NOMINATION OF THE EXTENSION
OF THE
CAPE FLORAL REGION PROTECTED AREAS:
WORLD HERITAGE SITE
OF
SOUTH AFRICA

By the Government of the Republic of South Africa

2014

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Compiled for:

Department of Environmental Affairs
SANParks
Western Cape Nature Conservation Board (CapeNature)
Eastern Cape Parks & Tourism Agency
and Eastern Cape Economic Development, Environmental Affairs and Tourism

Compiled by:
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in association with:
SANParks, CapeNature and Eastern Cape Parks and Tourism Agency

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Appendices

List of acronyms

ABI: ..... Agulhas Biodiversity Initiative

ACE: ..... Centre for African Conservation Ecology (Formerly known as the Terrestrial Ecological Research Unit (TERU))

ADU: ..... Animal Demography Unit (previously Avian Demography Unit)

AFIS: ..... Advanced Fire Information System

BGIS: ..... Biodiversity Geographical Information System (Unit housed at SANBI – which see)

BHU: ..... Broad Habitat Unit

BIRP: ..... Birds in Reserves Project

BMP: ..... Baviaanskloof Mega-Reserve Project

BMS: ..... Biodiversity Monitoring System

BNP: ..... Bontebok National Park

C.A.P.E: .....Cape Action for People and the Environment
CBA:.....Critical Biodiversity Area
CEPF: .....Critical Ecosystem Partnership Fund
CESA: .....Critical Ecological Support Areas
CFR:.....Cape Floral Region
CFRPA:.....Cape Floral Region Protected Areas
CI: .....Conservation International
CIB: .....Centre of Excellence for Invasion Biology
CITES: .....Convention on International Trade in Endangered Species
CPNP:.....Cape Peninsula National Park (now Table Mountain National Park (TMNP))
CSIR: .....Council for Scientific and Industrial Research
DAFF:.....Department of Agriculture, Fisheries and Forestry
DEA:.....Department of Environmental Affairs
DEAT: .....Department of Environmental Affairs and Tourism (now DEA, which see)
DWA:.....Department of Water Affairs
DWAF: .....Department of Water Affairs and Forestry (Now split between DWA and DAFF)
EC:.....Eastern Cape
ECPTA:.....Eastern Cape Parks and Tourism Agency
EDRR:.....Early Detection and Rapid Response
EIA: .....Environmental Impact Assessment
EID: .....Emerging infectious disease/s
GCBC:.....Greater Cederberg Biodiversity Corridor Project
GEF:.....Global Environmental Facility
GI: .....Gouritz Initiative
GIS:.....Geographical Information System
GPS: .....Geographical Positioning System
GRI:.....Garden Route Initiative
GRNP:.....Garden Route National Park
IAP: .....Invasive alien plants
IAS: .....Invasive alien species
IEMS: .....Integrated Environmental Management System
IMP.....Integrated Management Plan
ISEP:.....Information System for Endangered Plants
IUCN: .....International Union for Conservation of Nature
JMC:.....Joint Management Committee
M&E: .....Monitoring and evaluation
METT: .....Management Effectiveness Monitoring Tool
MoU .....Memorandum of Understanding
NEM:PAA:.....National Environmental Management: Protected Areas Act
NEMA: .....National Environmental Management Act
NFA:.....National Forests Act

NGO:.....Non-Government Organisation
NP:.....National Park
NPAES:.....National Protected Area Expansion Strategy
NSBA:.....National Spatial Biodiversity Assessment
NWA:.....National Water Act
PA:.....Protected Area
PAES:.....Protected Area Expansion Strategy (CapeNature)
PAIME:.....Protected Area Integrity Management Effectiveness
PCU:.....Plant Conservation Unit
POSA:.....Plants of Southern Africa
PRECIS:.....Pretoria Computerised Information System
QDS:.....Quarter Degree Square
SANBI:.....South African National Biodiversity Institute
SANParks:.....South African National Parks Board
SIBIS:.....Integrated Biodiversity Information System
SoB:.....State of Biodiversity
SoC:.....State of Conservation
TMF:.....Table Mountain Fund
TPC:.....Threshold of Potential Concern
WC:.....Western Cape
WfW:.....Working for Water
WHS:.....World Heritage Site
WoF:.....Working on Fire
WoW:.....Working on Wetlands
WWF-SA:.....World Wide Fund for Nature – South Africa

Executive Summary

State Party

South Africa

State, Province or Region

Cape Floral Region (CFR) spanning the Northern Cape, Western Cape and Eastern Cape Provinces of South Africa.

Name of Property

Cape Floral Region Protected Areas (CFRPA) (Extension)

Geographical coordinates to the nearest second

Table 1 provides location details and land areas of complexes with their components representing the already inscribed CFKPA World Heritage Sites, the extension nomination sites and the buffer zones of the Cape Floral Region Protected Areas (CFRPA) World Heritage Site.

Textual description of the boundaries of the CFRPA Extension Nomination

The CFR covers much of the Western Cape Province, extending eastwards into the Eastern Cape Province and reaching marginally into the Northern Cape. In the south, and west, the region is restricted by the ocean while the interior margins are formed by the Succulent Karoo, Nama-Karoo, and eastwards by the Thicket Biomes. The inscribed property and the Extension Nomination are distributed relatively evenly throughout the CFR.

Figure 1 indicates all the inscribed, the nominated extensions and the buffer zones for the CFRPA. Figures 2 to 15 indicate in more detail these areas within the 14 different complexes.

Table 1 Location details and land areas of complexes with their components representing the inscribed World Heritage Sites, the extension nomination sites and the buffer zones of the Cape Floral Region Protected Areas (CFRPA) World Heritage Site.

Id number	Name of the compartment part	Coordinates of the Central Point		Inscribed compartment in 2004 (ha)	Area of nominated component proposed for extension 2014 (ha)	Total area of the component (ha)	Area of the Buffer (ha)	Comment	Map & Figure no
CEDERBERG COMPLEX (Figure 2)									Map&Fig.2
1	Cederberg Wilderness Area	S 32° 35' 26.4"	E 19° 06' 55.8"	65 151.70					Map&Fig.2
2	Matjiesrivier Nature Reserve	S 32° 29' 39.4"	E 19° 23' 06.2"		12 793.80				Map&Fig.2
						77 945.50			
1	Cederberg Complex - Buffer	S 32° 05' 50.1"	E 18° 57' 23.0"				4 619.50		Map&Fig.2
2	Cederberg Complex - Buffer	S 32° 11' 42.8"	E 18° 58' 34.4"				484.76		Map&Fig.2
3	Cederberg Complex - Buffer	S 32° 16' 46.6"	E 19° 00' 35.3"				2 348.42		Map&Fig.2
4	Cederberg Complex - Buffer	S 32° 16' 43.6"	E 19° 03' 09.1"				447.90		Map&Fig.2
5	Cederberg Complex - Buffer	S 32° 23' 28.8"	E 19° 20' 22.8"				5 466.28		Map&Fig.2
6	Cederberg Complex - Buffer	S 32° 29' 41.4"	E 19° 02' 38.4"				18 787.93		Map&Fig.2
7	Cederberg Complex - Buffer	S 32° 42' 41.8"	E 19° 22' 27.3"				80 661.31		Map&Fig.2
8	Cederberg Complex - Buffer	S 33° 02' 41.8"	E 19° 23' 60.0"				8 223.65		Map&Fig.2
							121 039.75		
GROOT WINTERHOEK COMPLEX (Figure 3)									Map&Fig.3
3	Grootwinterhoek Wilderness Area	S 33° 11' 59.0"	E 19° 04' 33.0"	26 806.29					Map&Fig.3
4	Grootwinterhoek Nature Reserves	S 33° 05' 34.1"	E 19° 07' 31.4"		703.32				Map&Fig.3
						27 509.61			
9	Groot Winterhoek Complex - Buffer	S 32° 56' 15.7"	E 19° 09' 21.7"				81 462.72		Map&Fig.3
10	Groot Winterhoek Complex - Buffer	S 33° 11' 22.7"	E 19° 02' 54.7"				6 970.07		Map&Fig.3
11	Groot Winterhoek Complex - Buffer	S 33° 10' 18.8"	E 19° 08' 28.1"				90.86		Map&Fig.3
12	Groot Winterhoek Complex - Buffer	S 33° 12' 33.3"	E 19° 07' 55.5"				114.65		Map&Fig.3
13	Groot Winterhoek Complex - Buffer	S 33° 14' 47.1"	E 19° 12' 36.8"				3 068.02		Map&Fig.3
14	Groot Winterhoek Complex - Buffer	S 33° 14' 57.3"	E 19° 25' 55.3"				11 835.67		Map&Fig.3
							103 541.99		
WEST COAST COMPLEX (DELETED FROM NOMINATION)									
TABLE MOUNTAIN NATIONAL PARK (Figures 5, 5a, 5b)									Map&Fig.5, 5a&5b
14	Table Mountain National Park	S 33° 59' 18.6"	E 18° 23' 50.8"	4 392.15					Map&Fig.5, 5a&5b
15	Table Mountain National Park	S 34° 04' 25.0"	E 18° 23' 31.5"	2 661.76					Map&Fig.5, 5a&5b
16	Table Mountain National Park	S 34° 02' 18.8"	E 18° 19' 25.7"	707.66					Map&Fig.5, 5a&5b
17	Table Mountain National Park	S 34° 05' 45.7"	E 18° 27' 32.0"	121.41					Map&Fig.5, 5a&5b
18	Table Mountain National Park	S 34° 07' 02.1"	E 18° 27' 22.5"	3.02					Map&Fig.5, 5a&5b
19	Table Mountain National Park	S 34° 07' 32.4"	E 18° 26' 33.7"	65.80					Map&Fig.5, 5a&5b
20	Table Mountain National Park	S 34° 08' 47.2"	E 18° 25' 41.7"	158.87					Map&Fig.5, 5a&5b
21	Table Mountain National Park	S 34° 09' 32.1"	E 18° 20' 53.9"	588.39					Map&Fig.5, 5a&5b
22	Table Mountain National Park	S 34° 11' 03.0"	E 18° 23' 05.8"	455.23					Map&Fig.5, 5a&5b
23	Table Mountain National Park	S 34° 12' 10.7"	E 18° 24' 49.6"	204.99					Map&Fig.5, 5a&5b
24	Table Mountain National Park	S 34° 16' 27.9"	E 18° 25' 55.2"	8 133.01					Map&Fig.5, 5a&5b
~~25~~	Table Mountain National Park	S 33° 54' 49.9"	E 18° 24' 45.3"		0.00			Remove (2.02ha)	Map&Fig.5, 5a&5b
26	Table Mountain National Park	S 33° 54' 55.1"	E 18° 23' 57.5"		0.45				Map&Fig.5, 5a&5b
27	Table Mountain National Park	S 33° 54' 52.1"	E 18° 23' 51.5"		0.04				Map&Fig.5, 5a&5b

Id number	Name of the compartment part	Coordinates of the Central Point		Inscribed compartment in 2004 (ha)	Area of nominated component proposed for extension 2014 (ha)	Total area of the component (ha)	Area of the Buffer (ha)	Comment	Map & Figure no
28	Table Mountain National Park	S 33° 54' 51.9"	E 18° 24' 29.7"		0.13				Map&Fig.5, 5a&5b
~~29~~	Table Mountain National Park	S 33° 55' 06.5"	E 18° 24' 38.1"		0.00			Remove (19.85ha)	Map&Fig.5, 5a&5b
~~30~~	Table Mountain National Park	S 33° 55' 12.2"	E 18° 24' 26.3"		0.00			Remove (15.85ha)	Map&Fig.5, 5a&5b
~~31~~	Table Mountain National Park	S 33° 56' 11.7"	E 18° 23' 06.5"		0.00			Remove (94.75ha)	Map&Fig.5, 5a&5b
32	Table Mountain National Park	S 33° 56' 41.6"	E 18° 23' 15.3"		17.65			Reduce from 19.18ha	Map&Fig.5, 5a&5b
~~33~~	Table Mountain National Park	S 33° 56' 40.9"	E 18° 23' 40.2"		0.00			Remove (6.96ha)	Map&Fig.5, 5a&5b
~~34~~	Table Mountain National Park	S 33° 56' 48.4"	E 18° 25' 10.0"		0.00			Remove (5.38ha)	Map&Fig.5, 5a&5b
~~35~~	Table Mountain National Park	S 33° 56' 30.5"	E 18° 27' 12.0"		0.00			Remove (0.40ha)	Map&Fig.5, 5a&5b
36	Table Mountain National Park	S 33° 57' 05.5"	E 18° 26' 39.6"		79.39				Map&Fig.5, 5a&5b
~~37~~	Table Mountain National Park	S 33° 57' 18.5"	E 18° 27' 13.0"		0.00			Remove (10.23ha)	Map&Fig.5, 5a&5b
38	Table Mountain National Park	S 33° 58' 10.2"	E 18° 26' 50.1"		47.49				Map&Fig.5, 5a&5b
39	Table Mountain National Park	S 33° 58' 26.6"	E 18° 24' 24.0"		520.56			IUCN suggested to retain area to close gap	Map&Fig.5, 5a&5b
40	Table Mountain National Park	S 33° 59' 14.6"	E 18° 20' 58.9"		6.26				Map&Fig.5, 5a&5b
41	Table Mountain National Park	S 34° 00' 35.7"	E 18° 22' 28.3"		5.03			Reduce from 8.21	Map&Fig.5, 5a&5b
~~42~~	Table Mountain National Park	S 34° 00' 28.6"	E 18° 22' 49.6"		0.00			Remove (0.50ha)	Map&Fig.5, 5a&5b
~~43~~	Table Mountain National Park	S 34° 00' 23.9"	E 18° 22' 49.1"		0.00			Remove (0.34ha)	Map&Fig.5, 5a&5b
44	Table Mountain National Park	S 34° 00' 29.2"	E 18° 23' 25.4"		12.85			Reduce from 13.50ha	Map&Fig.5, 5a&5b
45	Table Mountain National Park	S 34° 00' 13.3"	E 18° 25' 14.9"		57.04				Map&Fig.5, 5a&5b
46	Table Mountain National Park	S 34° 00' 30.6"	E 18° 24' 36.0"		2.18				Map&Fig.5, 5a&5b
~~47~~	Table Mountain National Park	S 34° 00' 56.3"	E 18° 23' 43.3"		0.00			Remove (16.68ha)	Map&Fig.5, 5a&5b
48	Table Mountain National Park	S 34° 01' 05.6"	E 18° 24' 11.1"		4.82				Map&Fig.5, 5a&5b
49	Table Mountain National Park	S 34° 01' 16.3"	E 18° 23' 14.7"		36.10				Map&Fig.5, 5a&5b
50	Table Mountain National Park	S 34° 01' 34.5"	E 18° 24' 22.9"		22.00				Map&Fig.5, 5a&5b
~~51~~	Table Mountain National Park	S 34° 01' 52.9"	E 18° 22' 50.5"		0.00			Remove (48.16ha)	Map&Fig.5, 5a&5b
~~52~~	Table Mountain National Park	S 34° 01' 50.8"	E 18° 22' 02.2"		0.00			Remove (18.83ha)	Map&Fig.5, 5a&5b
~~53~~	Table Mountain National Park	S 34° 02' 02.4"	E 18° 21' 48.4"		0.00			Remove (0.06ha)	Map&Fig.5, 5a&5b
54	Table Mountain National Park	S 34° 02' 51.3"	E 18° 22' 10.8"		4.25			Reduce from 43.84ha	Map&Fig.5, 5a&5b
55	Table Mountain National Park	S 34° 03' 20.0"	E 18° 21' 51.4"		7.62				Map&Fig.5, 5a&5b
~~56~~	Table Mountain National Park	S 34° 03' 22.9"	E 18° 20' 20.6"		0.00			Remove (6.08ha)	Map&Fig.5, 5a&5b
57	Table Mountain National Park	S 34° 03' 59.8"	E 18° 22' 12.7"		54.36				Map&Fig.5, 5a&5b
58	Table Mountain National Park	S 34° 04' 18.8"	E 18° 24' 24.7"		155.62			IUCN suggested exclusion; Reduce from 770.32ha (3 remnants)	Map&Fig.5, 5a&5b
58a		S 34° 02' 16.9"	E 18° 23' 55.5"		116.07				Map&Fig.5, 5a&5b
58b		S 34° 03' 06.6"	E 18° 24' 36.6"		30.61				Map&Fig.5, 5a&5b
59	Table Mountain National Park	S 34° 03' 04.9"	E 18° 25' 31.3"		2.58			IUCN suggested exclusion; SANparks insist on keeping it	Map&Fig.5, 5a&5b
60	Table Mountain National Park	S 34° 03' 11.5"	E 18° 25' 55.7"		42.26			IUCN suggested exclusion; Reduce from 75.69ha	Map&Fig.5, 5a&5b
61	Table Mountain National Park	S 34° 07' 19.3"	E 18° 21' 33.6"		719.78			Reduce from 827.95	Map&Fig.5, 5a&5b
~~62~~	Table Mountain National Park	S 34° 05' 40.6"	E 18° 23' 51.0"		0.00			Remove (155.29ha)	Map&Fig.5, 5a&5b
63	Table Mountain National Park	S 34° 06' 31.8"	E 18° 26' 26.9"		941.96			Reduce from 1256.87ha	Map&Fig.5, 5a&5b
~~64~~	Table Mountain National Park	S 34° 05' 13.9"	E 18° 26' 55.5"		0.00			Remove (2.08ha)	Map&Fig.5, 5a&5b
~~65~~	Table Mountain National Park	S 34° 06' 32.2"	E 18° 23' 16.5"		0.00			Remove (4.41ha)	Map&Fig.5, 5a&5b
~~66~~	Table Mountain National Park	S 34° 06' 40.4"	E 18° 23' 33.0"		0.00			Remove (8.25ha)	Map&Fig.5, 5a&5b
67	Table Mountain National Park	S 34° 07' 24.8"	E 18° 25' 04.9"		37.03			Reduce from 41.08ha	Map&Fig.5, 5a&5b
68	Table Mountain National Park	S 34° 07' 40.7"	E 18° 26' 32.9"		4.09				Map&Fig.5, 5a&5b

