	Vicinity of rocky outcrops in wooded country. Open well-faulted rock faces with scattered trees and shrubs. <i>Ficus</i> trees. Well-wooded rocky ravines, gullies, cliffs, boulder-strewn hillsides and along streams or rivers in valley bottoms where there are large boulders. Nest: Usually placed in nest of striped swallow under rock overhang or in cave.	Locally common resident	
Robins			
White-starred Robin (<i>Pogonochlra stellata</i>)	Breeding populations restricted to Afromontane evergreen forest. Avoids forests without tangles of undergrowth. Altitudinal migrants favour dense cover along drainage lines.		
Cape Robin-Chat (<i>Dessonornis caffra</i>)	Afromontane forest fringe: cover loving. Wide range of habitats utilized: coastal fynbos, farmstead woodlots, <i>Leucosidea</i> scrub, alpine grassland. Bracken-brair fringe of Afromontane forest.	Common resident	
White-browed robin-chat (<i>Cossypha heuglini</i>)	Dense riverine bush, evergreen thickets. . Sing from low perch in tree or bush. Riverine forest with broken canopy and dense evergreen thickets, lakesides with shady trees and shrubs, Acacia woodland on flood plains. In dry areas restricted to evergreen thickets fringing river courses. Nests amongst dense shoots of coppicing bush or tree, hollow stump, tangled creepers, hollow in bank, cavity among tree roots on bank, up to 2m above ground.	Locally common resident	1
Red-capped robin-chat (<i>Cossypha natalensis</i>)	Evergreen forests and woodland, riparian growth, deciduous thickets, riverine forests. Keeps to undergrowth of forests, forages on ground (dusk), moves seasonally to higher forest strata when fruit ripen. Sing from low perch. In general, favours linear habitats (eg along wet and dry watercourses). Nest in hollow stump, rock crevice, hanging creeper or ground.	Scarce to common. Mostly resident.	1
Chorister Robin-Chat (<i>Cossypha dichroa</i>)	Evergreen forest, especially in mist belt.	South African endemic. Locally common resident; some seasonal altitudinal movement at higher elevations.	
Scrub-Robin			
White-browed Scrub Robin (<i>Erythropygia leucophrys</i>)	Woodland and bushveld habitats. Patches of dense undergrowth in thornveld and broadleaved woodland.	.Common resident	

Warblers			
Little rush warbler (<i>Bradypterus baboecala</i>)	Associated with tangled vegetation around wetlands; not usually over open water.	Locally fairly common resident and nomad.	
Cape Grassbird (<i>Sphenoeacus afer</i>)	Rank vegetation with long grasses, restios or ferns, in tangled scrub, low sparse shrubland and in hilly grasslands with scattered bushes. Avoids areas in which the woody component becomes too high or dense.	Locally common resident	
African reed-warbler (<i>Acrocephalus baeticatus</i>)	Usually in moist or wet areas, including edges of reeds, bulrushes, sedges, tall herbs and forbs, and tall grass and shrubs along river banks. Marshland: Outskirts of reed-beds where there is a mixture of grass, sedges, rushes and tall willow herbs. Nest bind to reeds, grass, sedges, well-hidden; 0.3-3.0m above dry or damp ground but usually over water.	Common breeding intra-African migrant	
Marsh Warbler (<i>Acrocephalus palustris</i>)	Thickets and marshland: Fringes of reedbeds, waterside weeds , woody thickets on anthills and leafy vegetation along rivers. Dense lush thickets with rank herbaceous undergrowth, usually away from water.	Uncommon to fairly common non-breeding Palaearctic migrant	
Lesser swamp warbler (<i>Acrocephalus gracilirostris</i>)	Marshland: Phragmites over water. Reeds and bulrushes in standing water in estuaries, lagoons, rivers, marshes. Nest on upright reed stems, sedge, bulrush, arum lily.	Locally common resident	
Willow Warbler (<i>Phylloscopus trochilus</i>)	Any woodland: edges of evergreen forests, savannahs, gardens, parks, exotic plantations. Anywhere with trees and bushes ie adequate tree cover; Adequate tree cover.	Fairly common non-breeding Palaearctic migrant	
Garden warbler (<i>Sylvia borin</i>)	Dense thickets: Inside thickets.	Fairly common non-breeding Palaearctic migrant	
Apalis			
Bar-throated Apalis (<i>Apalis thoracica</i>)	Adaptable, catholic: Wooded habitats. Interior of evergreen or semi-evergreen forests, forest fringes, woodland, Karoo scrub, grassveld – where suitable woodland or bush occurs, e.g. along drainage lines.	Common resident	1
Camaroptera			
Green-backed Camaroptera (<i>Camaroptera brachyura</i>)	Evergreen forests: lowland, riparian, montane and temperate forest. Small patches of forest or dense secondary growth and thickets. Forest edges, tangled riverine bush; gardens, parks. Forages low down in undergrowth, even on ground, hopping restlessly around. Rather secretive. Nests in low herbs, bush or leafy tree, from ground level to 1.3m above ground.	Common resident	1
Crombec			
Long-billed Crombec (<i>Sylvietta rufescens</i>)	Woodland; scrubland. Catholic in use of different woodland – not found in unwooded grassland and forest interiors.	Common resident	
Cisticolas			
Lazy Cisticola (<i>Cisticola aberrans</i>)	Rocky slopes with grass, dense scrub and occasional trees and thickets. Valley bottoms and in gullies. Rank grass, shrubs and bracken on damp ground, edges of forests.	Locally common resident	
Levaillant's cisticola (<i>Cisticola tinniens</i>)	Marshland: Stream-side where there is short grass, sedges and rushes with clumps of taller growth. Marshy areas along rivers and streams, edges of reedbeds, moist grassland, and seasonally flooded endorheic ponds. Nest: Bond with spider web between leaves and stems of forbs and herbs. 0.1-1.0m above ground or water.	Very common resident	

