

A three-step methodology was used to identify ecosystems using Criterion F:

- Step 1: Identify clusters of very high irreplaceability planning units from the systematic biodiversity plan
- Step 2: Delineate ecosystems using ecological, topographical and/or geological features
- Step 3: Assess the threat value (high, medium or low) for each ecosystem based on data included in the systematic biodiversity planning process, to categorise as critically endangered, endangered or vulnerable respectively

4.4 How do listed threatened ecosystems relate to ecosystem status in the National Spatial Biodiversity Assessment 2004?

The NSBA 2004 was the first national spatial assessment of South Africa's terrestrial and aquatic biodiversity. It identified broad biodiversity priority areas for conservation action, and as mentioned in Section 1 included early attempts to identify threatened ecosystems in the terrestrial, river, estuarine and marine environments. An assessment of ecosystem threat status categorised ecosystems as critically endangered (CR), endangered (EN), vulnerable (VU) or least threatened (LT).

The methodology used to assess ecosystem threat status in the NSBA 2004 used only Criterion A1, and the thresholds for endangered and vulnerable ecosystems were different from those used for ecosystem listing. Available data on loss of natural habitat has improved since the NSBA 2004 was undertaken, and further criteria for identifying threatened ecosystems have been developed. **This means that the terrestrial ecosystem status results in the NSBA 2004 are superceded by this more detailed, comprehensive analysis.** The National Biodiversity Assessment (NBA) 2011 incorporates a spatial assessment as well as other non-spatial elements. When the NBA 2011 is published, it will be aligned and consistent with this published list of threatened terrestrial ecosystems, and will supercede the NSBA 2004 with respect to the assessment of ecosystem threat status of aquatic ecosystems.

5 Implications of listing threatened ecosystems

This section briefly discusses the implications of listing threatened ecosystems. Four main types of implications have been identified:

- Planning related implications, linked to IDPs and SDFs;
- Environmental authorisation implications, in terms of NEMA and EIA regulations;
- Proactive management implications, in terms of the Biodiversity Act;
- Monitoring and reporting implications, in terms of the Biodiversity Act.

5.1 Planning related Implications

According to Section 54 of the Biodiversity Act, the need for protection of listed ecosystems must be taken into account in municipal Integrated Development Plans (IDPs) and by implication in Spatial Development Frameworks (SDFs).²³

IDPs can take listed ecosystems into account by, for example:

- Identifying IDP projects or local economic development projects with biodiversity benefits, linked to management of threatened ecosystems (such as clearing of invasive aliens through Working for Water, or other forms of rehabilitation e.g. through Working for Wetlands, LandCare, CoastCare);
- Prioritising threatened ecosystems in the development of invasive species control and eradication plans (these are required of municipalities in terms of Subsection 76(2) of the Biodiversity Act, for any land under a municipality's control, and should form part of the IDP);
- Exploring options to formally protect and manage municipal land that supports threatened ecosystems;
- Ensuring that development projects identified by the IDP, especially those with large footprints, avoid conflict with or negative impacts on threatened ecosystems.

SDFs should take listed ecosystems into account by:

- Including a map of listed ecosystems and their accompanying descriptions;

²³ The Municipal Systems Act (Act 32 of 2000) requires that an IDP must include a spatial component, the SDF. In practice, IDPs and SDFs are usually compiled separately by separate sets of consultants.

- Ensuring that listed ecosystems are reflected in the final integrated map of spatial planning categories or zones;
- Applying appropriately restrictive land-use guidelines to listed ecosystems, so that further loss and degradation of natural habitat in these ecosystems is avoided.

Zoning schemes or land-use management schemes should ultimately be consistent with and give effect to Spatial Development Frameworks, and should include appropriately restrictive zoning categories for ecologically important areas such as threatened ecosystems.

An important starting point is for municipalities to be aware of listed ecosystems that fall within their jurisdiction. To this end, SANBI and DEA have embarked on a project to develop municipal biodiversity summaries, which will provide basic information on important biodiversity features per district municipality, initially in pilot provinces and later in all provinces. Municipal biodiversity summaries will be available on SANBI's Biodiversity GIS (BGIS) website (<http://bgis.sanbi.org>), which already serves substantial amounts of spatial biodiversity information to municipalities, consultants and others.

The need for protection of listed ecosystems should also be taken into account in provincial growth and development strategies and provincial spatial development frameworks, which provide the provincial context for district and local IDPs and SDFs.

5.2 Environmental authorisation implications

As discussed in Section 3.2.2, the EIA Regulations include three lists of activities that require environmental authorisation:

- Listing Notice 1: activities that require a basic assessment (R544 of 2010),
- Listing Notice 2: activities that require scoping and environmental impact report (EIR) (R545 of 2010),
- Listing Notice 3: activities that require a basic assessment in specific identified geographical areas only (R546 of 2010).

Activity 12 in Listing Notice 3 relates to the clearance of 300m² of more of vegetation, which will trigger a basic assessment within any critically endangered or endangered ecosystem listed in terms of S52 of the Biodiversity Act. This means **any development that involves loss of natural habitat in a listed critically endangered or endangered ecosystem is likely to require at least a basic assessment** in terms of the EIA regulations.

In addition, if any other development that requires environmental authorisation impacts on a threatened ecosystem, that impact should be avoided, minimised, mitigated and/or offset as appropriate.

In determining the significance of impact on biodiversity in an EIA process, loss of natural habitat in a critically endangered or endangered ecosystem should be ranked as highly significant.

To establish whether a site falls within or contains part of a threatened ecosystem, go to SANBI's BGIS website (<http://bgis.sanbi.org>) where a shapefile of listed ecosystems is available. BGIS also provides a land-use decision support (LUDS) tool, which can be used to locate your site and to determine whether the site falls within or contains part of a threatened ecosystem (or other biodiversity priority area). If the site does fall within a listed ecosystem, it is important to ground-truth the presence of indigenous vegetation of the ecosystem in question, preferably with an ecologist who knows the area. Spatial data on the location of ecosystems and on land cover is always subject to errors of scale, and land cover data is never 100% up to date.

As discussed in Section 3.2.2, NEMA also provides for the development of EMFs. **Listed ecosystems should be incorporated into EMFs**, with restrictions on any loss of natural habitat in critically endangered or endangered ecosystems.

5.3 Proactive biodiversity management implications

Listing of ecosystems allows for considerable focus of proactive management actions on these ecosystems to protect or rehabilitate them.

In terms of the Biodiversity Act:

- A Biodiversity Management Plan can be developed and published for a listed ecosystem. The Minister must identify an implementing agent for the management plan in order for it to be published, and must assess implementation of the plan every five years. A Biodiversity Management Plan could also be developed for a portion of a listed ecosystem or for a group of listed ecosystems. As noted in Section 3.1.4, norms and standards for Biodiversity Management Plans for ecosystems are in the process of being developed.
- The Minister can enter into a Biodiversity Management Agreement with the implementing agent of a Biodiversity Management Plan.

Other proactive management actions that could be applied to listed ecosystems include the following:

- Regulation and control of invasive alien species could be prioritised in listed ecosystems
- Rehabilitation programmes such as Working for Wetlands could prioritise listed ecosystems
- Provincial biodiversity stewardship programmes could prioritise listed ecosystems for contract protected areas in terms of the Protected Areas Act or for other biodiversity stewardship agreements
- Protected area management plans could pay particular attention to the need for careful management of threatened ecosystems within protected areas.

5.4 Monitoring and reporting implications

The functions of SANBI, set out in Section 11 of the Biodiversity Act, include monitoring and reporting regularly to the Minister on the conservation status of all listed species and listed ecosystems.

In terms of Section 49 of the Biodiversity Act, which deals with monitoring the status of biodiversity in the country, the Minister must designate monitoring mechanisms and set indicators to determine the conservation status of various components of South Africa's biodiversity, as well as any negative and positive trends affecting their conservation status. The Minister must report annually to parliament on these indicators and make the information publicly available.

SANBI has developed a National Biodiversity Monitoring and Reporting Framework, together with headline indicators, to provide an effective mechanism for reporting on the state of South Africa's biodiversity, including co-ordinating and aligning the biodiversity monitoring and reporting efforts of many organisations and individuals. The National Biodiversity Monitoring and Reporting Framework has a component that deals with the state of ecosystems, with headline indicators on the number and extent of threatened ecosystems (CR, EN and VU) in terrestrial and aquatic environments.

We recommend that provinces and municipalities developing State of Environment Reports align their biodiversity indicators as far as possible with those in the National Biodiversity Monitoring and Reporting Framework, and include indicators on the number and remaining area of threatened ecosystems, and the extent of further loss or degradation of threatened ecosystems.

6 Summary of listed ecosystems

This section provides summary information on the terrestrial ecosystems listed in the current phase of listing. Detailed information on each of the ecosystems follows in Section 7.

As shown in Table 2, remaining natural areas in threatened terrestrial ecosystems make up 9.5% of the country, with critically endangered and endangered ecosystems together accounting for 2.7% and vulnerable ecosystems a further 6.8%. The table shows how the ecosystems are distributed by province. The area figures refer to the remaining natural habitat in listed ecosystems, not their original extent. Much natural habitat has already been lost in most threatened ecosystems, so the remaining extent is much smaller than the original extent. Figure 1 and Figure 2 show the original and remaining extent of the ecosystems respectively.

Table 3 gives a summary list of all the ecosystems. The table is organised by category of threatened ecosystem (CR, EN and VU) and within each category the ecosystems are given in alphabetical order. Table 4 gives a summary list of all the ecosystems organised by province. Where a listed ecosystem is shared by more than one province this is indicated in the table.

Table 2: Summary statistics for listed ecosystems

	CR		EN		VU		TOTAL	
	000 ha	%	000 ha	%	000 ha	%	000 ha	%
Eastern Cape	4	0.0	51	0.3	588	3.5	643	3.8
Free State	2	0.0	383	3.0	1 049	8.1	1 433	11.0
Gauteng	99	6.0	95	5.8	189	11.4	384	23.2
KZN	224	2.4	464	5.0	1 164	12.5	1 852	19.9
Limpopo	9	0.1	123	1.0	536	4.3	668	5.3
Mpumalanga	6	0.1	634	8.3	2 226	29.1	2 866	37.5
Northern Cape			35	0.1	109	0.3	144	0.4
North West	186	1.8	452	4.3	1 309	12.3	1 947	18.3
Western Cape	374	2.9	154	1.2	1 083	8.4	1 611	12.5
South Africa	903	0.7	2 392	2.0	8 252	6.8	11 547	9.5

Table notes:

- Area figures refer to remaining natural area. They have been rounded to nearest thousand hectares so totals may not add up exactly.
- A blank cell indicates that no ecosystems were identified. A zero indicates that one or more ecosystems have been identified but that their total remaining area is less than 1 000ha.

