

64. Cape Vernal Pools (Azf 2)

Reference number	Azf 2
Listed under criteria	A1
Biome	Azonal
Province	Western Cape and Northern Cape
Municipalities	Hantam LM, Matzikama LM, Bergrivier LM and Saldanha Bay LM
Original area of ecosystem	20 ha
Remaining natural area of ecosystem (%)	32%
Proportion of ecosystem protected	0% of original area
Known number of species of special concern	6 Red Data plant species (EX, EW, CR, EN & VU excl VU D2) and 9 endemic plant species

Geographical location

Cape Peninsula, Cape Flats and West Coast (especially between Hopefield and Piketberg) as far north as the surrounds of Vanrhynsdorp and Nieuwoudtville. This azonal ecosystem is embedded within some shale renosterveld and sand fynbos ecosystems of the Fynbos Biome.

Description

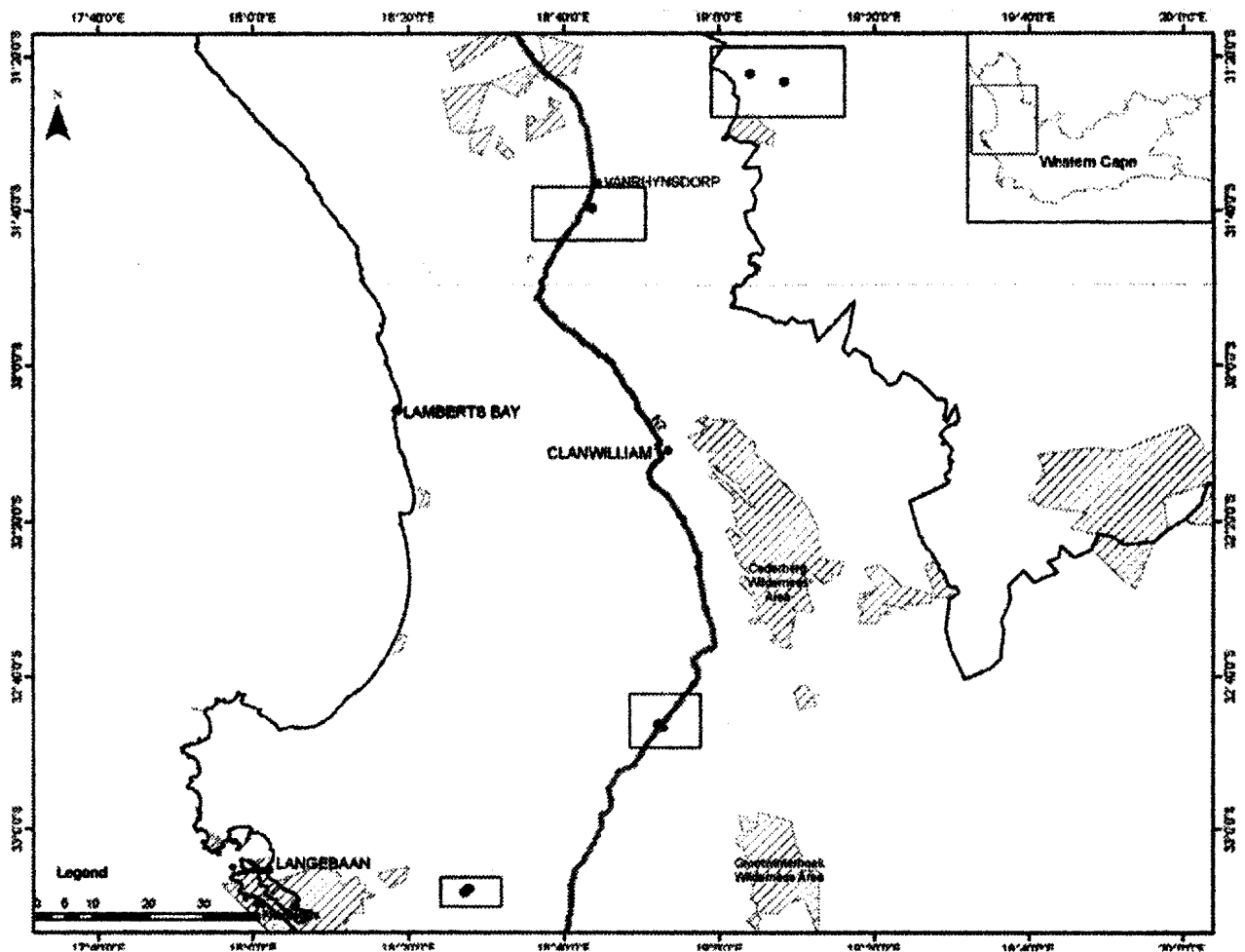
The vegetation is distinctly zoned, with fringing species that occupy waterlogged soils surrounding the pools plus specialised aquatics that are rooted in the mud but often have floating stems or leaves. The zone of fringing species which grow in water up to 2 cm deep, comprises a band up to 2 m wide of various small annuals, typically species of *Crassula* (e.g. *C. vaillantii* and *C. natans*) and of *Cotula* (e.g. *C. coronopifolia*) along with several small geophytes, such as species of *Trachyandra*. The small aquatic *Limosella* with floating leaves is also found in this zone. Later in the season as the margins dry out, larger bulbs such as *Ornithogalum thyrsooides* predominate. The specialised aquatics grow in waters deeper than 2 cm although seldom more than 10 cm and typically include a combination of one or two species with floating stems, such as *Oxalis natans*, *O. disticha* or *Cadiscus aquaticus* plus one or two geophytes, especially *Romulea aquatica*, *R. multisulcata*, *Onixotis stricta* and *Lachenalia bachmannii*. At least nine endemic plant species and six Red Data List plant species occur in the ecosystem.

Other Information

The ecosystem is not protected.

Reference

Mucina, L., Rutherford, M.C., Powrie, L.W., Gerber, J., Bezuidenhout, H., Sieben, E.J.J., Cilliers, S.S., Du Preez, P.J., Manning, J.C., Hoare, D.B., Boucher, C., Rebelo, A.G., Bredenkamp, G.J., Siebert, F. 2006. Inland Azonal Vegetation. In: L. Mucina & M.C. Rutherford (eds). *The Vegetation of South Africa, Lesotho and Swaziland*. *Strelitzia* 19: 631-632. South African National Biodiversity Institute, Pretoria.



Location of Cape Vernal Pools showing original area of ecosystem (area of ecosystem enlarged for visibility at this scale)

65. Chrissiesmeer Panveld (MP 3)

Reference number	MP 3
Listed under Criterion	F
Biome	Grassland and Wetland
Province	Mpumalanga
Municipalities	Albert Luthuli LM, Msukaligwa LM and Pixley Ka Seme LM
Original area of ecosystem	156 000 ha
Remaining natural area of ecosystem (%)	72%
Proportion of ecosystem protected	0% of original area
Known number of species of special concern	12 threatened or endemic plant and animal species including those listed below

Geographical location

Situated between the towns of Chrissiesmeer, Ermelo and Sheepmoor (2630AA, 2630AB, 2630AC, 2630AD and 2630CA). Ecosystem occurs along the highveld panlands and includes critical areas for protecting birds and grassland plant species. It incorporates the Chrissiesmeer lakes district area and important sub-catchments and is delineated by these important sub-catchments and the presence of lakes.

Description

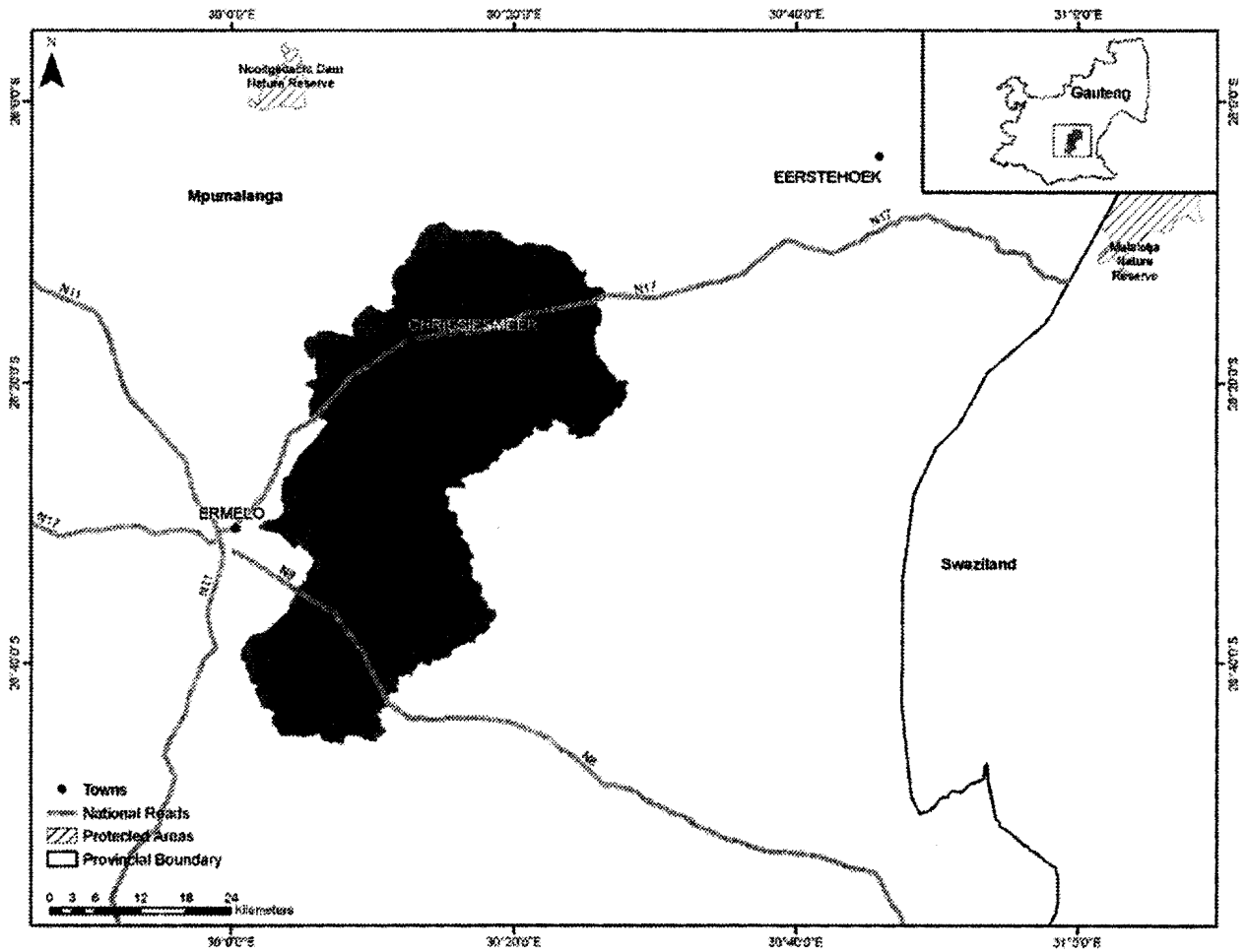
Key biodiversity features include three mammal species including Rough-haired Golden Mole, Cape Molerat and Oribi; seven bird species for example Blue Crane, Wattle Crane, Grey Crowned Crane, Rudd's Lark, Botha's Lark, Blue Korhaan and Yellowbreasted Pipit; two plant species, *Alepidea amatymbica* var. *amatymbica* and *Eucomis Montana*; and three vegetation types including Eastern Highveld Grassland, Eastern Temperate Freshwater Wetlands and Wakkerstroom Montane Grassland. The ecosystem includes important sub-catchments; provides an ecological corridor; and is important for grassland processes.

Other Information

The ecosystem is not protected.

Reference

Mpumalanga Tourism and Parks Agency & Department of Agriculture and Land Administration. 2007. Mpumalanga Biodiversity Conservation Handbook.



Location of Chrissiesmeer Panveld showing original area of ecosystem

66. Cumberland Crest (KZN 22)

Reference number	KZN 22
Listed under Criterion	F
Biome	Savanna
Province	KwaZulu-Natal
Municipality	uMshwathi LM
Original area of ecosystem	4 000 ha
Remaining natural area of ecosystem (%)	45%
Proportion of ecosystem protected	0% of original area
Known number of species of special concern	4 threatened or endemic plant and animal species including those listed below

Geographical location

New Hanover (2930BC). Ecosystem delineated by the Umgeni River in the west; Windy Hill Ridge in the south; and by contours defining the Nhlambamasoka River valley basin in the north and east.

Description

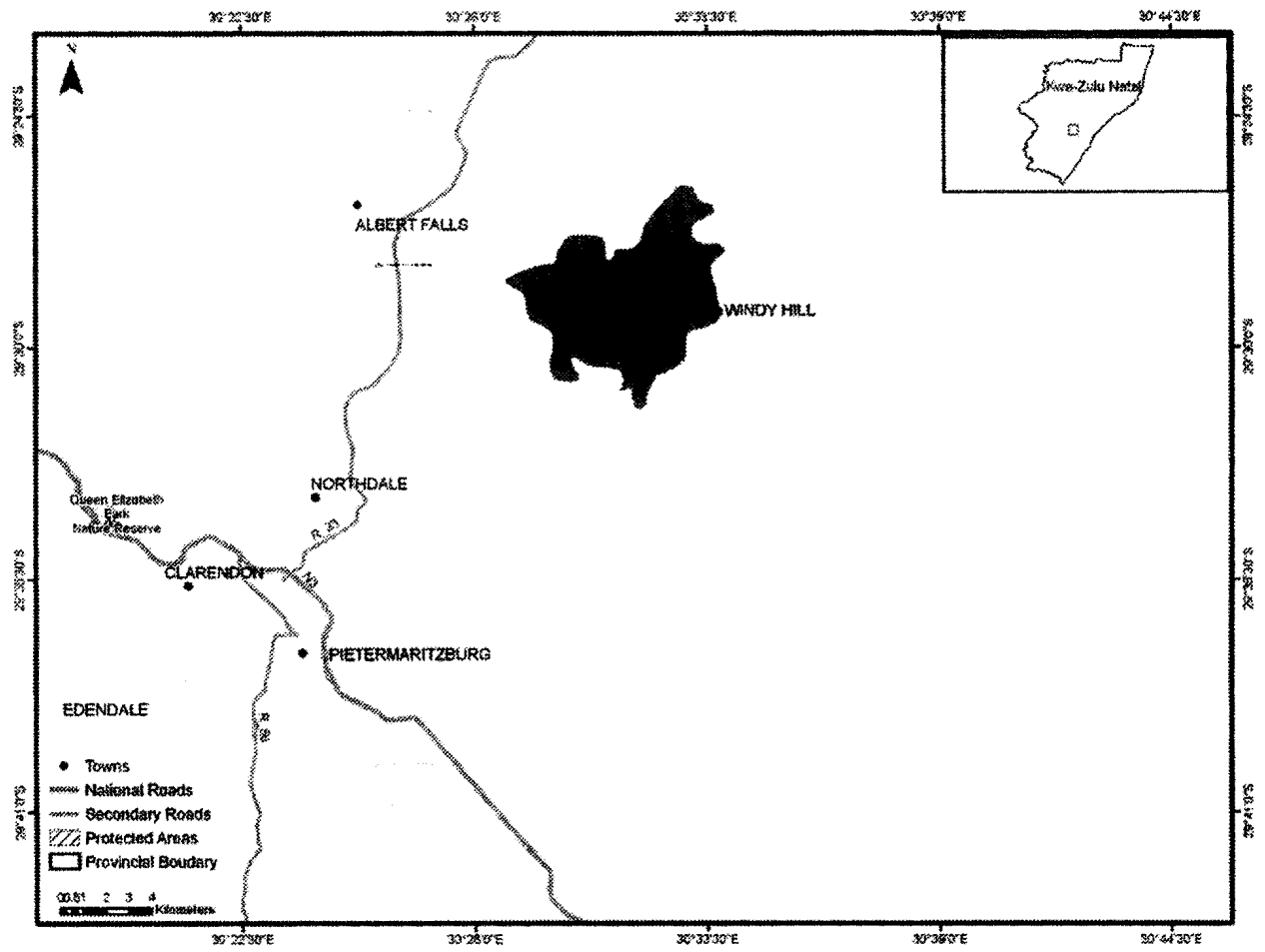
Key biodiversity features include one millipede species, *Doratogonus cristulatus*; three plant species including *Acalypha angustata*, *Helichrysum woodii* and *Senecio exuberans*; and three vegetation types including Ngongoni Veld, KwaZulu-Natal Hinterland Thornveld and KwaZulu-Natal Sandstone Sourveld.

Other information

The ecosystem is not protected.

Reference

Goodman, P.S. 2007. KwaZulu-Natal Terrestrial Conservation Plan (C-Plan), Version 4. Biodiversity Conservation Planning Division, Ezemvelo KZN Wildlife.



Location of Cumberland Crest showing original area of ecosystem

67. Deneysville Highveld Grassland (GP 13)

Reference number	GP 13
Listed under Criterion	F
Biome	Grassland and Savanna
Province	Gauteng
Municipality	Midvaal LM
Original area of ecosystem	10 000 ha
Remaining natural area of ecosystem (%)	88%
Proportion of ecosystem protected	0% of original area
Known number of species of special concern	9 threatened or endemic plant and animal species including those listed below

Geographical location

Gauteng south including Deneysville (2628CC). Ecosystem delineated by the Vaal Dam and associated terrestrial habitat.

Description

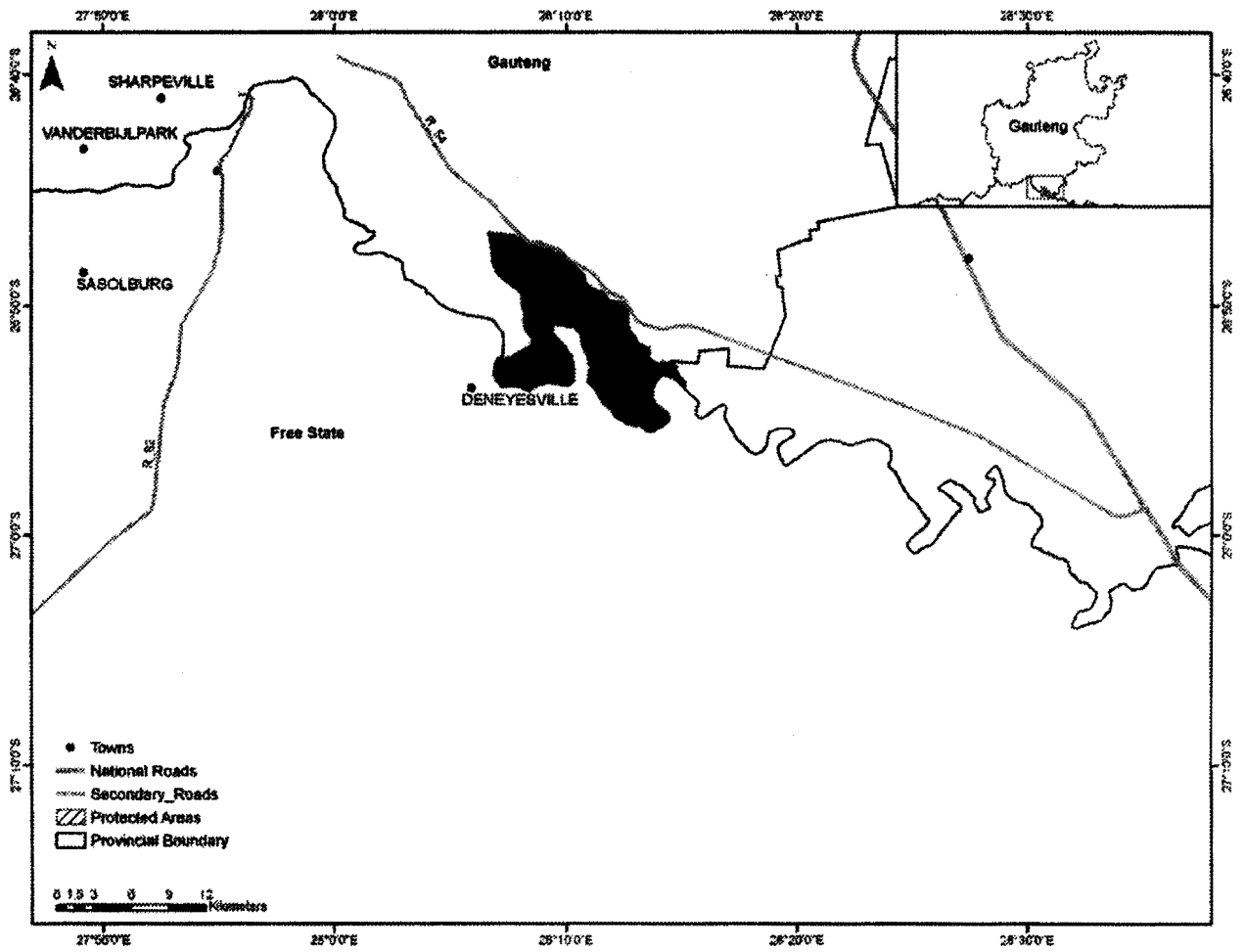
Key biodiversity features include Red or Orange Listed birds for example Lesser Kestrel, African Grass-Owl, Melodious Lark and Caspian Tern; Red or Orange Listed amphibians for example Giant Bullfrog; and four vegetation types including Andesite Mountain Bushveld, Frankfort Highveld Grassland, Soweto Highveld Grassland and Tsakane Clay Grassland. The Vaalrivier is a key feature of the ecosystem.