Croaking Cisticola (<i>Cisticola natalensis</i>)	Rank open moist grassland, edges of vleis, usually with scattered bushes or trees; also in clearings and edges of forest and regenerating secondary growth.	Common resident or local migrant	
Neddicky (<i>Cisticola fulvicapilla</i>)	Dune scrub, in scrub and rank grass on hill slopes, on the edges of woodlands and plantations, in secondary growth and in thornveld savannah. Understorey of woodlands. Tolerant of alien vegetation. Avoid dense grassland – cannot feed on ground level. Especially Valley Bushveld.	Very common resident	
Zitting Cisticola (<i>Cisticola juncidis</i>)	Natural grasslands and weedy areas, edges of vleis, dams, pans, and salt marshes. <i>Eragrostis</i> grass pastures, cereal cropland, edges of cultivation, fallow lands, and any open areas with rank grass. Associated with wetlands.	Common resident	
Cloud Cisticola (<i>Cisticola textrix</i>)	Short grassland with low basal cover – in grassland biome and Grassy Karoo. Does not tolerate invasion by scrub and trees. Common – Themeda triandra grassland on Highveld.	Common resident	
Pale-crowned Cisticola (<i>Cisticola cinnamomeus</i>)	Dense short grasses and forbs, on edges of vleis and seasonally moist grasslands and depressions, in woodland and grassland biomes. Not within woodlands or forests.	Locally fairly common resident	
Wing-snapping Cisticola (<i>Cisticola ayresii</i>)	Short moist and relatively dense grassland on well-drained soils – Alpine, Sour and Mixed Grasslands.	Common resident	
Prinias			
Tawny-flanked prinia (<i>Prinia subflava</i>)	Marshland: In reeds and sedges in vleis. Relatively tall and dense patches of vegetation: rank grass on edges of roads or farmlands, drainage lines and edges of dams and rivers, scrubby patches within woodland savannahs, secondary thickets, reeds and sedges in wetlands, ecotones between grassland and dense, tall woodlands and forests. Suburban and rural gardens.	Very common resident. Readily adapts to modified habitats. Distribution not changed.	1
Karoo Prinia (<i>Prinia maculosa</i>)	Scrub and rank mgrowth along drainage lines. Karoo and fynbos shrubland and mixture of grassland and scrub. Fallow land and edges of forests and alien plantations.	Common resident	
Drakensberg Prinia (<i>Prinia hypoxantha</i>)	Montane scrub, rank grassland thickets along streams and edges of forests, woodland and exotic plantations, tall weeds in fallow lands and on roadsides, gardens.	Common resident	
Flycatchers			
Blue-mantled Crested Flycatcher (<i>Trochocercus cyanomelas</i>)	Middle to lower layers of coastal, lowland and mid-altitude evergreen forest (even small forest patches; also thickets in riverine forest.)	Uncommon and local resident; may have seasonal movements.	
African Paradise Flycatcher (<i>Terpsiphone viridis</i>)	Woodlands: evergreen forests and broadleaved woodlands. Riverine strips, riparian vegetation.	Common breeding intra-African migrant	
Southern Black Flycatcher (<i>Melaenornis pammelaina</i>)	Woodlands near surface water; taller vegetation, not necessarily clumped, open space at groundlevel.	Common resident	1
Fiscal Flycatcher (<i>Sigelus silens</i>)	Fairly open vegetation with trees or intermittent scrub..	Common resident	
Spotted Flycatcher (<i>Muscicapa striata</i>)	Open woodland; habitat where bare branches alternate with open space. Open habitat with less well-structured middle and lower stratum.	Common non-breeding Palaearctic migrant	
African Dusky Flycatcher (<i>Muscicapa adusta</i>)	Evergreen and riverine forest, patches of forest in dense woodland; exotic plantations, well wooded gardens.	Locally common; some populations resident, most locally migratory	

Ashy flycatcher (<i>Muscicapa caerulescens</i>)	Edges of lowland evergreen forests, upper strata of riverine woodland, thickets in drier woodland, moister savannah, wooded gorges.	Locally common resident	
Batis			
Cape Batis (<i>Batis capensis</i>)	Afromontane forests. Lower levels of evergreen forests, isolated forest fragments: undergrowth tangles and canopy. Densely wooded gorges and exotic plantations in summer; in winter may spread to more open woodland and savannah.	Common resident; some seasonal altitudinal movement.	
Chinspot Batis (<i>Batis molitor</i>)	Major woodland types. Acacia spp. Valley bushveld, thornveld and karroid broken veld.	Common resident	
Wagtails			
African pied wagtail (<i>Motacilla aguimp</i>)	Along margins, rocky patches and sandbanks of large rivers, pans and dams. Usually near water, preferring wide rivers and open water bodies with sandy banks or exposed rocks and boulders. In drier areas restricted to perennial rivers. Nest usually built close to water, on ground, in grass tussock, reeds or other vegetation, including flood debris and tree stump over water, in crevices or on rock ledge or cliff.	Common to scarce; mostly resident; non-breeding migrant to much of Transvaal in winter.	1
Cape wagtail (<i>Motacilla capensis</i>)	Almost anywhere where there is water with open ground nearby. Wide range of natural environments: require merest trickle of water; open streams in forest habitats, rivers and waterfalls. Nest concealed in vegetation on ground, often in recess in a steep bank or donga, or in bush or tree.	Common resident	2
Mountain wagtail (<i>Motacilla clara</i>)	Largely restricted to small streams and rivers in hilly, forested country, preferring stretches with emergent rock and where water flows over flat rocks. Especially fond of waterfalls. Also along rivers through woodland and dense thicket, including valley bushveld. Fast-flowing well-wooded rocky streams and rivers, larger forested rivers; sometimes also smaller quiet tributaries, or streams in forest with pools and waterfalls. Forced to move if rivers dry up completely. Nest built 1-5m above water in a niche in stream bank, rock face, boulder among flotsam on branch over water or in a tree. Often near deep pool or behind waterfall.	Sparse resident on permanent streams and rivers; nomadic on seasonal tributaries.	
Longclaws			
Cape Longclaw (<i>Macronyx capensis</i>)	Variety of grassland types at fairly high elevations. Not in bushveld; may occur in grassveld adjacent to woodland. In association with wetlands. Moist grassveld: near vleis and dams. Open countryside with thick grass.	Common resident	
Pipits			
Yellow-breasted Pipit (<i>Anthus chloris</i>)	Submontane undulating grasslands (Drakensberg). Lush meadowlike conditions. Pasture and fallow lands. Flat to gently rolling lush montane grassland when breeding; lowland grassland to bushveld in winter.	IUCN 2017 Vulnerable. SA Red Data (Taylor 2015): Vulnerable. Locally common to fairly common; altitudinal migrant. South African endemic.	
African Pipit (<i>Anthus cinnamomeus</i>)	Grasslands: open stretches fringing pans, lightly wooded savannah, dry floodplains with short vegetation and recently burnt open veld. Avoids dense rank growth. Fallow fields.	Common resident	
Plain-backed Pipit (<i>Anthus leucophrys</i>)	Mesic grasslands: edges of well-wooded country, around waterbodies and marshes. Recently burnt grasslands.	Fairly common resident	