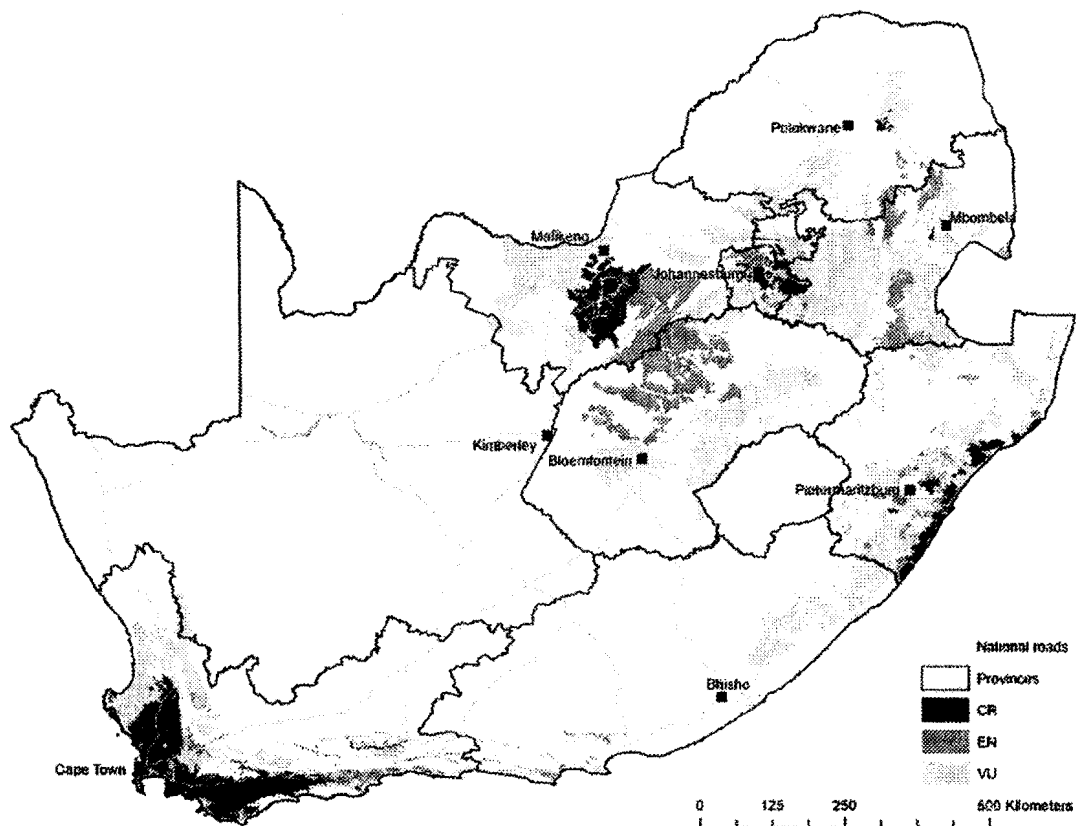


Figure 1: Map of listed ecosystems, showing original extent of ecosystems

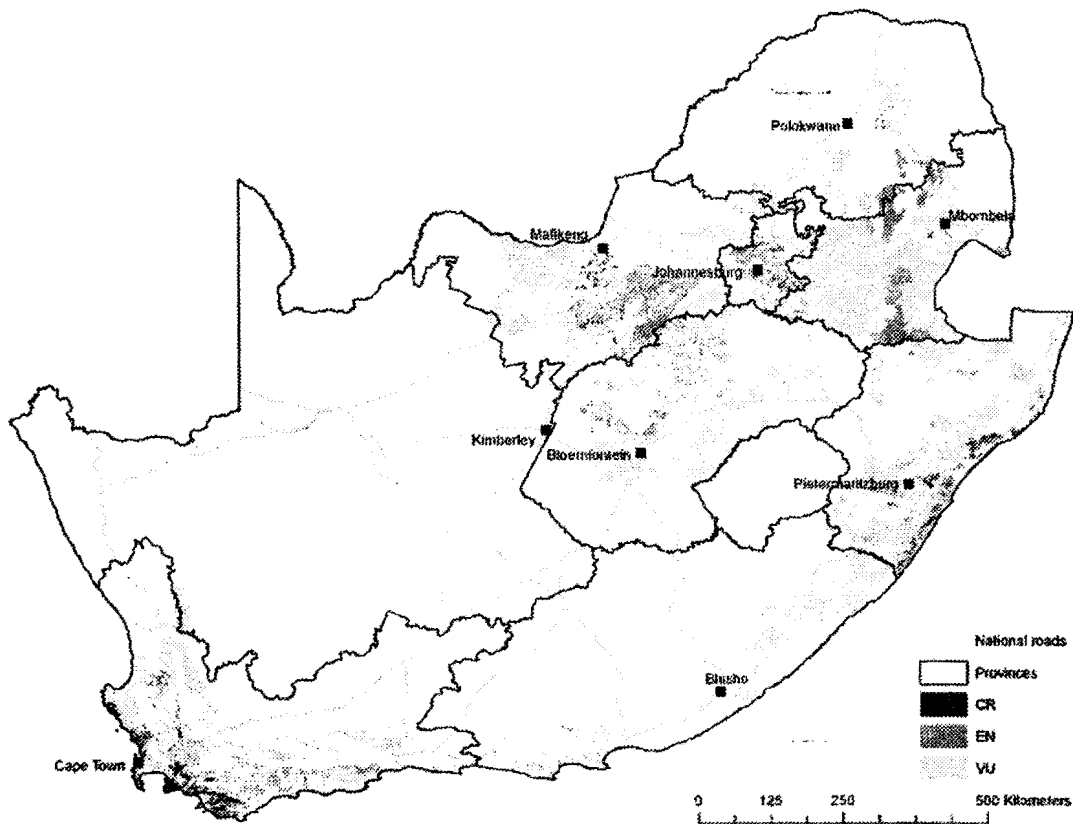


Figure 2: Map of listed ecosystems, showing remaining extent of ecosystems

Table 3: Summary of listed ecosystems, including reference numbers, divided into critically endangered, endangered and vulnerable ecosystems

No.	Ecosystem	Biome	Province	Criterion
Critically Endangered (CR)				
1	Atlantis Sand Fynbos (FFd 4)	Fynbos	Western Cape	D1
2	Blesbokspruit Highveld Grassland (GP 1)	Grassland/Savanna/ Wetland	Gauteng	F
3	Blinkwater Valley (KZN 1)	Grassland/Savanna	KwaZulu-Natal	F
4	Boesmanspruit Highveld Grassland (GP 2)	Grassland/Wetland	Gauteng	F
5	Bronberg Mountain Bushveld (GP 3)	Grassland/Savanna	Gauteng	F
6	Cape Flats Sand Fynbos (FFd 5)	Fynbos	Western Cape	A1 & D1
7	Cape Lowland Alluvial Vegetation (AZa 2)	Azonal	Western Cape	A1
8	Central Rûens Shale Renosterveld (FRs 12)	Fynbos	Western Cape	A1
9	Durban Metropole North Coast Grassland (KZN 2)	Indian Ocean Coastal Belt/Forest	KwaZulu-Natal	F
10	Eastern Rûens Shale Renosterveld (FRs 13)	Fynbos	Western Cape	A1
11	Elgin Shale Fynbos (FFh 6)	Fynbos	Western Cape	A1
12	Elim Ferricrete Fynbos (FFf 1)	Fynbos	Western Cape	A1
13	Entumeni Valley (KZN 3)	Indian Ocean Coastal Belt/ Savanna/Forest	KwaZulu-Natal	F
14	Eshowe Mtunzini Hilly Grasslands (KZN 4)	Indian Ocean Coastal Belt/ Savanna/Forest	KwaZulu-Natal	F
15	Glen Austin Pan (GP 4)	Grassland	Gauteng	F
16	Highover Nature Reserve and Roselands Farm Surrounds (KZN 5)	Grassland/Savanna/ Forest	KwaZulu-Natal	F
17	Interior North Coast Grasslands (KZN 6)	Indian Ocean Coastal Belt/ Savanna/Forest	KwaZulu-Natal	F
18	Interior South Coast Grasslands (KZN 7)	Indian Ocean Coastal Belt/ Savanna/Forest	KwaZulu-Natal	F
19	Kaapsehoop Quartzite Grasslands (MP 1)	Grassland/Forest	Mpumalanga	F
20	Klipriver Highveld Grassland (GP 5)	Grassland/Savanna/ Wetland	Gauteng	F

No.	Ecosystem	Biome	Province	Criterion
21	Knysna Sand Fynbos (FFd 10)	Fynbos	Western Cape	A1
22	Kogelberg Sandstone Fynbos (FFs 11)	Fynbos	Western Cape	D1
23	Kwambonambi Dune Forest (KZN 8)	Indian Ocean Coastal Belt/Forest	KwaZulu-Natal	F
24	Kwambonambi Hygrophilous Grasslands (KZN 9)	Indian Ocean Coastal Belt/Forest	KwaZulu-Natal	F
25	Langkloof Shale Renosterveld (FRs 17)	Fynbos	Western Cape Eastern Cape	A1
26	Lourensford Alluvium Fynbos (FFa 4)	Fynbos	Western Cape	A1
27	Magaliesberg Pretoria Mountain Bushveld (GP 6)	Grassland/Savanna	Gauteng	F
28	Margate Pondoland-Ugu Sourveld (KZN 10)	Indian Ocean Coastal Belt/Forest	KwaZulu-Natal	F
29	Mlazi Gorge (KZN 11)	Indian Ocean Coastal Belt/Forest	KwaZulu-Natal	F
30	Muscadel Riviere (AZi 8)	Azonal	Western Cape	A1
31	New Hanover Plateau (KZN 12)	Grassland/Savanna/ Forest	KwaZulu-Natal	F
32	Ngoye Scarp Forests and Grasslands (KZN 13)	Indian Ocean Coastal Belt/ Savanna/Forest	KwaZulu-Natal	F
33	North Coast Dune Forest (KZN 14)	Indian Ocean Coastal Belt/Forest	KwaZulu-Natal	F
34	North Coast Forest Collective (KZN 15)	Indian Ocean Coastal Belt/Forest	KwaZulu-Natal	F
35	Northern Coastal Grasslands (KZN 16)	Indian Ocean Coastal Belt/Forest	KwaZulu-Natal	F
36	Oakland and Townhill Ridge (KZN 17)	Grassland/Savanna/ Forest	KwaZulu-Natal	F
37	Overberg Sandstone Fynbos (FFs 12)	Fynbos	Western Cape	D1
38	Peninsula Granite Fynbos (FFg 3)	Fynbos	Western Cape	A1
39	Peninsula Shale Renosterveld (FRs 10)	Fynbos	Western Cape	A1
40	Rietvleiriver Highveld Grassland (GP 7)	Grassland/Wetlands	Gauteng	F
41	Roodepoort Reef Mountain Bushveld (GP 8)	Grassland/Savanna	Gauteng	F
42	Rûens Silcrete Renosterveld (FRc 2)	Fynbos	Western Cape	A1
43	Southern Coastal Grasslands (KZN 18)	Indian Ocean Coastal Belt/Forest	KwaZulu-Natal	F
44	Swartland Alluvium Fynbos (FFa 3)	Fynbos	Western Cape	A1
45	Swartland Granite Renosterveld (FRg 2)	Fynbos	Western Cape	A1 & D1