Other Information

The ecosystem is not protected.

Reference

Gauteng C-Plan Version 2. 2006. Gauteng Department of Agriculture, Conservation and Environment.



Location of Deneyeville Highveld Grassland showing original area of ecosystem

68. Dukuduku/St Lucia Grasslands and Forests (KZN 23)

Reference number	KZN 23
Listed under Criterion	F
Biome	Indian Ocean Coastal Belt and Forest
Province	KwaZulu-Natal
Municipalities	Mtubatuba LM and KZDMA2
Original area of ecosystem	12 000 ha
Remaining natural area of ecosystem (%)	52%
Proportion of ecosystem protected	64% of original area
Known number of species of special concern	3 threatened or endemic animal species including those listed below

Geographical location

St Lucia Estuary (2832AD). Ecosystem consists primarily of coastal forest and its associated grasslands. Ecosystem delineated by the Mfolosi River in the south and incorporates Dukuduku Forest and part of the isiMangaliso Wetland Park. Matubatuba lies on the south western boundary of the ecosystem.

Description

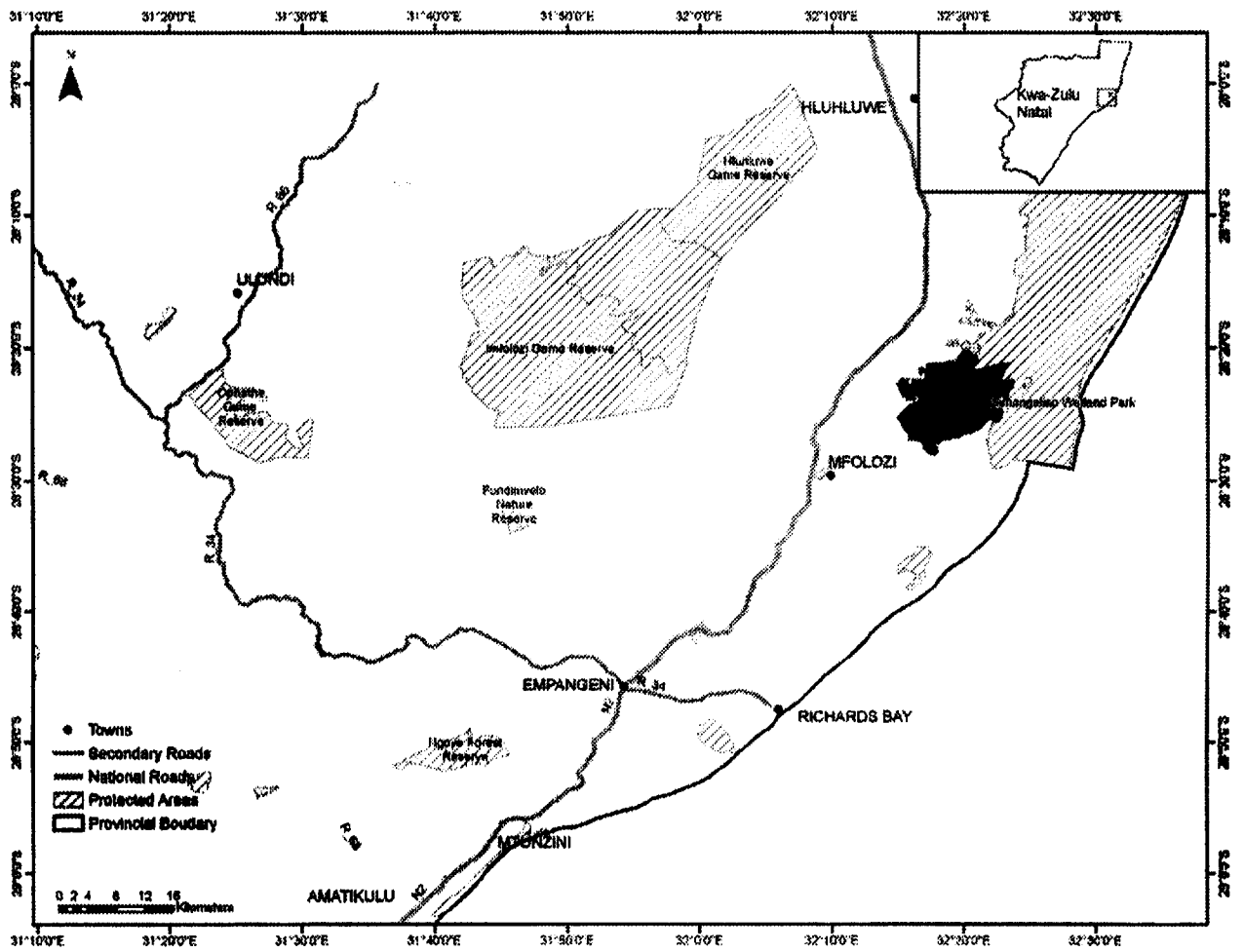
Key biodiversity features include two millipede species including *Centrobolus richardi* and *Centrobolus rugulosus*; one reptile species, *Lycophidion pygmaeum*; and three vegetation types including KwaZulu-Natal Coastal Forest, Maputaland Wooded Grassland and Maputaland Coastal Belt.

Other information

Approximately 64% of the ecosystem is protected in isiMangaliso Wetland Park.

Reference

Goodman, P.S. 2007. KwaZulu-Natal Terrestrial Conservation Plan (C-Plan), Version 4. Biodiversity Conservation Planning Division, Ezemvelo KZN Wildlife.



Location of Dukuduku/St Lucia Grasslands and Forest showing original area of ecosystem

69. Dullstroom Plateau Grasslands (MP 4)

Reference number	MP 4
Listed under Criterion	F
Biome	Grassland and Forest
Province	Mpumalanga
Municipalities	Highlands LM and Thaba Chweu LM
Original area of ecosystem	114 000 ha
Remaining natural area of ecosystem (%)	85%
Proportion of ecosystem protected	5% of original area
Known number of species of special concern	33 threatened or endemic plant and animal species including those listed below

Geographical location

Grassland plateau occurring between Die Berg in the north and Belfast in the south (2530AA, 2530AC, 2530AD, and 2530CA). Ecosystem delineated by breeding and feeding habitat for cranes and Rudd's Lark. Ecosystem redefined using geology and landtypes.

Description

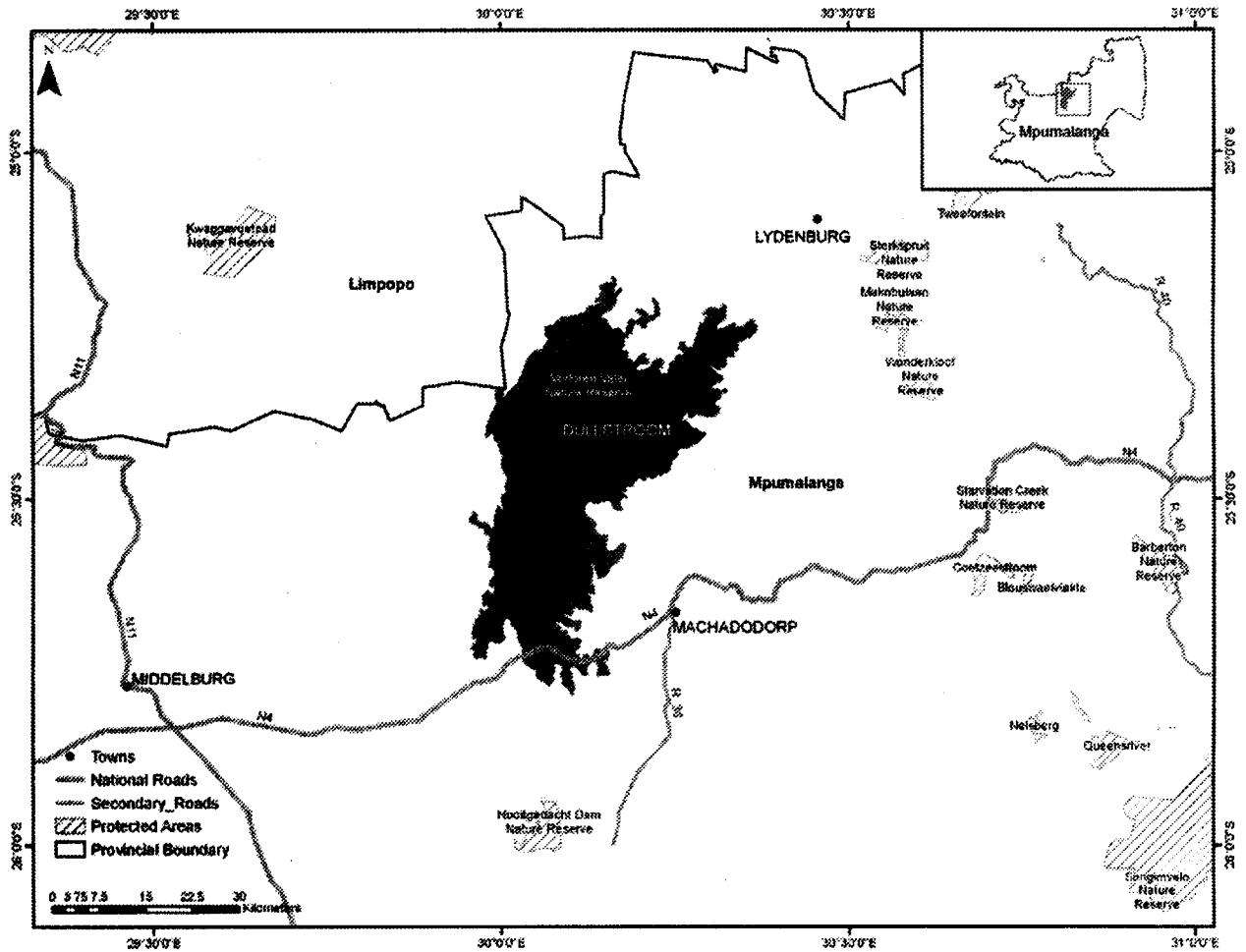
Key biodiversity features include five mammal species for example Robust Golden Mole, Rough-haired Golden Mole, Cape Molerat, Oribi and Welwitch's Hairy Bat; eight bird species including Blue Crane, Wattle Crane, Grey Crowned Crane, Blue Korhaan, Southern Bald Ibis, White-winged Flufftail, Yellowbreasted Pipit and Rudd's Lark; one amphibian, *Bufo gariensis nubicolus*; twenty plant species for example *Eucomis vandermerwei*, *Gladiolus cataractarum*, *Gladiolus malvinus*, *Nerine gracilis*, *Streptocarpus denticulatus* and *Watsonia occulta*; and two vegetation types including the Steenkampsberg Montane Grassland and Dry Afromontane Forest. The ecosystem forms part of the Lydenburg Centre of Plant Endemism; includes important sub-catchments; provides an escarpment corridor; contains important caves, pans and wetlands; and is important for grassland and forest processes.

Other Information

Approximately 5% of the ecosystem is protected in the Verloren Valei Nature Reserve.

Reference

Mpumalanga Tourism and Parks Agency & Department of Agriculture and Land Administration. 2007. Mpumalanga Biodiversity Conservation Handbook.



Location of Dullstroom Plateau Grasslands showing original area of ecosystem

70. Egoli Granite Grassland (Gm 10)

Reference number	Gm 10
Listed under Criterion	A1
Biome	Grassland
Province	Gauteng
Municipalities	Ekurhuleni MM, City of Johannesburg MM, City of Tshwane MM, Mogale City LM and West Rand LM
Original area of ecosystem	109 000 ha
Remaining natural area of ecosystem (%)	38%
Proportion of ecosystem protected	3% of original area
Known number of species of special concern	

Geographical location

Johannesburg Dome extending in the region between northern Johannesburg in the south, and from near Lanseria Airport and Centurion (south of Pretoria) to the north, westwards to about Muldersdrif and eastwards to Tembisa.

Description

Moderately undulating plains and low hills supporting tall, usually *Hyparrhenia hirta*-dominated grassland, with some woody species on rocky outcrops or rock sheets. The rocky habitats show a high diversity of woody species, which occur in the form of scattered shrub groups or solitary small trees.

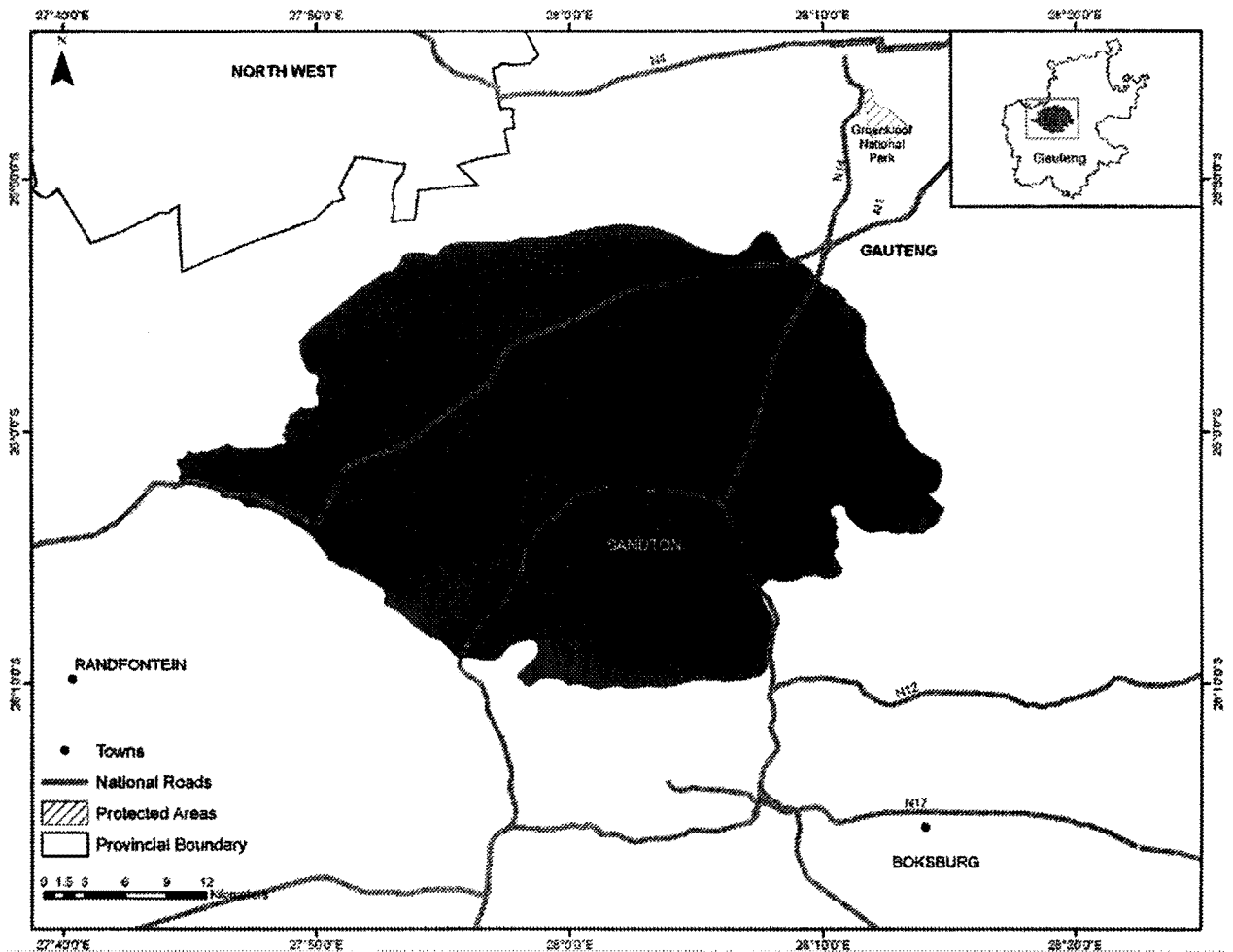
Other information

Approximately 3% of the ecosystem is protected in Diepsloot and Melville Koppies Nature Reserves.

Reference

Mucina, L., Hoare, D.B., Lotter, M.C., du Preez, P.J., Rutherford, M.C., Scott-Shaw, R., Bredenkamp, G.J., Powrie, L.W., Scott, L., Camp, K.G.T., Cilliers, S.S., Bezuidenhout, H., Mostert, T.H., Siebert, S.J., Winter, P.J.D., Burrows, J.E., Dobson, L., Ward, R.A., Stalmans, M.,

Oliver, E.G.H., Siebert, F., Schmidt, E., Kobisi, K., & Kose, L. 2006. Grassland Biome. In: L. Mucina & M.C. Rutherford (eds). *The Vegetation of South Africa, Lesotho and Swaziland. Strelitzia 19*: 398-399. South African National Biodiversity Institute, Pretoria.



Location of Egoli Granite Grassland showing original area of ecosystem

71. Fort Metcalf Grasslands (KZN 24)

Reference number	KZN 24
Listed under Criterion	F
Biome	Grassland
Province	KwaZulu-Natal
Municipality	Newcastle LM
Original area of ecosystem	200 ha
Remaining natural area of ecosystem (%)	80%
Proportion of ecosystem protected	0% of original area
Known number of species of special concern	4 threatened or endemic plant and animal species including those listed below

Geographical location

Newcastle (2729DD). Ecosystem delineated by the iNcibitwane River in the south and by district roads in the north and north east.

Description

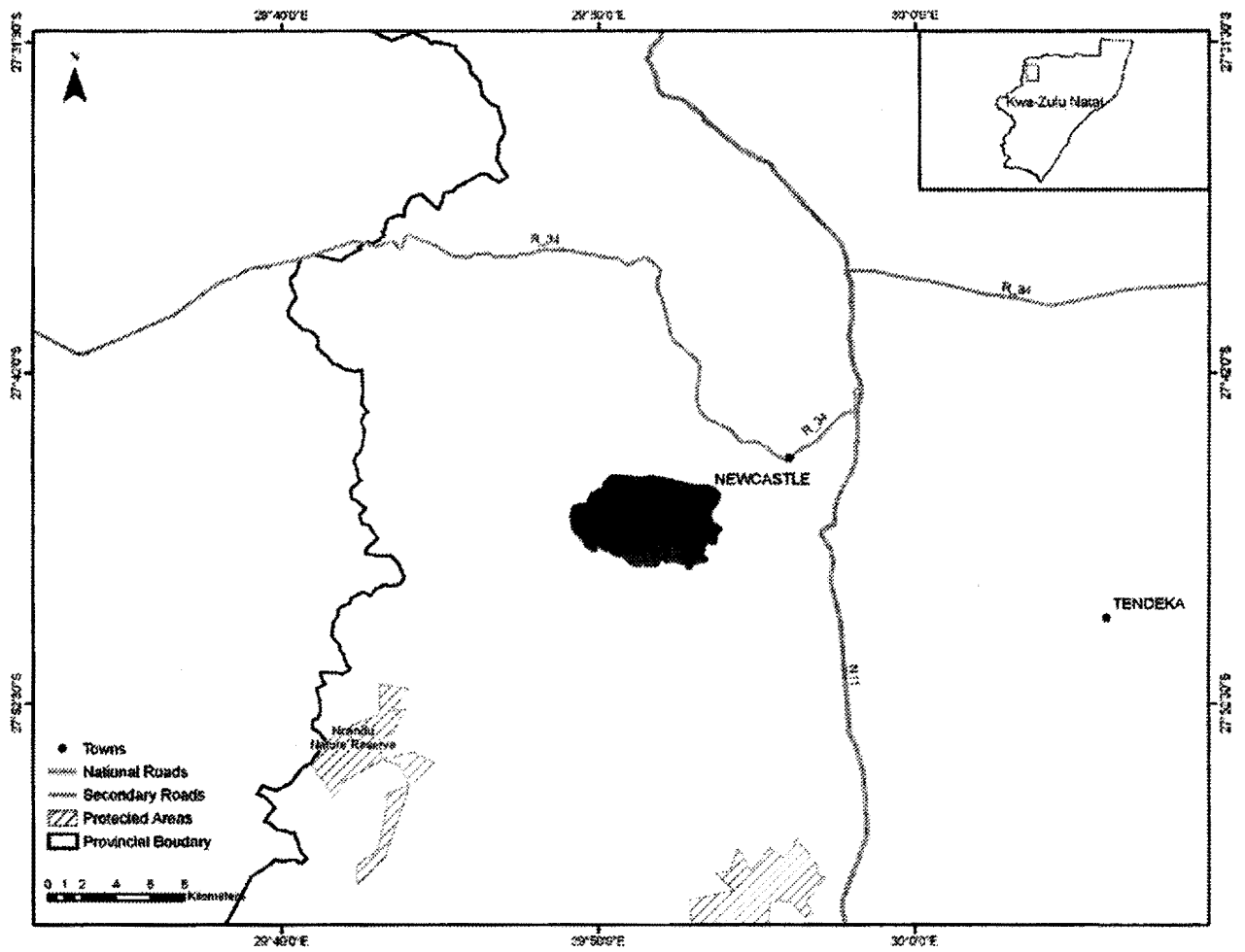
Key biodiversity features include one bird species, White-winged Flufftail; one mammal species, Oribi; two plant species *Kniphofia breviflora* and *Selago longicalyx*; and two vegetation types including Low Escarpment Moist Grassland and Northern KwaZulu-Natal Moist Grassland.