Buffy Pipit (<i>Anthus vaalensis</i>)	Open grassy plains, bare ground, well grazed. Veld dotted with anthills and low scrub. Fallow pastures.	Uncommon resident	
Long-billed Pipit (<i>Anthus similis</i>)	Slopes in relatively arid and eroded, broken veld, often steppe-like with erosion scars, stones and outcrop rock interspersed with grass clumps and low scrub. Low trees and light woodland on stony ground.	Locally common resident	
Shrikes			
Red-backed Shrike (<i>Lanius collurio</i>)	Medium dense thornveld. Open habitats with fewer smaller trees for males; females – skulk in taller woodland. Fallow land with coppicing Acacia bushes, pockets of scrub.	Fairly common non-breeding Palaearctic migrant	
Common Fiscal (<i>Lanius collaris</i>)	Open spaces with exposed perches, short or sparse ground cover and trees for nesting. Scarce in Arid Woodland, Marula and Knobthorn savannah, Alpine Grassland.	Common resident	3
Black-backed puffback (<i>Dryoscopus cubla</i>)	Indigenous woodland and forest. Dense woodland.	Common resident	1
Black-crowned Tchagra (<i>Tchagra senegala</i>)	Scrub and woodland habitats. Mesic broadleaved woodlands.	Common resident	1
Southern Boubou (<i>Laniarius ferrugineus</i>)	Dense tangled undergrowth, thickets along watercourses in wide range of woodland types; all woodlands and forest types. Forests and exotic plantations. Grasslands - thickets along watercourses.	Near-endemic. Common resident.	2
Bokmakierie (<i>Telophorus zeylonus</i>)	Karoo, Fynbos and grassland biomes: Scrubby habitat, low bushes in association with rocky outcrops. Avoid woodland types except Valley Bushveld. Edges of range: light mixed woodland and thorn savannah on stony ground.	Common resident over most of range.	
Orange-breasted Bushshrike (<i>Chlorophoneus sulfureopectus</i>)	Woodland. Mixed riparian woodland.	Very common resident	
Olive Bushshrike (<i>Chlorophoneus olivaceus</i>)	Canopy of evergreen forest, tall dense bush, riverine forest.	Locally fairly common to common resident.	
White-crested Helmet-Shrike (<i>Prionops plumatus</i>)	Deciduous broadleaved woodland – breeding. Otherwise – Acacia savannah.	Common resident	
Starlings			
Red-winged Starling (<i>Onychognathus morio</i>)	Cliffs and rocky areas. Common in highland areas; less common on plains. Rocky outcrops and gorges in highland grassland, visits forests to feed on fruit. Nest: Typically on rock ledge.	Common resident	3
Cape Starling (<i>Lamprotornis nitens</i>)	Wide range of vegetation types: Not a grassland or forest bird. Depends on trees or tall vegetation for nests. Woodland species.	Common resident	
Violet-backed Starling (<i>Cinnyricinclus leucogaster</i>)	Open woodlands; mixed broadleaved woodlands.	Fairly common to scarce breeding intra-African migrant	
Pied Starling (<i>Lamprotornis bicolor</i>)	Open Karoo and grassland habitats. Open fields. Not found in wooded areas. Areas of broken ground.	South African endemic. Very common resident.	
Wattled Starling (<i>Creatophora cinerea</i>)	Dry grasslands and dry open country; nests in thorn trees.	Locally abundant nomad	

Sugarbirds			
Gurney's Sugarbird (<i>Promerops gurneyi</i>)	Montane scrub with Protea and Aloe (mostly Mountain Sourveld); also gardens and Protea nurseries; may move into suburban gardens in winter.	IUCN (2018): Near-threatened. Locally common resident; local movements determined by flowering plants; some altitudinal movement in winter.	
Sunbirds			
Amethyst Sunbird (<i>Chalcomitra amethystina</i>)	Broadleaved woodland types. Gardens and stands of alien trees.	Common resident	
Malachite Sunbird (<i>Nectarinia famosa</i>)	Fynbos, grassland, Karoo and open savannah: Scrubby hillsides and forest edge. Alpine Grassland, Karoo and Fynbos vegetation types. Abundance determined by food plants and their flowering phenology.	Common; resident in lower-lying areas; seasonal migrant from higher regions in winter.	
Southern double-collared sunbird (<i>Cinnyris chalybeus</i>)	Evergreen forest and bush, Eucalyptus plantations, gardens.	Locally common to fairly common resident.	1
Greater Double-collared Sunbird (<i>Cinnyris afer</i>)	Moist habitats with trees or tall scrub; not into forests – edge or top of canopy. Coastal, montane and riverine scrub, Protea savannah. Mountainous or hilly country. Afromontane and Valley Bushveld.	Common resident. South African endemic.	
White-bellied Sunbird (<i>Cinnyris talatala</i>)	Wide range of woodland and bush types – moist woodlands. Open savannah.	Common resident	3
White-eyes			
Cape white-eye (<i>Zosterops capensis</i>)	Catholic choice of habitat: Evergreen and coastal forests, fynbos, riverine bush, thickets. Drainage lines. Wooded areas in grassland and alien plantations.	Very common resident and local migrant	5
Sparrows			
House Sparrow (<i>Passer domesticus</i>)	Human dwellings.	Very common resident, introduced	2
Cape Sparrow (<i>Passer melanurus</i>)	Arid Karoo and grassland biomes: Woody vegetation along drainage lines. Gardens, farms, parks.	Very common resident	
Southern Grey-headed Sparrow (<i>Passer diffusus</i>)	Various woodland types: broadleaved and <i>Acacia</i> . Alien tree populations.	Common to abundant resident and nomad	
Northern Grey-headed Sparrow (<i>Passer griseus</i>)	Diversity of fairly open habitats up to 2500m; commensal with man.		
Yellow-throated petronia (<i>Gymnoris superciliaris</i>)	Broadleaved woodland and savannah.	Mostly common resident	
Weavers			
Spectacled Weaver (<i>Ploceus ocularis</i>)	Tall woodland or other tall vegetation, edge of forest patches and in riverine woodland and thickets.	Fairly common resident.	2
Cape weaver (<i>Ploceus capensis</i>)	Nests in reeds and bulrushes along rivers and dams.	Common resident	

Holub's Golden Weaver (<i>Ploceus xanthops</i>)	Rank vegetation, reeds and bushes along streams and rivers, forest edge.	Uncommon resident; possibly altitudinal migrant in Mozambique highlands.	
Southern Masked weaver (<i>Ploceus velatus</i>)	Nests in reeds, bushes and trees along watercourses. Also in trees near homesteads and in other vegetation away from water.	Common resident	3
Village weaver (<i>Ploceus cucullatus</i>)	Near water; different woodland vegetation types along river valleys. Open thornveld, but not in forests and treeless grasslands. Edges of riverine forests, usually near water. Wide range of woodland types along river valleys. Breeds in mesic savannah especially along rivers. Nesting colonies usually in large trees, 3-10m above ground, commonly overhanging water.	Very common resident	
Thick-billed weaver (<i>Amblyospiza albifrons</i>)	Forest types: riparian forest, reeds or bulrushes near forests. In breeding season at marshes, rivers, with rank grass, reedbeds and papyrus. Nest between two or more upright stems of bulrush, reeds or papyrus.	Resident but disperse widely after breeding	1
Quelea			
Red-billed Quelea (<i>Quelea quelea</i>)	Most vegetation types. Woodlands and grasslands. Annual grasses and surface water.	Abundant nomad. Expanded range and increased in numbers.	
Widows			
Fan-tailed Widowbird (<i>Euplectes axillaris</i>)	Open moist grassland, edges of vleis, rank grassy hillsides, marshes, edges of sugarcane fields.	Common resident; nomadic in winter	
White-winged Widowbird (<i>Euplectes albonotatus</i>)	Woodland and grassland: rank growth on the margins of open grassy areas, usually near water. Overgrown edges of cultivated areas. Seasonally inundated floodplains and tall grasslands.	Locally fairly common resident and nomad	2
Red-collared Widowbird (<i>Euplectes ardens</i>)	Mosaic of grass and bush: typical of grassland with scattered trees or bushes.	Locally common resident and nomad	
Bishops			
Yellow bishop (<i>Euplectes capensis</i>)	Fynbos and Alpine Grassland: scrubby fringes of Afromontane forest. Rank grass or marshy places on steep slopes or in valley bottoms in mountainous or hilly country, usually with scattered trees and bushes, often at edge of woodland or patch of forest; also edges of sugarcane and cotton. Damp grassy areas and heathlands.	Locally common resident; nomadic in winter.	
Yellow-crowned bishop (<i>Euplectes afer</i>)	Grassland birds: When breeding, closely associated with marshes or seasonally flooded areas. Nests in tall grass (temporarily flooded) standing in water. 0.15-0.4m above water surface.	Locally common resident and nomad.	
Southern red bishop (<i>Euplectes orix</i>)	Primarily grassland birds: Nests in reedbeds. Rarely found far from water; strikingly absent from areas without permanent surface water. Found in areas cleared for cultivation. Typically where there is access to perennial water. Nests in reeds, sedges, or bulrushes standing in water, usually 1-2.5m above water.	Very common resident and nomad. Artificial wetlands increased numbers. Common to abundant.	
Finches			
Cuckoo Finch (<i>Anomalospiza imberbis</i>)	Open grasslands and extensive, heavy vegetated vleis, also lightly wooded savannah.	Generally uncommon summer breeding visitor; locally common; probably resident but nomadic in Zimbabwe.	