No.	Ecosystem	Biome	Province	Criterion
46	Swartland Shale Renosterveld (FRs 9)	Fynbos	Western Cape	A1 & D1
47	Swartland Silcrete Renosterveld (FRc 1)	Fynbos	Western Cape	A1
48	Umvoti Valley Complex (KZN 19)	Indian Ocean Coastal Belt/ Savanna/Forest	KwaZulu-Natal	F
49	Western Highveld Sandy Grassland (Gh 14)	Grassland	North West	A1
50	Western Rûens Shale Renosterveld (FRs 11)	Fynbos	Western Cape	A1
51	Wilge Mountain Bushveld (GP 9)	Grassland/Savanna	Gauteng	F
52	Witwatersberg Pretoria Mountain Bushveld (GP 10)	Grassland/Savanna	Gauteng	F
53	Woodbush Granite Grassland (Gm 25)	Grassland	Limpopo	A1
Endangered (EN)				
54	Agulhas Sand Fynbos (FFd 7)	Fynbos	Western Cape	A1
55	Albany Alluvial Vegetation (AZa 6)	Azonal	Eastern Cape	A1
56	Bazini Forest Complex (KZN 20)	Grassland/Savanna/ Forest	KwaZulu-Natal	F
57	Bivane Montane Grassland (KZN 21)	Grassland	KwaZulu-Natal	F
58	Blouberg Forest (FOR 1)	Forest	Limpopo	F
59	Blyde Quartzite Grasslands (MP 2)	Grassland/Forest	Mpumalanga	F
60	Brakfontein Reef Bushveld (GP 11)	Grassland/Savanna	Gauteng	F
61	Breede Alluvium Fynbos (FFa 2)	Fynbos	Western Cape	A1
62	Bronkhorstspuit Highveld Grassland (GP 12)	Savanna/Grassland/ Wetland	Gauteng	F
63	Cape Flats Dune Strandveld (FS 6)	Fynbos	Western Cape	D1
64	Cape Vernal Pools (AZf 2)	Azonal	Western Cape Northern Cape	A1
65	Chrissiesmeer Panveld (MP 3)	Grassland/Wetland	Mpumalanga	F
66	Cumberland Crest (KZN 22)	Savanna	KwaZulu-Natal	F
67	Deneysville Highveld Grassland (GP 13)	Grassland/Savanna	Gauteng	F
68	Dukuduku/St Lucia Grasslands and Forests (KZN 23)	Indian Ocean Coastal Belt/Forest	KwaZulu-Natal	F
69	Dullstroom Plateau Grasslands (MP 4)	Grassland/Forest	Mpumalanga	F
70	Egoli Granite Grassland (Gm 10)	Grassland	Gauteng	A1
71	Fort Metcalf Grasslands (KZN 24)	Grassland	KwaZulu-Natal	F
72	Garden Route Granite Fynbos (FFg 5)	Fynbos	Western Cape	A1

No.	Ecosystem	Biome	Province	Criterion
73	Gqunu Forest (KZN 25)	Grassland/Forest	KwaZulu-Natal	F
74	Greyton Shale Fynbos (FFh 7)	Fynbos	Western Cape	A1
75	Greytown North Grasslands (KZN 26)	Grassland	KwaZulu-Natal	F
76	Groot Brak Dune Strandveld (FS 9)	Fynbos	Western Cape	A1
77	Hangklip Sand Fynbos (FFd 6)	Fynbos	Western Cape	A1
78	Hlabeni State Forest (KZN 27)	Grassland/Forest	KwaZulu-Natal	F
79	Hlabisa Forest Complex (FOR 2)	Forest	KwaZulu-Natal	F
80	Humansdorp Shale Renosterveld (FRs 19)	Fynbos	Eastern Cape	A1
81	Impendle Highlands (KZN 28)	Grassland/Forest	KwaZulu-Natal	F
82	Karkloof Forest Collective (KZN 29)	Grassland/Savanna/ Forest	KwaZulu-Natal	F
83	Kobonqaba Forest Complex (FOR 3)	Forest	Eastern Cape	F
84	Kouebokkeveld Alluvium Fynbos (FFa 1)	Fynbos	Western Cape	A1
85	Kraanspoort Mountain Bushveld (GP 14)	Grassland/Savanna	Gauteng	F
86	KwaZulu-Natal Coastal Forest (FOz VII1)	Forest	KwaZulu-Natal	A2
87	KwaZulu-Natal Sandstone Sourveld (SVs 5)	Savanna	KwaZulu-Natal	A1
88	Loskop Grasslands (KZN 30)	Grassland	KwaZulu-Natal	F
89	Lower Gariep Alluvial Vegetation (AZa 3)	Azonal	Northern Cape	A1
90	Malmani Karstlands (MP 5)	Grassland/Savanna/ Forest	Mpumalanga Limpopo	F
91	Mananga-Lebombo Thornveld (MP 6)	Savanna/Forest	Mpumalanga	F
92	Mangrove Forest (FOa 3)	Forest	KwaZulu-Natal Eastern Cape	C
93	Mapungubwe/Greefswald Riverine Forest (FOR 4)	Forest	Limpopo	F
94	Mauchesburg Alpine Grasslands (MP 7)	Grassland/Forest	Mpumalanga	F
95	Mossel Bay Shale Renosterveld (FRs 14)	Fynbos	Western Cape	A1
96	Mount Thesiger Forest Complex (FOR 5)	Forest	Eastern Cape	F
97	Ngome Mistbelt Grassland and Forest (KZN 31)	Grassland/Savanna/ Forest	KwaZulu-Natal	F
98	Noordkaap Greenstone Bushveld (MP 8)	Savanna	Mpumalanga	F
99	Ntimbankulu Forest (FOR 6)	Forest	KwaZulu-Natal	F
100	Ntunjambili Valley Complex (KZN 32)	Savanna/Grassland	KwaZulu-Natal	F
101	Oribi-Port Edward Pondoland-Ugu Sourveld (KZN 33)	Indian Ocean Coastal Belt/ Savanna/Forest	KwaZulu-Natal	F

No.	Ecosystem	Biome	Province	Criterion
102	Peninsula Sandstone Fynbos (FFs 9)	Fynbos	Western Cape	D1
103	Pietermaritzburg South (KZN 34)	Grassland/Savanna/ Forest	KwaZulu-Natal	F
104	Potberg Ferricrete Fynbos (FFf 2)	Fynbos	Western Cape	A1
105	Qudeni Mountain Mistbelt Forest and Grassland (KZN 35)	Grassland/Savanna/ Forest	KwaZulu-Natal	F
106	Saldanha Granite Strandveld (FS 2)	Fynbos	Western Cape	A1
107	Sekhukhune Mountainlands (MP 9)	Grassland/Savanna	Mpumalanga Limpopo	F
108	Sekhukhune Norite Bushveld (LP 1)	Savanna	Limpopo	F
109	Sihleza (KZN 36)	Grassland/Forest	KwaZulu-Natal	F
110	Southern Weza State Forest (KZN 37)	Grassland/Forest	KwaZulu-Natal	F
111	Stoffberg Mountainlands (MP 10)	Grassland	Mpumalanga	F
112	Tsakane Clay Grassland (Gm 9)	Grassland	Gauteng Mpumalanga	A1
113	Umgeni Valley Bushveld (KZN 38)	Grassland/Savanna/ Forest	KwaZulu-Natal	F
114	Vaal-Vet Sandy Grassland (Gh 10)	Grassland	North West Free State	A1
115	Wakkerstroom/Luneburg Grasslands (MP 11)	Grassland/Forest	Mpumalanga KwaZulu-Natal	F
116	Western Cape Milkwood Forest (FOz VI3)	Forest	Western Cape	C
117	Witwatersberg Skeerpoort Mountain Bushveld (GP 15)	Grassland/Savanna	Gauteng	F
Vulnerable (VU)				
118	Agulhas Limestone Fynbos (FFI 1)	Fynbos	Western Cape	D1
119	Albertinia Sand Fynbos (FFd 9)	Fynbos	Western Cape	A1
120	Algoa Sandstone Fynbos (FFs 29)	Fynbos	Eastern Cape	A1
121	Badplaas Mountainlands (MP 12)	Grassland/Savanna/ Forest	Mpumalanga	F
122	Barberton Mountainlands (MP 13)	Grassland/Savanna/ Forest	Mpumalanga	F
123	Beinn Mheadmon Mountain Grasslands (KZN 39)	Grassland	KwaZulu-Natal	F
124	Bivane Sour Grassveld and Bushveld (KZN 40)	Grassland/Savanna	KwaZulu-Natal	F

No.	Ecosystem	Biome	Province	Criterion
125	Black Rhino Range (KZN 41)	Indian Ocean Coastal Belt/ Savanna/Forest	KwaZulu-Natal	F
126	Bloemfontein Dry Grassland (Gh 5)	Grassland	Free State	A1
127	Bokkeveld Sandstone Fynbos (FFs 1)	Fynbos	Western Cape Northern Cape	D1
128	Boland Granite Fynbos (FFg 2)	Fynbos	Western Cape	D1
129	Boschhoek Forests (KZN 42)	Grassland/Forest	KwaZulu-Natal	F
130	Boschhoek Plateau (KZN 43)	Grassland/Forest	KwaZulu-Natal	F
131	Breede Alluvium Renosterveld (FRa 1)	Fynbos	Western Cape	A1
132	Breede Sand Fynbos (FFd 8)	Fynbos	Western Cape	A1
133	Bushmans Nek/Garden Castle Lowlands (KZN 44)	Grassland	KwaZulu-Natal	F
134	Cape Winelands Shale Fynbos (FFh 5)	Fynbos	Western Cape	A1
135	Cederberg Sandstone Fynbos (FFs 4)	Fynbos	Western Cape	D1
136	Ceres Shale Renosterveld (FRs 4)	Fynbos	Western Cape	A1
137	Chelmsford Grasslands (KZN 45)	Grassland	KwaZulu-Natal	F
138	Chelmsford North Grasslands (KZN 46)	Grassland/Savanna	KwaZulu-Natal	F
139	Croc Gorge Granite Mountainlands (MP 14)	Savanna/Forest	Mpumalanga	F
140	Drakensberg Foothill Wattled Crane Habitat (KZN 47)	Grassland/Forest	KwaZulu-Natal	F
141	Easingwold Grasslands (KZN 48)	Grassland/Forest	KwaZulu-Natal	F
142	Eastern Coastal Shale Band Vegetation (FFb 6)	Fynbos	Western Cape Eastern Cape	A1
143	Eastern Creighton and Donnybrook (KZN 49)	Grassland/Savanna	KwaZulu-Natal	F
144	Eastern Free State Clay Grassland (Gm 3)	Grassland	Free State	A1
145	Eastern Highveld Grassland (Gm 12)	Grassland	Mpumalanga Gauteng	A1
146	Eastern Little Karoo (SKv 11)	Succulent Karoo	Western Cape	A1
147	Eastern Scarp Forest (FOz V1)	Forest	KwaZulu-Natal	A2
148	Eastern Temperate Freshwater Wetlands (Azf 3)	Azonal	Northern Cape Eastern Cape Free State North West Gauteng Mpumalanga KwaZulu-Natal	A1
149	Eastlands (KZN 50)	Grassland/Savanna	KwaZulu-Natal	F