Other Information

The ecosystem is not protected.

Reference

Goodman, P.S. 2007. KwaZulu-Natal Terrestrial Conservation Plan (C-Plan), Version 4. Biodiversity Conservation Planning Division, Ezemvelo KZN Wildlife.



Location of Fort Metcalf Grasslands showing original area of ecosystem

72. Garden Route Granite Fynbos (FFg 5)

Reference number	FFg 5
Listed under Criterion	A1
Biome	Fynbos
Province	Western Cape
Municipalities	Mossel Bay LM, George LM and Knysna LM
Original area of ecosystem	43 000 ha
Remaining natural area of ecosystem (%)	30%
Proportion of ecosystem protected	1% of original area
Known number of species of special concern	4 Red Data plant species (EX, EW, CR, EN & VU excl VU D2)

Geographical location

Garden Route in three main blocks south of the Outeniqua Mountains on the coastal plain from Botterberg west of Brandwaghoogte (south of Robinson Pass) to Groot Brak River; the largest block from Groot Brak River to Woodfield near the Wilderness (with a few strips along the coast from Bothastrand to the Wilderness); lastly, north of the lakes from Woodville to Hoogekraal Pass, west of Karatara.

Description

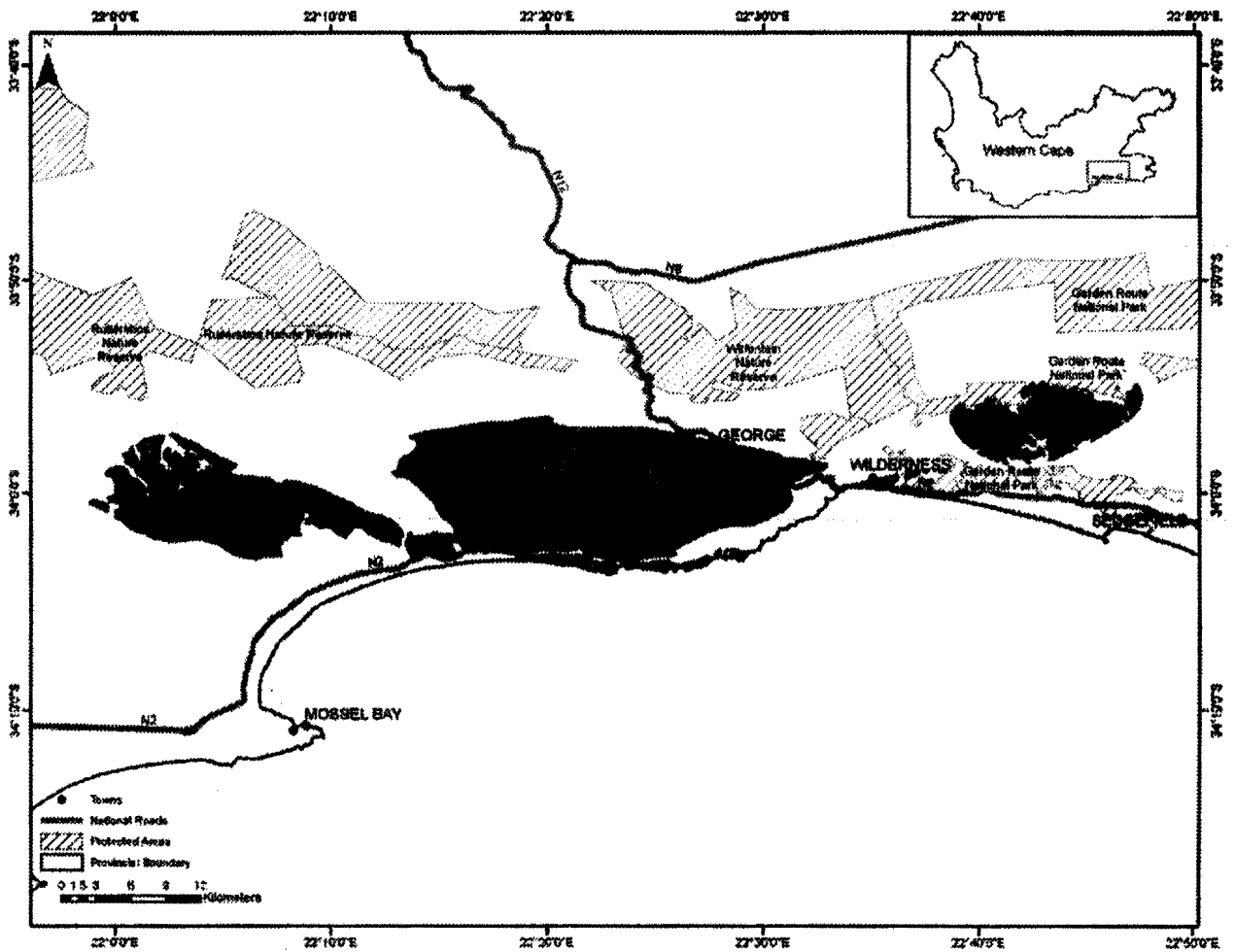
Moderately undulating plains and undulating hills on the coastal forelands. Dense proteoid and ericoid shrubby grassland. Proteoid and graminoid fynbos are dominant with ericaceous fynbos in seeps. In the west, most remnants of this ecosystem are dominated by proteas. Eastwards graminoid and ericaceous fynbos are dominant on the flat plateaus, with proteas confined to the steep slopes. At least four Red Data List plant species occur in the ecosystem.

Other information

Approximately 1% is protected in the Garden Route National Park.

Reference

Rebello, A.G., Boucher, C., Helme, N., Mucina, L., & Rutherford, M.C. *et al.* 2006. Fynbos Biome. In: L. Mucina & M.C. Rutherford (eds). *The Vegetation of South Africa, Lesotho and Swaziland. Strelitzia 19*: 170. South African National Biodiversity Institute, Pretoria.



Location of Garden Route Granite Fynbos showing original area of ecosystem

73. Gqunu Forest (KZN 25)

Reference number	KZN 25
Listed under Criterion	F
Biome	Grassland and Forest
Province	KwaZulu-Natal
Municipalities	Ingwe LM and Ubuhlebezwe LM
Original area of ecosystem	600 ha
Remaining natural area of ecosystem (%)	78%
Proportion of ecosystem protected	0% of original area
Known number of species of special concern	8 threatened or endemic animal species including those listed below

Geographical location

Byrne (2930CC) and Ixopo (3030AA). Ecosystem delineated by the forest boundaries.

Description

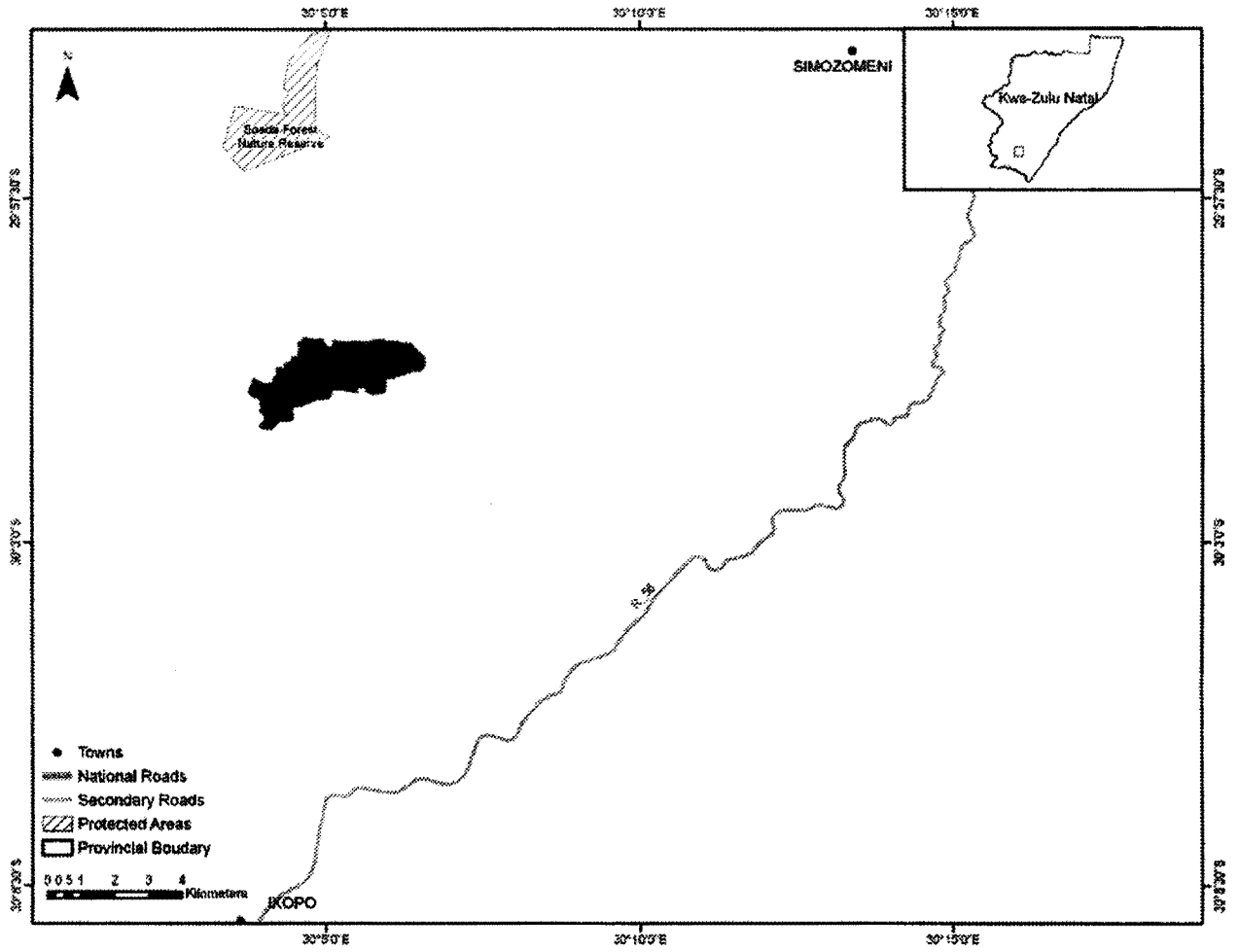
Key biodiversity include seven millipede species including *Centrobolus decoratus*, *Centrobolus lawrencei*, *Doratogonus avius*, *Doratogonus hoffmani*, *Doratogonus montanus*, *Doratogonus natalensis* and *Centrobolus rubricollis*; one amphibian species, *Arthroleptella ngongoniensis*; and two vegetation types including the Midlands Mistbelt Grassland and Eastern Mistbelt Forest.

Other information

The ecosystem is not protected.

Reference

Goodman, P.S. 2007. KwaZulu-Natal Terrestrial Conservation Plan (C-Plan), Version 4. Biodiversity Conservation Planning Division, Ezemvelo KZN Wildlife.



Location of Gqunu Forest showing original area of ecosystem

74. Greyton Shale Fynbos (Ffh 7)

Reference number	FFh 7
Listed under Criterion	A1
Biome	Fynbos
Province	Western Cape
Municipalities	Theewaterskloof LM and Swellendam LM
Original area of ecosystem	27 000 ha
Remaining natural area of ecosystem (%)	57%
Proportion of ecosystem protected	1% of original area
Known number of species of special concern	25 Red Data plant species (EX, EW, CR, EN & VU excl VU D2) and 6 endemic plant species

Geographical location

South of Riviersonderend and Caledon Swartberg Mountains on higher-altitude shales from Theewaterskloof Dam to Stormsvlei, including the Bergfontein and Spitskop hills north of Caledon.

Description

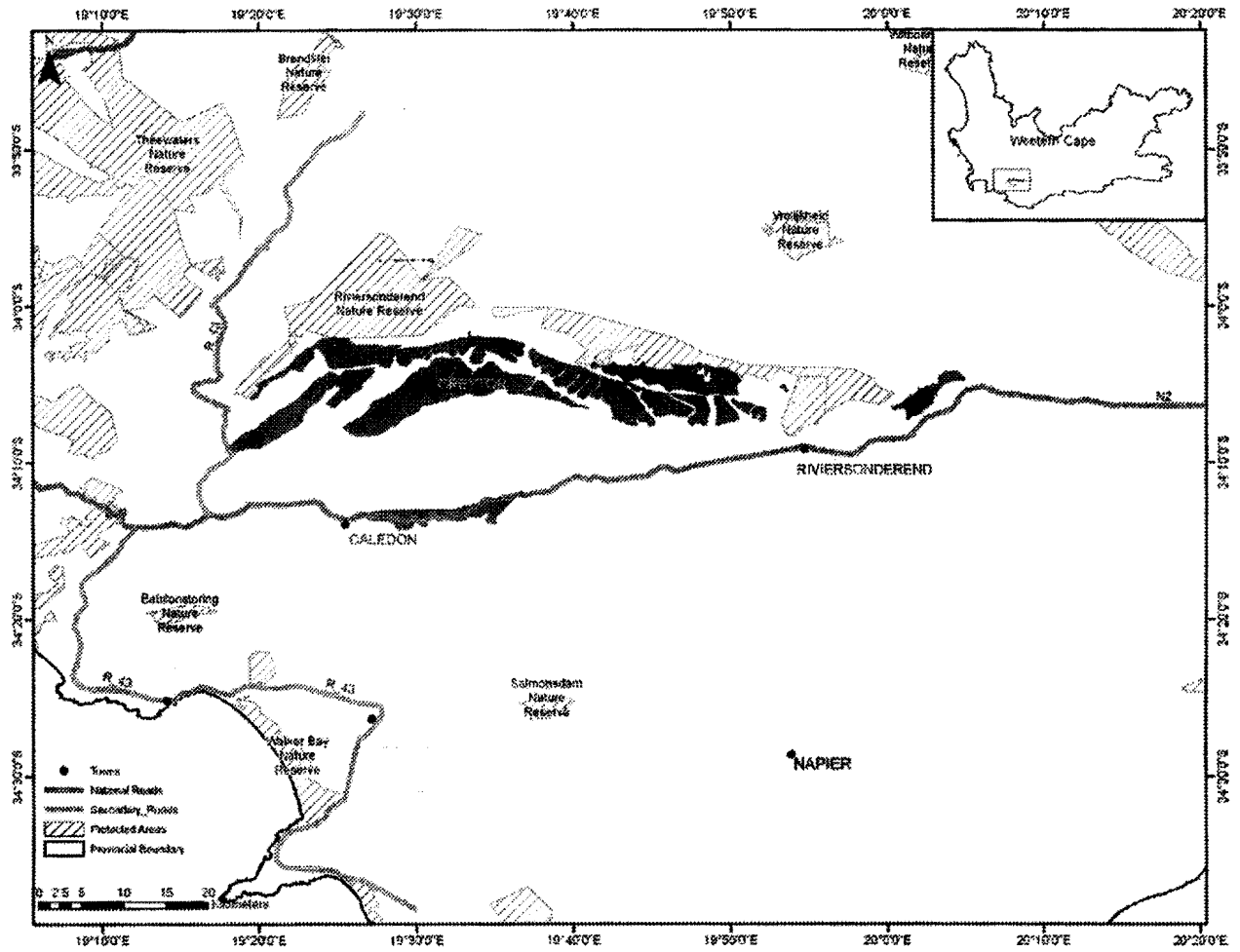
Moderately undulating plains and steep slopes of adjacent mountains. The vegetation is a moderately tall and dense shrubland, predominantly proteoid and asteraceous fynbos, with some graminoid fynbos. At least six endemic plant species and 25 Red Data List plant species occur in the ecosystem.

Other information

Approximately 1% of the ecosystem is protected in the Riviersonderend Nature Reserve with an additional 6% found in a private conservation area of the same name.

Reference

Rebello, A.G., Boucher, C., Helme, N., Mucina, L., & Rutherford, M.C. *et al.* 2006. Fynbos Biome. In: L. Mucina & M.C. Rutherford (eds). *The Vegetation of South Africa, Lesotho and Swaziland. Strelitzia* 19: 150-151. South African National Biodiversity Institute, Pretoria.



Location of Greyton Shale Fynbos showing original area of ecosystem

75. Greytown North Grasslands (KZN 26)

Reference number	KZN 26
Listed under Criterion	F
Biome	Grassland
Province	KwaZulu-Natal
Municipality	Umvoti LM
Original area of ecosystem	4 000 ha
Remaining natural area of ecosystem (%)	16%
Proportion of ecosystem protected	0% of original area
Known number of species of special concern	5 threatened or endemic plant and animal species including those listed below

Geographical location

Greytown (2930BA). Ecosystem confined to the plateau above Greytown, extending down the slope southwards towards Greytown. Ecosystem delineated by contours.

Description

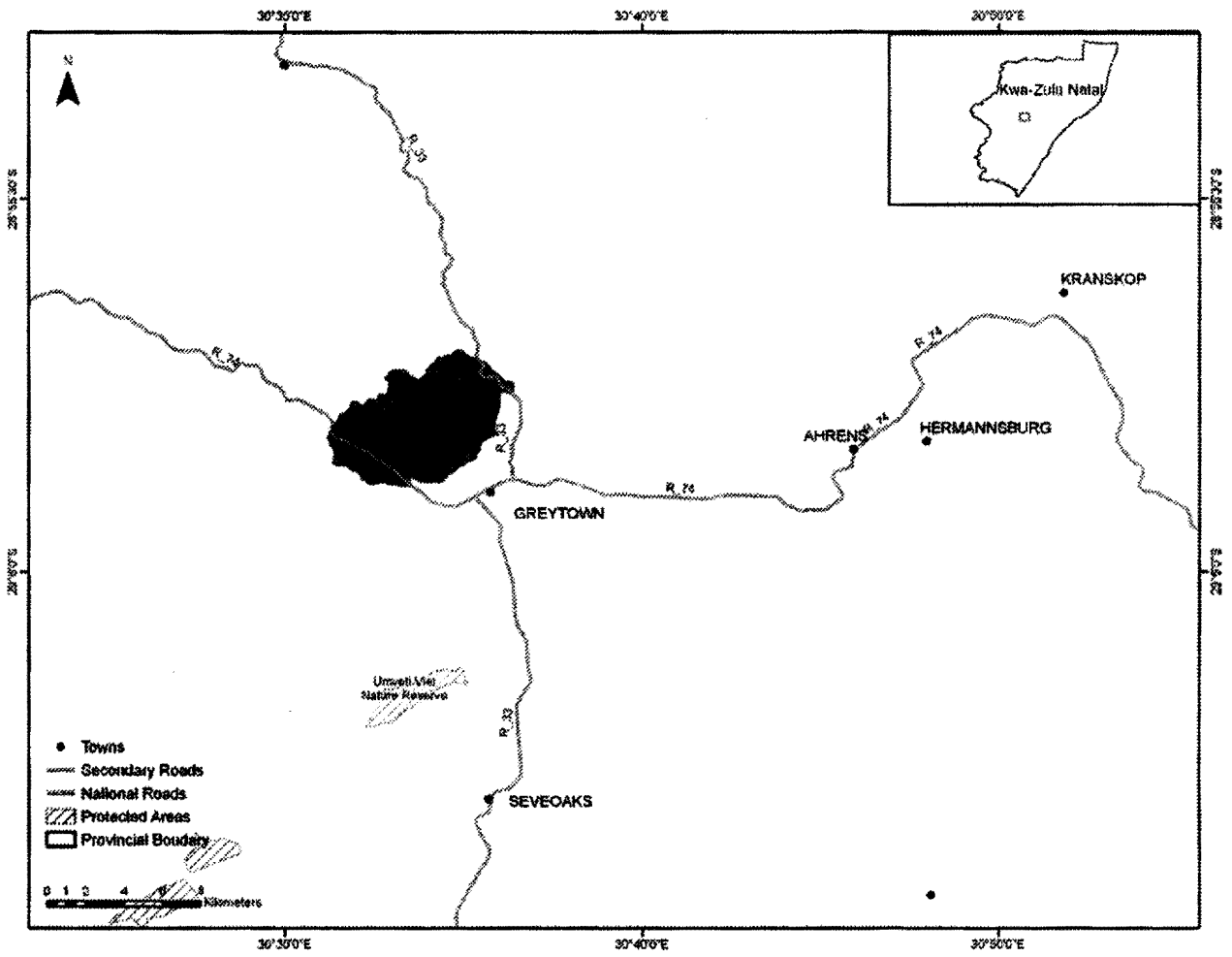
Key biodiversity features include one millipede species, *Doratogonus montanus*; three plant species including *Gerbera aurantiaca*, *Senecio exuberans* and *Watsonia canaliculata*; one reptile species, *Bradypodion tilburyi*; and one vegetation type, Midlands Mistbelt Grassland.