African Quail-finch (<i>Ortygospiza fuscocrissa</i>)	Open areas of short grassland, floodplains, vleis and surrounding sedges. Grassland close to water.	Common resident and nomad	
Firefinches & bluebills			
Red-billed Firefinch (<i>Lagonosticta senegala</i>)	Woodland, savannah, riverine and thicket vegetation – near water.	Common resident and nomad	
African Firefinch (<i>Lagonosticta rubricata</i>)	Moist, wooded habitats. Forest margins and bracken-briar. Riverine forest, bush and thickets.	Common resident	3
Waxbills			
Common Waxbill (<i>Estrilda astrild</i>)	Rank grasslands, reedbeds, croplands, coastal estuaries, inland wetlands and dams, along ephemeral and permanent rivers.	Common resident	6
Blue Waxbill (<i>Uraeginthus angolensis</i>)	Arid thorn savannahs. Reliable on availability of surface water.	Common resident. No changes from past distribution; common	5
Sweet Waxbill (<i>Estrilda melanotis</i>)	Edges of evergreen forests, exotic plantations, gardens, bushy hillsides, farmyards, thick streamside bush.	Common resident; some seasonal altitudinal movement.	3
Orange-breasted waxbill (<i>Amandava subflava</i>)	Tall-grass savannah at forest edge, secondary growth, villages and plantations.		
Indigobirds			
Dusky Indigobird (<i>Vidua funerea</i>)	Edge habitats. savannah & open woodland. Edges of montane and riverine forests. Moist areas with forest.	Locally common nomad	
Whydahs			
Pin-tailed Whydah (<i>Vidua macroura</i>)	Wide range of open mesic habitats. Edge habitats with man. Wetlands.	Very common resident and nomad	
Canaries			
Cape Canary (<i>Serinus canicollis</i>)	Broad spectrum of vegetation types: Grassland, fynbos, Karoo, woodland. Frequents “waste” and “disturbed” ground. Fallow fields. Require trees or shrubs for breeding.	Very common resident and nomad	
Black-throated Canary (<i>Crithagra atrogularis</i>)	Dry country: grassland, savannah, lightly wooded areas, Acacia thornveld, edges of miombo woodland. Riparian thickets and alien plantations.	Locally common resident	
Yellow-fronted Canary (<i>Crithagra mozambicus</i>)	Wide variety of woodland habitats: lightly wooded thornveld, moist broadleaved woodlands, along river courses. Avoid <i>Acacia</i> woodlands. Alien plantations.	Common resident	3
White-throated Canary (<i>Crithagra albogularis</i>)			
Streaky-headed Seedeater (<i>Crithagra gularis</i>)	Vegetation associated with mountains and hilly topography: Fynbos, wooded valleys. Well-wooded areas; drier deciduous woodland and miombo. Avoids open grassland, arid <i>Acacia</i> woodland. Edges of evergreen forests and scrub on mountain slopes.	Fairly common resident and nomad	
Buntings			

Cinnamon-breasted Bunting (<i>Emberiza tahapisi</i>)	Rocky ridges and hillsides, eroding stony slopes and gullies, bare stony areas. Mountain sides, granite and dolerite outcrops with scattered bushes or trees, almost bare rocky and stony patches in woodlands on hills and plains, eroding stony slopes and gullies, dry watercourses. Nest placed in shallow scrape in ground at base of grass tuft, against rock or clod on rocky slope, on earth bank, in crevice in small rock face, on open stony ground, or among scattered rocks in a hollow.	Locally common resident	
Cape Bunting (<i>Emberiza capensis</i>)	Dwarf shrublands on plains and on rocky ridges. Hilly and mountainous areas.	Common to fairly common resident.	
Golden-breasted Bunting (<i>Emberiza flaviventris</i>)	Open broadleaved and mixed woodlands and savannah.	Common resident	

Appendix 13: MAMMALS: Available habitat, expected occurrence and observed presence of mammal species during surveys (Friedman & Daly 2004; Child, et al 2014).

Mammals expected to occur in the available natural habitats in the Ngondwana Dam project area are listed below. The shaded cells indicate the presence or absence of the species based on available habitat, and the number inside a cell gives the number of individuals observed or definite signs of the species detected during surveys (P=Present).

MAMMAL	HABITAT	Status (SA) Year assessed.	Ngodwana
Order: Insectivora			
Family: Soricidae			
Dark-footed forest shrew (<i>Myosorex cafer</i>)	Montane grasslands; wet sponges in mistbelt. Dense scrub and grass in damp areas fringing mountain streams. Moist densely vegetated habitat, mountainous country. Nest on bank of stream in heavy overhead cover of grass and undergrowth. Runways of vlei rats.	SA Red Data (2016): Vulnerable. IUCN 2016: Least concern. TOPS: None.	
Forest shrew (<i>Myosorex varius</i>)	Highveld: In moist, densely vegetated habitat; burrows under rocks and uses rodent/molerat burrows. Dense grass along the banks of streams.	Least concern.	
Least dwarf shrew (<i>Suncus infinitesimus</i>)	Commonly associated with termitaria. Terrestrial.	Intermediate	
Lesser dwarf shrew (<i>Suncus varilla</i>)	Reliant on termite mounds.	Data deficient	
Swamp musk shrew (<i>Crociodura mariquensis</i>)	Moist habitats, thick grass along riverbanks, in reedbeds and in swamp. Tangled masses of semi-aquatic grasses along fringes of water. Litter piles deposited by receding floods. Runways of vlei rats. Nests deep in clumps of tussock grasses on slightly raised patches of ground on fringes of swamp.	SA Red Data (2016): Near-threatened. IUCN 2016: Least concern. TOPS: None.	
Tiny musk shrew (<i>Crociodura fuscomurina</i>)	All latitudes, wide tolerance. Terrestrial. Cover such as debris, fallen trees, wood piles or dense grass clumps.	Data deficient	