No.	Ecosystem	Biome	Province	Criterion
150	Elandshoek Summit Grasslands (MP 15)	Grassland	Mpumalanga	F
151	Elandshoogte Mountainlands (MP 16)	Grassland/Savanna/ Forest	Mpumalanga	F
152	eMondlo Sandy Moist Grassland (KZN 51)	Grassland	KwaZulu-Natal	F
153	Fort Nottingham Lowland Grasslands (KZN 52)	Grassland/Forest	KwaZulu-Natal	F
154	Garden Route Shale Fynbos (FFb 9)	Fynbos	Western Cape Eastern Cape	A1
155	Glen Cairn Valley (KZN 53)	Grassland/Savanna	KwaZulu-Natal	F
156	Gold Cliff Farm Surrounds (KZN 54)	Grassland/Savanna	KwaZulu-Natal	F
157	Harding East (KZN 55)	Savanna	KwaZulu-Natal	F
158	Harding West (KZN 56)	Grassland	KwaZulu-Natal	F
159	Hawequas Sandstone Fynbos (FFs 10)	Fynbos	Western Cape	D1
160	Himeville Lowlands and Ridge (KZN 57)	Grassland	KwaZulu-Natal	F
161	Hluhluwe Scarp Forest (KZN 58)	Grassland/Savanna/ Forest	KwaZulu-Natal	F
162	Hopefield Sand Fynbos (FFd 3)	Fynbos	Western Cape	A1 & D1
163	Imfolosi Savanna and Sourveld ((KZN 59)	Grassland/Savanna	KwaZulu-Natal	F
164	Impendle Lowland Grasslands (KZN 60)	Grassland/Forest	KwaZulu-Natal	F
165	Ixopo Surrounds (KZN 61)	Grassland/Savanna	KwaZulu-Natal	F
166	Kaalrug Mountainlands (MP 17)	Grassland/Savanna/ Forest	Mpumalanga	F
167	Kango Limestone Renosterveld (FRI 1)	Fynbos	Western Cape	A1
168	KaNgwane Montane Grassland (Gm 16)	Grassland	Mpumalanga KwaZulu-Natal	A1
169	Kouebokkeveld Shale Fynbos (FFh 1)	Fynbos	Western Cape	A1
170	Kromberg Plateau (KZN 62)	Grassland/Savanna/ Forest	KwaZulu-Natal	F
171	KwaMncane North Plateau (KZN 63)	Grassland/Forest	KwaZulu-Natal	F
172	KwaZulu-Natal Coastal Belt (CB 3)	Indian Ocean Coastal Belt	KwaZulu-Natal	A1
173	Lebombo Scarp Forest (KZN 64)	Grassland/Savanna/ Forest	KwaZulu-Natal	F
174	Lebombo Summit Sourveld (SVI 17)	Savanna	Mpumalanga KwaZulu-Natal	A1
175	Legogote Sour Bushveld (SVI 9)	Savanna	Limpopo Mpumalanga	A1
176	Leipoldtville Sand Fynbos (FFd 2)	Fynbos	Western Cape	A1 & D1

No.	Ecosystem	Biome	Province	Criterion
177	Loskop Mountainlands (MP 18)	Grassland/Savanna	Mpumalanga	F
178	Louwsberg Mistbelt Grassland (KZN 65)	Grassland/Forest	KwaZulu-Natal	F
179	Low Escarpment Mistbelt Forest (FOz II4)	Forest	Mpumalanga KwaZulu-Natal	A2
180	Lowveld Riverine Forest (FOa 1)	Forest	Mpumalanga KwaZulu-Natal Limpopo	A2
181	Mafikeng Bushveld (SVk 1)	Savanna	North West	A1
182	Magaliesberg Hekpoort Mountain Bushveld (GP 16)	Grassland/Savanna/ Forest	Gauteng	F
183	Majuba Mistbelt Forest and Moist Grassland (KZN 66)	Grassland/Forest	KwaZulu-Natal	F
184	Maputaland Wooded Grassland (CB 2)	Indian Ocean Coastal Belt	KwaZulu-Natal	A1
185	Marikana Thornveld (SVcb 6)	Savanna	North West Gauteng	A1
186	Marwaqa (KZN 67)	Grassland/Forest	KwaZulu-Natal	F
187	Michaelhouse Grasslands (KZN 68)	Grassland/Forest	KwaZulu-Natal	F
188	Midlands Mistbelt Grassland (Gs 9)	Grassland	KwaZulu-Natal Eastern Cape	A1
189	Midmar Valley (KZN 69)	Grassland	KwaZulu-Natal	F
190	Montagu Shale Renosterveld (FRs 7)	Fynbos	Western Cape	A1
191	Mount Gilboa Plateau (KZN 70)	Grassland/Forest	KwaZulu-Natal	F
192	Mount MacDonald Ridge and Wetlands (KZN 71)	Grassland	KwaZulu-Natal	F
193	Mthatha Moist Grassland (Gs 14)	Grassland	Eastern Cape	A1
194	Namib Seashore Vegetation (AZd 1)	Azonal	Northern Cape	A1
195	New Amalfi Wetlands (KZN 72)	Grassland	KwaZulu-Natal	F
196	Ngongoni Veld (SVs 4)	Savanna	KwaZulu-Natal Eastern Cape	A1
197	Nieuwoudtville Shale Renosterveld (FRs 2)	Fynbos	Northern Cape	A1
198	Nkandla Forests and Grasslands (KZN 73)	Grassland/Forest	KwaZulu-Natal	F
199	Nkunzi/Sundays River Grasslands (KZN 74)	Grassland/Forest	KwaZulu-Natal	F
200	Northern Escarpment Dolomite Grassland (Gm 22)	Grassland	Mpumalanga	A1
201	Northern Qudeni Mistbelt Grasslands (KZN 75)	Grassland	KwaZulu-Natal	F

No.	Ecosystem	Biome	Province	Criterion
202	Ntsikeni Vlei (KZN 76)	Grassland/Forest	KwaZulu-Natal	F
203	Oakspring Valley (KZN 77)	Grassland	KwaZulu-Natal	F
204	Paulpietersburg Moist Grassland (Gm 15)	Grassland	Mpumalanga KwaZulu-Natal	A1
205	Piketberg Quartz Succulent Shrubland (SKk 8)	Succulent Karoo	Western Cape	A1
206	Piketberg Sandstone Fynbos (FFs 6)	Fynbos	Western Cape	D1
207	Pondoland Scarp Forest (FOz V2)	Forest	KwaZulu-Natal Eastern Cape	A2
208	Pudsey/Otterburn Wetlands (KZN 78)	Grassland	KwaZulu-Natal	F
209	Rand Highveld Grassland (Gm 11)	Grassland	Gauteng North West Free State Mpumalanga	A1
210	Saldanha Flats Strandveld (FS 3)	Fynbos	Western Cape	A1
211	Schweizer-Reneke Bushveld (SVk 3)	Savanna	North West	A1
212	Sherwood Forest Collective (KZN 79)	Grassland/Forest	KwaZulu-Natal	F
213	Soweto Highveld Grassland (Gm 8)	Grassland	Gauteng/Free State/North West/ Mpumalanga	A1
214	Springbokvlakte Thornveld (SVcb 15)	Savanna	Limpopo Gauteng Mpumalanga North West	A1
215	Swamp Forest (FOa 2)	Forest	KwaZulu-Natal Eastern Cape	A2 & C
216	Swartberg/Franklin Vlei/Kokstad Ridge and Wetlands (KZN 80)	Grassland/Forest	KwaZulu-Natal	F
217	Swartland Alluvium Renosterveld (FRa 2)	Fynbos	Western Cape	A1
218	Swellendam Silcrete Fynbos (FFc 1)	Fynbos	Western Cape	A1
219	Transkei Coastal Forest (FOz V3)	Forest	Eastern Cape	A2
220	Tzaneen Sour Bushveld (SVI 8)	Savanna	Limpopo Mpumalanga	A1
221	Umvoti Vlei and Surrounds (KZN 81)	Grassland/Indian Ocean Coastal Belt	KwaZulu-Natal	F
222	Uyskop Valley (KZN 82)	Grassland	KwaZulu-Natal	F
223	Vaalkop Headlands (KZN 83)	Grassland/Savanna	KwaZulu-Natal	F

No.	Ecosystem	Biome	Province	Criterion
224	Vredefort Dome Granite Grassland (Gh 11)	Grassland	Free State North West	A1
225	Warley Commons (KZN 84)	Grassland/Savanna	KwaZulu-Natal	F

Table 4: Summary of listed ecosystems by province

Ecosystem	Biome	Criterion	Shared with
Eastern Cape Province			
Critically endangered			
Langkloof Shale Renosterveld (FRs 17)	Fynbos	A1	Western Cape
Endangered			
Albany Alluvial Vegetation (AZa 6)	Azonal	A1	
Humansdorp Shale Renosterveld (FRs 19)	Fynbos	A1	
Kobonqaba Forest Complex (FOR 3)	Forest	F	
Mangrove Forest (FOa 3)	Forest	C	KwaZulu-Natal
Mount Thesiger Forest Complex (FOR 5)	Forest	F	
Vulnerable			
Algoa Sandstone Fynbos (FFs 29)	Fynbos	A1	
Eastern Coastal Shale Band Vegetation (FFb 6)	Fynbos	A1	Western Cape
Eastern Temperate Freshwater Wetlands (Azf 3)	Azonal	A1	Northern Cape Free State North West Gauteng Mpumalanga KwaZulu-Natal
Garden Route Shale Fynbos (FFb 9)	Fynbos	A1	Western Cape
Midlands Mistbelt Grassland (Gs 9)	Grassland	A1	KwaZulu-Natal
Mthatha Moist Grassland (Gs 14)	Grassland	A1	
Ngongoni Veld (SVs 4)	Savanna	A1	KwaZulu-Natal
Pondoland Scarp Forest (FOz V2)	Forest	A2	KwaZulu-Natal
Transkei Coastal Forest (FOz V3)	Forest	A2	
Swamp Forest (FOa 2)	Forest	A2 & C	KwaZulu-Natal