Other Information

The ecosystem is not protected.

Reference

Goodman, P.S. 2007. KwaZulu-Natal Terrestrial Conservation Plan (C-Plan), Version 4. Biodiversity Conservation Planning Division, Ezemvelo KZN Wildlife.



Location of Greytown North Grasslands showing original area of ecosystem

76. Groot Brak Dune Strandveld (FS 9)

Reference number	FS 9
Listed under Criterion	A1
Biome	Fynbos
Province	Western Cape
Municipalities	Hessequa LM, Mossel Bay LM and George LM
Original area of ecosystem	20 000 ha
Remaining natural area of ecosystem (%)	52%
Proportion of ecosystem protected	0% of original area
Known number of species of special concern	6 Red Data plant species (EX, EW, CR, EN & VU excl VU D2)

Geographical location

Coastal stretches between the mouth of the Gouritz River as far east as Victoria Bay near Wilderness, with by far the largest area covering the flats north of Mossel Bay (along the lower reaches of the Groot Brak, Klein Brak and Hartenbos Rivers) and extending up to 17 km from the coast.

Description

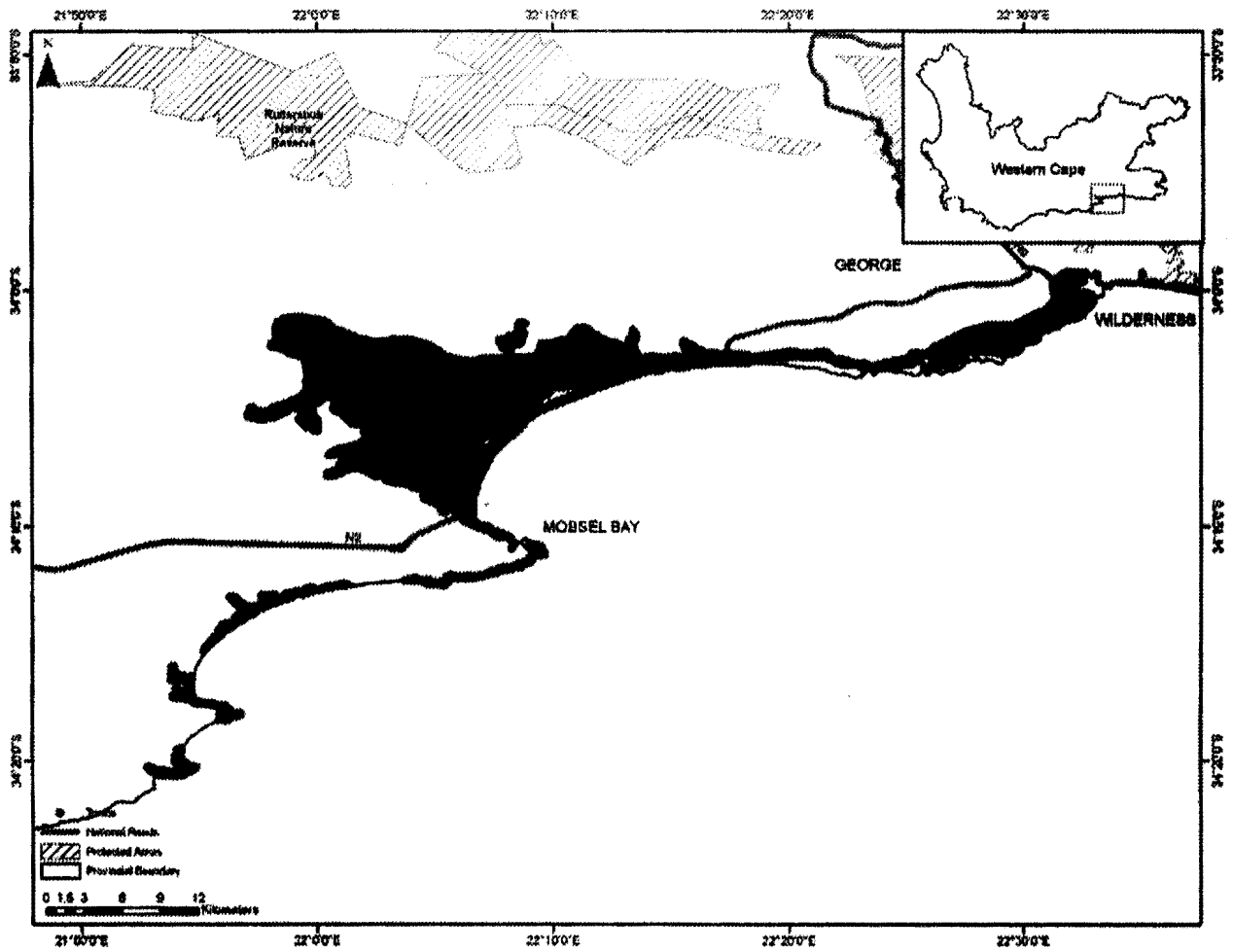
Flat, undulating landscapes (stabilised dunes) and steep coastal slopes, covered by dense and tall (up to 3 m), spiny, sclerophyllous scrub with gaps supporting shrublands with ericoids or succulent-leaved shrubs. The graminoid layer is sparse and short. At least six Red Data List plant species occur in the ecosystem.

Other information

The ecosystem is not protected, however about 1% is found in private reserves for example George, Kanon, Blydskap and Kwelanga.

Reference

Rebelo, A.G., Boucher, C., Helme, N., Mucina, L., & Rutherford, M.C. *et al.* 2006. Fynbos Biome. In: L. Mucina & M.C. Rutherford (eds). *The Vegetation of South Africa, Lesotho and Swaziland. Strelitzia* 19: 206-207. South African National Biodiversity Institute, Pretoria.



Location of Groot Brak Dune Strandveld showing original area of ecosystem (area of ecosystem enlarged for visibility at this scale)

77. Hangklip Sand Fynbos (FFd 6)

Reference number	FFd 6
Listed under criteria	A1
Biome	Fynbos
Province	Western Cape
Municipalities	City of Cape Town MM and Overstrand LM
Original area of ecosystem	8 000 ha
Remaining natural area of ecosystem (%)	45%
Proportion of ecosystem protected	20% of original area
Known number of species of special concern	32 Red Data plant species (EX, EW, CR, EN & VU excl VU D2) and 5 endemic plant species

Geographical location

Cape Peninsula on old dune fields at Hout Bay, in the Fish Hoek gap (between Fish Hoek and Noordhoek) and on Smith's Farm (Cape Point Nature Reserve). Further on it occurs on the coastal flats from Rooiels and Cape Hangklip to Hermanus and it is well developed at the Bot River estuary.

Description

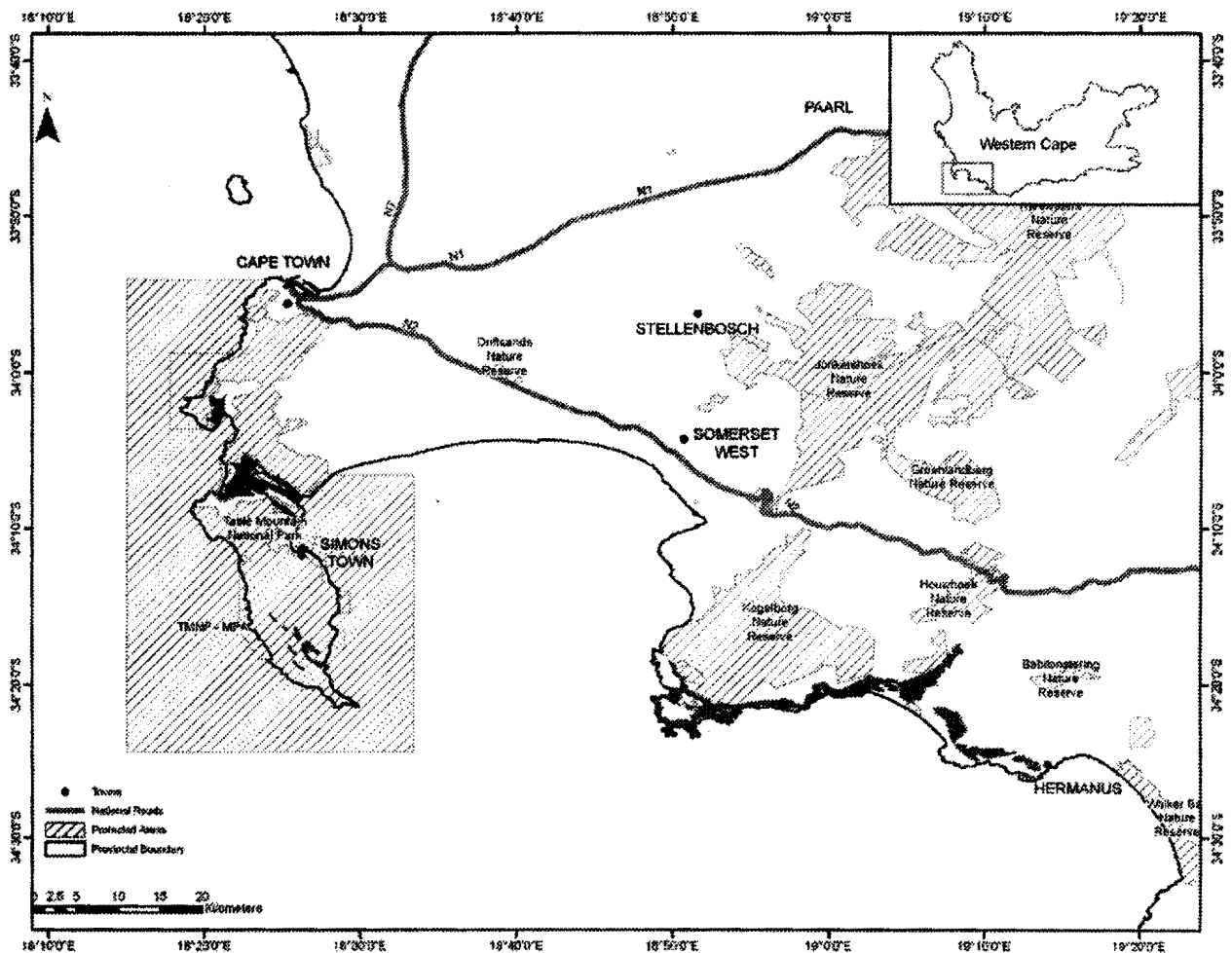
Sand dunes and sandy bottomlands supporting moderately tall, dense ericoid shrubland. Emergent, tall shrubs in places. Proteoid, ericaceous and restioid fynbos are dominant, with some asteraceous fynbos also present. On the coastal fringe this ecosystem borders on strandveld. The deep soils of the coastal plains are replaced by shallow soils on mountain slopes on the northern edge. Hangklip Sand Fynbos occurs mainly on old dunes, but the high rainfall and leaching allows many typical sandstone fynbos species to occur on older deposits as well, so that this ecosystem is not as floristically distinct as other sandstone fynbos ecosystems. At least five endemic plant species and 32 Red Data List plant species occur in the ecosystem.

Other Information

Approximately 20% of the ecosystem is protected in the Table Mountain National Park and Kogelberg Biosphere Reserve, with an additional 3% found in private conservation areas such as Sea Farm and Hoek-van-die-Berg.

Reference

Rebelo, A.G., Boucher, C., Helme, N., Mucina, L., & Rutherford, M.C. *et al.* 2006. Fynbos Biome. In: L. Mucina & M.C. Rutherford (eds). The Vegetation of South Africa, Lesotho and Swaziland. *Strelitzia* 19: 141. South African National Biodiversity Institute, Pretoria.



Location of Hangklip Sand Fynbos showing original area of ecosystem

78. Hlabeni State Forest (KZN 27)

Reference number	KZN 27
Listed under Criterion	F
Biome	Grassland and Forest
Province	KwaZulu-Natal
Municipality	Ingwe LM
Original area of ecosystem	500 ha
Remaining natural area of ecosystem (%)	88%
Proportion of ecosystem protected	0% of original area
Known number of species of special concern	7 threatened or endemic animal species including those listed below

Geographical location

Pevensey (2929DC). Ecosystem delineated by the forest and thicket boundary.

Description

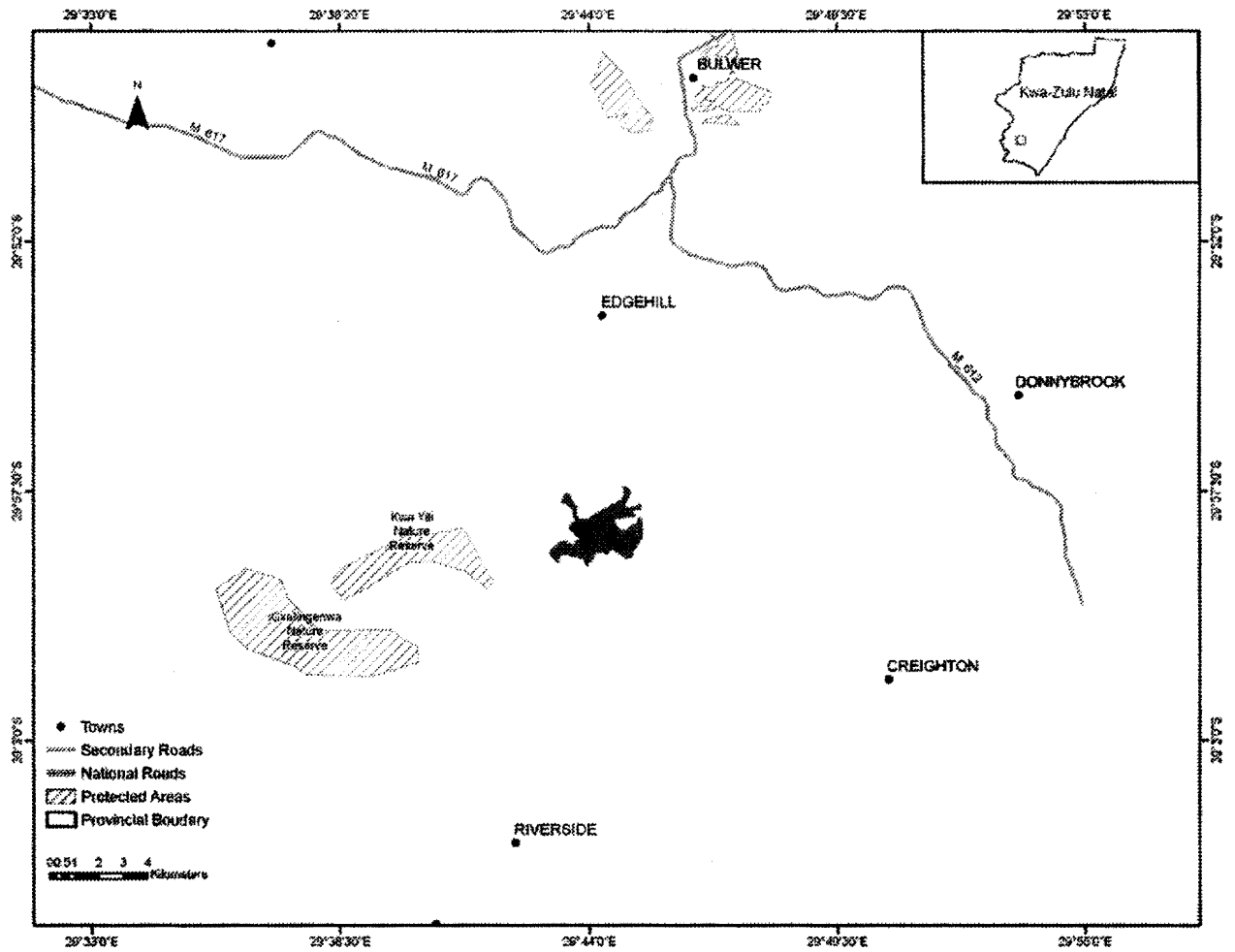
Key biodiversity features include six millipede species including *Centrobolus decoratus*, *Doratogonus hoffmani*, *Doratogonus montanus* and *Doratogonus natalensis*, *Centrobolus tricolor*, *Centrobolus rubricollis*; one reptile species, *Bradypodion thamnobates*; and two vegetation types including Eastern Mistbelt Forest and Drakensberg Foothill Moist Grassland.

Other information

The ecosystem is not protected.

Reference

Goodman, P.S. 2007. KwaZulu-Natal Terrestrial Conservation Plan (C-Plan), Version 4. Biodiversity Conservation Planning Division, Ezemvelo KZN Wildlife.



Location of Hlabeni State Forest showing original area of ecosystem

79. Hlabisa Forest Complex (FOR 2)

Reference number	FOR 2
Listed under Criterion	F
Biome	Forest
Province	KwaZulu-Natal
Municipality	Hlabisa LM
Original area of ecosystem	Data not available
Remaining natural area of ecosystem	400 ha
Proportion of ecosystem protected	0% of remaining area
Known number of species of special concern	9 Red Data plant species, two Red Data mammal species and 1 endemic plant species

Geographical location

Near Mtunzini in northern KwaZulu-Natal (2831BB). The ecosystem includes the following forest patches: 5889 and 5892.

Description

High forest with distinct strata, relatively open under the canopy. Contains unique plant communities including sub-types not found in other Eastern Scarp Forests. The ecosystem contains more than 100 woody plant species, it is the geographical limit for several rare plant species, contains at least nine Red Data List plant species and one endemic tree species. Two Red Data List mammal species and several Red Data List bird species are known to occur in the forest.