Id number	Name of the compartment part	Coordinates of the Central Point		Inscribed compartment in 2004 (ha)	Area of nominated component proposed for extension 2014 (ha)	Total area of the component (ha)	Area of the Buffer (ha)	Comment	Map & Figure no
69	Table Mountain National Park	S 34° 08' 21.7"	E 18° 24' 50.8"		10.66			Reduce from 220.64ha (2 remnants)	Map&Fig.5, 5a&5b
69a		S 34° 08' 11.7"	E 18° 24' 36.3"		3.75				Map&Fig.5, 5a&5b
69b		S 34° 09' 01.4"	E 18° 25' 19.8"		30.65			New property added	Map&Fig.5, 5a&5b
~~70~~	Table Mountain National Park	S 34° 08' 54.0"	E 18° 25' 27.8"		0.00			Remove (3.57ha)	Map&Fig.5, 5a&5b
71	Table Mountain National Park	S 34° 09' 01.5"	E 18° 22' 11.3"		338.51			Reduce from 1413.03ha (4 remnants); enlarged with extra properties from 274.49ha	Map&Fig.5, 5a&5b
71a		S 34° 08' 56.8"	E 18° 24' 06.9"		57.80				Map&Fig.5, 5a&5b
71b		S 34° 08' 51.4"	E 18° 19' 16.5"		13.16				Map&Fig.5, 5a&5b
71c		S 34° 10' 53.9"	E 18° 23' 44.0"		8.61				Map&Fig.5, 5a&5b
~~72~~	Table Mountain National Park	S 34° 09' 15.8"	E 18° 24' 41.3"		0.00			Remove (4.85ha)	Map&Fig.5, 5a&5b
~~73~~	Table Mountain National Park	S 34° 09' 40.4"	E 18° 20' 37.1"		0.00			Remove (0.31ha)	Map&Fig.5, 5a&5b
~~74~~	Table Mountain National Park	S 34° 10' 10.4"	E 18° 24' 05.8"		0.00			Remove (1.69ha)	Map&Fig.5, 5a&5b
75	Table Mountain National Park	S 34° 11' 33.5"	E 18° 23' 20.2"		44.04				Map&Fig.5, 5a&5b
76	Table Mountain National Park	S 34° 11' 42.1"	E 18° 24' 38.1"		3.88			Reduce from 18.96ha	Map&Fig.5, 5a&5b
77	Table Mountain National Park	S 34° 11' 13.4"	E 18° 25' 09.5"		33.01			Reduce from 42.25ha	Map&Fig.5, 5a&5b
78	Table Mountain National Park	S 34° 13' 32.1"	E 18° 27' 33.7"		448.85			Reduce from 521.15ha	Map&Fig.5, 5a&5b
79	Table Mountain National Park	S 34° 13' 30.6"	E 18° 25' 21.2"		274.20				
						21 687.63			
21	Table Mountain National Park - Buffer	S 34° 06' 50.0"	E 18° 19' 22.0"				95 645.56		Map&Fig.5, 5a&5b
22	Table Mountain National Park - Buffer Zone	S 33° 55' 01.6"	E 18° 24' 13.5"				1.00		Map&Fig.5, 5a&5b
23	Table Mountain National Park - Buffer Zone	S 33° 54' 57.7"	E 18° 24' 53.7"				11.33		Map&Fig.5, 5a&5b
24	Table Mountain National Park - Buffer Zone	S 33° 55' 23.7"	E 18° 24' 32.4"				4.55		Map&Fig.5, 5a&5b
25	Table Mountain National Park - Buffer Zone	S 33° 55' 29.7"	E 18° 24' 28.7"				8.16		Map&Fig.5, 5a&5b
26	Table Mountain National Park - Buffer Zone	S 33° 56' 53.2"	E 18° 23' 41.7"				6.47		Map&Fig.5, 5a&5b
27	Table Mountain National Park - Buffer Zone	S 33° 56' 50.8"	E 18° 24' 07.3"				2.60		Map&Fig.5, 5a&5b
28	Table Mountain National Park - Buffer Zone	S 33° 56' 39.1"	E 18° 25' 06.7"				5.77		Map&Fig.5, 5a&5b
29	Table Mountain National Park - Buffer Zone	S 33° 58' 56.3"	E 18° 22' 06.1"				371.06		Map&Fig.5, 5a&5b
30	Table Mountain National Park - Buffer Zone	S 33° 59' 11.8"	E 18° 25' 50.7"				218.09		Map&Fig.5, 5a&5b
31	Table Mountain National Park - Buffer Zone	S 34° 01' 12.8"	E 18° 20' 18.3"				108.07		Map&Fig.5, 5a&5b
32	Table Mountain National Park - Buffer Zone	S 34° 00' 54.2"	E 18° 24' 10.7"				135.71		Map&Fig.5, 5a&5b
33	Table Mountain National Park - Buffer Zone	S 34° 01' 07.9"	E 18° 23' 32.4"				27.44		Map&Fig.5, 5a&5b
34	Table Mountain National Park - Buffer Zone	S 34° 02' 16.7"	E 18° 24' 14.4"				117.38		Map&Fig.5, 5a&5b
35	Table Mountain National Park - Buffer Zone	S 34° 02' 09.9"	E 18° 22' 01.2"				28.73		Map&Fig.5, 5a&5b
36	Table Mountain National Park - Buffer Zone	S 34° 02' 24.5"	E 18° 22' 35.9"				27.51		Map&Fig.5, 5a&5b
37	Table Mountain National Park - Buffer Zone	S 34° 02' 34.9"	E 18° 20' 25.2"				183.23		Map&Fig.5, 5a&5b
38	Table Mountain National Park - Buffer Zone	S 34° 03' 29.9"	E 18° 20' 17.7"				10.10		Map&Fig.5, 5a&5b
39	Table Mountain National Park - Buffer Zone	S 34° 04' 58.6"	E 18° 22' 53.8"				360.61		Map&Fig.5, 5a&5b
40	Table Mountain National Park - Buffer Zone	S 34° 05' 39.2"	E 18° 26' 50.4"				98.10		Map&Fig.5, 5a&5b
41	Table Mountain National Park - Buffer Zone	S 34° 06' 06.2"	E 18° 23' 52.7"				30.94		Map&Fig.5, 5a&5b
42	Table Mountain National Park - Buffer Zone	S 34° 06' 15.5"	E 18° 21' 34.8"				11.49		Map&Fig.5, 5a&5b
43	Table Mountain National Park - Buffer Zone	S 34° 06' 59.2"	E 18° 23' 50.0"				95.31		Map&Fig.5, 5a&5b
44	Table Mountain National Park - Buffer Zone	S 34° 07' 23.2"	E 18° 25' 30.3"				46.99		Map&Fig.5, 5a&5b
45	Table Mountain National Park - Buffer Zone	S 34° 06' 00.3"	E 18° 23' 34.2"				1.36		Map&Fig.5, 5a&5b
46	Table Mountain National Park - Buffer Zone	S 34° 08' 15.4"	E 18° 21' 18.3"				5.11		Map&Fig.5, 5a&5b
47	Table Mountain National Park - Buffer Zone	S 34° 08' 53.8"	E 18° 19' 11.8"				1.72		Map&Fig.5, 5a&5b
48	Table Mountain National Park - Buffer Zone	S 34° 08' 40.8"	E 18° 19' 41.3"				31.90		Map&Fig.5, 5a&5b

Id number	Name of the compartment part	Coordinates of the Central Point		Inscribed compartment in 2004 (ha)	Area of nominated component proposed for extension 2014 (ha)	Total area of the component (ha)	Area of the Buffer (ha)	Comment	Map & Figure no
49	Table Mountain National Park - Buffer Zone	S 34° 08' 28.3"	E 18° 20' 15.1"				1.55		Map&Fig.5, 5a&5b
50	Table Mountain National Park - Buffer Zone	S 34° 08' 07.3"	E 18° 20' 27.5"				10.34		Map&Fig.5, 5a&5b
51	Table Mountain National Park - Buffer Zone	S 34° 08' 40.4"	E 18° 23' 04.3"				119.48		Map&Fig.5, 5a&5b
52	Table Mountain National Park - Buffer Zone	S 34° 08' 21.9"	E 18° 23' 50.5"				22.48		Map&Fig.5, 5a&5b
53	Table Mountain National Park - Buffer Zone	S 34° 09' 12.0"	E 18° 26' 09.6"				5.15		Map&Fig.5, 5a&5b
54	Table Mountain National Park - Buffer Zone	S 34° 11' 10.3"	E 18° 24' 26.7"				1 379.72		Map&Fig.5, 5a&5b
55	Table Mountain National Park - Buffer Zone	S 34° 10' 05.0"	E 18° 20' 20.5"				294.98		Map&Fig.5, 5a&5b
56	Table Mountain National Park - Buffer Zone	S 34° 10' 44.1"	E 18° 24' 09.0"				32.58		Map&Fig.5, 5a&5b
57	Table Mountain National Park - Buffer Zone	S 34° 11' 23.1"	E 18° 25' 23.0"				6.46		Map&Fig.5, 5a&5b
58	Table Mountain National Park - Buffer Zone	S 34° 13' 30.5"	E 18° 26' 49.2"				1 700.88		Map&Fig.5, 5a&5b
59	Table Mountain National Park - Buffer Zone	S 34° 11' 54.8"	E 18° 26' 37.7"				9.19		Map&Fig.5, 5a&5b
60	Table Mountain National Park - Buffer Zone	S 34° 12' 10.3"	E 18° 27' 01.6"				22.67		Map&Fig.5, 5a&5b
61	Table Mountain National Park - Buffer Zone	S 34° 13' 25.4"	E 18° 27' 49.2"				77.60		Map&Fig.5, 5a&5b
62	Table Mountain National Park - Buffer Zone	S 34° 15' 41.3"	E 18° 28' 05.4"				64.37		Map&Fig.5, 5a&5b
							101 343.74		
BOLAND MOUNTAIN COMPLEX (Figure 6)									Map&Fig.6
80	Haweqwa Nature Reserve	S 33° 40' 58.7"	E 19° 07' 43.0"	42 159.10					Map&Fig.6
81	Theewaters Nature Reserve	S 33° 57' 38.6"	E 19° 12' 45.4"	14 787.73					Map&Fig.6
82	Jonkershoek Nature Reserve	S 33° 58' 22.0"	E 19° 00' 22.5"	14 042.99					Map&Fig.6
83	Hottentots-Holland Nature Reserve	S 34° 02' 07.6"	E 19° 02' 53.9"	13 126.15					Map&Fig.6
84	Groenlandberg Nature Reserve	S 34° 07' 05.1"	E 19° 08' 17.3"	5 122.18					Map&Fig.6
85	Houwhoek Nature Reserve	S 34° 14' 29.3"	E 19° 08' 49.4"	3 256.39					Map&Fig.6
86	Kogelberg Nature Reserve	S 34° 16' 55.5"	E 18° 55' 10.7"	19 409.62					Map&Fig.6
87	Mt Hebron Nature Reserve	S 34° 18' 17.5"	E 19° 06' 48.1"	742.82					Map&Fig.6
88	Waterval Nature Reserve	S 33° 24' 57.0"	E 19° 05' 43.4"		6 835.23				Map&Fig.6
89	Voõlvlei Nature Reserve	S 33° 22' 20.0"	E 19° 03' 54.8"		498.21				Map&Fig.6
90	Voõlvlei Nature Reserve	S 33° 22' 45.0"	E 19° 01' 28.1"		378.96				Map&Fig.6
91	Brandvlei Nature Reserve	S 33° 45' 07.3"	E 19° 23' 15.4"		2 530.62				Map&Fig.6
92	Simonsberg Nature Reserve	S 33° 52' 50.7"	E 18° 55' 21.4"		463.23				Map&Fig.6
93	Helderberg Nature Reserve	S 34° 01' 56.7"	E 18° 52' 32.5"		218.43				Map&Fig.6
94	Kogelberg Sonchem link Nature Reserve	S 34° 19' 22.2"	E 18° 51' 03.1"		394.12				Map&Fig.6
95	Brodie Link Nature Reserve	S 34° 21' 49.5"	E 18° 50' 17.0"		478.25				Map&Fig.6
96	Rooisand (Botrivier) Nature Reserve	S 34° 20' 42.3"	E 19° 05' 48.2"		273.34				Map&Fig.6
						124 717.37			
63	Boland Mountain Complex - Buffer	S 33° 19' 26.7"	E 19° 04' 22.6"				507.10		Map&Fig.6
64	Boland Mountain Complex - Buffer	S 33° 27' 00.6"	E 19° 03' 25.2"				3 765.49		Map&Fig.6
65	Boland Mountain Complex - Buffer	S 33° 27' 30.6"	E 19° 09' 18.5"				393.41		Map&Fig.6
66	Boland Mountain Complex - Buffer	S 33° 28' 05.1"	E 19° 07' 44.9"				632.23		Map&Fig.6
67	Boland Mountain Complex - Buffer	S 33° 32' 12.2"	E 19° 04' 16.8"				350.56		Map&Fig.6
68	Boland Mountain Complex - Buffer	S 33° 32' 28.2"	E 19° 09' 09.1"				4 868.88		Map&Fig.6
69	Boland Mountain Complex - Buffer	S 33° 39' 25.5"	E 19° 05' 12.4"				3 758.93		Map&Fig.6
70	Boland Mountain Complex - Buffer	S 33° 37' 04.7"	E 19° 05' 50.8"				3.51		Map&Fig.6
71	Boland Mountain Complex - Buffer	S 33° 42' 35.3"	E 19° 05' 24.4"				1 428.90		Map&Fig.6
72	Boland Mountain Complex - Buffer	S 33° 43' 16.2"	E 19° 04' 07.3"				174.21		Map&Fig.6
73	Boland Mountain Complex - Buffer	S 33° 45' 23.2"	E 19° 15' 54.4"				28 833.66		Map&Fig.6
74	Boland Mountain Complex - Buffer	S 33° 46' 00.5"	E 19° 08' 53.4"				1 625.42		Map&Fig.6
75	Boland Mountain Complex - Buffer	S 33° 45' 59.9"	E 19° 02' 32.5"				84.61		Map&Fig.6
76	Boland Mountain Complex - Buffer	S 33° 49' 42.9"	E 19° 06' 49.5"				3 106.68		Map&Fig.6