Makwassie musk (<i>Crocidura maquassiensis</i>)	Subtropical/tropical dry. Temperate, montane, grassland, rocky areas, coastal forests.	Vulnerable	
Reddish-grey musk shrew (<i>Crocidura cyanea</i>)	Dry terrain: Among rocks, in dense scrub and grass. Grassland and thick shrub bordering streams. Wet vleis with good grass cover.	Data deficient	
Greater red musk shrew (<i>Crocidura flavescens</i>)	Broken country with a dense cover of vegetation, areas of decaying leaf litter in damp places, thick undergrowth in vleis or along the banks of streams.	Least concern. Population trend: Unknown	
Lesser grey-brown musk shrew (<i>Crocidura silacea</i>)	Catholic in habitat requirements; damp places.	Data deficient	
Lesser red musk shrew (<i>Crocidura hirta</i>)	In damp situations along rivers and streams. Low bushes, dense undergrowth, piles of debris and fallen logs.	Data deficient	
Family: Chrysochloridae			
Rough-haired golden mole (<i>Chrysothalax villosus</i>)	Sandy soils in grasslands, meadows and along edges of marshes in savanna and grassland biomes of South Africa. Grassland, dry ground on the fringes of marshes or damp vleis. Excavate burrows; loose piles of soil. Recorded from gardens and parklands, also found in dense stands of kikuyu grass (<i>Pennisetum clandestinum</i>) adjoining natural grasslands.	IUCN (2014): Vulnerable; SA Red Data (Child 2016): Vulnerable. NEMBA TOPS (2007): Critically endangered. Endemic. Population trend: Unknown.	
Hottentot's golden mole (<i>Amblysomus hottentotus</i>)	Grassland, soft ground. Sandy soils or sandy loam, live in burrows.	Endemic. Least concern.	
Family: Pteropodidae			
Wahlberg's epauletted fruit bat (<i>Epomophorus wahlbergi</i>)	Tropical forests, penetrate up river valleys carrying evergreen riverine forests, mangrove forests, may be largely absent from densely forested areas; woodlands penetrating the rainforest zone, forests and forest edges in dryer savanna areas, deciduous woodland, woodland savannas (both wetter and drier miombo woodland as well as mopane woodland), thickets where there are fruit-bearing trees.	IUCN (2015): Least concern. SA Red Data (2004): Least concern. The species is common over the entire range and population numbers are increasing.	
Peters's epauletted fruit bat (<i>Epomophorus crypturus</i>)	Evergreen forests in higher rainfall areas; evergreen riverine forests and forest edges in dryer savanna areas or in moist woodland where there are fruit-bearing trees. Populations exhibit considerable movements in search of food, and may come into towns and feed on crops and fruit trees. Travel several kilometres each night to reach fruiting trees. Not found in dryer adjacent areas. Colonies often roost during day in thick foliage of dense under the canopy in large evergreen trees. Prefer drier conditions than <i>E. wahlbergi</i> .	IUCN (2015): Least concern. SA Red Data (2004): Data deficient. W	
Family: Hipposideridae			
Sundevall's leaf-nosed bat (<i>Hipposideros caffer</i>)	Savanna woodland: Wide range of caves, sink holes and subterranean habitats (cavities); anthropogenic roosts: mines and culverts. Colonies - dozen to hundreds. Riparian locations. Forage in and around thickets and well-developed undergrowth vegetation, avoiding open areas. Fly slowly through cluttered environment.	IUCN (2008): Least concern. SA Red Data (2016): Least concern.	
Family: Rhinolophidae			
Hildebrandt's horseshoe bat (<i>Rhinolophus hildebrandti</i>)	Savanna woodland; roost in caves, mines, disused buildings, cavities in rocks or large hollow trees	IUCN (2008): Least concern. SA Red Data (2004): Near-threatened.	
Darling's horseshoe bat (<i>Rhinolophus darlingi</i>)	Woodland savanna: Caves, and amongst piles of loose boulders. It roosts in caves and subterranean habitats (mine adits) in medium-sized colonies. Also roosts in mine adits, medium-sized colonies, culverts.	IUCN (2008): Least concern. SA Red Data (2004): Near-threatened. Population trend: Unknown.	

Geoffroy's horseshoe bat (<i>Rhinolophus clivosus</i>)	Savanna woodland: Forest fringes. Mountainous areas: Caves, rock crevices. Riparian forests and savanna woodlands. Temperate species. Riverine conditions and with well-watered terrain. Cave dweller. It roosts in caves and subterranean habitats (mine adits) in large colonies.	IUCN (2008): Least concern. SA Red Data (2004): Near-threatened. Population trend: Unknown.	
Bushveld horseshoe bat (<i>Rhinolophus simulator</i>)	Savanna woodland; riparian forest and along wooded drainage lines. Dependent on substantial shelter in form of caves, small caverns in rocky outcrops, road culverts and mine adits. Roost in large groups.	IUCN (2008): Least concern. SA Red Data (2004): Least concern.	
Family: Nycteridae			
Egyptian slit-faced bat (<i>Nycteris thebaica</i>)	Open savannah woodland; karoo; avoids open grassland (plateau grasslands). Roosts during day: caves, hollow large trees or holes in the ground. Caves (not deep) and subterranean habitats (aardvark burrows); temperate savanna and shrubland. Man-made structures: culverts under roads. Forages low above ground - susceptible to predation by owls, thus need tree cover.	IUCN (2008): Least concern. SA Red Data (2004): Least concern.	
Family: Molossidae			
Little free-tailed bat (<i>Chaerephon pumilus</i>)	Wide range of habitats. Lowveld and coastal areas, rarely above 1000m. Savanna, mountainous and arid areas. Rocky environment with an abundance of crevices. Narrow cracks in rocks and trees. Roosts: Crevices in trees, rocks or roofs. Gregarious.	IUCN (2014): Least concern. SA Red Data (2004): Least concern.	
Egyptian free-tailed bat (<i>Tadarida aegyptiaca</i>)	Open grassland: Roosts during day in rock crevices, exfoliating rocks, caves, hollow trees, behind loose bark of trees. Fly well above the canopy of the vegetation. Vegetation no influence, but avoid forests. Desert, semi-arid scrub, savanna, grassland and agricultural land. Areas with permanent water bodies. Roosting in buildings, roofs of houses.	IUCN (2008): Least concern. SA Red Data (2004): Least concern.	
Family: Vespertilionidae			
Natal long-fingered bat (<i>Miniopterus natalensis</i>)	Temperate of sub-tropical. Savannas and grassland. Cave dependent - winter hibernacula (at cooler and at higher altitudes) and summer maternity roosts. Availability of suitable roosting sites may be more critical than surrounding vegetation. Breeding strongly seasonal and varies in latitude. Females migrate between caves up to 150 km, congregate at maternity roosts.	IUCN (2016): Least concern. SA Red Data (2016): Least concern.	
Lesser long-fingered bat (<i>Miniopterus fraterculus</i>)	Temperate species. Montane grassland of escarpment. Cave dweller: Caves and subterranean habitats. Wide range of vegetational association.	IUCN (2008): Least concern. SA Red Data (2004): Near-threatened.	
Welwitsch's myotis (<i>Myotis welwitschii</i>)	Savanna woodland; Mountains covered with woodland or woodland forest, sparsely distributed. Furred banana leaves hanging in bushes.	IUCN (2008): Least concern. SA Red Data (2004): Near-threatened.	
Temminck's myotis (<i>Myotis tricolor</i>)	Savannah woodland, dry and moist savanna; mountainous areas: Gregariously cave dweller-availability govern distribution. Mediterranean-type shrubby vegetation. Possible also in tropical moist forest. The species roosts in caves and abandoned mines. It appears to prefer larger caves that are relatively undisturbed, usually ones that contain large pools of water.	IUCN (2008): Least concern. SA Red Data (2004): Near-threatened. This is a common species with colonies often consisting of thousands of animals.	
Kuhl's bat (<i>Pipistrellus kuhlii</i>) = Dusky pipistrelle (<i>Pipistrellus hesperidus</i>)	Diverse habitats: well-watered terrain. Streams and rivers. Vertical narrow cracks in rocks.	IUCN (2016): Least concern. SA Red Data (2004): Least concern.	