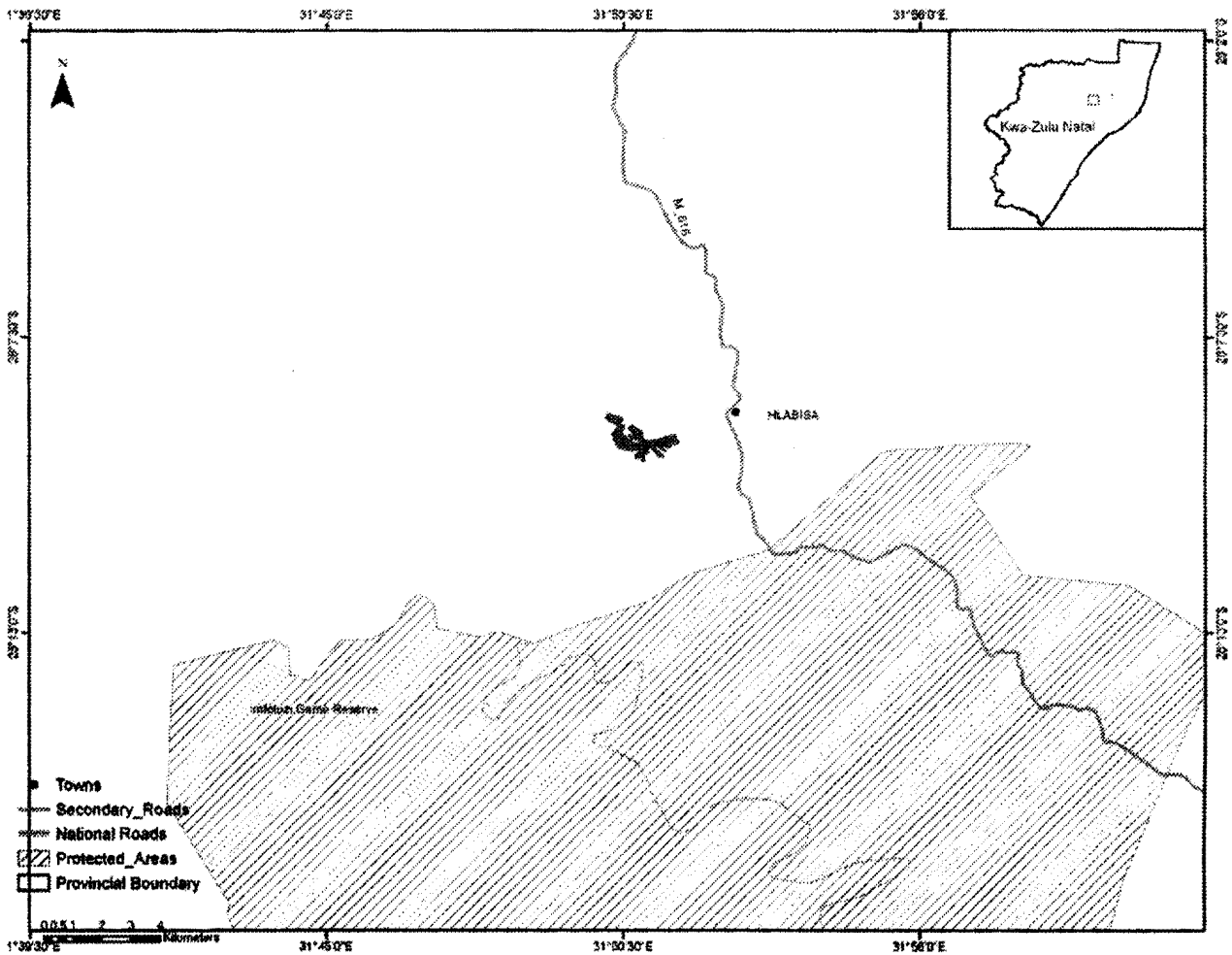
Other information

This ecosystem is not protected.

References

Berliner, D., van der Merwe, I.J., Benn, D. & Rouget, M. 2006. Systematic conservation planning for the Forest Biome of South Africa: Approach, methods and results used for the selection of priority forests. Unpublished Report for the Department of Water Affairs and Forestry. Department of Water Affairs and Forestry. National Forest Inventory.

Von Maltitz, G., Mucina, L., Geldenhuys, C., Lawes, M., Eeley, H., Adie, H., Vink, D., Flemming, G. & Bailey, C. 2003. Classification System for South African Indigenous Forests. An objective classification for the Department of Water Affairs and Forestry. Environmentek report ENV-P-C 2003-017, CSIR, Pretoria.



Location of Hlabisa Forest Complex

80. Humansdorp Shale Renosterveld (FRs 19)

Reference number	FRs 19
Listed under Criterion	A1
Biome	Fynbos
Province	Eastern Cape
Municipalities	Baviaans LM, Kouga LM, Kou-Kamma LM and Nelson Mandela Bay LM
Original area of ecosystem	37 000 ha
Remaining natural area of ecosystem (%)	35%
Proportion of ecosystem protected	0% of original area
Known number of species of special concern	6 endemic plant species

Geographical location

Three swathes occur: from Jeffreys Bay and Marina Glades near the coast inland past Humansdorp to the lower reaches of the Dieprivier near Two Streams; the Mondplaas/Mondhoek area near the mouth of the Gamtoos River stretching inland in a series of patches south of the Gamtoos River to west of Patensie; between thicket and fynbos types from Burghley Hills to Rocklands and the Dell to Nooitgedacht southwest of Uitenhage. Coastal forelands from Humansdorp to Port Elizabeth.

Description

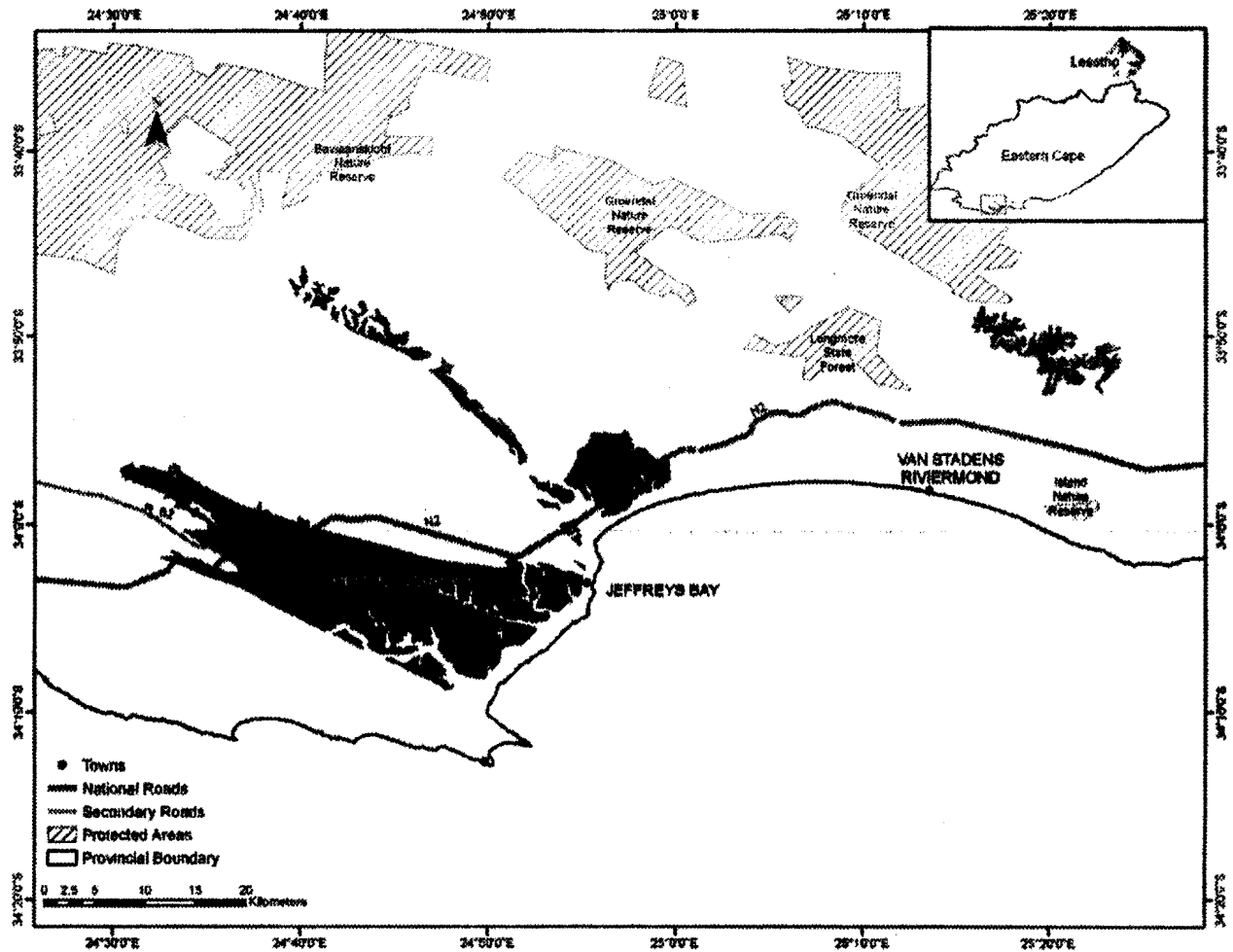
Moderately undulating plains and undulating hills supporting vegetation composed of low, medium dense graminoid, dense cupressoid-leaved shrubland, dominated by renosterbos. There are both grassland and shrubland forms of the renosterveld present, probably depending on grazing and fire regimes. In wetter areas (> 550 mm) it grades into Loerie Conglomerate Fynbos. Thicket patches are common on termitaria (heuweltjies are absent) and in fire-safe enclaves, especially in the east. It is dominated by *Aspalathus nivea* in the post-fire, early seral stages. At least six endemic plant species occur in the ecosystem.

Other information

The ecosystem is not protected, but approximately 6% is found on private game farms (Thaba Manzi and Lombardini Game Farms).

Reference

Rebello, A.G., Boucher, C., Helme, N., Mucina, L., & Rutherford, M.C. *et al.* 2006. Fynbos Biome. In: L. Mucina & M.C. Rutherford (eds). *The Vegetation of South Africa, Lesotho and Swaziland. Strelitzia 19*: 188-189. South African National Biodiversity Institute, Pretoria.



Location of Humansdorp Shale Renosterveld showing original area of ecosystem

81. Impendle Highlands (KZN 28)

Reference number	KZN 28
Listed under Criterion	F
Biome	Grassland and Forest
Province	KwaZulu-Natal
Municipalities	Impendle LM and Ingwe LM
Original area of ecosystem	17 000 ha
Remaining natural area of ecosystem (%)	64%
Proportion of ecosystem protected	50% of original area
Known number of species of special concern	11 threatened or endemic animal species including those listed below

Geographical location

Impendle (2929DB). Ecosystem delineated by the Umkomaas River and the Impendle Nature Reserve boundary in the south and west; along the valley in the east; and by contour lines bounding the plateau edge in the north.

Description

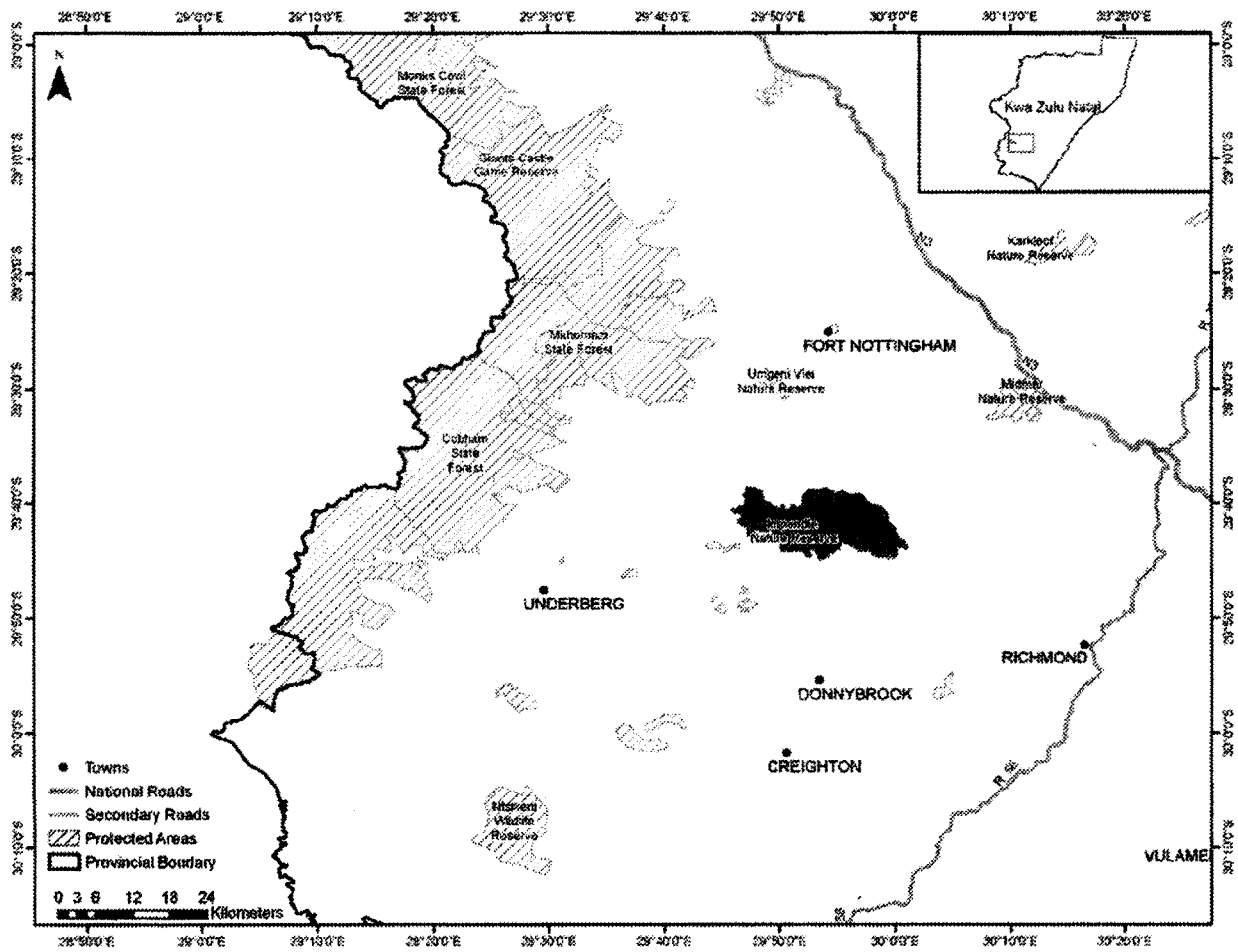
Key biodiversity features include one amphibian species, *Afrivalus spinifrons intermedius*; two bird species including Blue Swallow and Wattled Crane; three millipede species including *Centrobolus rubricollis*, *Centrobolus tricolour* and *Doratogonus montanus*; three plant species for example *Hesperantha woodii* and *Kniphofia buchananii*; two reptile species including *Bradypodion bourquini* and *Bradypodion thamnobates*; and four vegetation types including Drakensberg Foothill Moist Grassland, Eastern Mistbelt Forest, Midlands Mistbelt Grassland and Southern KwaZulu-Natal Moist Grassland.

Other information

Approximately 50% of the ecosystem is protected in the Impendle Nature Reserve.

Reference

Goodman, P.S. 2007. KwaZulu-Natal Terrestrial Conservation Plan (C-Plan), Version 4. Biodiversity Conservation Planning Division, Ezemvelo KZN Wildlife.



Location of Impendle Highlands showing original area of ecosystem

82. Karkloof Forest Collective (KZN 29)

Reference number	KZN 29
Listed under Criterion	F
Biome	Grassland, Savanna and Forest
Province	KwaZulu-Natal
Municipalities	uMshwathi LM, uMngeni LM, Mooi Mpfana LM and Umvoti LM
Original area of ecosystem	12 000 ha
Remaining natural area of ecosystem (%)	65%
Proportion of ecosystem protected	14% of original area
Known number of species of special concern	15 threatened or endemic plant and animal species including those listed below

Geographical location

Howick (2930AC), Albert Falls (2930AD) and Mount Alida (2930AB). The ecosystem represents a collection of Eastern Mistbelt Forests which lie within Midlands Mistbelt Grassland and which are generally south facing. Ecosystem delineated, in the north, by the northern extent of the Midlands Mistbelt Grassland and the contour defining the crest of the slope along which the forests are located; by the contour defining the base of the same slope in the south; and by the extent of the forests and generally a 'narrowing' and eventual petering out of the slope in the east and west.

Description

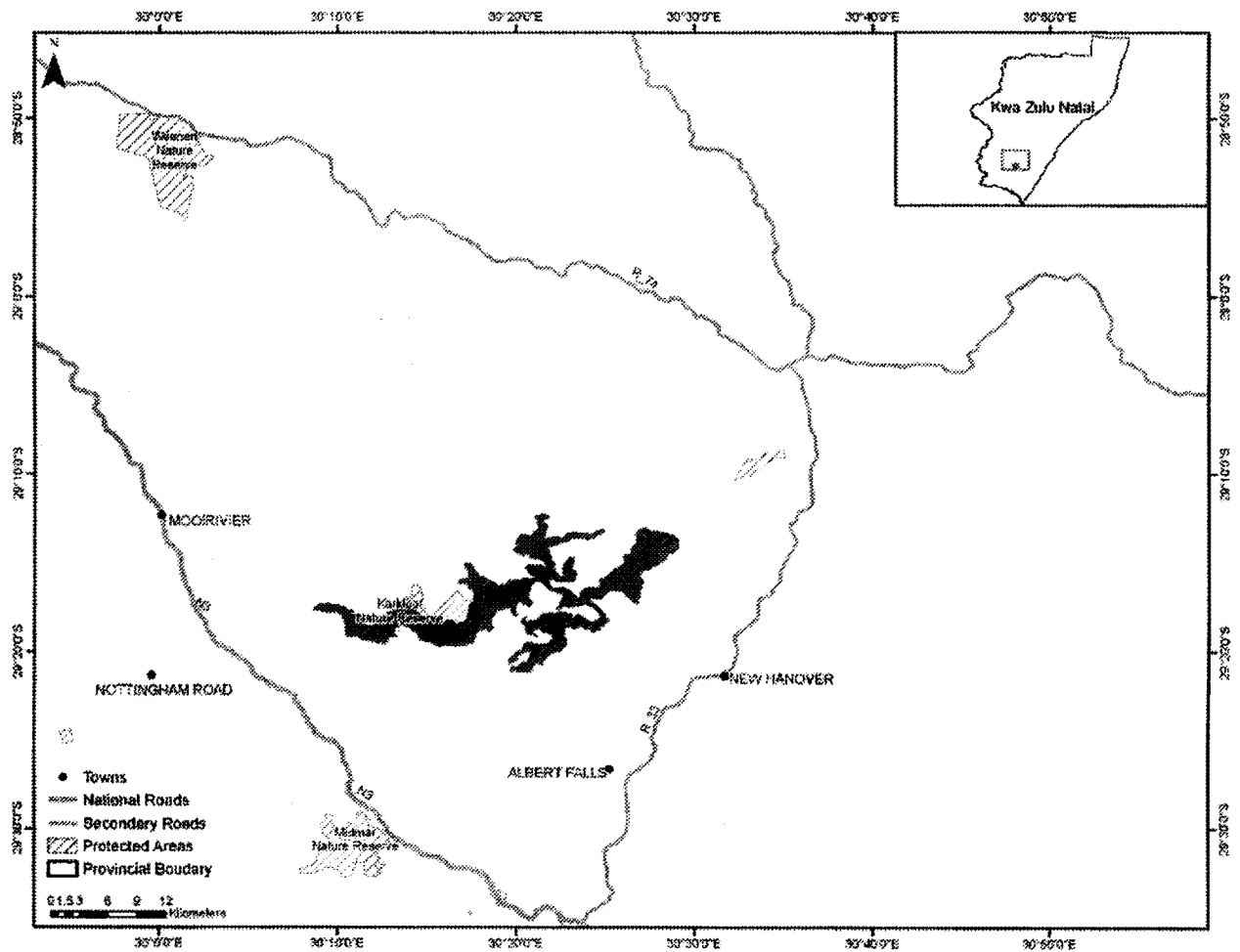
Key biodiversity features include two bird species including Blue Swallow and Wattled Crane; one mammal species, Oribi; eight millipede species including *Centrobolus decoratus*, *Centrobolus lawrencei*, *Centrobolus rubricollis*, *Centrobolus tricolour*, *Doratogonus avius*, *Doratogonus hoffmani*, *Doratogonus montanus* and *Doratogonus natalensis*; six plant species including *Geranium natalense*, *Gerbera aurantiaca*, *Kniphofia buchananii*, *Plectranthus rehmannii*, *Senecio exuberans* and *Watsonia canaliculata*; one reptile species, *Bradypodion thamnobates*; and four vegetation types including Drakensberg Foothill Moist Grassland, Eastern Mistbelt Forest, Midlands Mistbelt Grassland and Ngongoni Veld.

Other information

Approximately 14% of the ecosystem is protected in the Blinkwater Nature Reserve and the Karkloof Nature Reserve.

Reference

Goodman, P.S. 2007. KwaZulu-Natal Terrestrial Conservation Plan (C-Plan), Version 4. Biodiversity Conservation Planning Division, Ezemvelo KZN Wildlife.