Ecosystem	Biome	Criterion	Shared with
Free State Province			
Endangered			
Vaal-Vet Sandy Grassland (Gh 10)	Grassland	A1	North West
Vulnerable			
Bloemfontein Dry Grassland (Gh 5)	Grassland	A1	
Eastern Free State Clay Grassland (Gm 3)	Grassland	A1	
Eastern Temperate Freshwater Wetlands (Azf 3)	Azonal	A1	Northern Cape Eastern Cape North West Gauteng Mpumalanga KwaZulu-Natal
Rand Highveld Grassland (Gm 11)	Grassland	A1	Gauteng North West Mpumalanga
Soweto Highveld Grassland (Gm 8)	Grassland	A1	Gauteng Mpumalanga North West
Vredefort Dome Granite Grassland (Gh 11)	Grassland	A1	North West
Gauteng Province			
Critically endangered			
Blesbokspruit Highveld Grassland (GP 1)	Grassland/Savanna/ Wetland	F	
Boesmanspruit Highveld Grassland (GP 2)	Grassland/Wetland	F	
Bronberg Mountain Bushveld (GP 3)	Grassland/Savanna	F	
Glen Austin Pan (GP 4)	Grassland	F	
Klipriver Highveld Grassland (GP 5)	Grassland/Savanna/ Wetland	F	
Magaliesberg Pretoria Mountain Bushveld (GP 6)	Grassland/Savanna	F	
Rietvleiriver Highveld Grassland (GP 7)	Grassland/Wetlands	F	
Roodepoort Reef Mountain Bushveld (GP 8)	Grassland/Savanna	F	
Wilge Mountain Bushveld (GP 9)	Grassland/Savanna	F	
Witwatersberg Pretoria Mountain Bushveld (GP 10)	Grassland/Savanna	F	

Ecosystem	Biome	Criterion	Shared with
Endangered			
Brakfontein Reef Bushveld (GP 11)	Grassland/Savanna	F	
Bronkhorstspuit Highveld Grassland (GP 12)	Savanna/Grassland/Wetland	F	
Deneysville Highveld Grassland (GP 13)	Grassland/Savanna	F	
Egoli Granite Grassland (Gm 10)	Grassland	A1	
Kraanspoort Mountain Bushveld (GP 14)	Grassland/Savanna	F	
Tsakane Clay Grassland (Gm 9)	Grassland	A1	Mpumalanga
Witwatersberg Skeerpoort Mountain Bushveld (GP 15)	Grassland/Savanna	F	
Vulnerable			
Eastern Highveld Grassland (Gm 12)	Grassland	A1	Mpumalanga
Eastern Temperate Freshwater Wetlands (Azf 3)	Azonal	A1	Northern Cape Eastern Cape Free State North West Mpumalanga KwaZulu-Natal
Magaliesberg Hekpoort Mountain Bushveld (GP 16)	Grassland/Savanna/Forest	F	
Marikana Thornveld (SVcb 6)	Savanna	A1	North West
Rand Highveld Grassland (Gm 11)	Grassland	A1	North West Free State Mpumalanga
Soweto Highveld Grassland (Gm 8)	Grassland	A1	Free State Mpumalanga North West
Springbokvlakte Thornveld (SVcb 15)	Savanna	A1	Limpopo Mpumalanga North West
KwaZulu-Natal Province			
Critically endangered			
Blinkwater Valley (KZN 1)	Grassland/Savanna	F	
Durban Metropole North Coast Grassland (KZN 2)	Indian Ocean Coastal Belt/Forest	F	
Entumeni Valley (KZN 3)	Indian Ocean Coastal Belt/Savanna/Forest	F	

Ecosystem	Biome	Criterion	Shared with
Eshowe Mtunzini Hilly Grasslands (KZN 4)	Indian Ocean Coastal Belt/ Savanna/Forest	F	
Highover Nature Reserve and Roselands Farm Surrounds (KZN 5)	Grassland/Savanna/ Forest	F	
Interior North Coast Grasslands (KZN 6)	Indian Ocean Coastal Belt/ Savanna/Forest	F	
Interior South Coast Grasslands (KZN 7)	Indian Ocean Coastal Belt/ Savanna/Forest	F	
Kwambonambi Dune Forest (KZN 8)	Indian Ocean Coastal Belt/Forest	F	
Kwambonambi Hygrophilous Grasslands (KZN 9)	Indian Ocean Coastal Belt/Forest	F	
Margate Pondoland-Ugu Sourveld (KZN 10)	Indian Ocean Coastal Belt/Forest	F	
Mlazi Gorge (KZN 11)	Indian Ocean Coastal Belt/Forest	F	
New Hanover Plateau (KZN 12)	Grassland/Savanna/ Forest	F	
Ngoye Scarp Forests and Grasslands (KZN 13)	Indian Ocean Coastal Belt/ Savanna/Forest	F	
North Coast Dune Forest (KZN 14)	Indian Ocean Coastal Belt/Forest	F	
North Coast Forest Collective (KZN 15)	Indian Ocean Coastal Belt/Forest	F	
Northern Coastal Grasslands (KZN 16)	Indian Ocean Coastal Belt/Forest	F	
Oakland and Townhill Ridge (KZN 17)	Grassland/Savanna/ Forest	F	
Southern Coastal Grasslands (KZN 18)	Indian Ocean Coastal Belt/Forest	F	
Umvoti Valley Complex (KZN 19)	Indian Ocean Coastal Belt/ Savanna/Forest	F	
Endangered			
Bazini Forest Complex (KZN 20)	Grassland/Savanna/ Forest	F	
Bivane Montane Grassland (KZN 21)	Grassland	F	
Cumberland Crest (KZN 22)	Savanna	F	

Ecosystem	Biome	Criterion	Shared with
Dukuduku/St Lucia Grasslands and Forests (KZN 23)	Indian Ocean Coastal Belt/Forest	F	
Fort Metcalf Grasslands (KZN 24)	Grassland	F	
Gqunu Forest (KZN 25)	Grassland/Forest	F	
Greytown North Grasslands (KZN 26)	Grassland	F	
Hlabeni State Forest (KZN 27)	Grassland/Forest	F	
Hlabisa Forest Complex (FOR 2)	Forest	F	
Impendle Highlands (KZN 28)	Grassland/Forest	F	
Karkloof Forest Collective (KZN 29)	Grassland/Savanna/Forest	F	
KwaZulu-Natal Coastal Forest (FOz VII1)	Forest	A2	
KwaZulu-Natal Sandstone Sourveld (SVs 5)	Savanna	A1	
Loskop Grasslands (KZN 30)	Grassland	F	
Mangrove Forest (FOa 3)	Forest	C	Eastern Cape
Ngome Mistbelt Grassland and Forest (KZN 31)	Grassland/Savanna/Forest	F	
Ntimbankulu Forest (FOR 6)	Forest	F	
Ntunjambili Valley Complex (KZN 32)	Savanna/Grassland	F	
Oribi-Port Edward Pondoland-Ugu Sourveld (KZN 33)	Indian Ocean Coastal Belt/Savanna/Forest	F	
Pietermaritzburg South (KZN 34)	Grassland/Savanna/Forest	F	
Qudeni Mountain Mistbelt Forest and Grassland (KZN 35)	Grassland/Savanna/Forest	F	
Sihleza (KZN 36)	Grassland/Forest	F	
Southern Weza State Forest (KZN 37)	Grassland/Forest	F	
Umgeni Valley Bushveld (KZN 38)	Grassland/Savanna/Forest	F	
Wakkerstroom/Luneburg Grasslands (MP 11)	Grassland/Forest	F	Mpumalanga
Vulnerable			
Beinn Mheadmon Mountain Grasslands (KZN 39)	Grassland	F	
Bivane Sour Grassveld and Bushveld (KZN 40)	Grassland/Savanna	F	
Black Rhino Range (KZN 41)	Indian Ocean Coastal Belt/Savanna/Forest	F	

Ecosystem	Biome	Criterion	Shared with
Boschhoek Forests (KZN 42)	Grassland/Forest	F	
Boschhoek Plateau (KZN 43)	Grassland/Forest	F	
Bushmans Nek/Garden Castle Lowlands (KZN 44)	Grassland	F	
Chelmsford Grasslands (KZN 45)	Grassland	F	
Chelmsford North Grasslands (KZN 46)	Grassland/Savanna	F	
Drakensberg Foothill Wattled Crane Habitat (KZN 47)	Grassland/Forest	F	
Easingwold Grasslands (KZN 48)	Grassland/Forest	F	
Eastern Creighton and Donnybrook (KZN 49)	Grassland/Savanna	F	
Eastern Scarp Forest (FOz V1)	Forest	A2	
Eastern Temperate Freshwater Wetlands (Azf 3)	Azonal	A1	Northern Cape Eastern Cape Free State North West Gauteng Mpumalanga
Eastlands (KZN 50)	Grassland/Savanna	F	
eMondlo Sandy Moist Grassland (KZN 51)	Grassland	F	
Fort Nottingham Lowland Grasslands (KZN 52)	Grassland/Forest	F	
Glen Cairn Valley (KZN 53)	Grassland/Savanna	F	
Gold Cliff Farm Surrounds (KZN 54)	Grassland/Savanna	F	
Harding East (KZN 55)	Savanna	F	
Harding West (KZN 56)	Grassland	F	
Himeville Lowlands and Ridge (KZN 57)	Grassland	F	
Hluhluwe Scarp Forest (KZN 58)	Grassland/Savanna/ Forest	F	
Imfolosi Savanna and Sourveld (KZN 59)	Grassland/Savanna	F	
Impendle Lowland Grasslands (KZN 60)	Grassland/Forest	F	
Ixopo Surrounds (KZN 61)	Grassland/Savanna	F	
KaNgwane Montane Grassland (Gm 16)	Grassland	A1	Mpumalanga
Kromberg Plateau (KZN 62)	Grassland/Savanna/ Forest	F	
KwaMncane North Plateau (KZN 63)	Grassland/Forest	F	