Id number	Name of the compartment part	Coordinates of the Central Point		Inscribed compartment in 2004 (ha)	Area of nominated component proposed for extension 2014 (ha)	Total area of the component (ha)	Area of the Buffer (ha)	Comment	Map & Figure no
77	Boland Mountain Complex - Buffer	S 33° 53' 58.8"	E 19° 09' 46.0"				2 046.64		Map&Fig.6
78	Boland Mountain Complex - Buffer	S 33° 57' 46.3"	E 19° 17' 19.3"				41.09		Map&Fig.6
79	Boland Mountain Complex - Buffer	S 34° 00' 16.7"	E 19° 13' 12.8"				851.94		Map&Fig.6
80	Boland Mountain Complex - Buffer	S 33° 52' 52.3"	E 18° 54' 29.7"				1 269.32		Map&Fig.6
81	Boland Mountain Complex - Buffer	S 33° 54' 51.3"	E 18° 59' 03.4"				41.33		Map&Fig.6
82	Boland Mountain Complex - Buffer	S 33° 56' 20.7"	E 18° 58' 01.1"				248.38		Map&Fig.6
83	Boland Mountain Complex - Buffer	S 33° 56' 19.5"	E 18° 55' 20.0"				266.09		Map&Fig.6
84	Boland Mountain Complex - Buffer	S 33° 56' 55.8"	E 18° 57' 45.8"				85.05		Map&Fig.6
85	Boland Mountain Complex - Buffer	S 33° 57' 48.2"	E 18° 53' 25.5"				318.20		Map&Fig.6
86	Boland Mountain Complex - Buffer	S 33° 59' 41.8"	E 18° 53' 26.5"				5.91		Map&Fig.6
87	Boland Mountain Complex - Buffer	S 34° 03' 04.9"	E 18° 57' 42.9"				3 513.13		Map&Fig.6
88	Boland Mountain Complex - Buffer	S 34° 08' 54.1"	E 18° 56' 30.3"				23.55		Map&Fig.6
89	Boland Mountain Complex - Buffer	S 34° 11' 21.7"	E 18° 53' 27.8"				8 677.00		Map&Fig.6
90	Boland Mountain Complex - Buffer	S 34° 08' 02.4"	E 19° 05' 57.3"				1 772.57		Map&Fig.6
91	Boland Mountain Complex - Buffer	S 34° 10' 15.0"	E 19° 11' 19.8"				3 587.69		Map&Fig.6
92	Boland Mountain Complex - Buffer	S 34° 16' 01.9"	E 19° 08' 20.1"				422.67		Map&Fig.6
93	Boland Mountain Complex - Buffer	S 34° 15' 09.4"	E 19° 00' 43.1"				1 709.72		Map&Fig.6
94	Boland Mountain Complex - Buffer	S 34° 18' 17.8"	E 19° 03' 42.5"				942.70		Map&Fig.6
95	Boland Mountain Complex - Buffer	S 34° 20' 01.9"	E 18° 58' 11.9"				1 628.14		Map&Fig.6
96	Boland Mountain Complex - Buffer	S 34° 22' 35.9"	E 18° 55' 32.8"				2 250.31		Map&Fig.6
97	Boland Mountain Complex - Buffer	S 34° 20' 05.8"	E 18° 51' 19.1"				99.57		Map&Fig.6
98	Boland Mountain Complex - Buffer	S 34° 18' 48.0"	E 18° 50' 31.3"				84.30		Map&Fig.6
							79 418.89		
HEXRIVIER COMPLEX (Figure 7)									Map&Fig.7
97	Wittebrug Nature Reserve	S 33° 26' 53.5"	E 19° 15' 56.8"		1 600.77				Map&Fig.7
98	Fonteintjiesberg Nature Reserve	S 33° 31' 56.7"	E 19° 22' 27.7"		3 997.30				Map&Fig.7
99	Ben-Etive Nature Reserve	S 33° 26' 49.9"	E 19° 27' 33.5"		5 095.00				Map&Fig.7
100	Bokkeriviere Nature Reserve	S 33° 21' 17.1"	E 19° 46' 08.1"		11 948.33				Map&Fig.7
						22 641.40			
99	Hexrivier Complex - Buffer	S 33° 26' 04.9"	E 19° 19' 30.7"				21 849.36		Map&Fig.7
100	Hexrivier Complex - Buffer	S 33° 27' 45.7"	E 19° 34' 58.5"				66 398.65		Map&Fig.7
							88 248.01		
RIVIERSONDEREND NATURE RESERVE (Figure 8)									Map&Fig.8
101	Riviersonderend Nature Reserve	S 34° 03' 33.3"	E 19° 20' 37.7"		1 037.86				Map&Fig.8
102	Riviersonderend Nature Reserve	S 33° 59' 19.6"	E 19° 27' 15.0"		12 329.55				Map&Fig.8
103	Riviersonderend Nature Reserve	S 33° 56' 10.0"	E 19° 32' 39.6"		1 043.41				Map&Fig.8
104	Riviersonderend Nature Reserve	S 34° 00' 20.1"	E 19° 36' 02.6"		323.90				Map&Fig.8
105	Riviersonderend Nature Reserve	S 34° 03' 01.3"	E 19° 46' 56.5"		11 895.80				Map&Fig.8
						26 630.52			
101	Riviersonderend Nature Reserve - Buffer	S 33° 57' 32.0"	E 19° 22' 44.8"				7 723.28		Map&Fig.8
102	Riviersonderend Nature Reserve - Buffer	S 34° 02' 19.6"	E 19° 21' 23.0"				221.90		Map&Fig.8
103	Riviersonderend Nature Reserve - Buffer	S 34° 03' 28.6"	E 19° 21' 37.4"				119.63		Map&Fig.8
104	Riviersonderend Nature Reserve - Buffer	S 34° 01' 50.7"	E 19° 23' 15.8"				128.69		Map&Fig.8
105	Riviersonderend Nature Reserve - Buffer	S 33° 56' 25.2"	E 19° 30' 31.0"				1 744.99		Map&Fig.8
106	Riviersonderend Nature Reserve - Buffer	S 33° 57' 26.3"	E 19° 33' 40.2"				2 138.88		Map&Fig.8
107	Riviersonderend Nature Reserve - Buffer	S 34° 01' 43.7"	E 19° 48' 54.6"				25 532.31		Map&Fig.8

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108	Riviersonderend Nature Reserve - Buffer	S 34° 04' 37.4"	E 19° 49' 55.5"				3 974.31		Map&Fig.8
109	Riviersonderend Nature Reserve - Buffer	S 34° 06' 41.9"	E 19° 57' 36.0"				1 042.24		Map&Fig.8
							42 626.23		
AGULHAS COMPLEX (Figure 9)									Map&Fig.9
106	Agulhas National Park	S 34° 39' 34.9"	E 19° 37' 08.2"		3 763.35			was 3765.44	Map&Fig.9
107	Quoin Point Nature Reserve	S 34° 46' 06.3"	E 19° 39' 34.5"		1 124.04			was 1149.16	Map&Fig.9
108	Agulhas National Park - Contractual - Springfield Estate	S 34° 44' 12.4"	E 19° 49' 19.6"		17 351.09			was 15455.84 (Extra added & also part of 111)	Map&Fig.9
109	Soetendalsvlei Nature Reserve	S 34° 43' 20.8"	E 19° 59' 01.5"		414.47			was 414.57	Map&Fig.9
110	Agulhas National Park	S 34° 46' 21.6"	E 19° 59' 57.1"		483.35			was 478.21	Map&Fig.9
111	Agulhas National Park - Contractual - National Parks Trust	S 34° 49' 37.9"	E 19° 59' 57.8"		95.50			was 1300.78 (was split & joined with 108)	Map&Fig.9
112	De Mond Nature Reserve	S 34° 42' 39.3"	E 20° 07' 08.8"		927.38				Map&Fig.9
						24 159.18			Map&Fig.9
	No buffer								
DE HOOP NATURE RESERVE (Figure 10)									Map&Fig.10
113	De Hoop Nature Reserve	S 34° 25' 22.8"	E 20° 34' 58.1"	32 481.73					Map&Fig.10
						32 481.73			
110	De Hoop Nature Reserve - Buffer	S 34° 28' 45.0"	E 20° 37' 22.4"				31 806.27		Map&Fig.10
							31 806.27		
LANGEBERG COMPLEX (Figure 11)									Map&Fig.11
114	Boosmansbos Wilderness Area	S 33° 55' 41.1"	E 20° 52' 33.4"	14 643.33					Map&Fig.11
115	Witbosrivier Nature Reserve	S 33° 44' 36.0"	E 20° 02' 26.3"		503.29				Map&Fig.11
116	Twistniet Nature Reserve	S 33° 50' 14.7"	E 20° 08' 48.8"		1 181.95				Map&Fig.11
117	Marloth Nature Reserve	S 33° 57' 54.0"	E 20° 22' 34.3"		11 351.70				Map&Fig.11
118	Bontebok National Park	S 34° 04' 05.1"	E 20° 27' 56.0"		3 379.28				Map&Fig.11
119	Zuurberg Nature Reserve	S 33° 57' 04.2"	E 20° 38' 58.6"		1 231.23				Map&Fig.11
120	Grootvadersbosch Nature Reserve	S 33° 59' 04.8"	E 20° 48' 50.0"		329.00			Area with buildings was removed (was 338.07ha)	Map&Fig.11
121	Garcia Nature Reserve	S 33° 57' 24.2"	E 21° 11' 45.3"		6 456.07				Map&Fig.11
122	Spioenkop Nature Reserve	S 33° 58' 36.3"	E 21° 24' 09.9"		1 255.71				Map&Fig.11
123	Paardeberg Nature Reserve	S 33° 57' 21.9"	E 21° 26' 27.1"		559.02				Map&Fig.11
124	Tygerberg Nature Reserve	S 33° 57' 05.2"	E 21° 32' 12.7"		2 769.57				Map&Fig.11
						43 660.15			
111	Langeberg Complex - Buffer	S 33° 43' 57.6"	E 19° 55' 32.1"				26 985.94		Map&Fig.11
112	Langeberg Complex - Buffer	S 33° 53' 20.7"	E 20° 13' 25.7"				6 962.76		Map&Fig.11
113	Langeberg Complex - Buffer	S 33° 58' 22.3"	E 20° 39' 18.3"				17 745.23		Map&Fig.11
114	Langeberg Complex - Buffer	S 34° 00' 49.2"	E 20° 47' 33.1"				45.59		Map&Fig.11
115	Langeberg Complex - Buffer	S 33° 57' 50.2"	E 20° 54' 10.5"				861.84		Map&Fig.11
116	Langeberg Complex - Buffer	S 33° 53' 25.5"	E 20° 57' 01.4"				641.37		Map&Fig.11
117	Langeberg Complex - Buffer	S 33° 56' 24.9"	E 21° 02' 34.7"				5 665.82		Map&Fig.11
118	Langeberg Complex - Buffer	S 33° 58' 34.5"	E 21° 26' 21.6"				13 631.75		Map&Fig.11
119	Langeberg Complex - Buffer	S 33° 57' 12.8"	E 21° 37' 15.6"				3 880.05		Map&Fig.11