Location of Karkloof Forest Collective showing original area of ecosystem

83. Kobonqaba Forest Complex (Nxaxo, Ntlaboya & Kobonqaba Forests) (FOR 3)

Reference number	FOR 3
Listed under Criterion	F
Biome	Forest
Province	Eastern Cape
Municipality	Mnquma LM
Original area of ecosystem	Data not available
Remaining natural area of ecosystem	504 ha
Proportion of ecosystem protected	0% of remaining area
Known number of species of special concern	8 Red Data bird species and 2 Red Data mammal species

Geographical location

Ecosystem found in the Matiwane district of the Eastern Cape (3228DA). It is situated at the Kobonqaba River estuary on the coast near Wavecrest and occurs on the primary dunes and along the estuary. The ecosystem includes the following forest patches: 8545, 8546, 8547, 8579, 8580, 8581, 8538, 8540, 8541, 8543, 8672, 8531, 8532, 8533 and 8542.

Description

Unique and relatively diverse dune forests with a canopy height of 8-10m and dominated by tree species such as *Sideroxylon inerme* and *Dovyalis rotundifolia*. More than 50 plant species have been recorded. The forests and surrounding ecotone have a very high diversity of birdlife, with more than 180 species recorded, including 8 Red Data bird species. Two Red Data mammal species occur in the ecosystem.

Other information

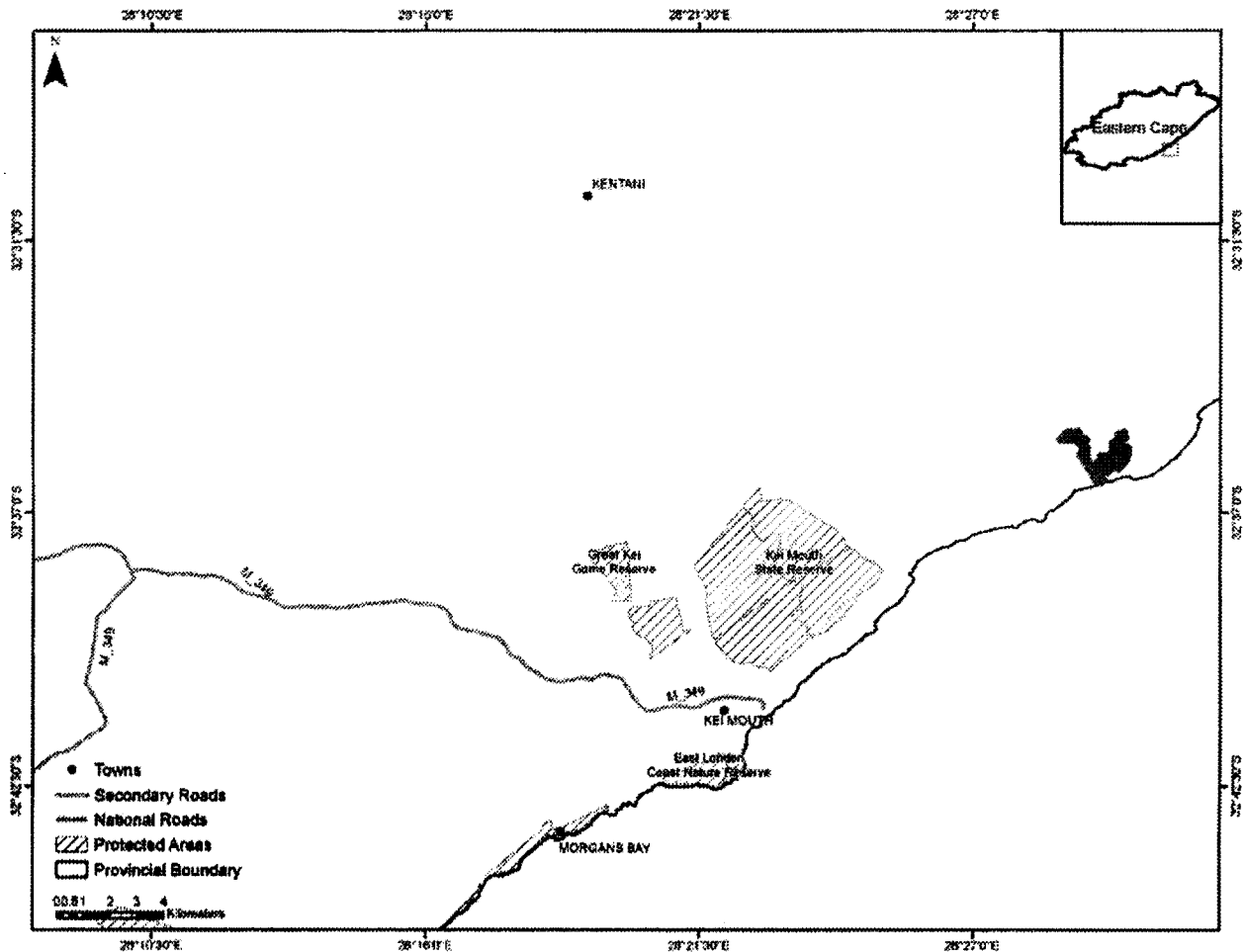
The ecosystem is not protected.

References

Berliner, D., van der Merwe, I.J., Benn, D. & Rouget, M. 2006. Systematic conservation planning for the Forest Biome of South Africa: Approach, methods and results used for the selection of priority forests. Unpublished Report for the Department of Water Affairs and Forestry.

Department of Water Affairs and Forestry. National Forest Inventory.

Von Maltitz, G., Mucina, L., Geldenhuys, C., Lawes, M., Eeley, H., Adie, H., Vink, D., Flemming, G. & Bailey, C. 2003. Classification System for South African Indigenous Forests. An objective classification for the Department of Water Affairs and Forestry. Environmentek report ENV-P-C 2003-017, CSIR, Pretoria.



Location of Kobonqaba Forest Complex (Nxaxo, Ntlaboya & Kobonqaba Forests) (area of ecosystem enlarged for visibility at this scale)

84. Kouebokkeveld Alluvium Fynbos (FFa 1)

Reference number	FFa 1
Listed under Criterion	A1
Biome	Fynbos
Province	Western Cape
Municipalities	Witzenberg LM and WCDMA02
Original area of ecosystem	18 000 ha
Remaining natural area of ecosystem (%)	33%
Proportion of ecosystem protected	0% of original area
Known number of species of special concern	4 Red Data plant species (EX, EW, CR, EN & VU excl VU D2)

Geographical location

Fringes of the northern Koue Bokkeveld valleys from Op Die Berg (north of Ceres) northwards to Tandfontein and eastwards to Excelsior, extending to the Blinkberg Pass and Winkelhaak. Smaller unmapped patches are also found at north-facing entrances to valleys of the Hex River Mountains.

Description

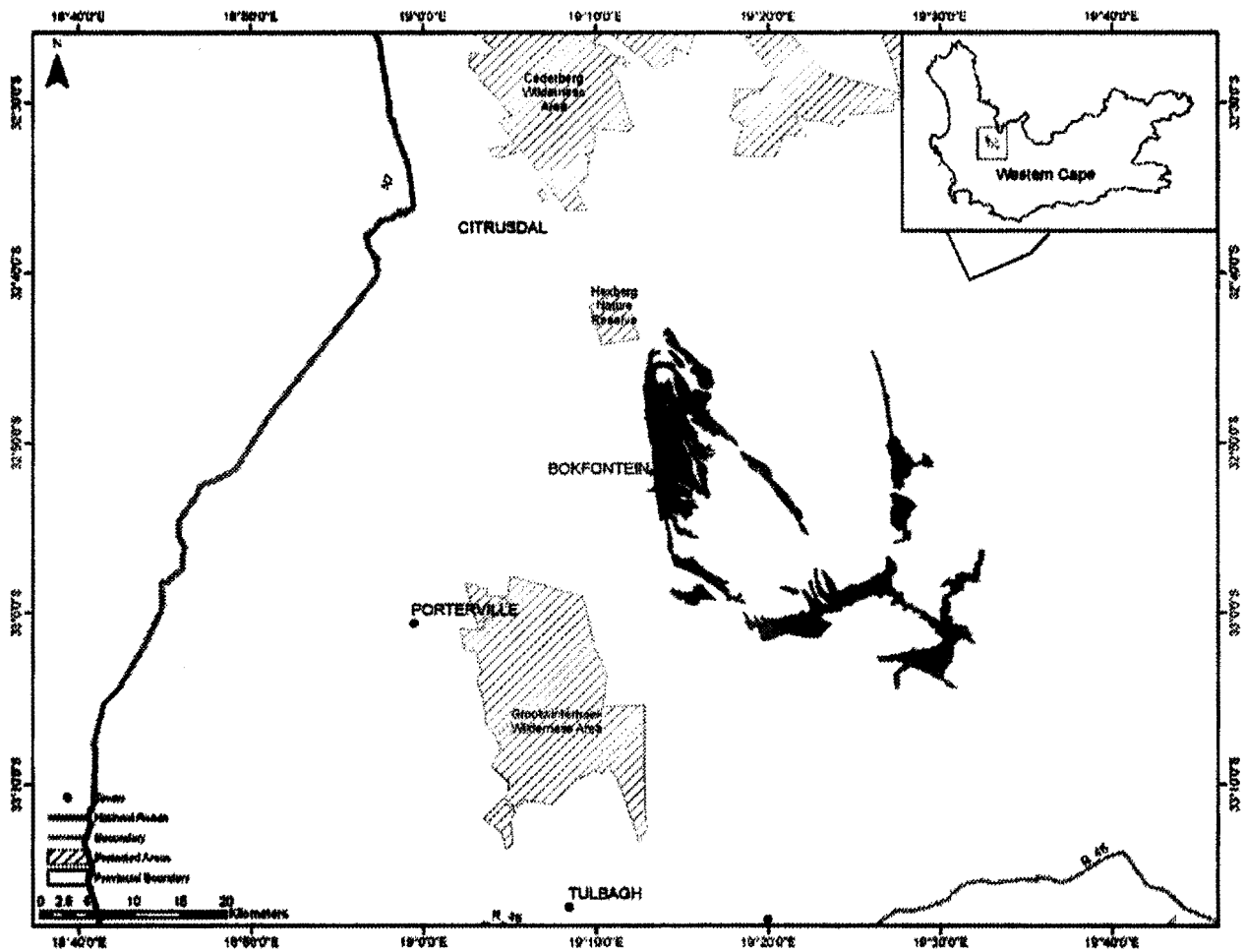
Slightly undulating plains in mountain valleys where alluvium has accumulated alongside rivers and as alluvial fans. Vegetation is emergent proteoids in a low medium dense grassy shrubland, structurally primarily asteraceous and proteoid fynbos, with prominent ericaceous fynbos in numerous seeps. At least four Red Data List plant species occur in the ecosystem.

Other information

The ecosystem is not protected, however approximately 1% is found in the Koue Bokkeveld mountain catchment area.

Reference

Rebelo, A.G., Boucher, C., Helme, N., Mucina, L., & Rutherford, M.C. *et al.* 2006. Fynbos Biome. In: L. Mucina & M.C. Rutherford (eds). *The Vegetation of South Africa, Lesotho and Swaziland. Strelitzia* 19: 163. South African National Biodiversity Institute, Pretoria.



Location of Kouebokkeveld Alluvium Fynbos showing original area of ecosystem

85. Kraanspoort Mountain Bushveld (GP 14)

Reference number	GP 14
Listed under Criterion	F
Biome	Grassland and Savanna
Province	Gauteng
Municipality	Kungwini LM
Original area of ecosystem	13 000 ha
Remaining natural area of ecosystem (%)	99%
Proportion of ecosystem protected	8% of original area
Known number of species of special concern	7 threatened or endemic plant or animal species including those listed below

Geographical location

North-eastern parts of Gauteng including Vaalplaats and Mackmaar (2528DB and 2529CA respectively). Ecosystem delineated by ridges and kloofs associated with the Wilge River and its tributaries.

Description

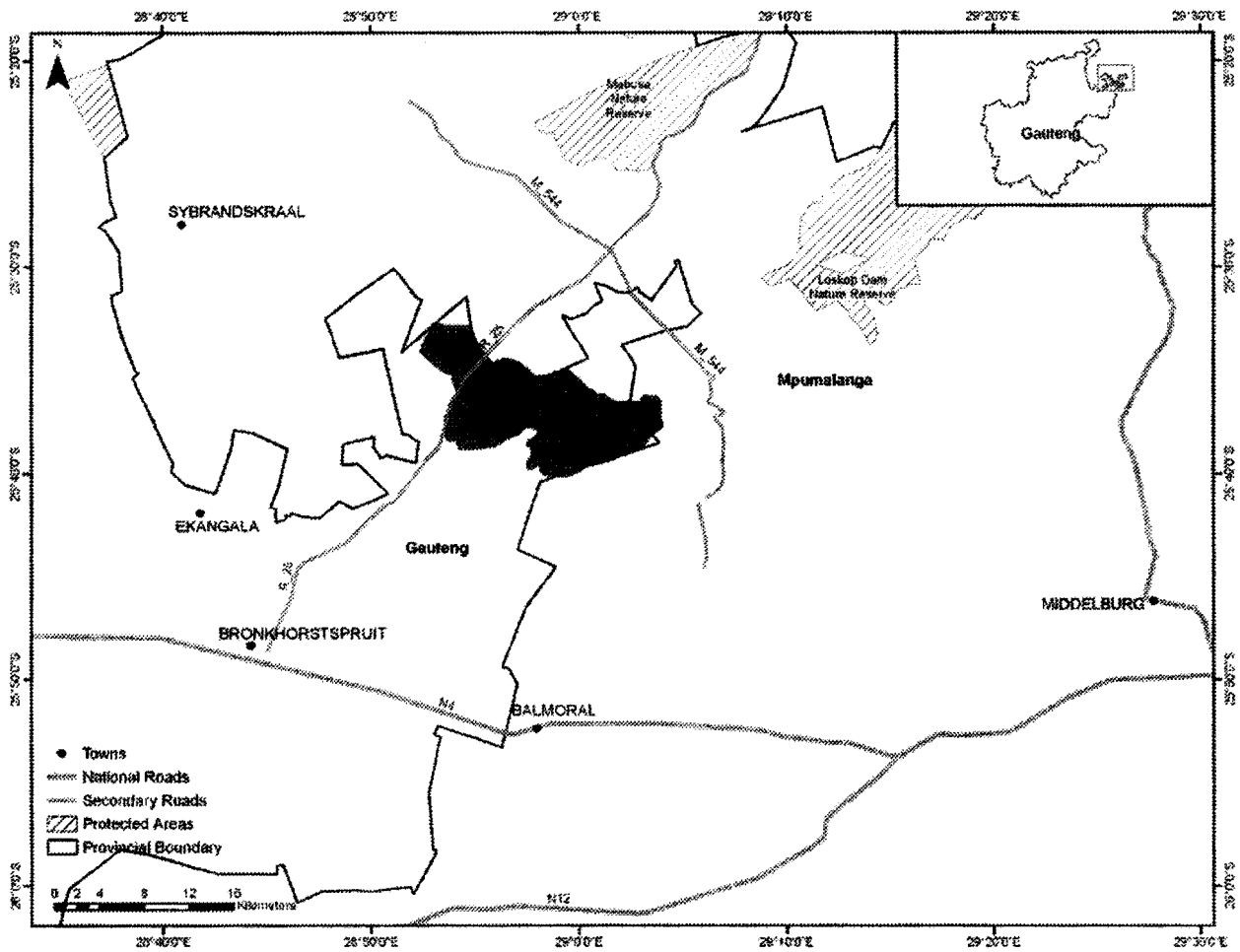
Key biodiversity features include Red or Orange Listed birds for example Blue Crane; three vegetation types including Central Sandy Bushveld, Loskop Mountain Bushveld and Rand Highveld Grassland; and the Grootspuit, Jan Balie se Loop, Wilgerivier, and various unnamed wetlands.

Other information

Approximately 8% of the ecosystem is protected in the Ezemvelo Private Nature Reserve.

Reference

Gauteng C-Plan Version 2. 2006. Gauteng Department of Agriculture, Conservation and Environment.



Location of Kranspoort Mountain Bushveld showing original area of ecosystem

86. KwaZulu-Natal Coastal Forest (FOz VII1)

Reference number	FOz VII1
Listed under Criterion	A2
Biome	Forest
Province	KwaZulu-Natal
Municipalities	Ethekwini MM, Umhlabuyalingana LM, Hlabisa LM, Mtubatuba LM, Mbonambi LM, uMhlatuze LM, eNdongakusuka LM and KZNDMA27
Original area of ecosystem	Data not available
Remaining natural area of ecosystem	21 000 ha
Proportion of ecosystem protected	61% of remaining area
Known number of species of special concern	1 endemic plant species and 1 endemic mammal species

Geographical location

Forest occurs in small patches on the rolling plains of the landward side of the dune cordon along the KwaZulu-Natal coast, from Southern Natal to beyond the Mozambique border.

Description

Medium to tall, species rich forest ecosystem closely associated with the flat to rolling topography of the coastal lowlands of KwaZulu-Natal. The ecosystem occurs as small-sized patches in the immediate hinterland of coastal dunes or on free-draining deep sands of the Maputaland coastal plain. Many tropical species reach their southern most distribution along the affected range. In places, where in a stage of regeneration, these forests have the appearance of "thickets". The shrub layer is well-developed, dense and rich in subtropical elements. Lianas and climbers are a common sight, emphasizing the tropical appearance of the forest structure. No distinct herb layer can be distinguished in the south but in the north this might be well-developed and usually dominated by *Isoglossa woodii*. KwaZulu-Natal Coastal Forests have a high biodiversity value relative to other forest ecosystems. Key biodiversity features include an endemic mammal, the Zulu Golden Mole (*Amblystomus iris*), and at least one endemic plant species. Rare plant species also occur here. The fact that these forests are very species rich,

coupled with their course grain, disturbance driven ecology, means that large tracts must be protected in order to conserve the full range of species.

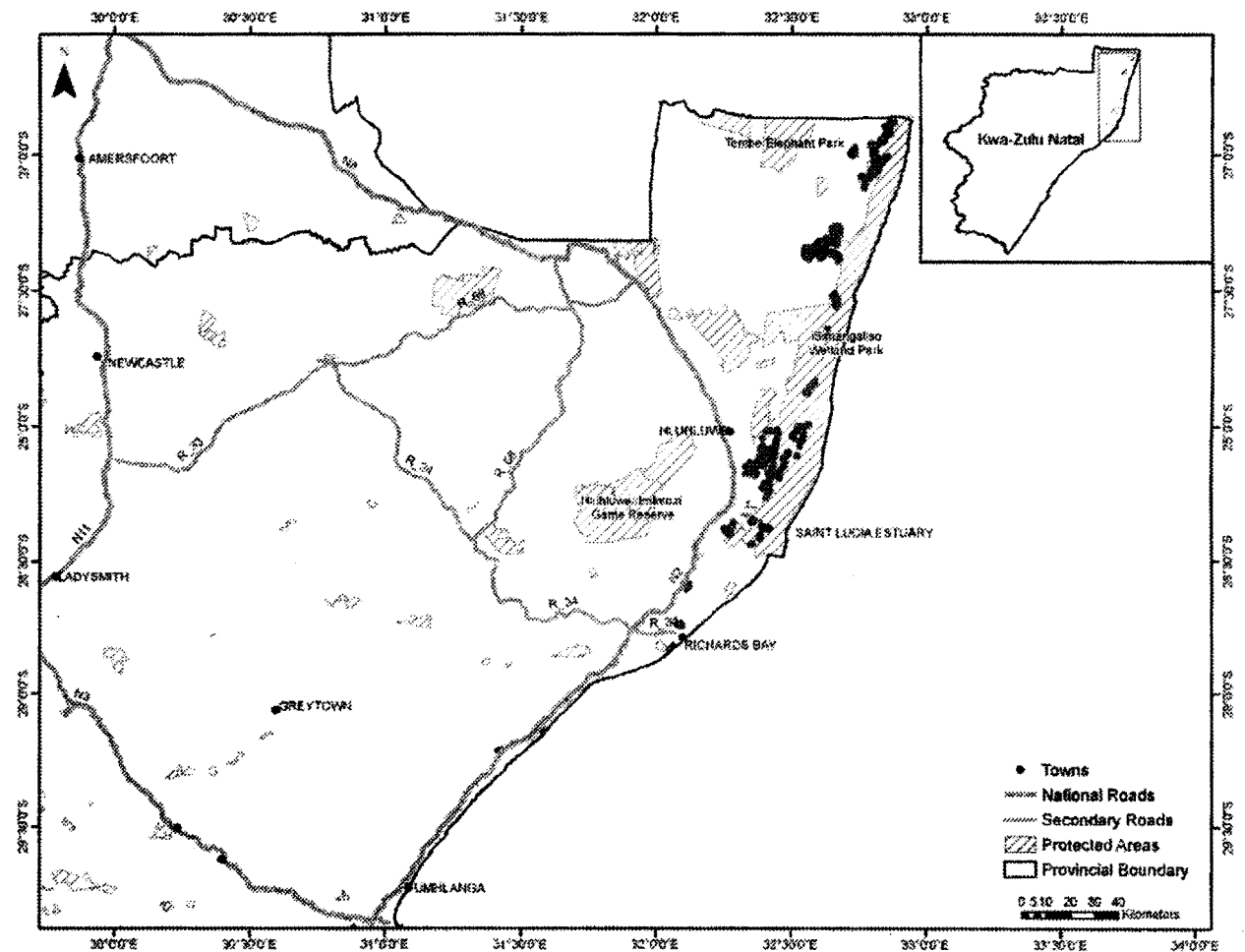
Other information

Approximately 61% of the ecosystem is protected.