Ecosystem	Biome	Criterion	Shared with
KwaZulu-Natal Coastal Belt (CB 3)	Indian Ocean Coastal Belt	A1	
Lebombo Scarp Forest (KZN 64)	Grassland/Savanna/Forest	F	
Lebombo Summit Sourveld (SVI 17)	Savanna	A1	Mpumalanga
Louwsberg Mistbelt Grassland (KZN 65)	Grassland/Forest	F	
Low Escarpment Mistbelt Forest (FOz II4)	Forest	A2	Mpumalanga
Lowveld Riverine Forest (FOa 1)	Forest	A2	Mpumalanga Limpopo
Majuba Mistbelt Forest and Moist Grassland (KZN 66)	Grassland/Forest	F	
Maputaland Wooded Grassland (CB 2)	Indian Ocean Coastal Belt	A1	
Marwaqa (KZN 67)	Grassland/Forest	F	
Michaelhouse Grasslands (KZN 68)	Grassland/Forest	F	
Midlands Mistbelt Grassland (Gs 9)	Grassland	A1	Eastern Cape
Midmar Valley (KZN 69)	Grassland	F	
Mount Gilboa Plateau (KZN 70)	Grassland/Forest	F	
Mount MacDonald Ridge and Wetlands (KZN 71)	Grassland	F	
New Amalfi Wetlands (KZN 72)	Grassland	F	
Ngongoni Veld (SVs 4)	Savanna	A1	Eastern Cape
Nkandla Forests and Grasslands (KZN 73)	Grassland/Forest	F	
Nkunzi/Sundays River Grasslands (KZN 74)	Grassland/Forest	F	
Northern Qudeni Mistbelt Grasslands (KZN 75)	Grassland	F	
Ntsikeni Vlei (KZN 76)	Grassland/Forest	F	
Oakspring Valley (KZN 77)	Grassland	F	
Paulpietersburg Moist Grassland (Gm 15)	Grassland	A1	Mpumalanga
Pondoland Scarp Forest (FOz V2)	Forest	A2	Eastern Cape
Pudsey/Otterburn Wetlands (KZN 78)	Grassland	F	
Sherwood Forest Collective (KZN 79)	Grassland/Forest	F	
Swamp Forest (FOa 2)	Forest	A2 & C	Eastern Cape
Swartberg/Franklin Vlei/Kokstad Ridge and Wetlands (KZN 80)	Grassland/Forest	E	

Ecosystem	Biome	Criterion	Shared with
Umvoti Vlei and Surrounds (KZN 81)	Grassland/Indian Ocean Coastal Belt	F	
Uyskop Valley (KZN 82)	Grassland	F	
Vaalkop Headlands (KZN 83)	Grassland/Savanna	F	
Warley Commons (KZN 84)	Grassland/Savanna	F	
Limpopo Province			
Critically endangered			
Woodbush Granite Grassland (Gm 25)	Grassland	A1	
Endangered			
Blouberg Forest (FOR 1)	Forest	F	
Malmani Karstlands (MP 5)	Grassland/Savanna/Forest	F	Mpumalanga
Mapungubwe/Greefswald Riverine Forest (FOR 4)	Forest	F	
Sekhukhune Mountainlands (MP 9)	Grassland/Savanna	F	Mpumalanga
Sekhukhune Norite Bushveld (LP 1)	Savanna	F	
Vulnerable			
Legogote Sour Bushveld (SVI 9)	Savanna	A1	Mpumalanga
Lowveld Riverine Forest (FOa 1)	Forest	A2	Mpumalanga KwaZulu-Natal
Springbokvlakte Thornveld (SVcb 15)	Savanna	A1	Gauteng Mpumalanga North West
Tzaneen Sour Bushveld (SVI 8)	Savanna	A1	Mpumalanga
Mpumalanga Province			
Critically endangered			
Kaapsehoop Quartzite Grasslands (MP 1)	Grassland/Forest	F	
Endangered			
Blyde Quartzite Grasslands (MP 2)	Grassland/Forest	F	
Chrissiesmeer Panveld (MP 3)	Grassland/Wetland	F	
Dullstroom Plateau Grasslands (MP 4)	Grassland/Forest	F	
Malmani Karstlands (MP 5)	Grassland/Savanna/Forest	F	Limpopo
Mananga-Lebombo Thornveld (MP 6)	Savanna/Forest	F	
Mauchesburg Alpine Grasslands (MP 7)	Grassland/Forest	F	

Ecosystem	Biome	Criterion	Shared with
Noordkaap Greenstone Bushveld (MP 8)	Savanna	F	
Sekhukhune Mountainlands (MP 9)	Grassland/Savanna	F	Limpopo
Stoffberg Mountainlands (MP 10)	Grassland	F	
Tsakane Clay Grassland (Gm 9)	Grassland	A1	Gauteng
Wakkerstroom/Luneburg Grasslands (MP11)	Grassland/Forest	F	KwaZulu-Natal
Vulnerable			
Badplaas Mountainlands (MP 12)	Grassland/Savanna/ Forest	F	
Barberton Mountainlands (MP 13)	Grassland/Savanna/ Forest	F	
Croc Gorge Granite Mountainlands (MP 14)	Savanna/Forest	F	
Eastern Highveld Grassland (Gm 12)	Grassland	A1	Gauteng
Eastern Temperate Freshwater Wetlands (Azf 3)	Azonal	A1	Northern Cape Eastern Cape Free State North West Gauteng KwaZulu-Natal
Elandshoek Summit Grasslands (MP 15)	Grassland	F	
Elandshoogte Mountainlands (MP 16)	Grassland/Savanna/ Forest	F	
Kaalrug Mountainlands (MP 17)	Grassland/Savanna/ Forest	F	
KaNgwane Montane Grassland (Gm 16)	Grassland	A1	KwaZulu-Natal
Lebombo Summit Sourveld (SVI 17)	Savanna	A1	KwaZulu-Natal
Legogote Sour Bushveld (SVI 9)	Savanna	A1	Limpopo
Loskop Mountainlands (MP 18)	Grassland/Savanna	F	
Low Escarpment Mistbelt Forest (FOz II4)	Forest	A2	KwaZulu-Natal
Lowveld Riverine Forest (FOa 1)	Forest	A2	KwaZulu-Natal Limpopo
Northern Escarpment Dolomite Grassland (Gm 22)	Grassland	A1	
Paulpietersburg Moist Grassland (Gm 15)	Grassland	A1	KwaZulu-Natal
Rand Highveld Grassland (Gm 11)	Grassland	A1	Gauteng North West Free State

Ecosystem	Biome	Criterion	Shared with
Soweto Highveld Grassland (Gm 8)	Grassland	A1	Gauteng Free State North West
Springbokvlakte Thornveld (SVcb 15)	Savanna	A1	Limpopo Gauteng North West
Tzaneen Sour Bushveld (SVI 8)	Savanna	A1	Limpopo
North West Province			
Critically endangered			
Western Highveld Sandy Grassland (Gh 14)	Grassland	A1	
Endangered			
Vaal-Vet Sandy Grassland (Gh 10)	Grassland	A1	Free State
Vulnerable			
Eastern Temperate Freshwater Wetlands (Azf 3)	Azonal	A1	Northern Cape Eastern Cape Free State Gauteng Mpumalanga KwaZulu-Natal
Mafikeng Bushveld (SVk 1)	Savanna	A1	
Marikana Thornveld (SVcb 6)	Savanna	A1	Gauteng
Rand Highveld Grassland (Gm 11)	Grassland	A1	Gauteng Free State Mpumalanga
Schweizer-Reneke Bushveld (SVk 3)	Savanna	A1	
Soweto Highveld Grassland (Gm 8)	Grassland	A1	Free State Mpumalanga Gauteng
Springbokvlakte Thornveld (SVcb 15)	Savanna	A1	Limpopo Gauteng Mpumalanga
Vredefort Dome Granite Grassland (Gh 11)	Grassland	A1	Free State
Northern Cape Province			
Endangered			
Cape Vernal Pools (AZf 2)	Azonal	A1	Western Cape
Lower Gariep Alluvial Vegetation (AZa 3)	Azonal	A1	

Ecosystem	Biome	Criterion	Shared with
Vulnerable			
Bokkeveld Sandstone Fynbos (FFs 1)	Fynbos	D1	Western Cape
Eastern Temperate Freshwater Wetlands (Azf 3)	Azonal	A1	Eastern Cape Free State North West Gauteng Mpumalanga KwaZulu-Natal
Namib Seashore Vegetation (AZd 1)	Azonal	A1	
Nieuwoudtville Shale Renosterveld (FRs 2)	Fynbos	A1	
Western Cape Province			
Critically endangered			
Atlantis Sand Fynbos (FFd 4)	Fynbos	D1	
Cape Flats Sand Fynbos (FFd 5)	Fynbos	A1 & D1	
Cape Lowland Alluvial Vegetation (AZa 2)	Azonal	A1	
Central Rûens Shale Renosterveld (FRs 12)	Fynbos	A1	
Eastern Rûens Shale Renosterveld (FRs 13)	Fynbos	A1	
Elgin Shale Fynbos (FFh 6)	Fynbos	A1	
Elim Ferricrete Fynbos (FFf 1)	Fynbos	A1	
Knysna Sand Fynbos (FFd 10)	Fynbos	A1	
Kogelberg Sandstone Fynbos (FFs 11)	Fynbos	D1	
Langkloof Shale Renosterveld (FRs 17)	Fynbos	A1	Eastern Cape
Lourensford Alluvium Fynbos (FFa 4)	Fynbos	A1	
Muscadel Riviere (AZi 8)	Azonal	A1	
Overberg Sandstone Fynbos (FFs 12)	Fynbos	D1	
Peninsula Granite Fynbos (FFg 3)	Fynbos	A1	
Peninsula Shale Renosterveld (FRs 10)	Fynbos	A1	
Rûens Silcrete Renosterveld (FRc 2)	Fynbos	A1	
Swartland Alluvium Fynbos (FFa 3)	Fynbos	A1	
Swartland Granite Renosterveld (FRg 2)	Fynbos	A1 & D1	
Swartland Shale Renosterveld (FRs 9)	Fynbos	A1 & D1	
Swartland Silcrete Renosterveld (FRc 1)	Fynbos	A1	
Western Rûens Shale Renosterveld (FRs 11)	Fynbos	A1	