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							76 420.35		
GARDEN ROUTE COMPLEX (Figure 12)									Map&Fig.12
125	Ruitersbos Nature Reserve	S 33° 52' 58.1"	E 22° 04' 45.3"		18 116.83				Map&Fig.12
126	Doringrivier Wilderness Area	S 33° 51' 39.2"	E 22° 11' 33.6"		9 518.45				Map&Fig.12
127	Witfontein Nature Reserve	S 33° 53' 27.0"	E 22° 29' 31.4"		14 351.66				Map&Fig.12
128	Garden Route National Park	S 33° 57' 00.6"	E 22° 33' 06.7"		1 121.69				Map&Fig.12
129	Garden Route National Park	S 33° 55' 27.5"	E 22° 39' 53.9"		1 002.93				Map&Fig.12
137	Garden Route National Park	S 33° 54' 22.7"	E 22° 45' 23.4"		1 109.26				Map&Fig.12
138	Garden Route National Park	S 33° 54' 03.0"	E 22° 49' 02.2"		635.78				Map&Fig.12
139	Garden Route National Park	S 33° 54' 17.9"	E 22° 49' 51.4"		0.59				Map&Fig.12
141	Garden Route National Park	S 33° 50' 12.2"	E 22° 56' 18.2"		8 888.10				Map&Fig.12
142	Garden Route National Park	S 33° 55' 11.5"	E 22° 59' 11.5"		6 210.75				Map&Fig.12
143	Goukamma Nature Reserve	S 34° 03' 26.6"	E 22° 54' 37.8"		2 356.39				Map&Fig.12
145	Garden Route National Park	S 33° 59' 17.4"	E 23° 02' 35.3"		52.77				Map&Fig.12
146	Garden Route National Park	S 33° 57' 26.0"	E 23° 10' 12.6"		11 088.32				Map&Fig.12
147	Garden Route National Park	S 33° 53' 23.9"	E 22° 55' 48.8"		7.26				Map&Fig.12
148	Garden Route National Park	S 34° 03' 28.0"	E 23° 11' 28.8"		4 550.60				Map&Fig.12
149	Garden Route National Park	S 33° 58' 01.9"	E 23° 03' 12.7"		18.57				Map&Fig.12
150	Robberg Nature Reserve	S 34° 06' 14.4"	E 23° 23' 45.1"		183.81				Map&Fig.12
153	Keurboomsrivier Nature Reserve	S 33° 58' 37.0"	E 23° 23' 37.1"		905.26				Map&Fig.12
154	Garden Route National Park	S 33° 56' 54.1"	E 23° 24' 42.9"		1 934.99				Map&Fig.12
155	Garden Route National Park	S 33° 53' 49.2"	E 23° 39' 19.1"		60 062.43				Map&Fig.12
156	Formosa Nature Reserve	S 33° 47' 00.6"	E 23° 26' 32.7"		2 328.93				Map&Fig.12
157	Garden Route National Park	S 33° 59' 46.2"	E 23° 28' 40.7"		248.35				Map&Fig.12
158	Garden Route National Park	S 33° 58' 00.3"	E 23° 32' 22.8"		4 837.71				Map&Fig.12
159	Garden Route National Park	S 33° 56' 34.7"	E 23° 35' 53.4"		351.78				Map&Fig.12
160	Formosa Provincial Nature Reserve	S 33° 52' 41.2"	E 23° 46' 00.4"		2 718.73				Map&Fig.12
161	Garden Route National Park	S 34° 00' 40.9"	E 23° 50' 04.7"		3 556.48				Map&Fig.12
162	Garden Route National Park	S 33° 57' 18.3"	E 23° 48' 33.3"		124.70				Map&Fig.12
163	Formosa Provincial Nature Reserve	S 33° 55' 40.4"	E 24° 03' 18.6"		19 557.59				Map&Fig.12
164	Garden Route National Park	S 33° 58' 24.5"	E 23° 51' 20.4"		128.96				Map&Fig.12
165	Garden Route National Park	S 33° 59' 21.6"	E 23° 57' 14.8"		109.81				Map&Fig.12
166	Garden Route National Park	S 33° 59' 13.7"	E 24° 02' 53.9"		24.93				Map&Fig.12
167	Garden Route National Park	S 34° 00' 51.0"	E 24° 04' 09.3"		780.55				Map&Fig.12
168	Garden Route National Park	S 34° 01' 27.9"	E 24° 08' 43.5"		113.39				Map&Fig.12
						176 998.35			
120	Garden Route Complex - Buffer	S 34° 04' 36.0"	E 22° 54' 52.0"				3 188.53		Map&Fig.12
121	Garden Route Complex - Buffer	S 33° 48' 22.9"	E 23° 11' 10.9"				393.90		Map&Fig.12
122	Garden Route Complex - Buffer	S 34° 06' 24.1"	E 23° 25' 11.6"				1 898.45		Map&Fig.12
123	Garden Route Complex - Buffer	S 34° 03' 41.9"	E 23° 50' 34.3"				49 454.11		Map&Fig.12
124	Garden Route Complex - Buffer	S 33° 58' 23.8"	E 24° 17' 46.4"				817.08		Map&Fig.12
130-B	Garden Route National Park	S 33° 59' 43.4"	E 22° 34' 45.4"				4.23		Map&Fig.12
131-B	Garden Route National Park	S 33° 59' 34.0"	E 22° 35' 12.6"				27.73		Map&Fig.12
132-B	Garden Route National Park	S 34° 01' 25.2"	E 22° 43' 50.7"				517.53		Map&Fig.12
133-B	Garden Route National Park	S 33° 59' 47.8"	E 22° 35' 35.3"				1.80		Map&Fig.12
134-B	Garden Route National Park	S 33° 59' 02.7"	E 22° 36' 24.9"				352.09		Map&Fig.12
135-B	Garden Route National Park	S 33° 59' 13.6"	E 22° 43' 00.8"				2 366.69		Map&Fig.12
136-B	Garden Route National Park	S 33° 55' 23.8"	E 22° 43' 38.8"				11.97		Map&Fig.12

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140-B	Garden Route National Park	S 33° 54' 05.7"	E 22° 51' 51.8"				22.37		Map&Fig.12
144-B	Garden Route National Park	S 34° 02' 57.5"	E 23° 02' 01.5"				1 811.97		Map&Fig.12
151-B	Keurboomsrivier - Seemeeu Broeikolonie	S 34° 01' 53.5"	E 23° 23' 37.8"				19.09		Map&Fig.12
152-B	Keurboomsrivier - Seemeeu Broeikolonie	S 34° 02' 43.9"	E 23° 22' 49.7"				19.41		Map&Fig.12
							60 906.95		
ANYSBERG NATURE RESERVE (Figure 13)									Map&Fig.13
169	Anysberg Nature Reserve	S 33° 28' 56.8"	E 20° 38' 48.7"		79 629.40				Map&Fig.13
						79 629.40			
	No buffer								
SWARTBERG COMPLEX (Figure 14)									Map&Fig.14
170	Gamkapoort Nature Reserve	S 33° 15' 38.4"	E 21° 38' 24.5"	9 184.99					Map&Fig.14
171	Groot Swartberg Nature Reserve	S 33° 20' 19.3"	E 22° 00' 40.0"	74 618.04					Map&Fig.14
172	Gamkaskloof (Die Hel) Nature Reserve	S 33° 22' 33.0"	E 21° 36' 49.7"	2 523.31					Map&Fig.14
173	Gamkaskloof (Die Hel) Nature Reserve	S 33° 22' 56.4"	E 21° 41' 54.3"	1 865.08					Map&Fig.14
174	Groot Swartberg Nature Reserve	S 33° 23' 54.4"	E 22° 28' 35.2"	5 088.99					Map&Fig.14
175	Swartberg East Nature Reserve	S 33° 25' 31.9"	E 22° 44' 33.6"	14 096.88					Map&Fig.14
176	Swartberg East Nature Reserve	S 33° 24' 29.8"	E 23° 01' 55.4"	4 652.78					Map&Fig.14
177	Towerkop Nature Reserve	S 33° 23' 54.4"	E 21° 16' 28.1"		18 970.51				Map&Fig.14
178	Paardenberg Nature Reserve	S 33° 29' 51.3"	E 21° 32' 42.3"		1 521.64				Map&Fig.14
179	Rooiberg Nature Reserve	S 33° 40' 00.6"	E 21° 25' 38.8"		12 832.67				Map&Fig.14
180	Groenfontein Nature Reserve (Gamkaberg)	S 33° 38' 35.2"	E 21° 37' 36.8"		5 222.58				Map&Fig.14
181	Gamkaberg Nature Reserve	S 33° 43' 10.0"	E 21° 54' 59.4"		9 703.66				Map&Fig.14
182	Kammanassie Nature Reserve	S 33° 37' 10.9"	E 22° 45' 47.6"		27 056.63				Map&Fig.14
						187 337.76			
125	Swartberg Complex - Buffer	S 33° 26' 42.8"	E 21° 02' 20.0"				6 663.56		Map&Fig.14
126	Swartberg Complex - Buffer	S 33° 24' 39.9"	E 21° 06' 46.7"				666.34		Map&Fig.14
127	Swartberg Complex - Buffer	S 33° 25' 21.7"	E 21° 26' 35.7"				21 026.45		Map&Fig.14
128	Swartberg Complex - Buffer	S 33° 32' 09.7"	E 21° 13' 21.3"				2 769.67		Map&Fig.14
129	Swartberg Complex - Buffer	S 33° 38' 28.0"	E 21° 20' 16.6"				7 567.55		Map&Fig.14
130	Swartberg Complex - Buffer	S 33° 39' 31.2"	E 21° 32' 30.5"				10 484.78		Map&Fig.14
131	Swartberg Complex - Buffer	S 33° 22' 44.4"	E 22° 23' 20.7"				2 775.30		Map&Fig.14
132	Swartberg Complex - Buffer	S 33° 26' 28.3"	E 22° 33' 44.7"				6 817.70		Map&Fig.14
133	Swartberg Complex - Buffer	S 33° 26' 20.1"	E 22° 47' 22.0"				3 347.09		Map&Fig.14
134	Swartberg Complex - Buffer	S 33° 26' 09.2"	E 22° 56' 34.1"				3 026.22		Map&Fig.14
135	Swartberg Complex - Buffer	S 33° 24' 34.6"	E 23° 04' 36.5"				496.31		Map&Fig.14
136	Swartberg Complex - Buffer	S 33° 23' 10.4"	E 23° 12' 55.6"				3 628.43		Map&Fig.14
137	Swartberg Complex - Buffer	S 33° 37' 48.3"	E 22° 58' 21.5"				11 691.94		Map&Fig.14
138	Swartberg Complex - Buffer	S 33° 35' 27.4"	E 22° 42' 25.1"				404.05		Map&Fig.14
139	Swartberg Complex - Buffer	S 33° 37' 16.1"	E 22° 31' 26.0"				10 930.28		Map&Fig.14
							92 295.67		
BAVIAANSKLOOF COMPLEX (Figure 15)									Map&Fig.15
183	Baviaanskloof Wilderness Area	S 33° 39' 51.4"	E 24° 02' 23.9"	176 331.80					Map&Fig.15
184	Baviaanskloof Nature Reserve	S 33° 25' 35.8"	E 23° 30' 02.4"		9 478.09				Map&Fig.15
185	Baviaanskloof Wilderness Area	S 33° 33' 41.0"	E 23° 44' 41.1"		11 930.94				Map&Fig.15
186	Baviaanskloof Wilderness Area	S 33° 31' 35.0"	E 24° 07' 11.0"		709.57				Map&Fig.15

Id number	Name of the compartment part	Coordinates of the Central Point	Inscribed compartment in 2004 (ha)	Area of nominated component proposed for extension 2014 (ha)	Total area of the component (ha)	Area of the Buffer (ha)	Comment	Map & Figure no
187	Baviaanskloof Wilderness Area	S 33° 39' 52.6" E 24° 12' 02.8"		284.32				Map&Fig.15
188	Baviaanskloof Wilderness Area	S 33° 36' 26.5" E 24° 14' 18.8"		3 385.54				Map&Fig.15
189	Baviaanskloof Wilderness Area	S 33° 34' 51.9" E 24° 20' 08.5"		1 249.09				Map&Fig.15
190	Baviaanskloof Wilderness Area	S 33° 34' 37.0" E 24° 30' 16.8"		233.29				Map&Fig.15
191	Baviaanskloof Wilderness Area	S 33° 37' 02.7" E 24° 44' 02.3"		683.75				Map&Fig.15
192	Groendal Nature Reserve	S 33° 44' 00.3" E 24° 57' 41.1"		15 965.92				Map&Fig.15
193	Groendal Nature Reserve	S 33° 36' 16.1" E 24° 59' 31.4"		1 065.75				Map&Fig.15
194	Groendal Nature Reserve	S 33° 41' 34.3" E 25° 13' 22.3"		28 081.88				Map&Fig.15
					249 399.94			
140	Baviaanskloof Complex - Buffer	S 33° 51' 38.3" E 25° 02' 22.0"				808.96		Map&Fig.15
						808.96		
		TOTAL ha	**557 584.19**	**537 214.35**	**1 094 798.54**	**755 830.58**		

Note: Maps are in Appendix 2.