References

Mucina, L. & Geldenhuys, C.J. 2006. Afrotemperate, Subtropical and Azonal Forests. In: L. Mucina & M.C. Rutherford (eds). *The Vegetation of South Africa, Lesotho and Swaziland. Strelitzia 19*: 604-605. South African National Biodiversity Institute, Pretoria.

Von Maltitz, G., Mucina, L., Geldenhuys, C., Lawes, M., Eeley, H., Adie, H., Vink, D., Flemming, G. & Bailey, C. 2003. *Classification System for South African Indigenous Forests. An objective classification for the Department of Water Affairs and Forestry. Environmentek Report ENV-P-C 2003-017*, CSIR, Pretoria.



Location of KwaZulu-Natal Coastal Forest (area of ecosystem enlarged for visibility at this scale)

87. KwaZulu-Natal Sandstone Sourveld (SVs 5)

Reference number	SVs 5
Listed under Criterion	A1
Biome	Savanna
Province	KwaZulu-Natal
Municipalities	Ethekwini MM, Vulamehlo LM, Umzumbe LM, uMshwathi LM, Mkhambathini LM, Richmond LM, Umvoti LM, Ndwedwe LM, Maphumulo LM and Ubuhlebezwe LM
Original area of ecosystem	135 000 ha
Remaining natural area of ecosystem (%)	28%
Proportion of ecosystem protected	< 1% of original area
Known number of species of special concern	12 endemic plant species

Geographical location

Elevated coastal inland sandstone plateaus from Mapumulo near Kranskop in the north to St Faiths near Port Shepstone in the south (including Noodsberg, Hillcrest, Kloof, Table Mountain, Inanda, Stony Hill, Umbumbulu, Mid-Ilovo, Dumisa and Highflats).

Description

Short, species-rich grassland with scattered low shrubs and geophytic suffrutices. Proteaceae trees and shrubs for example *Protea*, *Leucospermum* and *Faurea* can be locally common. The dominating landscape features are flat (or rolling) plateau tops and steep slopes commonly forming table mountains. At least 12 endemic plant species occur in this ecosystem.

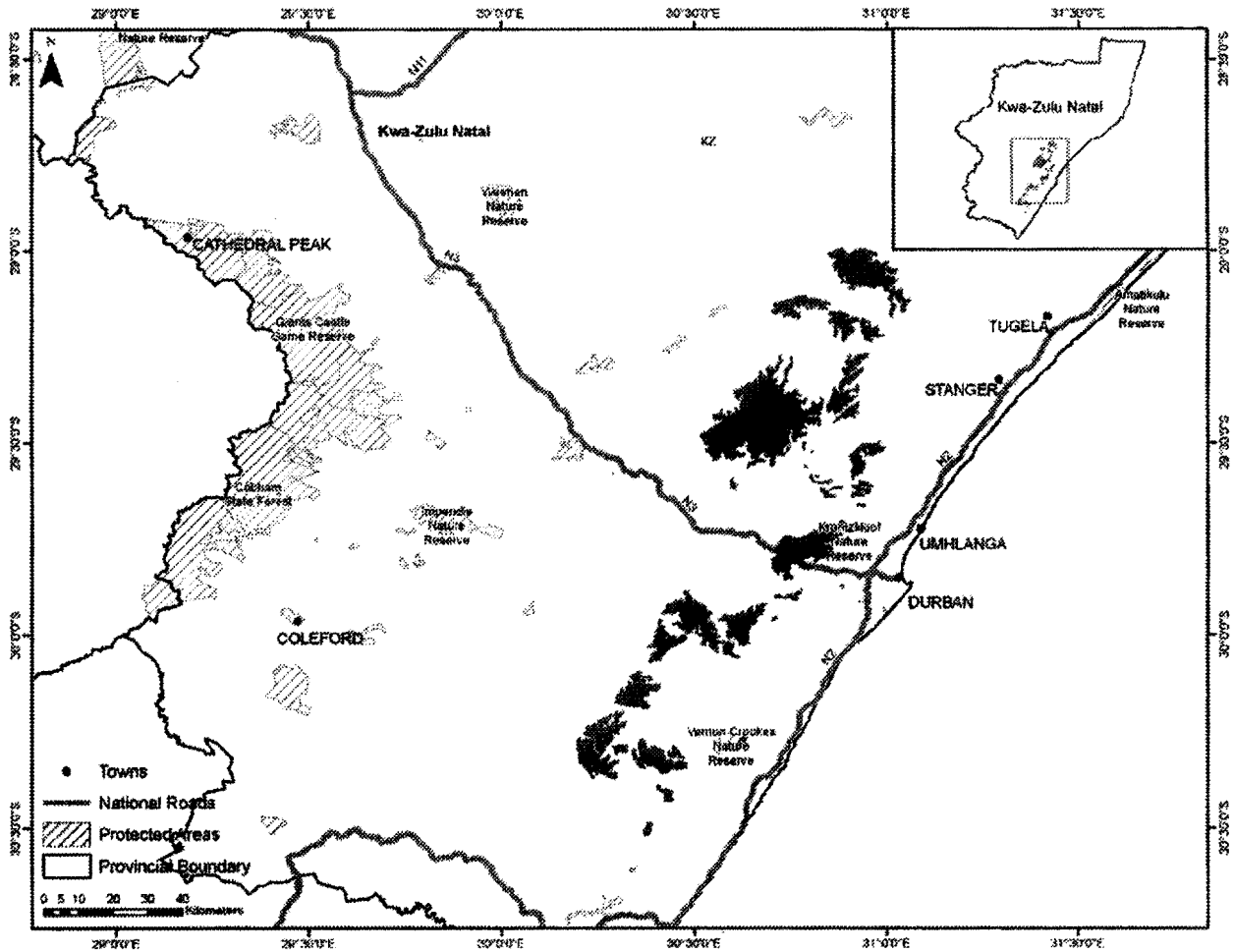
Other information

Less than 1% of the ecosystem is protected in the Krantzkloof and Vernon Crookes Nature Reserves.

Reference

Rutherford, M.C., Mucina, L., Lotter, M.C., Bredenkamp, G.J., Smit, J.H.L., Scott-Shaw, R., Hoare, D.B., Goodman, P.S., Bezuidenhout, H., Scott, L., Ellis, F., Powrie, L.W., Siebert, F.,

Mostert, T.H., Henning, B.J., Venter, C.E., Camp, K.G.T., Siebert, S.J., Matthews, W.S., Burrows, J.E., Dobson, L., van Rooyen, N., Schmidt, E., Winter, P.J.D., du Preez, P.J., Ward, R.A., Williamson, S. & Hurter, P.J.H. 2006. Savanna Biome. In: L. Mucina & M.C. Rutherford (eds). *The Vegetation of South Africa, Lesotho and Swaziland. Strelitzia* 19: 511-512. South African National Biodiversity Institute, Pretoria.



Location of KwaZulu-Natal Sandstone Sourveld showing original area of ecosystem

88. Loskop Grasslands (KZN 30)

Reference number	KZN 30
Listed under Criterion	F
Biome	Grassland
Province	KwaZulu-Natal
Municipalities	uMshwathi LM and uMngeni LM
Original area of ecosystem	7 000 ha
Remaining natural area of ecosystem (%)	11%
Proportion of ecosystem protected	0% of original area
Known number of species of special concern	7 threatened or endemic animal species including those listed below

Geographical location

Howick (2930AC) and Albert Falls (2930AD). Ecosystem forms part of a valley basin and is delineated in the west by Boschhoek Plateau threatened ecosystem (KZN 43) and in the north by the Karkloof Forest Collective threatened ecosystem (KZN 29). In the south it is delineated by the contours demarcating the base of the hills in the south. Loskop Hill which is roughly located at the centre of the ecosystem, although prominent, is the only hill present.

Description

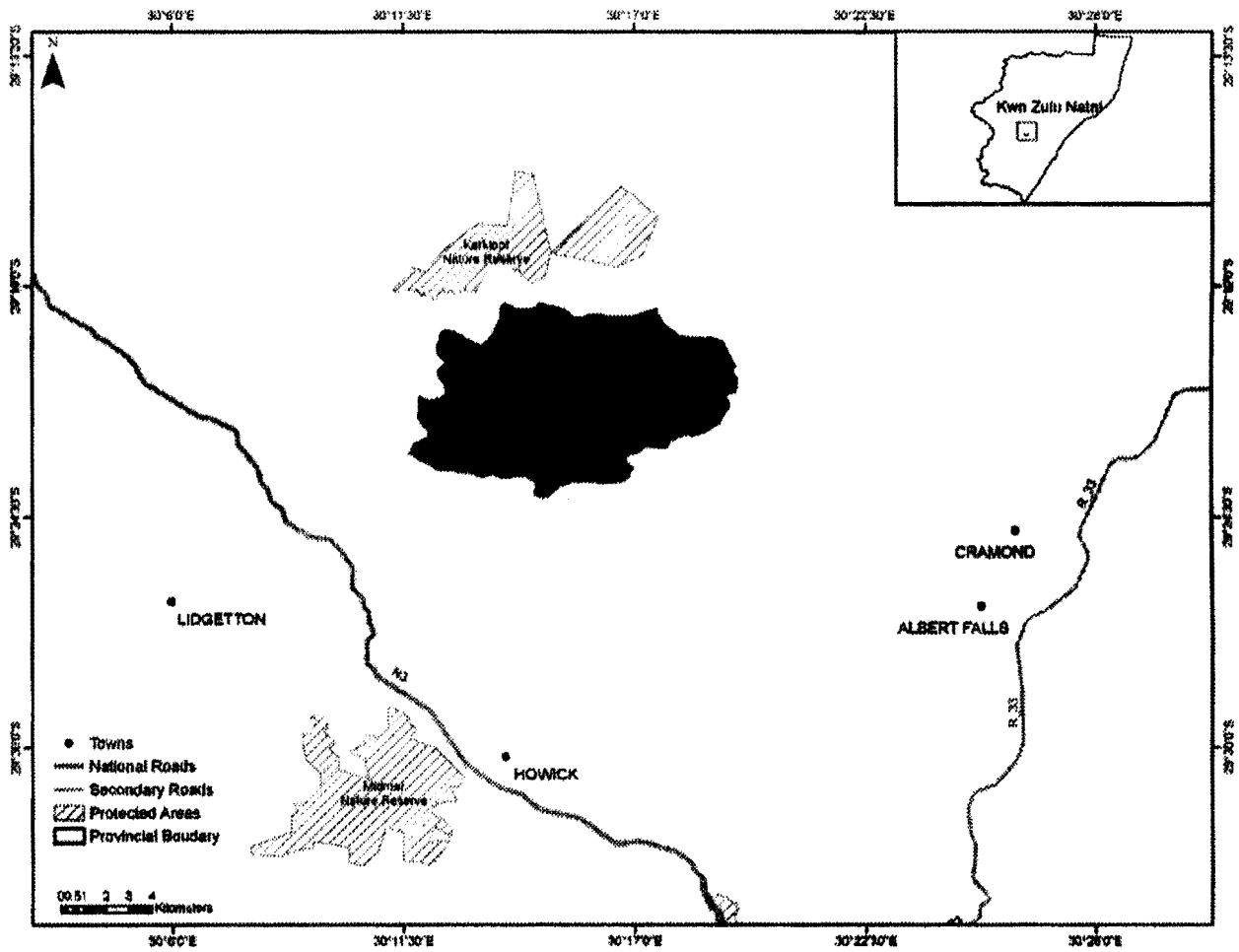
Key biodiversity features include one bird species, the Wattled Crane; one millipede species, *Doratogonus montanus*; four plant species including *Gerbera aurantiaca*, *Plectranthus rehmannii*, *Senecio exuberans* and *Watsonia canaliculata*; one reptile species, *Bradypodion thamnobates*; and one vegetation type, Midlands Mistbelt Grassland.

Other information

The ecosystem is not protected.

Reference

Goodman, P.S. 2007. KwaZulu-Natal Terrestrial Conservation Plan (C-Plan), Version 4. Biodiversity Conservation Planning Division, Ezemvelo KZN Wildlife.



Location of Looskop Grasslands showing original area of ecosystem

89. Lower Gariep Alluvial Vegetation (AZa 3)

Reference number	AZa 3
Listed under criteria	A1
Biome	Azonal
Province	Northern Cape
Municipalities	Richtersveld LM, Nama Khoi LM, KhΓi-Ma LM, Siyathemba LM, Kai !Garib LM, //Khara Hais LM, !Kheis LM, NCDMA07 and NCDMA08
Original area of ecosystem	75 000 ha
Remaining natural area of ecosystem (%)	47%
Proportion of ecosystem protected	6% of original area
Known number of species of special concern	11 endemic plant species

Geographical location

Broad alluvium (floodplains and islands) of the Orange (Gariep) River between Groblershoop and the mouth into the Atlantic Ocean at Oranjemund (Namibia). This river stretch is embedded within Desert (Oranjemund to roughly Pofadder) and Nama-Karoo (further upstream as far as Groblershoop).

Description

Flat alluvial terraces and riverine islands supporting a complex of riparian thickets (dominated by *Ziziphus mucronata*, *Euclea pseudebenus* and *Tamarix usneoides*), reed beds with *Phragmites australis* as well as flooded grasslands and herblands populating sand banks and terraces within and along the river. At least 11 endemic plant species occur in the ecosystem.

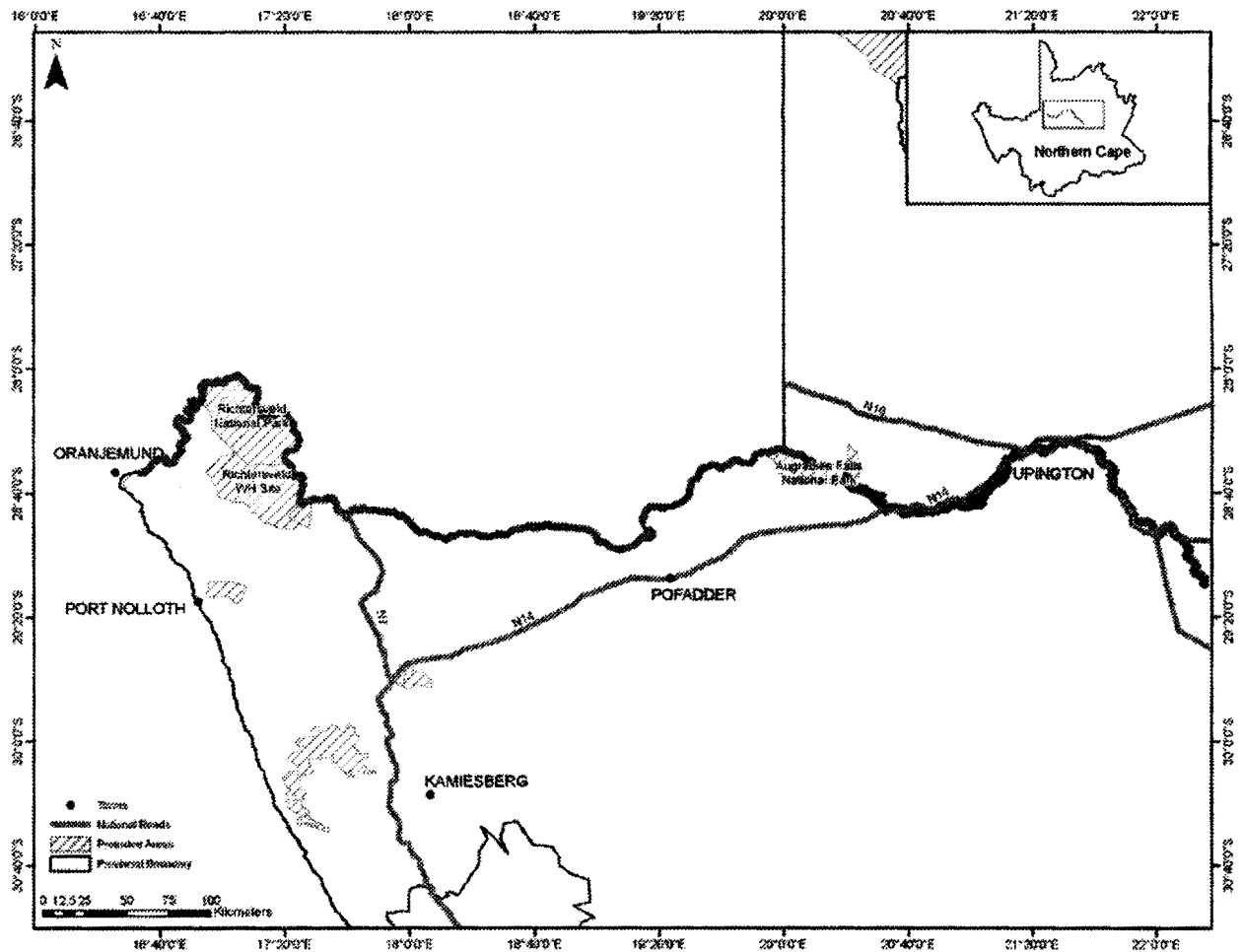
Other information

Approximately 6% of the ecosystem is protected in the Richtersveld National Park and Augrabies Falls National Park.

Reference

Mucina, L., Rutherford, M.C., Powrie, L.W., Gerber, J., Bezuidenhout, H., Sieben, E.J.J., Cilliers, S.S., Du Preez, P.J., Manning, J.C., Hoare, D.B., Boucher, C., Rebelo, A.G., Bredenkamp, G.J.,

Siebert, F. 2006. Inland Azonal Vegetation. In: L. Mucina & M.C. Rutherford (eds). The Vegetation of South Africa, Lesotho and Swaziland. *Strelitzia* 19: 638-639. South African National Biodiversity Institute, Pretoria.



Location of Lower Gariep Alluvial Vegetation showing original area of ecosystem (area of ecosystem enlarged for visibility at this scale)

90. Malmani Karstlands (MP 5)

Reference number	MP 5
Listed under Criterion	F
Biome	Grassland, Savanna and Forest
Provinces	Mpumalanga and Limpopo
Municipalities	Thaba Chweu LM and Greater Tubatse LM
Original area of ecosystem	66 000 ha
Remaining natural area of ecosystem (%)	71%
Proportion of ecosystem protected	9% of original area
Known number of species of special concern	23 threatened or endemic plant and animal species including those listed below

Geographical location

From Abel Erasmus Pass in the north to just south of Pilgrim's Rest (2430BC, 2430DA, 2430DB, 2430DC, 2430DD and 2530BA). Ecosystem delineated by mountainous karstlands of the Malmani subgroup, together with presence of karstland endemic taxa and threatened species. Landtypes were used to re-define the boundaries.