Ecosystem	Biome	Criterion	Shared with
Endangered			
Agulhas Sand Fynbos (FFd 7)	Fynbos	A1	
Breede Alluvium Fynbos (FFa 2)	Fynbos	A1	
Cape Flats Dune Strandveld (FS 6)	Fynbos	D1	
Cape Vernal Pools (AZf 2)	Azonal	A1	Northern Cape
Garden Route Granite Fynbos (FFg 5)	Fynbos	A1	
Greyton Shale Fynbos (FFh 7)	Fynbos	A1	
Groot Brak Dune Strandveld (FS 9)	Fynbos	A1	
Hangklip Sand Fynbos (FFd 6)	Fynbos	A1	
Kouebokkeveld Alluvium Fynbos (FFa 1)	Fynbos	A1	
Mossel Bay Shale Renosterveld (FRs 14)	Fynbos	A1	
Peninsula Sandstone Fynbos (FFs 9)	Fynbos	D1	
Potberg Ferricrete Fynbos (FFf 2)	Fynbos	A1	
Saldanha Granite Strandveld (FS 2)	Fynbos	A1	
Western Cape Milkwood Forest (FOz VI3)	Forest	C	
Vulnerable			
Agulhas Limestone Fynbos (FFi 1)	Fynbos	D1	
Albertinia Sand Fynbos (FFd 9)	Fynbos	A1	
Bokkeveld Sandstone Fynbos (FFs 1)	Fynbos	D1	Northern Cape
Boland Granite Fynbos (FFg 2)	Fynbos	D1	
Breede Alluvium Renosterveld (FRa 1)	Fynbos	A1	
Breede Sand Fynbos (FFd 8)	Fynbos	A1	
Cape Winelands Shale Fynbos (FFh 5)	Fynbos	A1	
Cederberg Sandstone Fynbos (FFs 4)	Fynbos	D1	
Ceres Shale Renosterveld (FRs 4)	Fynbos	A1	
Eastern Coastal Shale Band Vegetation (FFb 6)	Fynbos	A1	Eastern Cape
Eastern Little Karoo (SKv 11)	Succulent Karoo	A1	
Garden Route Shale Fynbos (FFb 9)	Fynbos	A1	Eastern Cape
Hawequas Sandstone Fynbos (FFs 10)	Fynbos	D1	
Hopefield Sand Fynbos (FFd 3)	Fynbos	A1 & D1	
Kango Limestone Renosterveld (FRI 1)	Fynbos	A1	
Kouebokkeveld Shale Fynbos (FFh 1)	Fynbos	A1	
Leipoldtville Sand Fynbos (FFd 2)	Fynbos	A1 & D1	
Montagu Shale Renosterveld (FRs 7)	Fynbos	A1	

Ecosystem	Biome	Criterion	Shared with
Piketberg Quartz Succulent Shrubland (SKk 8)	Succulent Karoo	A1	
Piketberg Sandstone Fynbos (FFs 6)	Fynbos	D1	
Saldanha Flats Strandveld (FS 3)	Fynbos	A1	
Swartland Alluvium Renosterveld (FRa 2)	Fynbos	A1	
Swellendam Silcrete Fynbos (FFc 1)	Fynbos	A1	

7 Descriptions and maps of individual listed ecosystems

7.1 Explanation of descriptions

For each ecosystem, the following information is given: its **name**, **reference number**, the **criterion** or criteria under which the ecosystem is listed, and the **biome(s)**, **province(s)** and **municipality(ies)** in which the ecosystem falls. Where possible the **original area** of the ecosystem is provided (for forest ecosystems this data is not available) together with the percentage of **natural area remaining** of the ecosystem and the proportion of the ecosystem **protected** (expressed as a percentage of the ecosystem's original area).

If data is available the known number of **species of special concern** is provided including threatened Red List plant (EX, EW, CR, EN and VU, excluding VU D2) and animal species; Orange Listed plant and animal species²⁴; and endemic plant and animal species. However the species of special concern listed for each ecosystem are not comprehensive and names of species threatened by collection or trade have not been included.

The **geographical location** and a **brief description** are provided for each ecosystem. **Other information**, such as the names of protected areas in which parts of the ecosystem are protected, is provided where possible.

Finally references are provided for further information. For ecosystems listed under Criterion A1, A2, C and D1 the National Vegetation Map²⁵ and the classification system for South African forests²⁶ was used to obtain the information relating to the geographical location and the description. For ecosystems listed under Criterion F the information was obtained from the relevant provincial systematic biodiversity plans, namely the Mpumalanga Biodiversity Conservation Plan (2007), the Gauteng C-Plan V2 (2006), and the KwaZulu-Natal Terrestrial

²⁴ Victor, J. & Keith, M. The Orange List: a safety net for biodiversity in South Africa. South African Journal of Science 100: 139 – 141. Orange-listed species were used in the Gauteng C-Plan V2 (2006) and are referred to in the descriptions of individual ecosystems identified using Criterion F in Gauteng.

²⁵ Mucina, L. & Rutherford, M.C. (eds). 2006. The Vegetation of South Africa, Lesotho and Swaziland. *Strelitzia* 19. South African National Biodiversity Institute, Pretoria.

²⁶ Von Maltitz, G., Mucina, L., Geldenhuys, C., Lawes, M., Eeley, H., Adie, H., Vink, D., Flemming, G. and 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.

Conservation Plan (C-Plan) V4 (2007); the National Forest Inventory²⁷ and the forest systematic conservation plan²⁸.

²⁷ Department of Water Affairs and Forestry. National Forest Inventory.

²⁸ 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.

7.2 Critically Endangered (CR) ecosystems

1. Atlantic Sand Fynbos (FFd 4)

Reference number	FFd 4
Listed under Criterion	D1
Biome	Fynbos
Province	Western Cape
Municipalities	City of Cape Town MM, Swartland LM and Drakenstein LM
Original area of ecosystem	70 000 ha
Remaining natural area of ecosystem (%)	51%
Proportion of ecosystem protected	6% of original area
Known number of species of special concern	84 Red Data plant species (EX, EW, CR, EN & VU excl VU D2) and 6 endemic plant species

Geographical location

Rondeberg to Blouberg on the West Coast coastal flats; along the Groen River on the eastern side of the Dassenberg-Darling Hills through Riverlands to the area between Atlantis and Kalbaskraal, also between Klipheuwel and the Paardeberg with outliers west of the Berg River and east and north of Riebeek-Kasteel between Hermon and Heuningberg.

Description

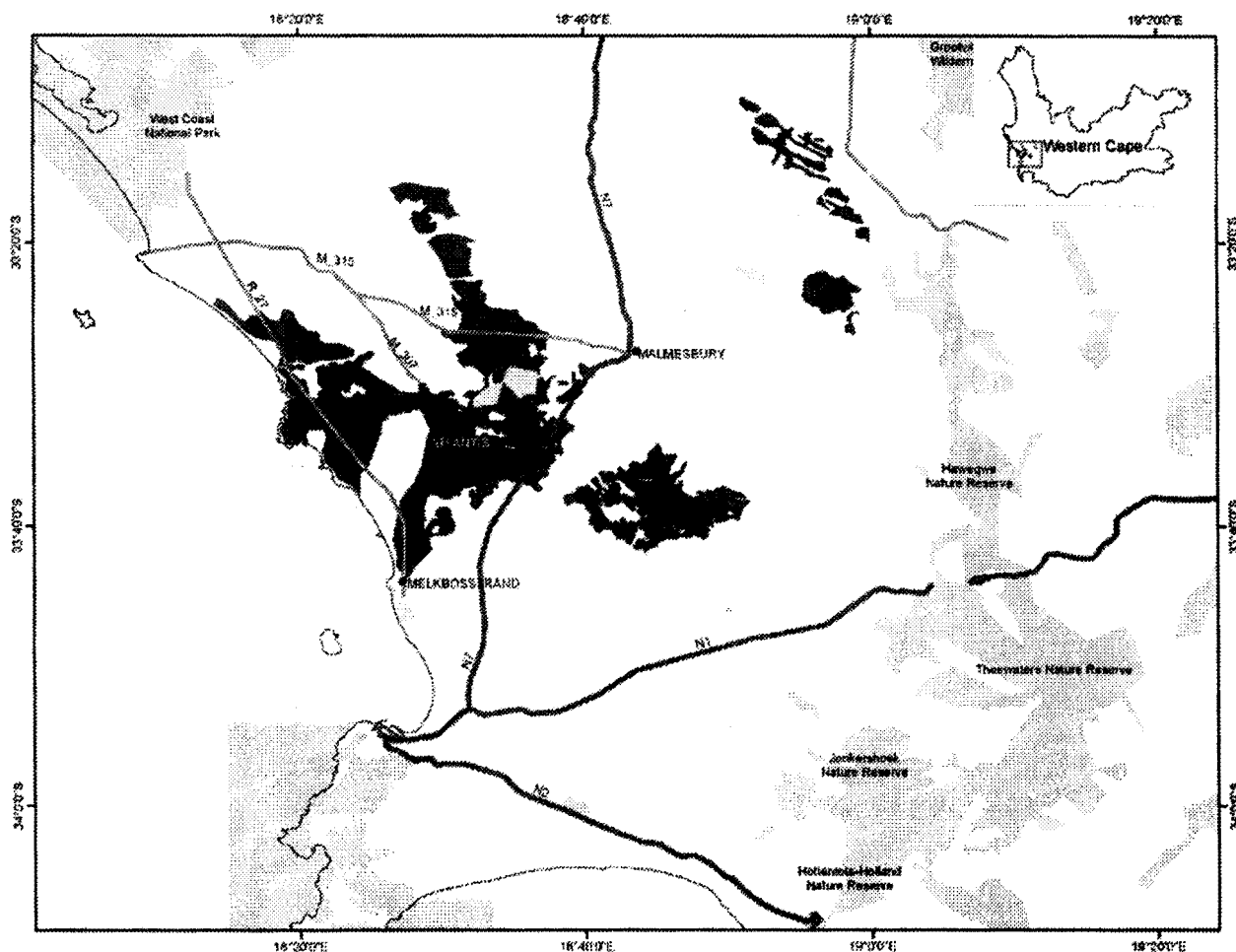
Moderately undulating to flat sand plains with a dense, moderately tall, ericoid shrubland dotted with emergent, tall sclerophyllous shrubs and an open, short restioid stratum. Restioid and proteoid fynbos are dominant, with asteraceous fynbos and patches of ericaceous fynbos in seepages. Boundaries are edaphically determined; and within sand fynbos are delimited by endemic species, and loss of species compared to south. At least six endemic species and 84 Red Data List plant species occur in the ecosystem.

Other information

Approximately 6% of the ecosystem is protected in Riverlands Nature Reserve, Paardenberg and the Pella Research Site. The Pella portion of the Riverlands area was well studied in the 1980s and potentially is a long-term monitoring site.

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: 139. South African National Biodiversity Institute, Pretoria.



Location of Atlantis Sand Fynbos showing original area of ecosystem

2. Blesbokspruit Highveld Grassland (GP 1)

Reference number	GP 1
Listed under Criterion	F
Biome	Grassland, Savanna and Wetland
Province	Gauteng
Municipalities	Ekurhuleni MM, Kungwini LM, Lesedi LM and Midvaal LM
Original area of ecosystem	94 000 ha
Remaining natural area of ecosystem (%)	85%
Proportion of ecosystem protected	1% of original area
Known number of species of special concern	26 threatened or endemic plant and animal species including those listed below

Geographical location

East Rand of Gauteng including Endicott, Springs, and Benoni (2628BC, 2628AD, and 2628AB respectively). Ecosystem delineated by the Blesbokspruit and its tributaries together with associated wetlands and pans.