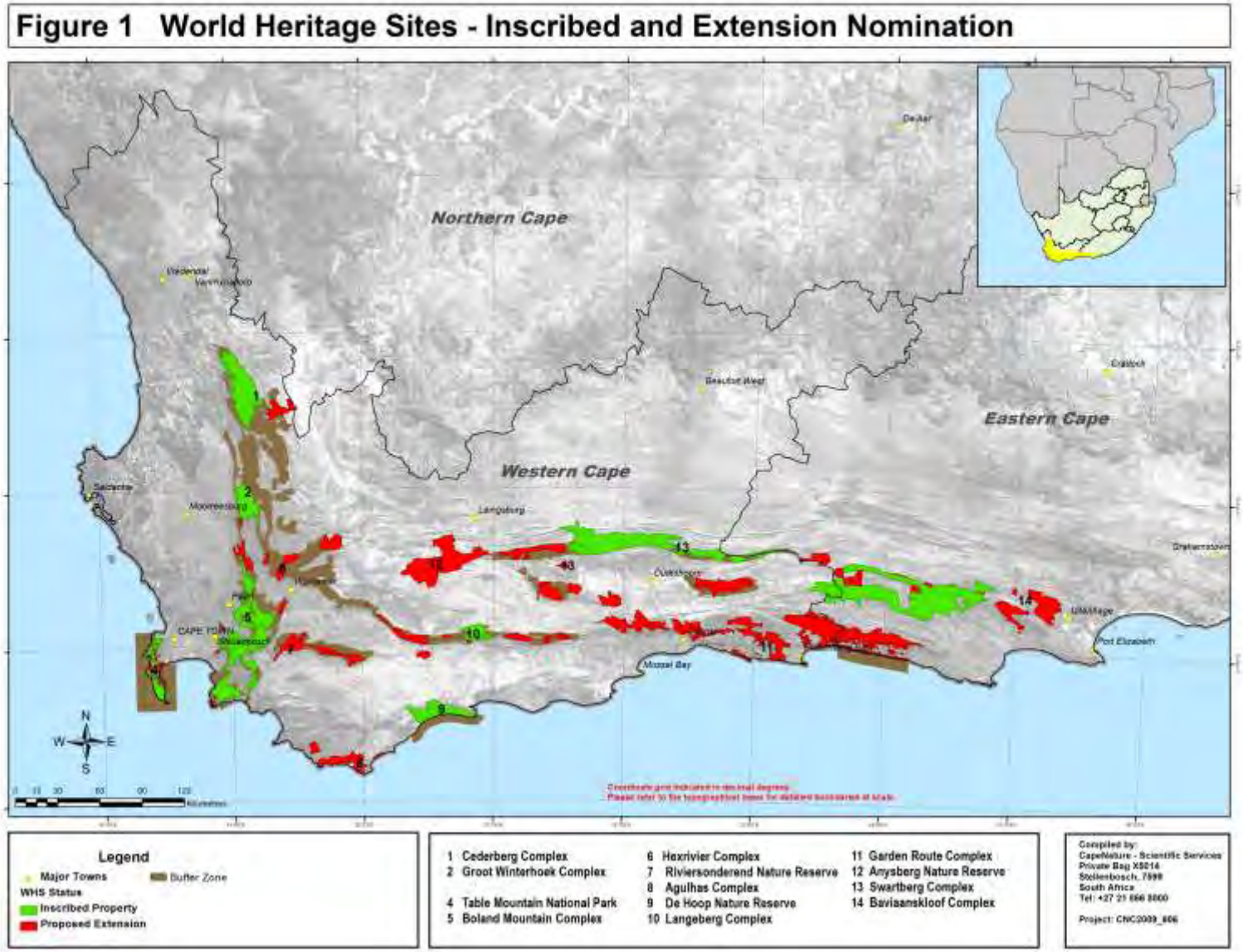

Figure 1 The Inscribed and Extension Nomination World Heritage sites of the CFRPA as well as buffer zones.

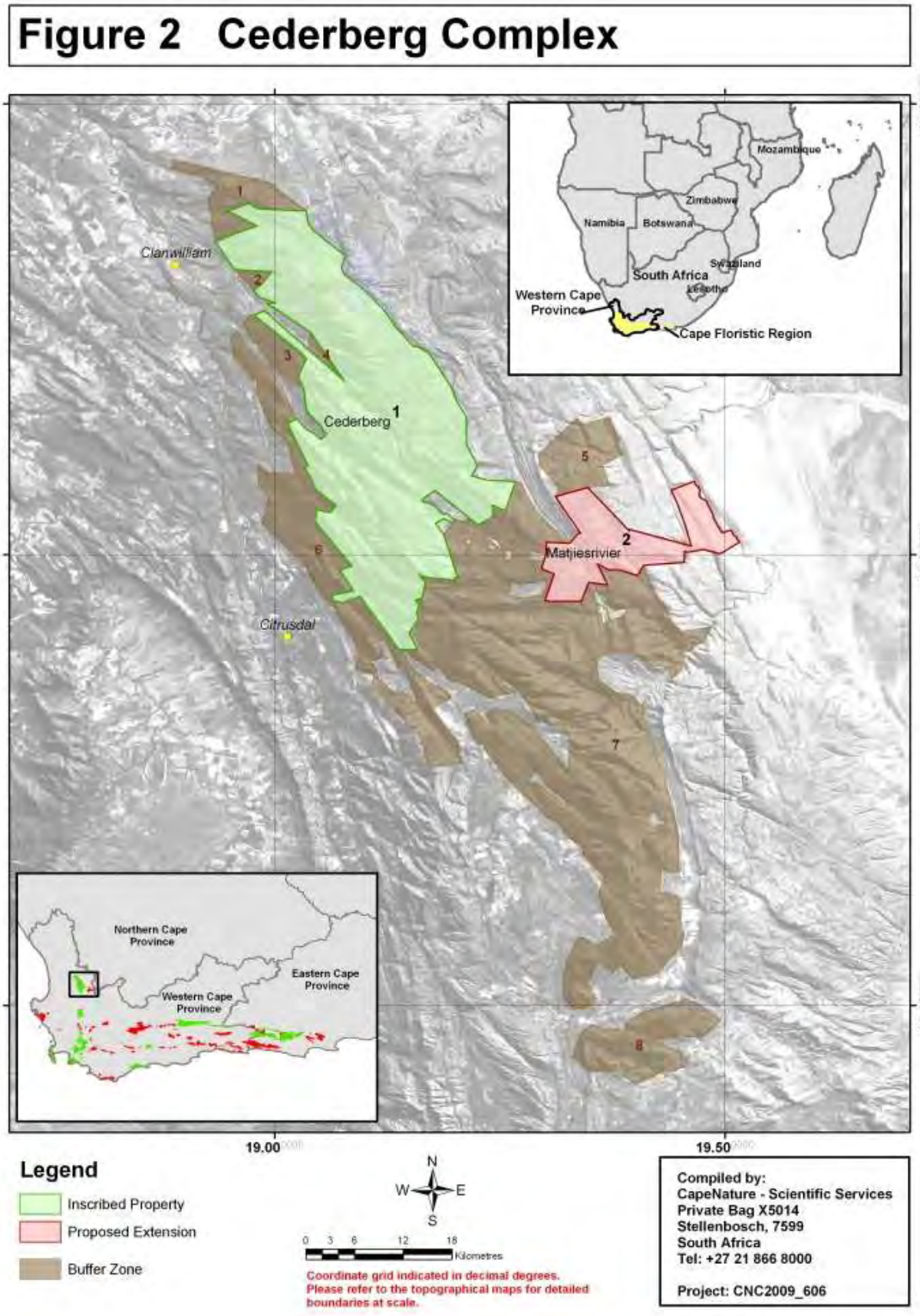

Figure 2 *The location and topography of the Cederberg Complex, indicating the Inscribed and Extension Nomination World Heritage Sites of the Cape Floral Region as well as buffer zones. Components are numbered according to Table 1.*

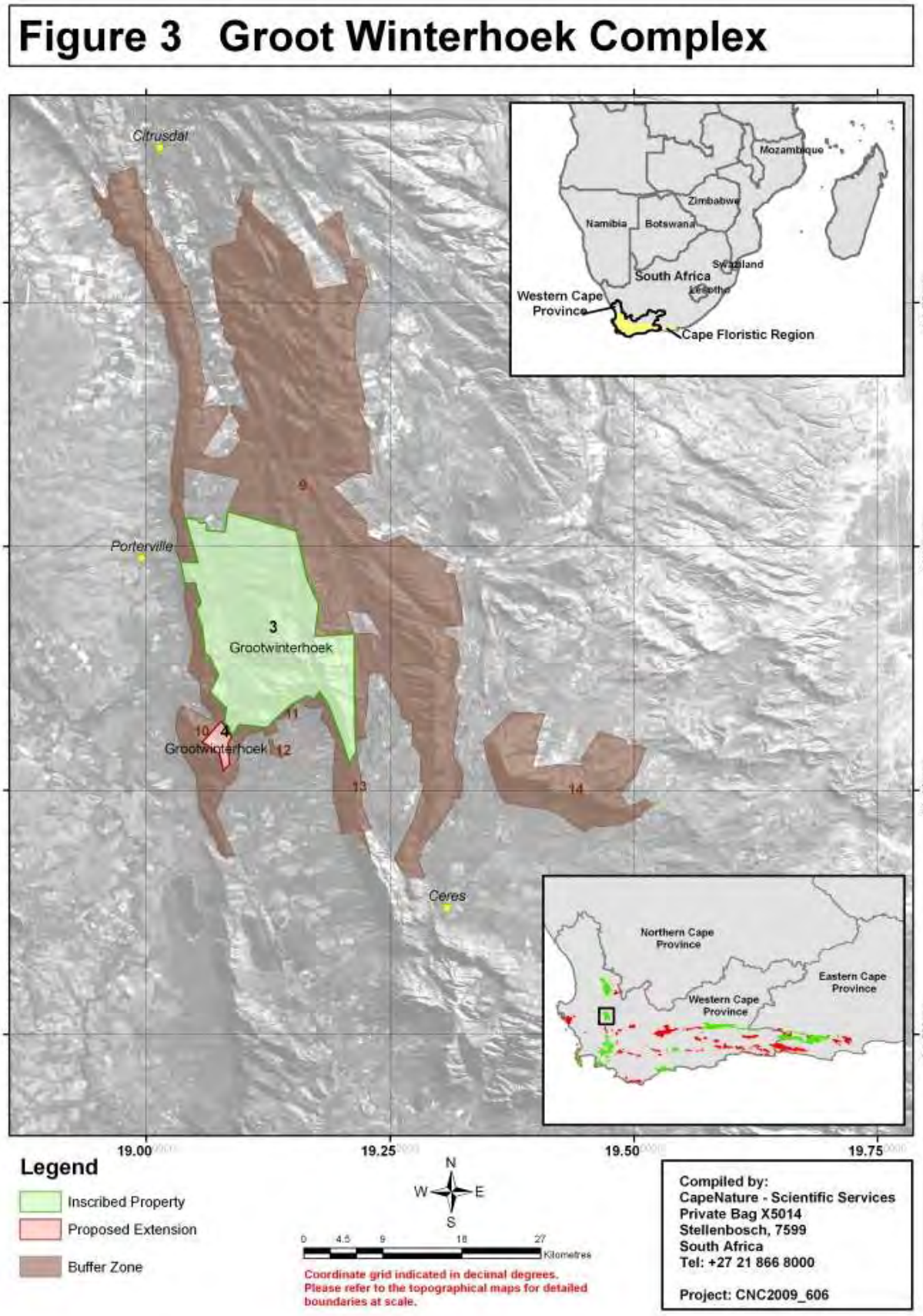

Figure 3 The location and topography of the Groot Winterhoek Complex, indicating the Inscribed and Extension Nomination World Heritage Sites of the Cape Floral Region as well as buffer zones. Components are numbered according to Table 1.

The West Coast Complex was deleted from the final nomination

~~*Figure 4*~~ ~~*The location and topography of The West Coast Complex, indicating the Inscribed and Extension Nomination World Heritage sites of the Cape Floral Region as well as buffer zones. Components are numbered according to Table 1.*~~

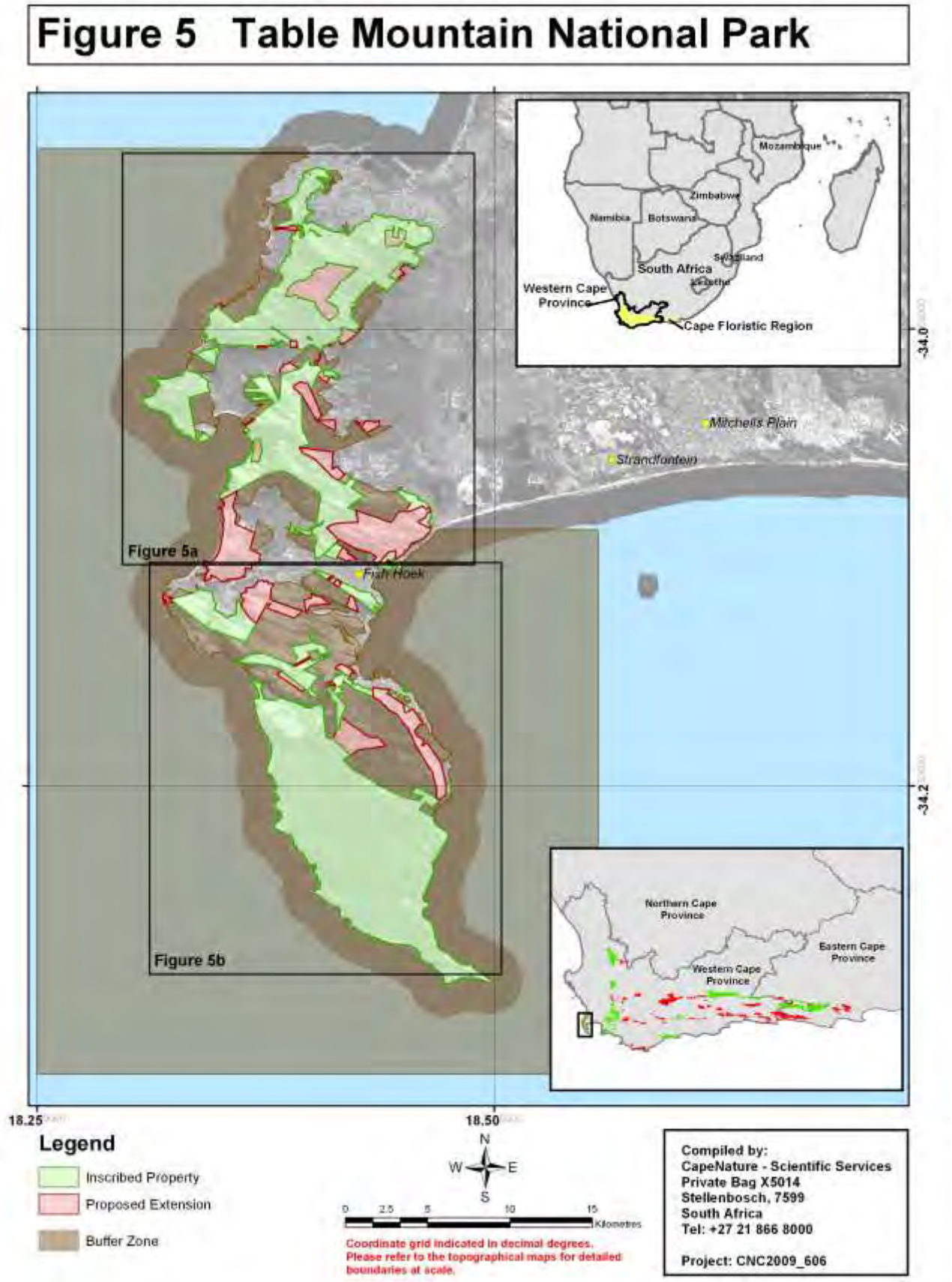

Figure 5 *The location and topography of Table Mountain National Park, indicating the Inscribed and Extension Nomination World Heritage sites of the Cape Floral Region as well as buffer zones. The component numbers are shown in the enlarged Insert maps: Figures 5a and 5b.*