Description

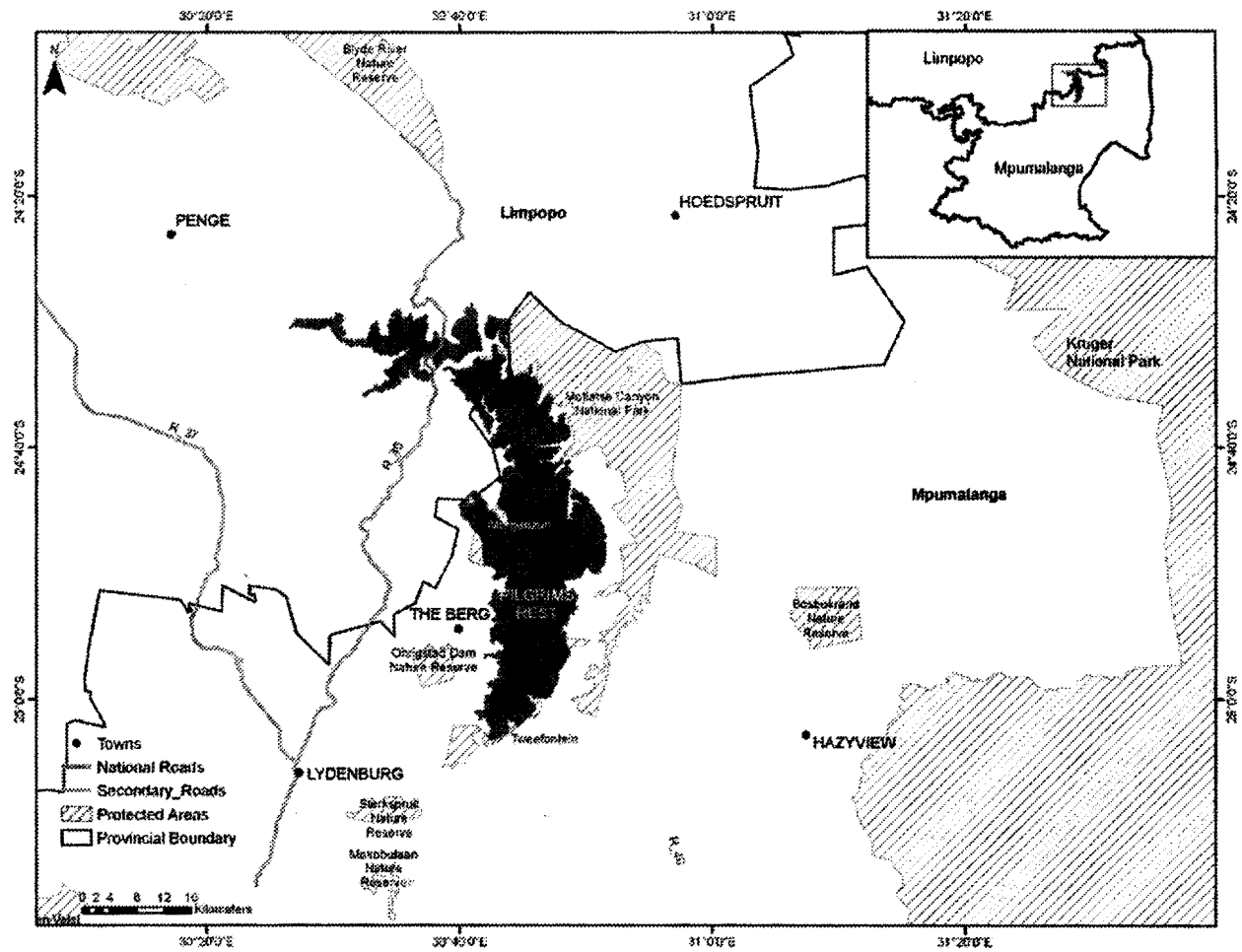
Key biodiversity features include five mammal species including Rough-haired Golden Mole, Meester's Golden Mole, Short-eared Trident Bat, Natal Long-fingered Bat and Oribi; six bird species including Blue Crane, Blue Swallow, Grey Crowned Crane, Striped Flufftail, Southern Ground Hornbill and Wattled Crane; three reptile species for example *Bradypodion transvaalense* and *Lamprophis swazicus*; nine plant species for example *Aloe fouriei*, *Gladiolus vernus*, *Gladiolus macneillii*, *Ocotea kenyensis* and *Warburgia salutaris*; and seven vegetation types including Northern Escarpment Dolomite Grassland, Pong Dolomite Mountain Bushveld, Ohrigstad Mountain Bushveld, Long Tom Pass Montane Grassland, Lydenburg Thornveld, Mpumalanga Afromontane Forest and Northern Escarpment Quartzite Sourveld. The ecosystem includes part of the Wolkberg Centre of Endemism; it provides an escarpment corridor; contains important caves; and is important for grassland and forest processes.

Other information

Approximately 9% of the ecosystem is protected in the Blyde River Canyon National Park, Morgenzon Primary Conservation Area and Tweefontein Primary Conservation Area.

Reference

Mpumalanga Tourism and Parks Agency & Department of Agriculture and Land Administration. 2007. Mpumalanga Biodiversity Conservation Handbook.



Location of Malmani Karstlands showing original area of ecosystem

91. Mananga-Lebombo Thornveld (MP 6)

Reference number	MP 6
Listed under Criterion	F
Biome	Savanna and Forest
Province	Mpumalanga
Municipality	Nkomazi LM
Original area of ecosystem	41 000 ha
Remaining natural area of ecosystem (%)	72 %
Proportion of ecosystem protected	1% of original area
Known number of species of special concern	8 threatened or endemic plant and animal species including those listed below

Geographical location

South eastern corner of Mpumalanga province (2531DB, 2531DC and 2531DD). Dry clay flats on northern end of Southern Lebombo Sourveld. Ecosystem delineated using landtypes and topography.

Description

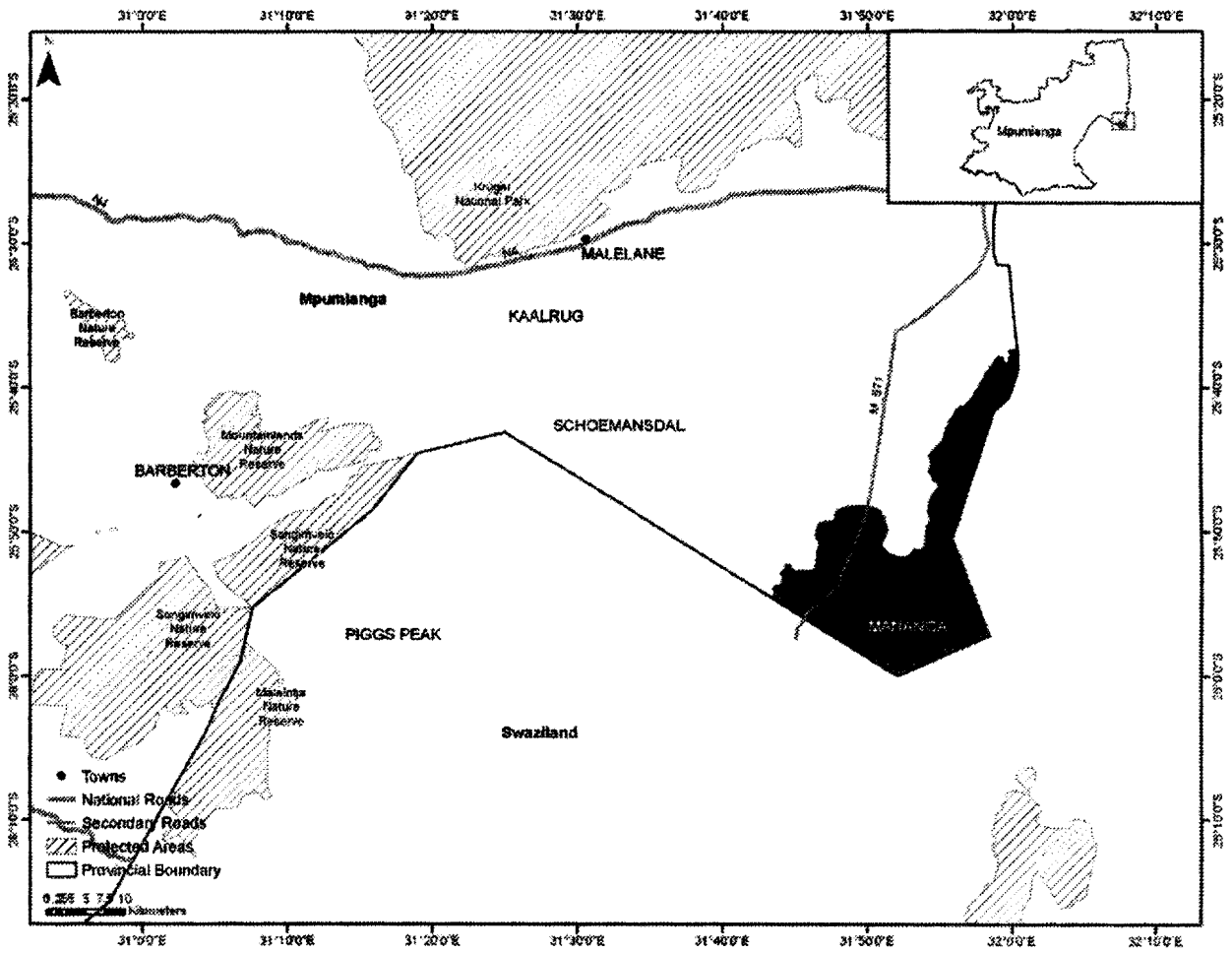
Key biodiversity features include two bird species, the Saddle-billed Stork and the Southern Ground Hornbill; one amphibian, the Whistling Rain Frog; two reptile species including *Aspedilaps scutatus intermedius* and *Cordylus warreni warreni*; three plant species for example *Orbea paradoxa*; and five vegetation types including Lebombo Summit Sourveld, Southern Lebombo Bushveld, Sweet Arid Basalt Lowveld, Zululand Lowveld and Maputaland Scarp Forest. The ecosystem includes important sub-catchments and provides an ecological corridor.

Other information

Approximately 1% of the ecosystem is protected by the Mawewe Cattle/Game Project.

Reference

Mpumalanga Tourism and Parks Agency & Department of Agriculture and Land Administration. 2007. Mpumalanga Biodiversity Conservation Handbook.



Location of Mananga-Lebombo Thornveld showing original area of ecosystem

92. Mangrove Forest (FOa 3)

Reference number	FOa 3
Listed under Criterion	C
Biome	Forest
Provinces	KwaZulu-Natal and Eastern Cape
Municipalities	Port St Johns LM, Mtubatuba LM, Mbonambi LM, uMhlatuze LM and KZNDMA27
Original area of ecosystem	Data not available
Remaining natural area of ecosystem	2 000 ha
Proportion of ecosystem protected	73% of remaining area
Known number of species of special concern	

Geographical location

Occur in tidal saline wetlands in bays and estuaries along the Indian Ocean from the Kosi Bay lagoon system (26° S) in the north to the Nahoon River (33° S) in the south.

Description

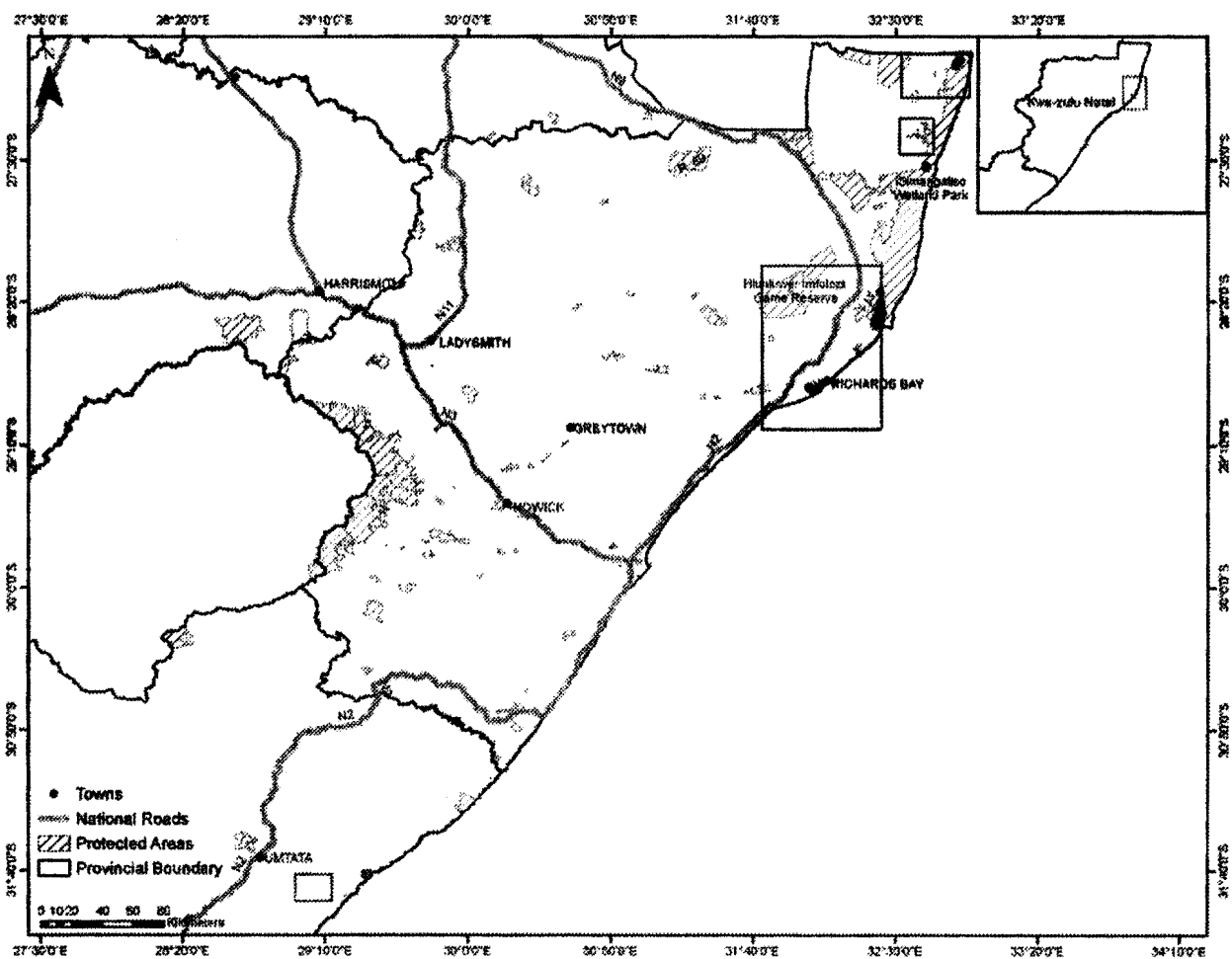
Low-grown forest or tall shrubbery growing in the shallow, sheltered tidal areas along the eastern coastline. Characteristic animals include mudskippers, fiddler crabs and mangrove snails. Due to extreme ecological conditions resulting from a combination of stress (for example high salinity and anoxia) and disturbance (for example repeated flooding), as well as due to the extreme southernmost distribution of this tropical vegetation, the mangroves in South Africa are species poor with only seven typical mangrove species, a fraction of the species richness found in tropical regions. Usually one or two species dominate the stands. The mangroves are nevertheless productive ecosystems and important as spawning areas for a variety of fish species.

Other information

Approximately 73% of the ecosystem is protected in isiMangaliso Wetland Park, Richards Bay, Beachwood Mangroves and Umlalazi Nature Reserves. Much of the original extent of mangroves has been lost in South Africa.

References

- Mucina, L. & Geldenhuys, C.J. 2006. Afrotropical, Subtropical and Azonal Forests. In: L. Mucina & M.C. Rutherford (eds). *The Vegetation of South Africa, Lesotho and Swaziland. Strelitzia 19*: 608-609. South African National Biodiversity Institute, Pretoria.
- Von Maltitz, G., Mucina, L., Geldenhuys, C., Lawes, M., Eeley, H., Adie, H., Vink, D., Flemming, G. & Bailey, C. 2003. *Classification System for South African Indigenous Forests. An objective classification for the Department of Water Affairs and Forestry. Environmentek Report ENV-P-C 2003-017*, CSIR, Pretoria.



Location of Mangrove Forest (area of ecosystem enlarged for visibility at this scale)

93. Mapungubwe/Greefswald Riverine Forest (FOR 4)

Reference number	FOR 4
Listed under Criterion	F
Biome	Forest
Province	Limpopo
Municipality	Musina LM
Original area of ecosystem	Data not available
Remaining natural area of ecosystem	4 270 ha
Proportion of ecosystem protected	100%
Known number of species of special concern	3 Red Data bird species and 1 Red Data mammal species

Geographical location

Within the Mapungubwe National Park along the Limpopo River at its confluence with the Shashe River on the border with Botswana and Zimbabwe, and along streams feeding into the river. The ecosystem includes the following forest patch: 20564.

Description

Lowveld Riverine Forest with relatively high biodiversity. Tall gallery forests fringing the Limpopo River and tributaries, surrounded by savanna woodland. Dominated by typical riverine forest species such as *Ficus sycamorus* and *Acacia xanthophloea*, and a number of species typical of woodlands such as *Schotia brachepetala*. The ecosystem is important for a variety of forest and woodland fauna, including Elephant (*Loxodonta africana*) and Black Rhino. As the most extensive riverine forest along the Limpopo west of the Kruger National Park, the forest serves as an important migratory route for certain fauna species. Bird life is varied and includes three Red Data List bird species. One Red Data List mammal species also occurs in the ecosystem.

Other information

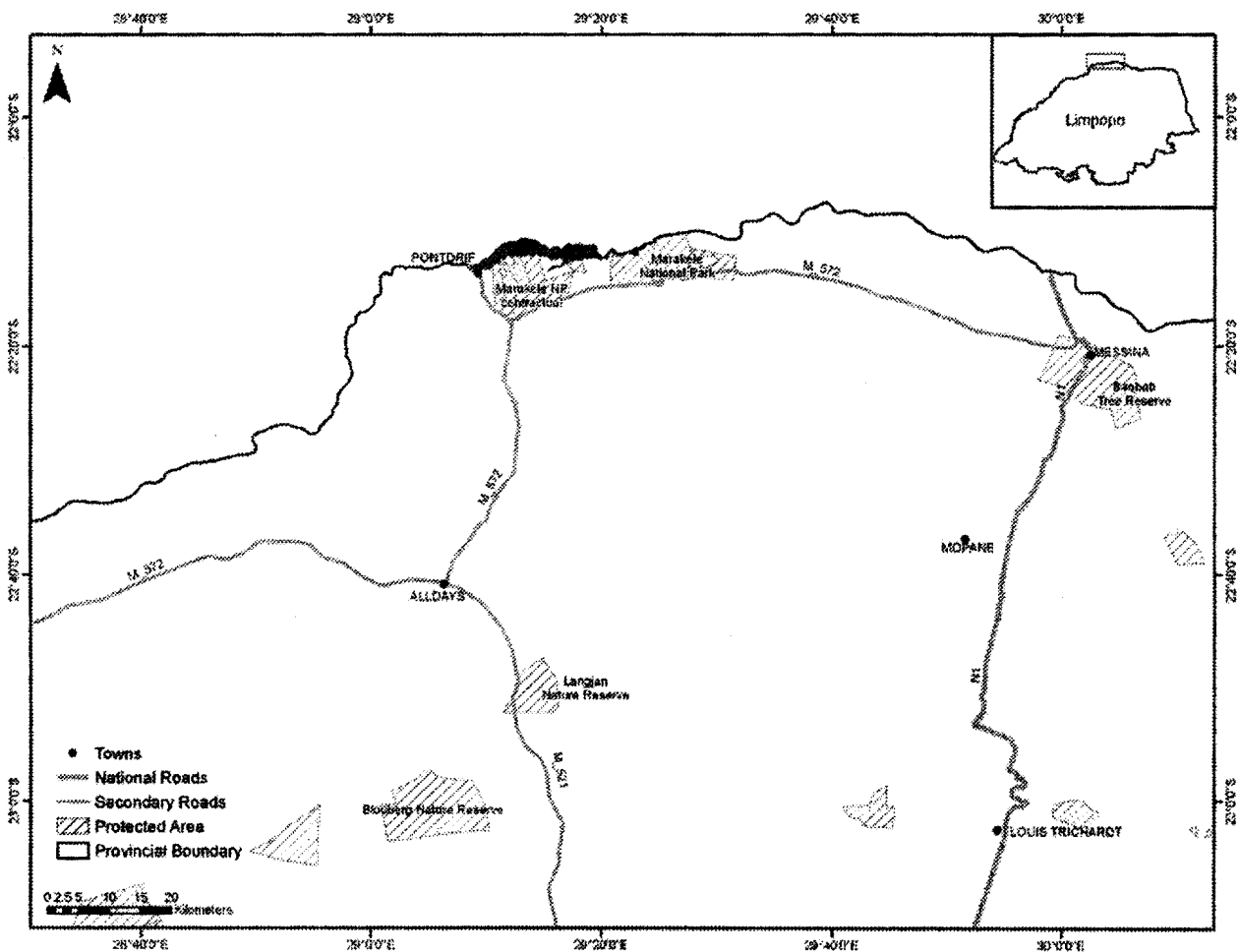
The ecosystem is protected in the Mapungubwe National Park.

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Location of Mapungubwe/Greefswald Riverine Forest