Yellow-bellied house bat (<i>Scotophilus dinganii</i>)	Savanna woodland & mixed bushland; coastal forests; lower altitudes: Narrow crevices, holes and in hollow trees. Tied to presence of trees. Avoid open habitat - grassland and karoo scrub.	IUCN (2008): Least concern. SA Red Data (2004): Least concern. There appear to be no major threats to this species.	
Green house bat (<i>Scotophilus viridis</i>)	Low-lying, hot savannas and woodland; bushveld habitats; both dry and moist wooded savanna habitats. Avoid open habitats (grassland - lack of roost sites). Riverine conditions - tall riparian woodland. Various shelters - holes in trees, small colonies in hollow trees, roofs of houses.	IUCN (2008): Least concern. SA Red Data (2004): Not evaluated. There appear to be no major threats to this species.	
Cape serotine (<i>Neoromicia capensis</i>)	Very broad habitat tolerance, from forest to desert. Abundant in low-lying hot savannas; from arid semi-desert to montane grasslands, forests: Under bark of trees, base of aloe leaves. Crevices in rocks. Suburban situations - under roofs of houses.	IUCN (2014): Least concern. SA Red Data (2004): Least concern.	
Banana bat (<i>Neoromicia nana</i>)	Forest and woodland savanna; well-wooded habitats - riparian vegetation; forest patches in proximity of water: Near bananas or Strelitzia trees, rolled-up terminal leaves of banana plants; Also other leaves.	IUCN (2014): Least concern. SA Red Data (2004): Least concern.	
Family: Lorisidae			
Thick-tailed bush baby (<i>Otolemur crassicaudatus</i>)	Forests, thickets and well developed woodland. Penetrate into dry terrain in riverine forests and woodland. During the day - in the thick foliage of trees.	Least concern	
Southern lesser bushbaby (<i>Galago moholi</i>)	Woodland: Nocturnal; arboreal – holes in trees, thick foliage, disused bird nests. Degraded open forest	Least concern	
Family: Cercopithecidae			
Chacma baboon (<i>Papio ursinus</i>)	Widespread, diurnal: At night - Cliffs & high trees	Least concern	6
Samango monkey (<i>Cercopithecus mitis labiatus</i>)	Open forest	IUCN (2014) Vulnerable; SA Red Data (Child 2016): Vulnerable; NEMBA (TOPS 2015): Vulnerable species.	
Vervet monkey (<i>Cercopithecus aethiops</i>)	Woodland, diurnal: At night – Heavy foliage in high trees, rocky cliffs	Least concern	8
Family: Protelidae			
Aardwolf (<i>Proteles cristatus</i>)	Savannah woodland and in scrub, grassland. Open country, nocturnal, and solitary. Rests in hole in ground. Independent on water. Dependant on availability of termites.	Least concern	
Family: Hyaenidae			
Brown hyaena (<i>Parahyaena brunnea</i>)	Semi-desert, open scrub and open woodland savanna. Nocturnal, holes in ground.	IUCN 2015: Near threatened; SA Red Data (Child 2016): Near threatened; NEMBA (TOPS 2007): Protected species. Population trend: Decreasing.	
Family: Felidae			

Leopard (<i>Panthera pardus</i>)	Widespread. Broken country or forests. Nocturnal & solitary.	IUCN (2016): Vulnerable. SA Red Data (Child 2016) Vulnerable. NEMBA (TOPS 2015): Protected species. Population trend: Decreasing.	P
Caracal (<i>Felis caracal</i>)	Widespread – open scrub & woodland, open vleis and open grassland. Nocturnal & solitary. Litters born in holes in ground.	Least concern	
African wild cat (<i>Felis silvestris cafra</i>)	Widespread – Wide habitat tolerance. Rocky hillsides, underbush, reedbeds, stands of tall grass. Litters born dense underbrush or other substantial cover.	Least concern	
Serval (<i>Leptailurus serval</i>)	Proximity to water essential requirement, coupled with availability of adequate cover; tall grass, underbrush or reed beds - during day. Wet grassland, vleis and reed beds.	IUCN (2016) Least concern. SA Red Data (Child 2016): Near threatened; NEMBA (TOPS 2015): Protected species. Population trend: Stable.	
Family: Canidae			
Black-backed jackal (<i>Canis mesomelas</i>)	Widespread. Wide habitat tolerance. Open terrain. Litters born in holes in ground.	Least concern	P
Family: Mustelidae			
Cape clawless otter (<i>Aonyx capensis</i>)	Predominantly aquatic; freshwater an essential requirement: Rivers, lakes, swamps and dams. Widespread. Tributaries of rivers into small streams - habitat with food. Litters born in holes in banks of rivers. Estuarine and sea water.	IUCN (2016): NT Near-threatened; SA Red Data (Child 2016): Near-threatened; NEMBA (TOPS 2007): Protected species; Population trend: Stable.	
Spotted-necked otter (<i>Hydrictis maculicollis</i>)	Aquatic, confined to larger rivers, lakes, swamps and dams with extensive areas of open water. Stay close to water edge. Lie up in holes of river banks, in rock crevices or in dense reed.	IUCN (2016): NT Near-threatened; SA Red Data (Child 2016): Vulnerable; NEMBA (TOPS 2007): Protected species; Population trend: Decreasing.	
African striped weasel (<i>Poecilogale albinucha</i>)	Savannah: Moist grassland. Litters born in burrows.	SA Red Data 2016: Near threatened; NEMBA (TOPS) 2016: None. IUCN, 2016: Least concern.	
Striped polecat (<i>Ictonyx striatus</i>)	Widespread. Wide habitat tolerance. Scrub cover, open grassland, and savannah woodland. Holes in the ground.	Least concern	
Honey badger (<i>Mellivora capensis</i>)	Widespread. Not in desert. Use crevices in rocky areas, will also dig refuges. Rocky koppies, scrub sandveld, open grassland, open woodland, riverine woodland and floodplain grassland.	NEMBA (TOPS) 2007: Protected species. IUCN (2014) Least concern. SA Red Data (Child 2016): Least concern. Population trend: Decreasing.	