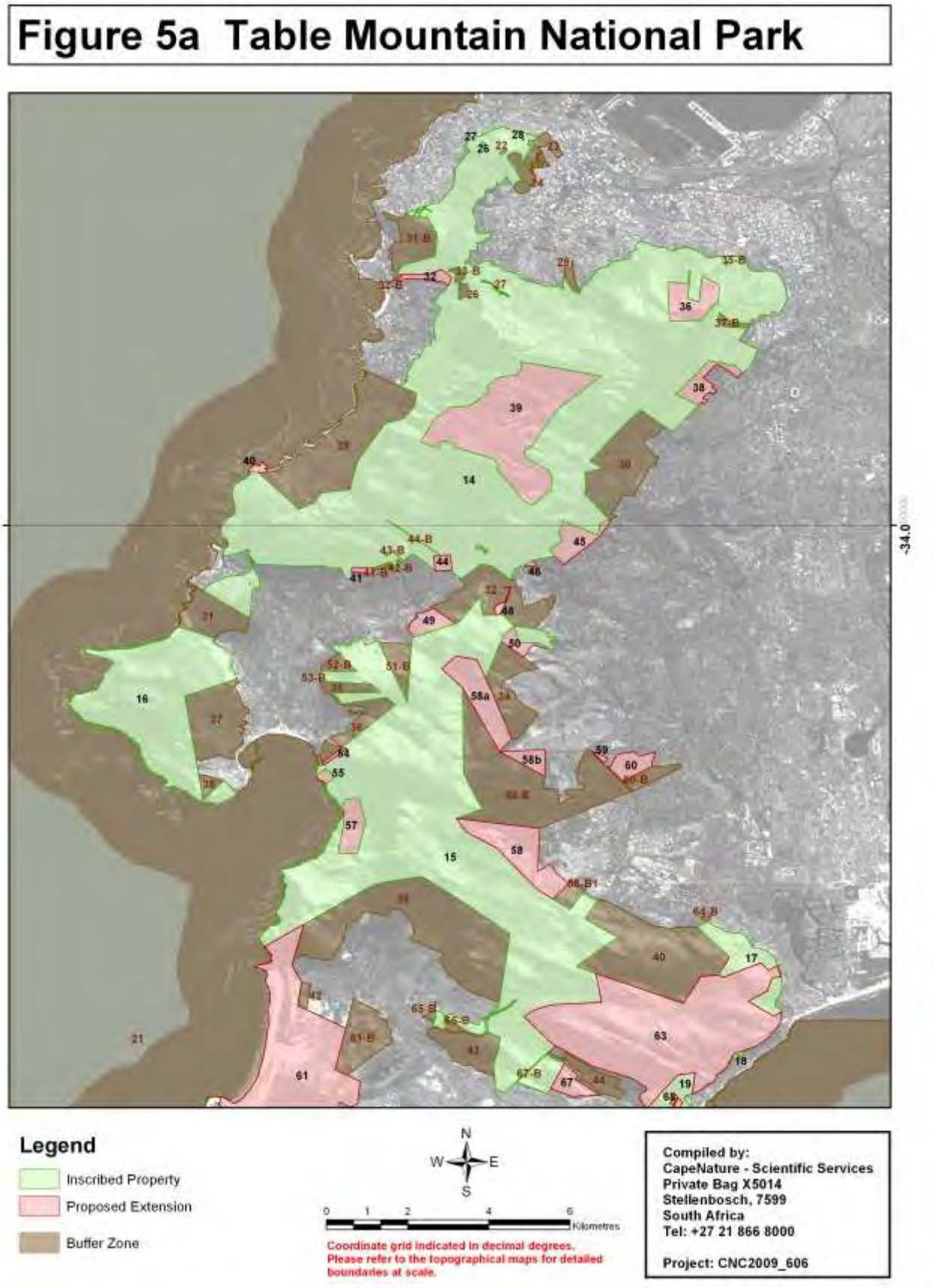

Figure 5a *An enlarged map of the location and topography of northern section of Table Mountain National Park, indicating the Inscribed and Extension Nomination World Heritage sites of the Cape Floral Region as well as buffer zones. Components are numbered according to Table 1.*

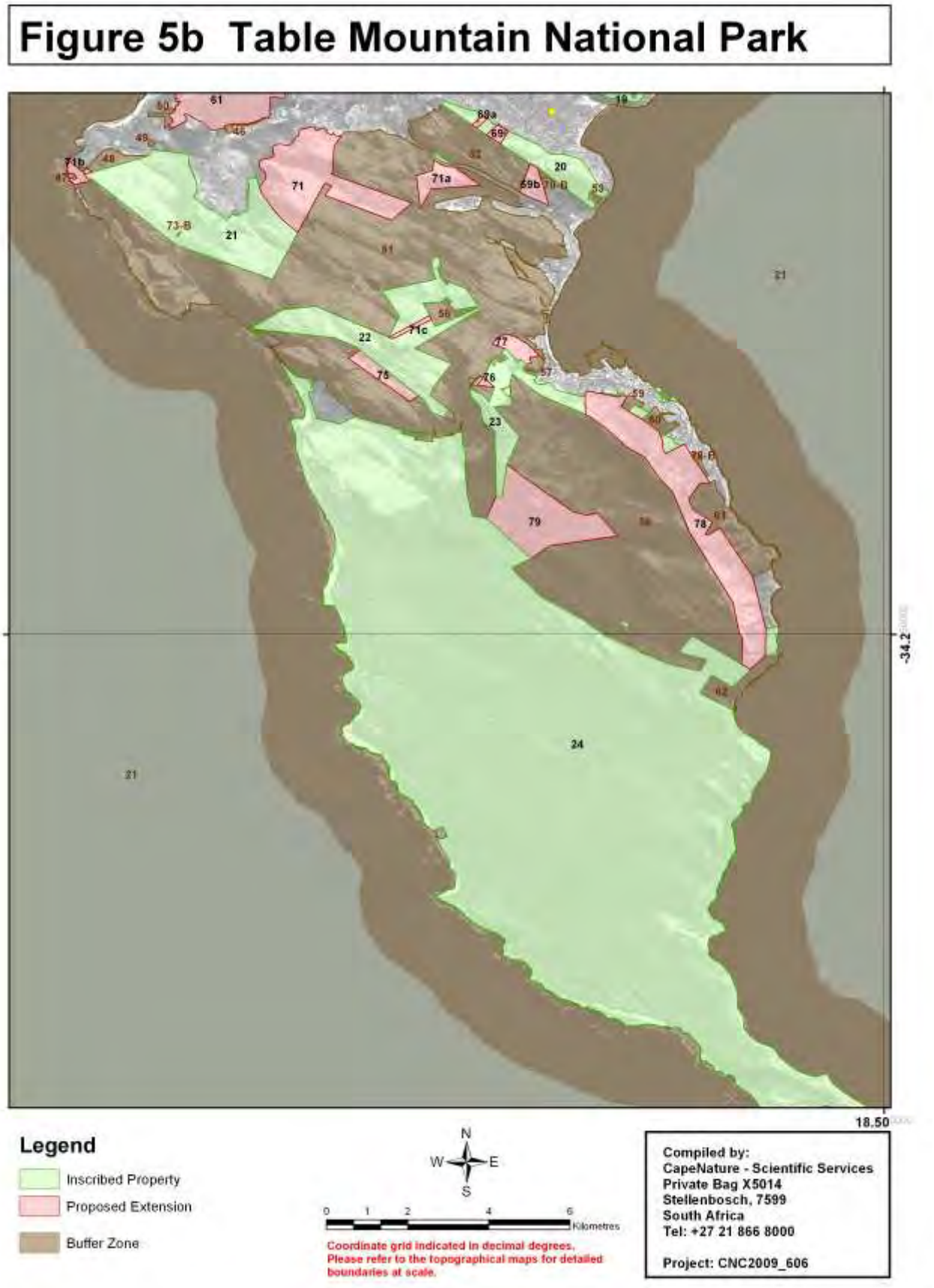

Figure 5b *An enlarged map of the location and topography of southern section of Table Mountain National Park, indicating the Inscribed and Extension Nomination World Heritage sites of the Cape Floral Region as well as buffer zones. Components are numbered according to Table 1.*

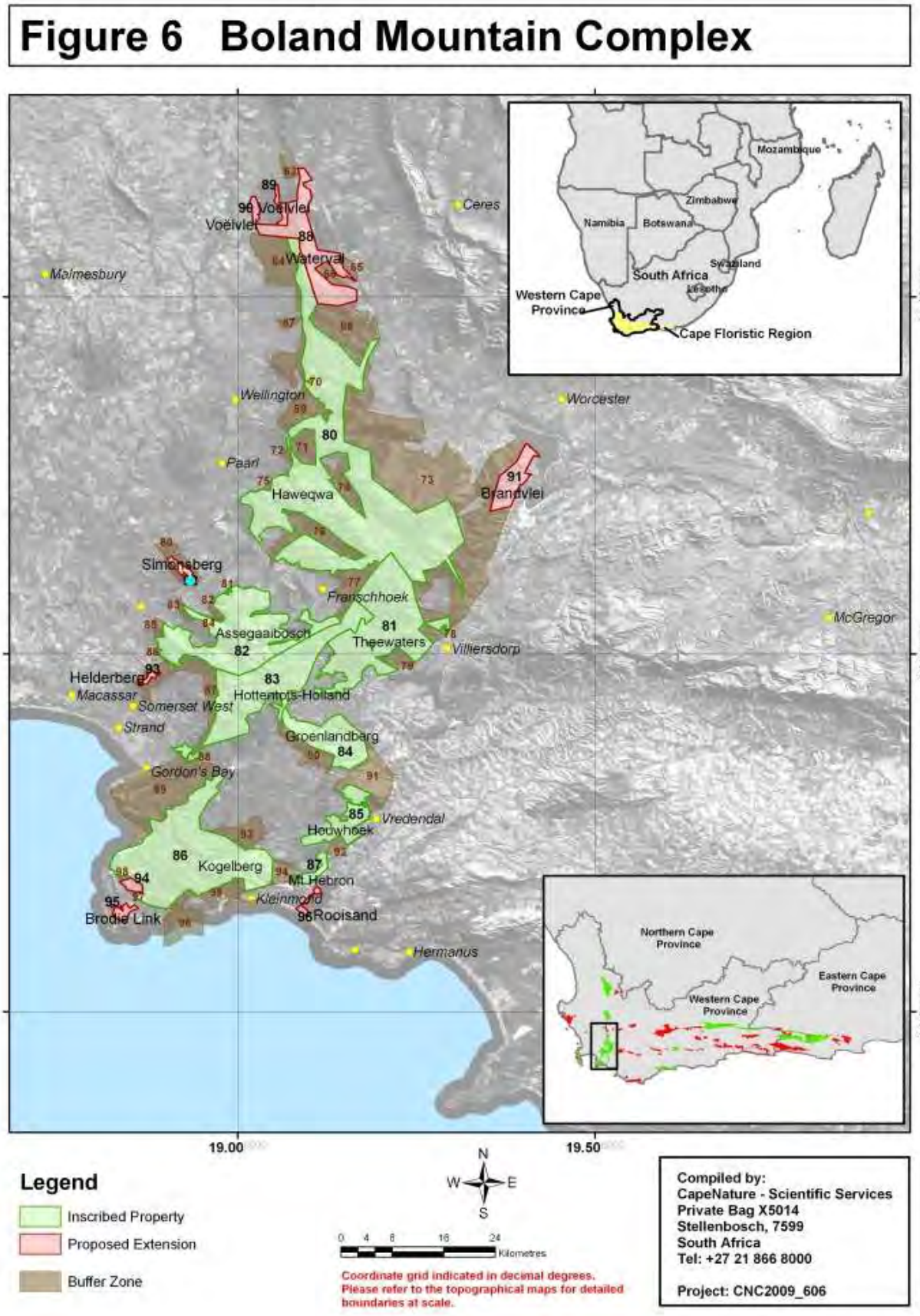

Figure 6 *The location and topography of the Boland Mountain Complex, indicating the Inscribed and Extension Nomination World Heritage Sites of the Cape Floral Region as well as buffer zones. Components are numbered according to Table 1.*

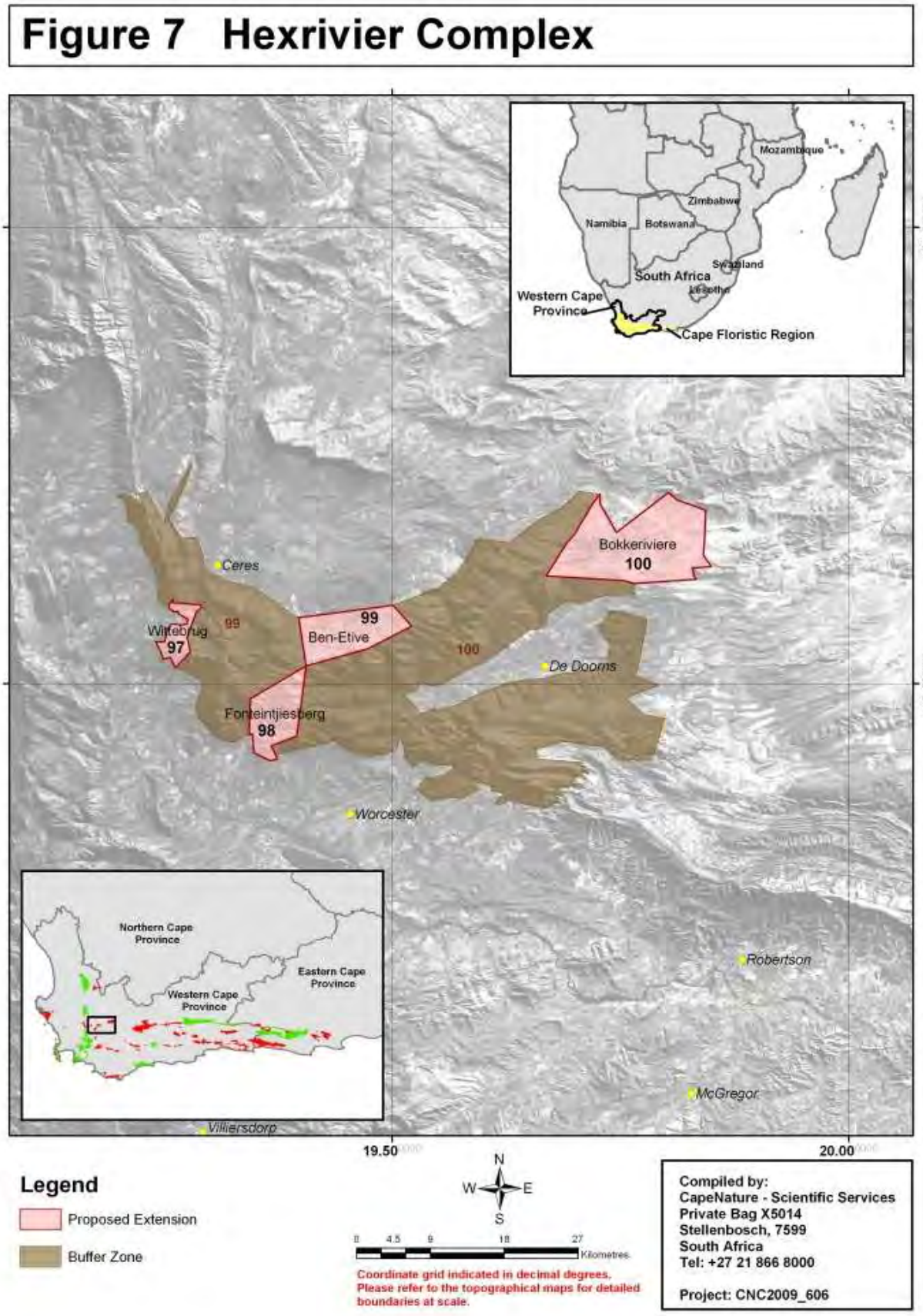

Figure 7 *The location and topography of the Hexriver Complex, indicating the Extension Nomination World Heritage Sites of the Cape Floral Region as well as buffer zones. Components are numbered according to Table 1.*