Description

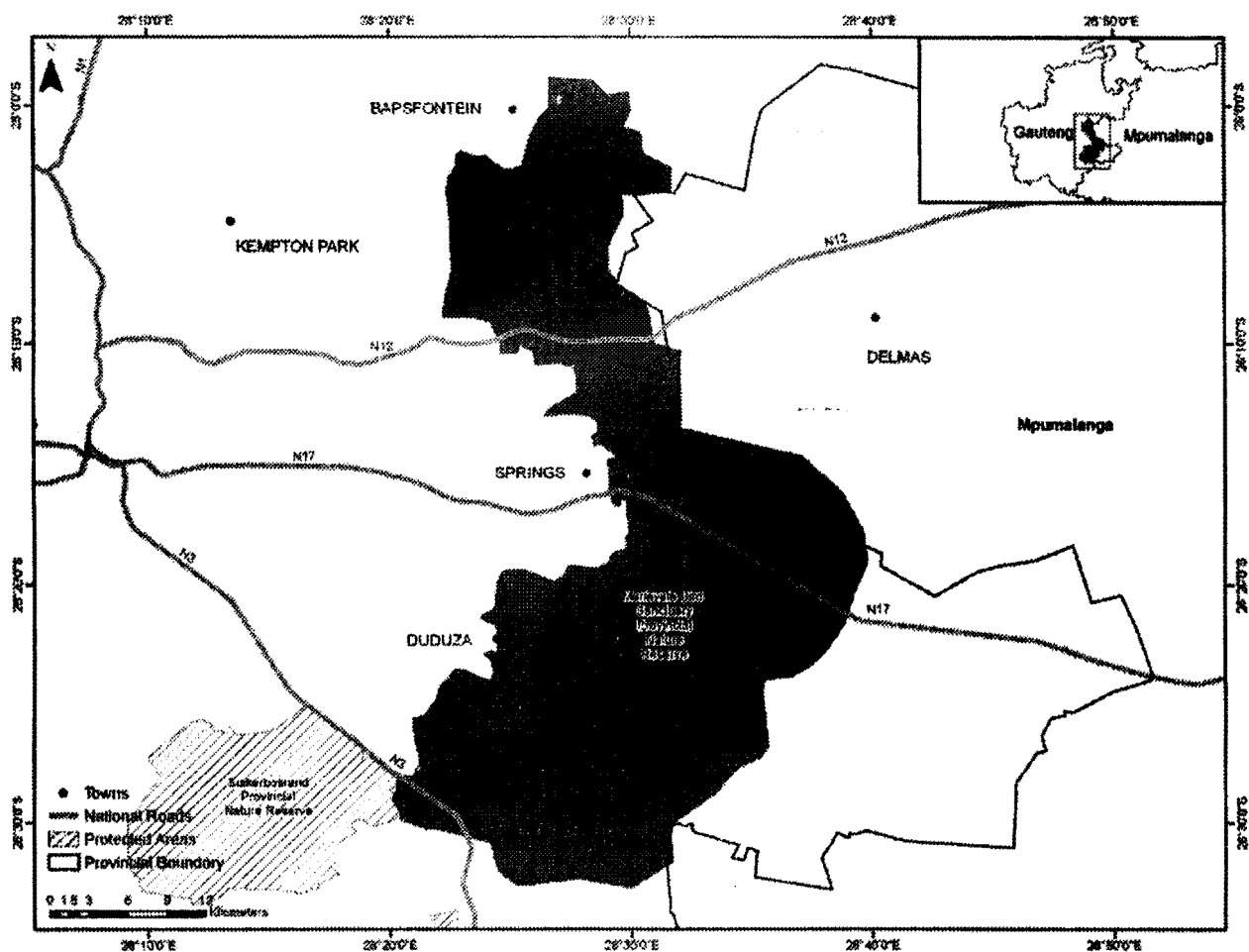
Key biodiversity features include Red or Orange Listed plants for example *Delosperma leendertziae* and *Khadia beswicki*; Red or Orange Listed mammals for example the Spotted-necked Otter and Brown Hyena; Red or Orange Listed birds for example the African Grass-Owl, Greater Flamingo, Lesser Flamingo, African Marsh-Harrier, Secretarybird, Yellow-billed Stork, Caspian Tern, Melodious Lark, Lesser Kestrel, White-bellied Korhaan, and Corncrake; Red or Orange Listed amphibians for example the Giant Bullfrog; Red or Orange Listed or priority invertebrates for example the Heidelberg Copper Butterfly, and the Golden Starburst Baboon Spider; and seven vegetation types including Andesite Mountain Bushveld, Eastern Highveld Grassland, Eastern Temperate Freshwater Wetlands, Gold Reef Mountain Bushveld, Rand Highveld Grassland, Soweto Highveld Grassland and Tsakane Clay Grassland. River, wetlands and pans in the ecosystem include the Blesbokspruit, Klein-Blesbokspruit, Verdrietlaagte, Karringmelkpan, Riet Pan, Spaarwater Pan, University Pan, Varkfontein Pan, and various other unnamed wetlands and pans.

Other Information

Approximately 1% of the ecosystem is protected in the Marlevale Bird Sanctuary.

Reference

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



Location of Blesbokspuit Highveld Grassland showing original area of ecosystem

3. Blinkwater Valley (KZN 1)

Reference number	KZN 1
Listed under Criterion	F
Biome	Grassland and Savanna
Province	KwaZulu-Natal
Municipality	uMshwathi LM
Original area of ecosystem	2 000 ha
Remaining natural area of ecosystem (%)	8%
Proportion of ecosystem protected	0% of original area
Known number of species of special concern	2 threatened or endemic plant or animal species including those listed below

Geographical location

Albert Falls (2930AD). Ecosystem restricted mainly to one valley bottom. Ecosystem delineated by the Karkloof Forest Collective threatened ecosystem (KZN 29) in the west. The northern and eastern boundaries delineated by the lowermost contour of the surrounding slopes, whilst the southern boundary follows a common contour from the east to west boundaries.

Description

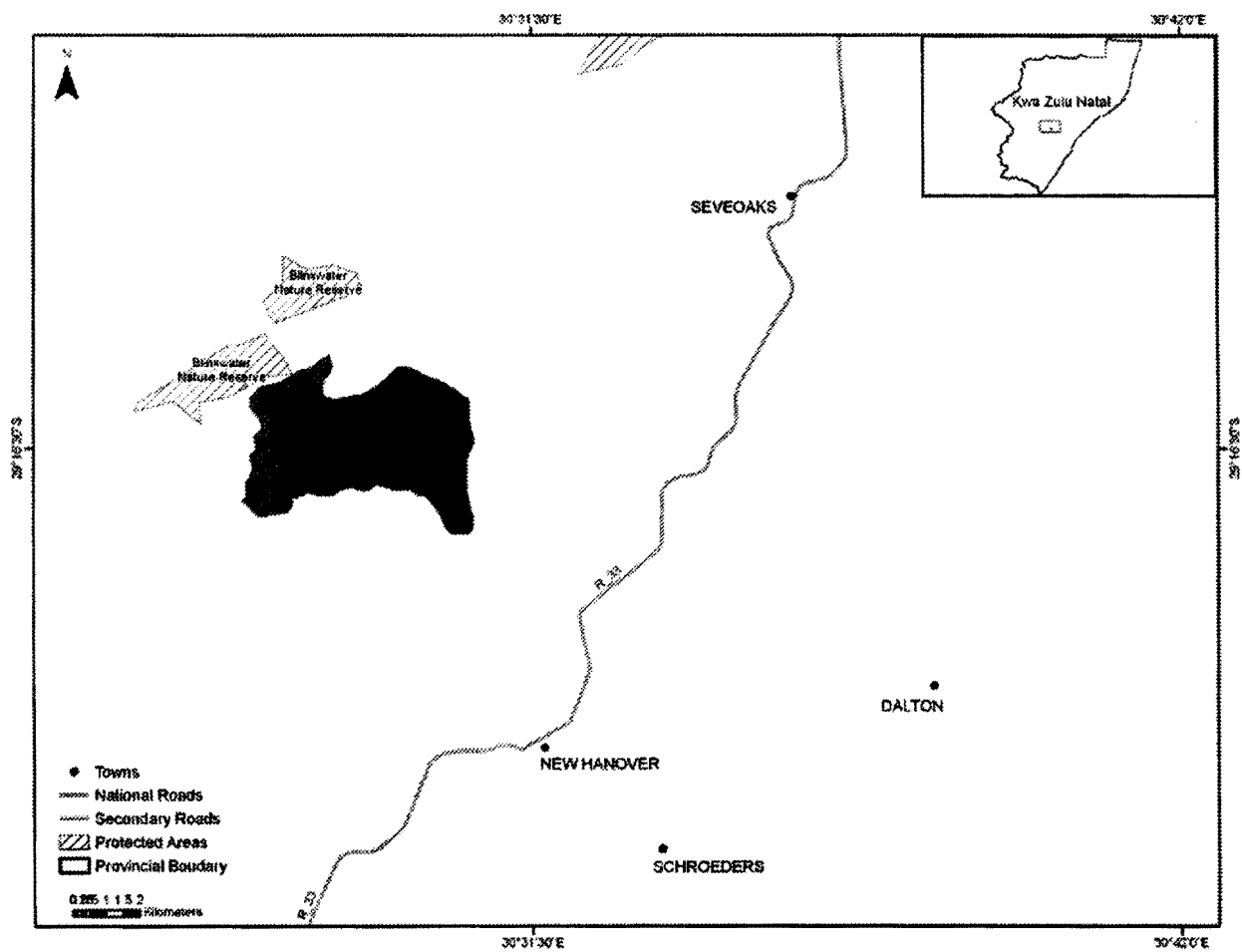
Key biodiversity features include one bird species, the Wattled Crane; one millipede species, *Doratogonus montanus*; one plant species, *Senecio exuberans*; and two vegetation types including Midlands Mistbelt Grassland and Ngongoni Veld.

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 Blinkwater Valley showing original area of ecosystem

4. Boesmanspruit Highveld Grassland (GP 2)

Reference number	GP 2
Listed under Criterion	F
Biome	Grassland and Wetland
Province	Gauteng
Municipality	Lesedi LM
Original area of ecosystem	42 000 ha
Remaining natural area of ecosystem (%)	99%
Proportion of ecosystem protected	0% of original area
Known number of species of special concern	14 threatened or endemic plant and animal species including those listed below

Geographical location

East Rand of Gauteng, including Endicott and Leslie (2628BC and 2628 BD respectively). Ecosystem delineated by the Boesmanspruit and its tributaries together with associated wetlands and pans and the quaternary catchment.

Description

Key biodiversity features include Red or Orange Listed plants for example *Nerine gracilis* and *Kniphofia typhoides*; Red or Orange Listed birds for example Secretarybird, African Grass-Owl, Greater Flamingo, Black-Winged Pratincole, Black Stork and Blue Crane; Red or Orange Listed amphibians for example the Giant Bullfrog; and two vegetation types including Eastern Temperate Freshwater Wetlands and Soweto Highveld Grassland. Rivers, wetlands and pans in the ecosystem include the Suikerbosrantrivier, Boesmanspruit, Die Leeufontein, Klippan, Skilpadpan and various other unnamed wetlands and pans.

Other information

The ecosystem is not protected.