Family: Viverridae			
Small-spotted genet (<i>Genetta genetta</i>)	Widespread. Open arid: Woodland, open scrub and dry grassland or dry vlei areas. Trees. Nocturnal – nests in holes in the ground or in hollow trees.	Least concern	
Large-spotted genet (<i>Genetta tigrina</i>)	Better watered parts: Woodland, open scrub and dry grassland or dry vlei areas. Trees. Nocturnal – nests in holes in the ground or in hollow trees.	Least concern	
African civet (<i>Civettictis civetta</i>)	Widely distributed – forest and woodland where water is available. Nocturnal & solitary. Litters born in holes or dense underbrush.	Least concern	
Slender mongoose (<i>Galerella sanguinea</i>)	Widespread. Open areas. Underbrush or holes in the ground, holes in termitaria.	Least concern	
White-tailed mongoose (<i>Ichneumia albicauda</i>)	Savannah woodland: Well watered areas. Not in desert, semi-desert or forest.	Least concern	
Water mongoose (<i>Atilax paludinosus</i>)	Well-watered terrain: Rivers, streams, marshes, swamps, wet vleis, dams and tidal estuaries - adequate cover of reed beds or dense stands of semi-aquatic grasses. Coastally in mangrove swamps in brackish water.	Least concern	
Banded mongoose (<i>Mungos mungo</i>)	Wide habitat tolerance. Essential habitat requirement: woodland, underbush, substrate detritus such as fallen logs and other vegetable debris. Acacia woodland.	Least concern	
Dwarf mongoose (<i>Helogale parvula</i>)	Widespread. Dry open woodland and on grassland where there is substrate litter and termitaria. Lives in permanent holes – termitaria, burrows deeply.	Least concern	
Family: Orycteropodidae			
Aardvark (<i>Orycteropus afer</i>)	Widespread. Wide habitat tolerance. Open woodland, scrub and grassland. Nocturnal. Lives in extensive burrows.	IUCN (2014) Least concern; SA Red List 2016: Least concern; NEMBA (TOPS 2015): None.	
Family: Procaviidae			
Yellow-spotted dassie (<i>Dendrohyrax brucei</i>)	Rocky hills and krantzes or among piles of boulders.		
Rock dassie (<i>Procavia capensis</i>)	Widespread where there is rocky habitat. Outcrops of rock – rocky crevices. Krantzes, rocky koppies, hillsides, piles of loose boulders – accompanied with bushes and trees to provide browse. Crannies and crevices provide shelter. Granite formations with piles of huge boulders, from which overlying soil has been washed away. Sandstone krantzes with loose, rocky, overhanging slabs. Erosion gulleys.	Least concern	
Family: Suidae			
Bushpig (<i>Potamochoerus larvatus</i>)	Forests, thickets, riparian underbrush, reed beds or stands of tall grass where there is water. Nests of grass in secluded places. Linear forest (DRC).	Least concern	P
Warthog (<i>Phacochoerus africanus</i>)	Open areas of grassland, floodplain, vleis and around waterholes and pans. Deserted antbear holes. Linear forest.	Least concern	
Family: Bovidae			

Blue wildebeest (<i>Connochaetes taurinus</i>)	Open short grass plains or lightly wooded open savanna habitats.	IUCN (2014) Least concern; SA Red List 2016: Least concern; NEMBA (TOPS 2007): None.	
Black wildebeest (<i>Connochaetes gnou</i>)	Open plains: grassveld and highveld.	NEMBA (TOPS 2015): Protected species. IUCN (2014): Least concern; SA Red List 2016: Least concern.	
Red hartebeest (<i>Alcelaphus caama</i>)	Open grassland and arid scrub. Avoids woodland.	NEMBA (TOPS 2015): Protected species.	
Blesbok (<i>Damaliscus pygargus pygargus</i>)	Grasslands: Highveld grasslands where water is available.	IUCN (2014) Least concern; SA Red List 2016: Least concern; NEMBA (TOPS 2007): None.	
Cape common duiker (<i>Sylvicapra grimmia grimmia</i>)	Widespread. Presence of bush. Woodland with ample underbush, grassland of medium and tall grass. Rest in bushes or tall grass.	Least concern	
Oribi (<i>Ourebia ourebi</i>)	Open habitat. Open grassland, flood plain; sparse scattering of trees and bushes.	IUCN (2015): LC Least concern. SA Red Data (Child 2016): Endangered. TOPS NEMA: Endangered species. Population trend: Decreasing.	
Klipspringer (<i>Oreotragus oreotragus</i>)	Restricted to rocky areas. Mountainous areas with krantzes, rocky hills or outcrops, extensive areas of rocky koppies, gorges with rocky sides. Rocky shelter and steep rock faces. Boulder-strewn river beds.	Least concern	
Steenbok (<i>Raphicerus campestris</i>)	Widespread. Open country: Open grassland with stands of tall grass, scattered bushes or scrub and forbs. Avoid densely wooded areas.	Least concern	
Impala (<i>Aepyceros melampus</i>)	Woodland savanna: Widespread in light open woodland – surface water.	Least concern	
Kudu (<i>Tragelaphus strepsiceros</i>)	Widespread in savanna woodland. Areas of broken, rocky terrain with woodland cover & open water.	Least concern	
Nyala (<i>Tragelaphus angasii</i>)	Dry savanna woodland with mosaic of open ground, thickets and woodland.	Least concern	5
Bushbuck (<i>Tragelaphus scriptus</i>)	Riverine and thickets near water.	Least concern	
Eland (<i>Taurotragus oryx</i>)	Arid semi-desert areas as well as better-water environments, montane situations and in various types of woodland. Avoid forests and open grasslands	Least concern	
Grey rhebok (<i>Pelea capreolus</i>)	Rocky hills, rocky mountain slopes and mountain plateau with good grass cover.	Least concern	
Mountain reedbuck (<i>Redunca fulvorufula</i>)	Dry, grass-covered, stony slopes of hills and mountains; some form of trees and bushes	Least concern	
Waterbuck (<i>Kobus ellipsiprymnus</i>)	Savanna habitats with medium and tall grass in the close proximity of water.	Least concern	
Order: Manidae Family: Pholidota			

Temminck's ground Pangolin (<i>Smutsia temminckii</i>)	Wide habitat tolerance, absent from forests. Day – piles of leaves or other vegetable debris, holes in the ground	IUCN (2016) Vulnerable. SA Red Data (Child 2016): Vulnerable. NEMBA (TOPS 2015): Vulnerable species. Population trend: Decreasing.	
Order: Rodentia			
Family: Hystricidae			
Cape Porcupine (<i>Hystrix africaeaustralis</i>)	Widespread: All types of country apart from swampy areas, very moist forests and barren desert areas. Nocturnal. Shelter - resting in caves, rock cavities, holes in ground. Absent from forest. Use abandoned antbear and other types of holes in the ground or lie up under the roots of trees exposed by erosion.	Least concern	
Family: Scuridae			
Tree squirrel (<i>Paraxerus cepapi</i>)	Widespread in woodland: Savanna woodland including a wide variety of woodland types. Trees with suitable nest holes are favoured. Diurnal – resting in holes in trees.	Least concern	
Family: Thryomyidae			
Greater Canerat (<i>Thryonomys swinderianus</i>)	Forest belts and open woodland wherever there is tall and matted grass or reeds growing in damp or wet places. Reedbeds or areas of dense tall grass with thick reed or cane-like stems. In vicinity of rivers, lakes and swamps - never found far from water. Resting place densest part of reed bed. Cover - matted tussock grasses, holes in stream banks, under root systems of trees adjacent to grass and reeds. Use existing holes or simply use matted vegetation.	Least concern	P
Family: Bathyergidae			
Common Molerat (<i>Cryptomys hottentotus</i>)	Loose sandy soils to stony soils and hills to montane and escarpment conditions. Tendency to loose sandy soil - especially alluvial soils along major rivers and streams. Karroid veldtypes, coastal renosterbushveld, coastal forests, thornveld, mopaneveld, savanna and pure grassveld, as well as temperate and transitional forests, scrub and bushveld.	Least concern	
Family: Crictidae			
Bushveld gerbil (<i>Gerbilliscus leucogaster</i>)	Widespread – Survives regardless of vegetation type or degree of cover present, having been recorded in open grasslands, Acacia woodland or scrub, and mopane woodland. Commonly encountered on old cultivated lands. Occur on hard ground, but prefer light sandy soils or sandy alluvium. Nocturnal and terrestrial. Does not usually excavate its own burrows but uses holes in termitaria or under tree roots, however, can excavate burrows in sandy soils. These burrows are usually found at the base of small shrubs, but also in the open, and they have resting chambers floored with vegetable debris. A fresh ramp of sand is left at the entrances to the burrows in the morning, following night-time activity. Independent of water, but does not tolerate waterless conditions.	Data deficient	
Highveld Gerbil (<i>Gerbilliscus brantsii brantsii</i>)	Widespread – light sandy soils or sandy alluvium substrate with some scrub or grass cover. Peaty soils around marshes and pans. Prefer sandy soils, irrespective of the type of vegetation cover. Nocturnal – lives in burrows under low bushes	Least concern	
Angoni Vlei Rat (<i>Otomys angoniensis</i>)	Savanna woodlands and grasslands – in drier areas in wet vleis, swamps and swampy areas along rivers. Fringes of rivers with reed beds, sedges and semi-aquatic grasses. Nests in tussock grass near permanent water; above water level on raised ground.	Least concern	