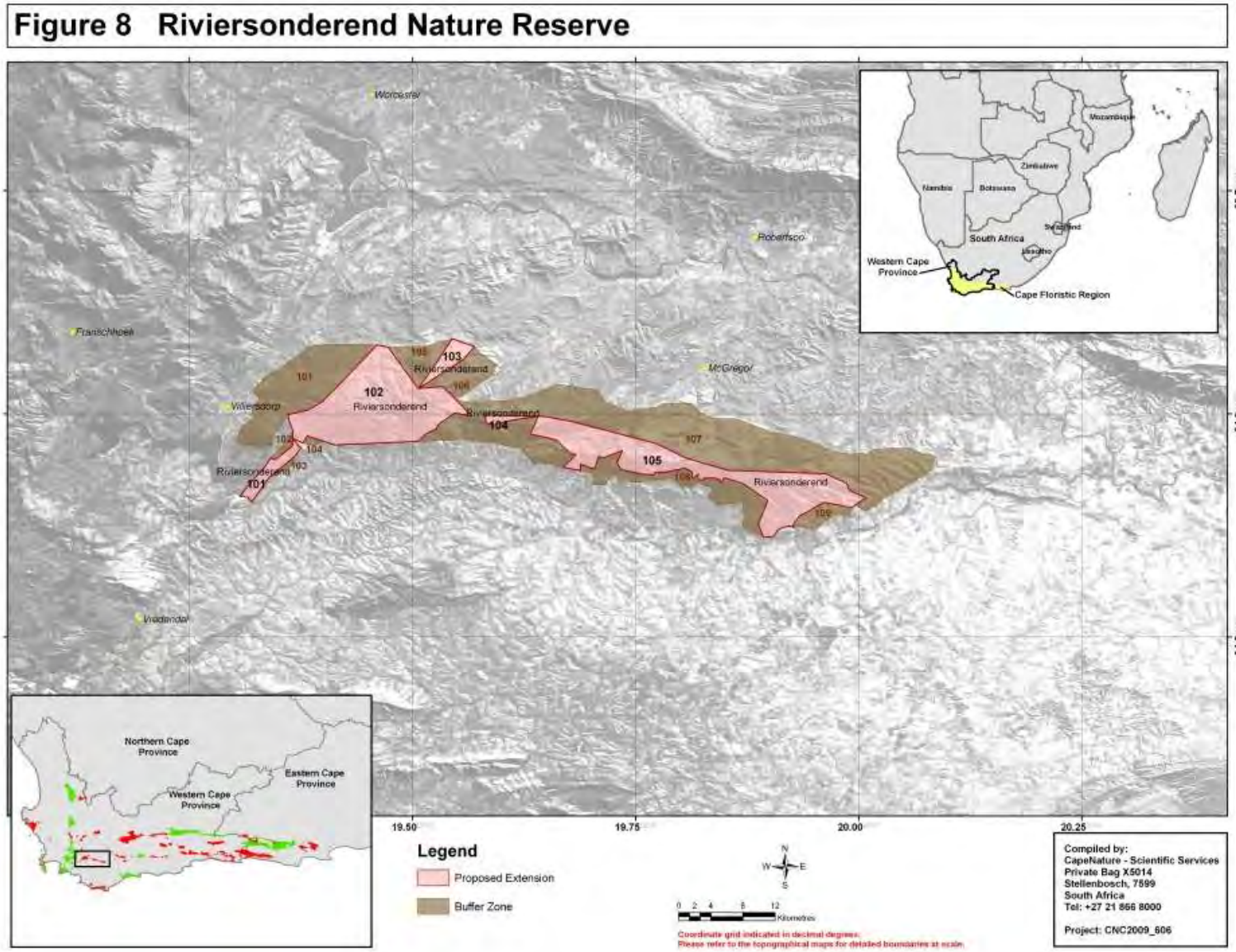

Figure 8 *The location and topography of the Riviersonderend Nature Reserve, indicating the Inscribed and Extension Nomination World Heritage Sites of the Cape Floral Region as well as buffer zones. Components are numbered according to Table 1.*

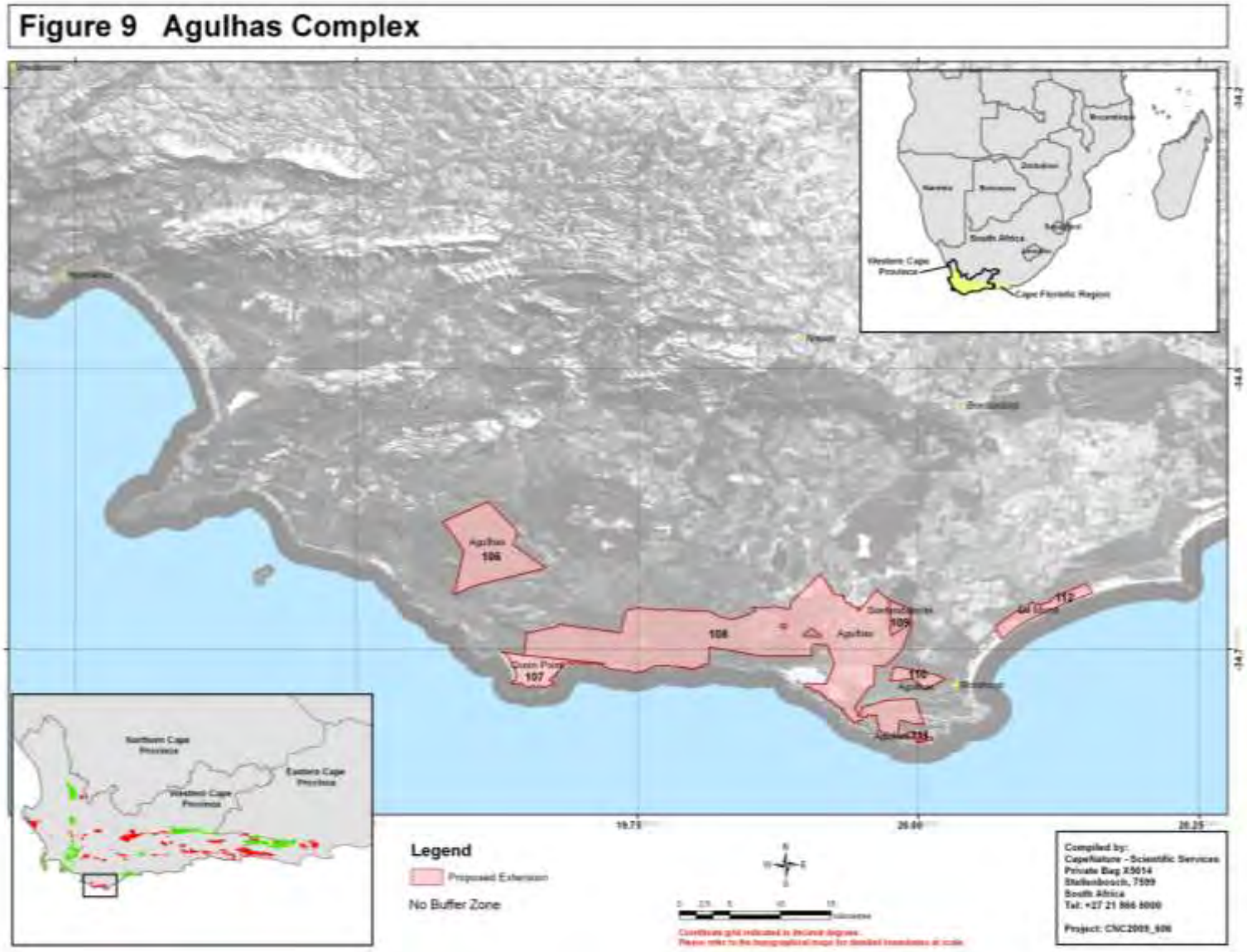

Figure 9 *The location and topography of the Agulhas Complex, indicating the Inscribed and Extension Nomination World Heritage sites of the Cape Floral Region. Components are numbered according to Table 1.*

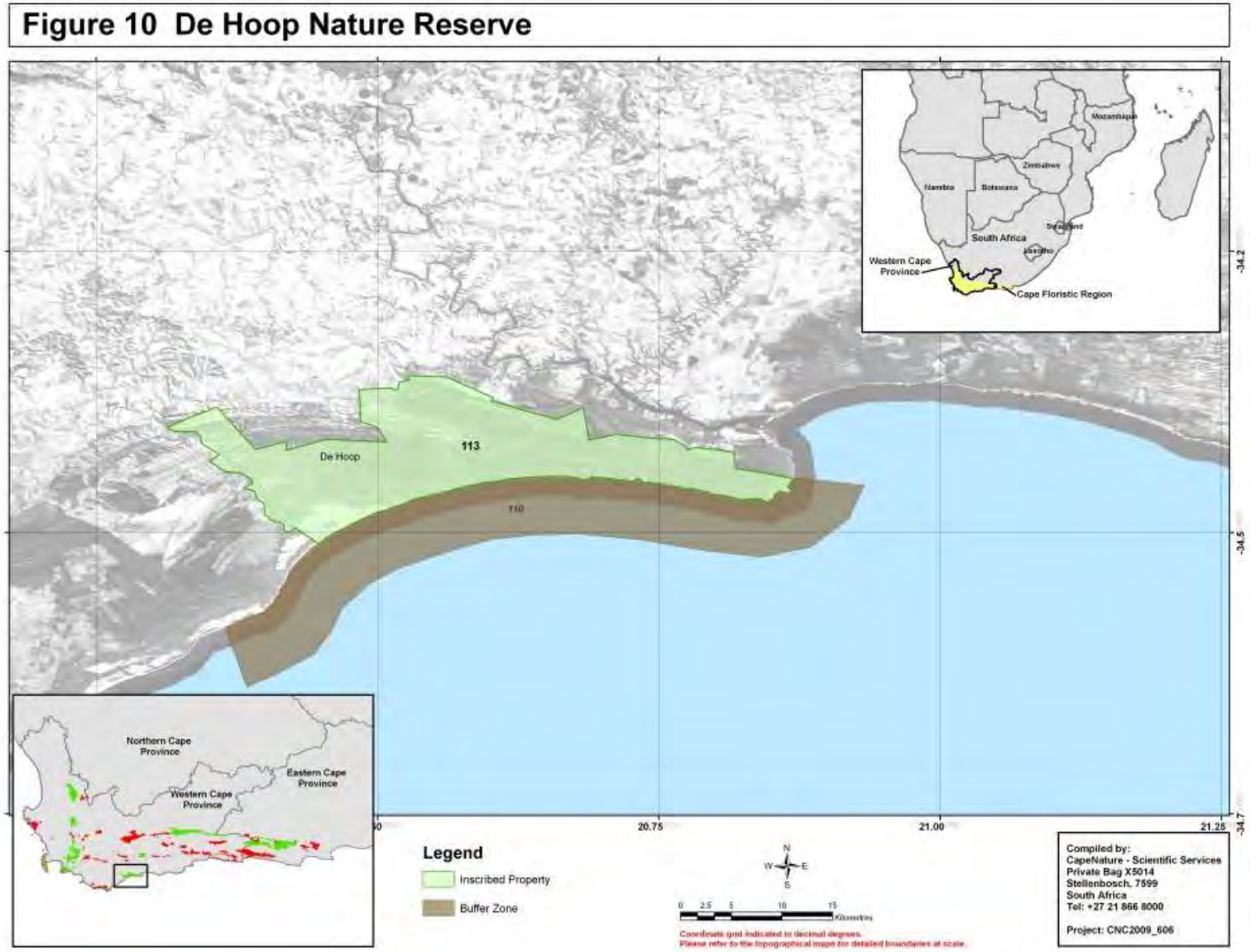

Figure 10 *The location and topography of De Hoop Nature Reserve, indicating the Inscribed and Extension Nomination World Heritage sites of the Cape Floral Region as well as buffer zones. Components are numbered according to Table 1.*