Laminate Vlei Rat (<i>Otomys laminatus</i>)	Tied to moist habitats - grasslands in submontane and coastal areas.	SA Red Data (2016): Near threatened. Endemic.	
Family: Muridae			
Mesic four-striped mouse (<i>Rhabdomys dilectus</i>)	Widespread – grass cover: Diurnal – burrows under grass. Wide variety of habitat types (broad niche species). Prefers grassland, habitat includes bushy and semi-dry vlei country as well as dry riverbeds, high grassveld areas, the edges of forests and the bases of hills.	Least concern	
Water Rat (<i>Dasymys incomtus</i>)	Wet habitat: Streams, rivers, reed beds, swamps and is partially aquatic. Long grass close to water, semi-aquatic grasses, in swampy areas along rivers and streams, or in in grassy or bracken covered areas close to water. Between reeds and among rotting vegetation. Fringes of marshes and backwaters. Nest: Constructed in a depression on the sloping ground bordering the swampy edge of the river.	SA Red Data (Child 2016): Near threatened; IUCN (2016): Least concern. Population trend: Unknown.	
Pouched mouse (<i>Saccostomus campestris</i>)	Widespread and catholic, wide habitat tolerance: In burrows, sandy soil or sandy alluvium, open short grass fringes of pans, rocky koppies, fringes of lowland forests. Exclusively terrestrial, predominantly solitary and nocturnal.	Least concern	
Grey climbing mouse (<i>Dendromus melanotis</i>)	Grassland with high grass.		
Chestnut climbing mouse (<i>Dendromus mystacalis</i>)	Grassland with high grass.		
Brant's climbing mouse (<i>Dendromus mesomelas</i>)	Tall grass or rank vegetation near water.	Least concern	
Fat mouse (<i>Steatomys pratensis</i>)	Grassland and savannas over sandy soils or sandy alluvium. On sandy ground in scrub or in sandy alluvium on the fringes of swamps, streams and rivers. Open woodland and abandoned cultivated lands.	Least concern	
White-tailed mouse (<i>Mystromys albicaudatus</i>)	Highveld and montane grassland. Nocturnal – lives in burrows or cracks in the ground. Sandy soil with good cover.	IUCN (2008): EN Endangered; SA Red Data (Child 2016): Vulnerable. NEMBA (TOPS 2007): None. Population trend: Decreasing.	
Tete Veld Rat (<i>Aethomys ineptus</i>)	Check: Widespread – Grassland with open shrub association, open woodland, fringes of pans. Temperate grassland and savanna: Rocky crevices and piles of boulders. Sandy ground or sandy alluvium, or hard ground – holes or rock crevices and piles of boulders. Associated with cover: rocky crevices, piles of debris, clumps of grass or fallen trees. Dry Acacia scrub, as well as in the fringe vegetation of evergreen forests. Sheltering in burrows under bush on the plains. Lives in burrows with interconnecting runways; may frequent old termite mounds. High reproductive potential under favourable conditions. Not gregarious; shelters are used at most by a pair or a family party.	Least concern	
Bushveld Namaqua rockmouse (<i>Micaelamys namaquensis</i> subsp. <i>alborarius</i>)	Widespread – where there are rocky koppies, outcrops or boulder-strewn hillsides - preferred areas. Cracks and rock crevices of rocky koppies or outcrops (prefers crevices and does not burrow), or on piles of stones in the veld, low lying ridges and stony country and is often plentiful in old ruins. In the absence of outcrops, may nest in holes or forks in trees or under bushes. Piles plant debris over the entrances to its shelters. Calcareous outcrops. Nocturnal, terrestrial and communal.	Least concern	

Acacia rat (<i>Thallomys paedulcus</i>)	Acacia woodland: Living in crevices in the trunks, under loose strips of bark or in holes in the ground between the roots of the tree (Especially Acacia). Nocturnal.	Least concern	
Single-striped Mouse (<i>Lemniscomys rosalia</i>)	Savanna woodland to dry open scrub. Common factor: Grassland - excavates burrows under the cover of matted grass.	Data deficient	
Southern multimammate mouse (<i>Mastomys coucha</i>)	Wide habitat tolerance (pioneer species - drought, burn, ploughing), fond of grassland where there is some cover of low scrub. In dry watercourses or fringes of swamps. In riverine associations running westwards into arid country. Frequents the fringes of pans where there are calcareous outcrops nearby. Partial to sandy ground, overgrown with scrub and grass. Under fallen logs, crevices between rocks, cavities inside pile of stones or debris or even holes in termite mounds. Nocturnal.		
Pygmy Mouse (<i>Mus minutoides</i>)	In all types of vegetation. Wide variety of habitats. Nocturnal and terrestrial, not communal. Fairly damp country where there is high grass, bush or other cover. Makes its own burrows in soft ground. Normally finds shelter under piles of debris, fallen tree trunks/logs and similar type of cover, also boulders or holes in termite mounds.	Least concern	
Family: Gliridae			
Rock Dormouse (<i>Graphiurus platyops</i>)	Rocky terrain. A rock-frequenting dormouse. Near or on rocky outcrops. In association with dassies. Also dry scrub thickets or dry riverbeds, frequenting trees when no rocks available. Live in rock crevices, under exfoliation of granite bosses and in piles of boulders.	Data deficient	
Woodland Dormouse (<i>Graphiurus murinus</i>)	Widespread in woodland. Wooded areas. Large trees provide holes for shelter. Live in holes in trees or under loose bark.	Least concern	
Family: Leporidae			
African savanna hare (<i>Lepus victoriae</i>)	Savannah woodland and in scrub, tall grass. Absent from forest, desert and open grass. Open forest, savanna.	Least concern	
Hewitt's red rock rabbit (<i>Pronolagus saundersiae</i>)	Top of rocky outcrops	Least concern	
Natal red rock rabbit (<i>Pronolagus crassicaudatus</i>)	Rocky habitat: Rocky terrain or boulder-strewn areas – rest deep in rock crevices	Least concern	
Cape hare (<i>Lepus capensis</i>)	Grassland. Dry open country, open woodlands and especially round cultivated ground.	Least concern	
Family: Macroscelididae			
Rock elephant shrew (<i>Elephantulus myurus</i>)	Rocky areas: Rocky koppies or piles of boulders – sufficient holes crannies and crevices in rocks for shelter. Absent on granite domes. Needs broken and exfoliated granite. Prefer rocky habitat with overhanging ledges or vegetation. Cover from aerial predation. Keep to shady cover of overhanging rocks or bushes/trees.	Least concern	