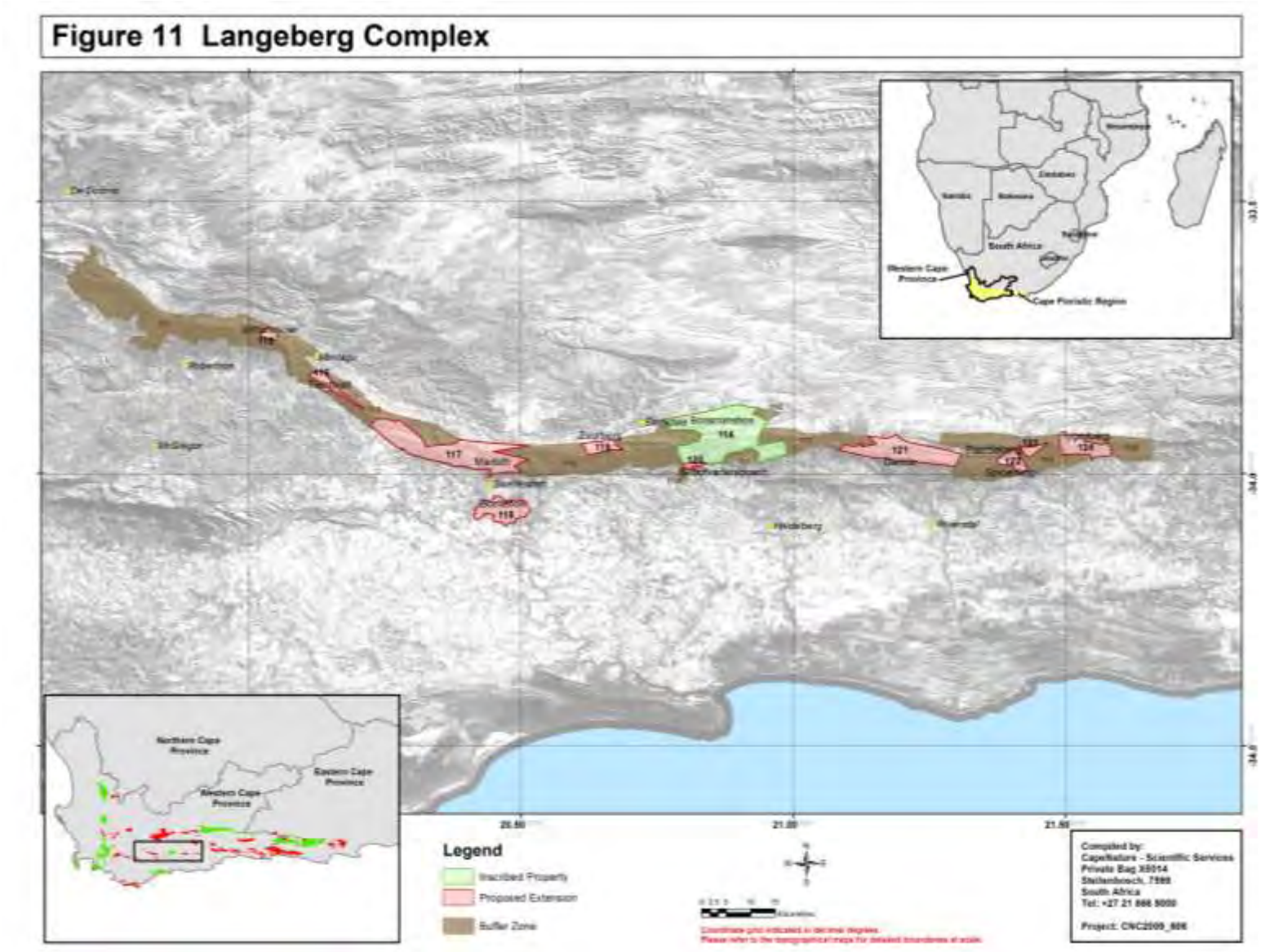

Figure 11 *The location and topography of the Langeberg Complex, indicating the Inscribed and Extension Nomination World Heritage sites of the Cape Floral Region as well as buffer zones. Components are numbered according to Table 1.*

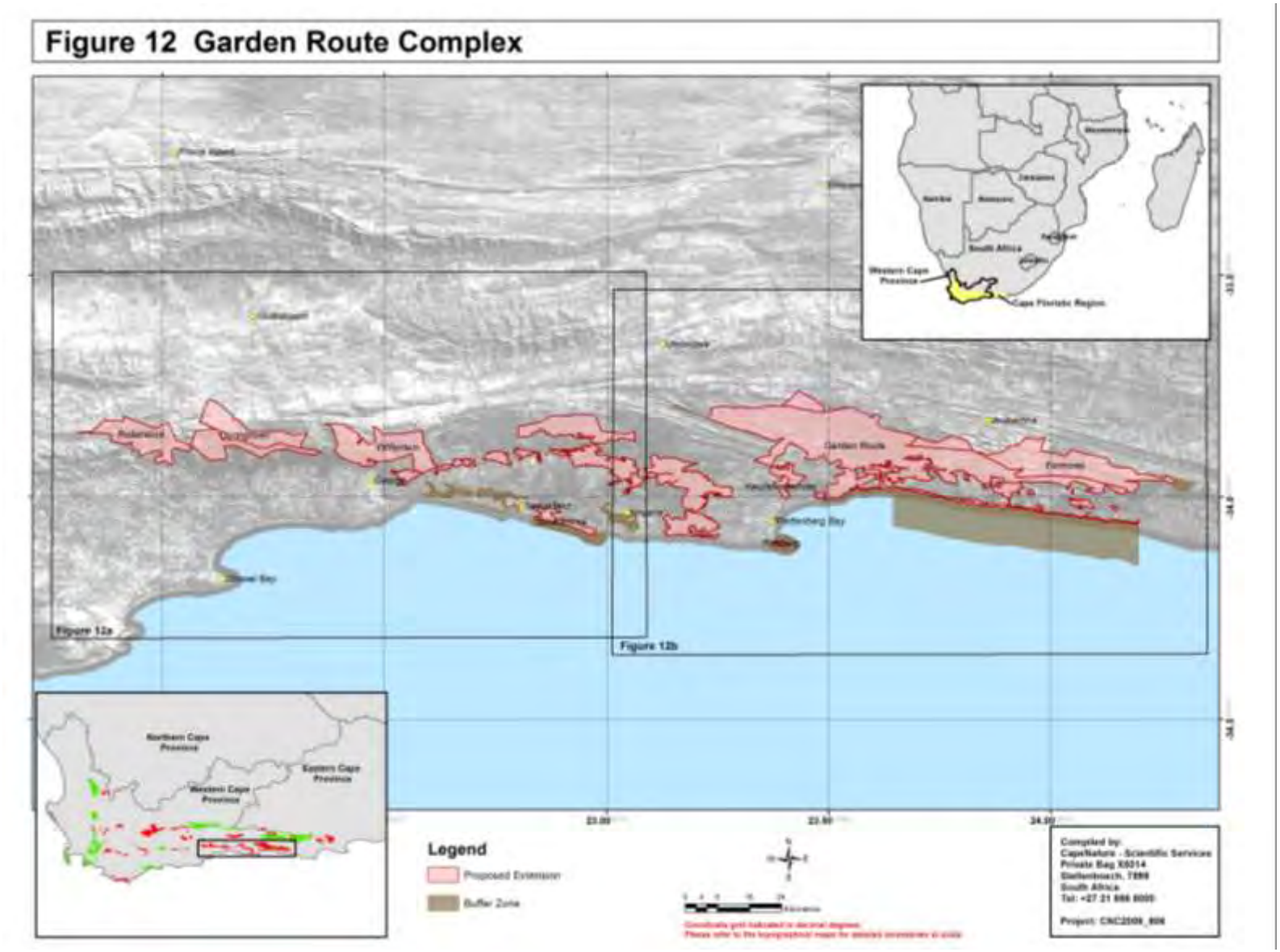

Figure 12 *The location and topography of the Garden Route Complex, indicating the Inscribed and Extension Nomination World Heritage sites of the Cape Floral Region as well as buffers zones. Components are numbered according to Table 1. The component numbers are shown in the enlarged Insert maps: Figures 12a and 12b.*

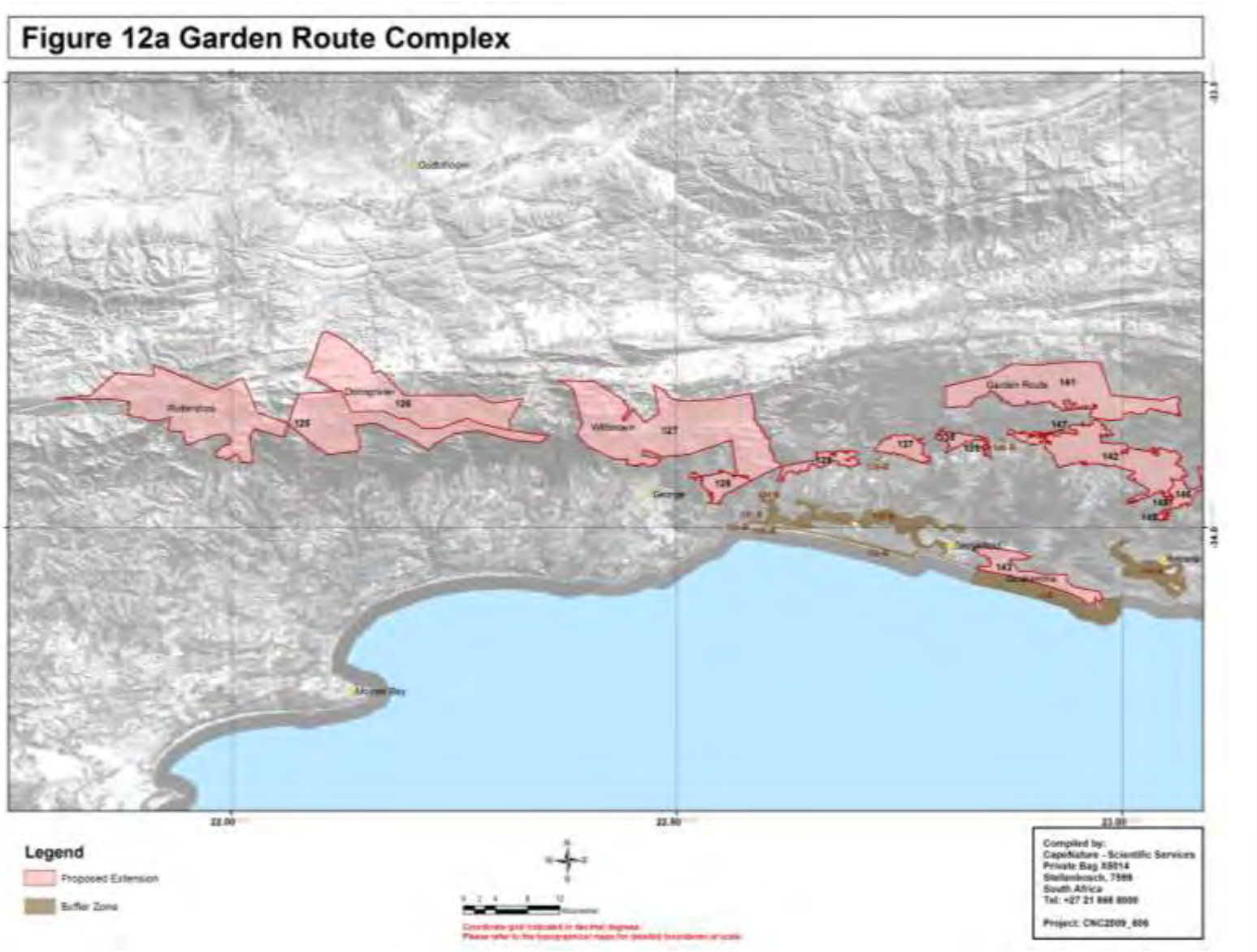

Figure 12a *An enlarged map of the location and topography of western section of the Garden Route Complex, indicating the Inscribed and Extension Nomination World Heritage sites of the Cape Floral Region as well as buffers zones. Components are numbered according to Table 1.*

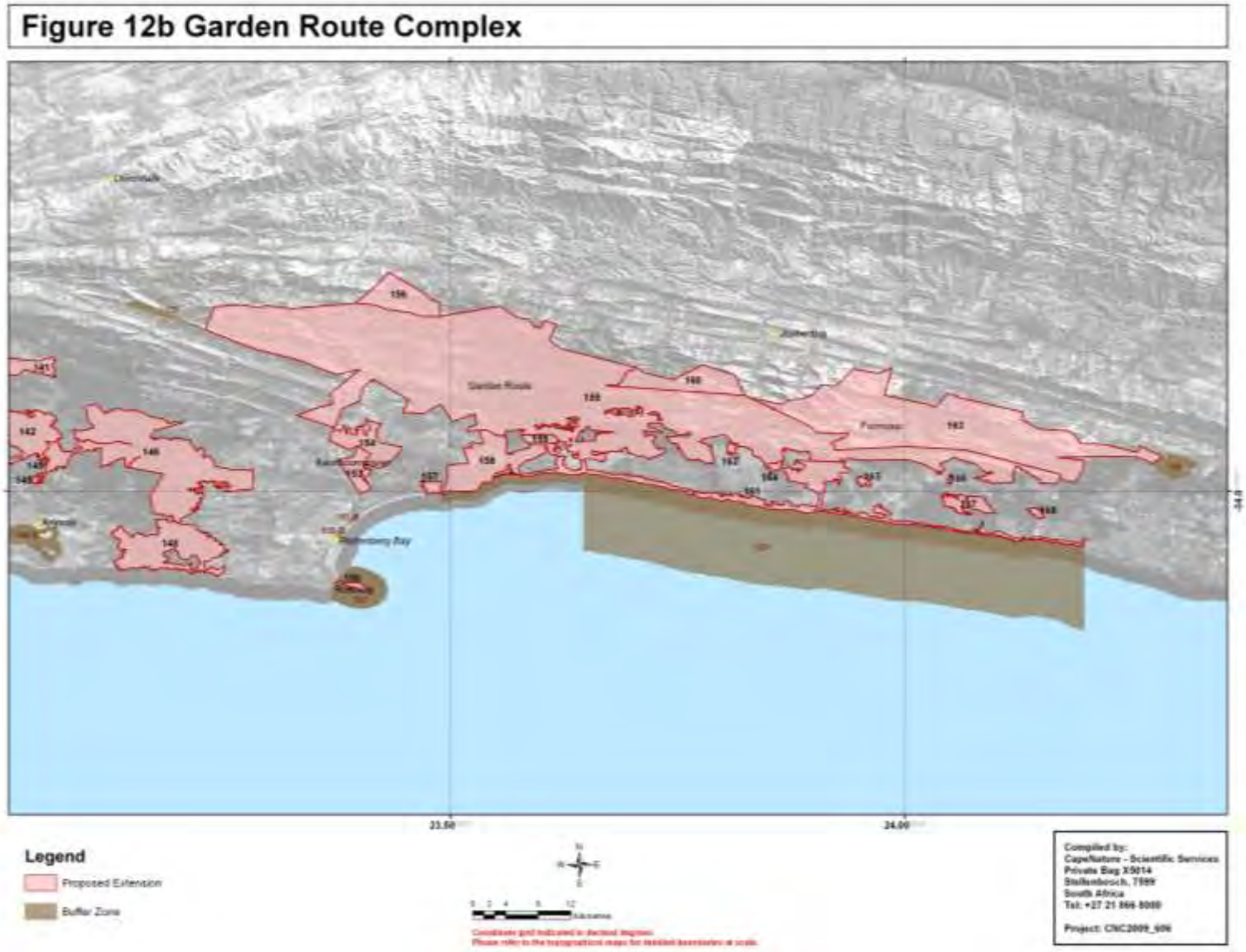

Figure 12b *An enlarged map of the location and topography of eastern section of the Garden Route Complex, indicating the Inscribed and Extension Nomination World Heritage sites of the Cape Floral Region as well as buffers zones. Components are numbered according to Table 1.*

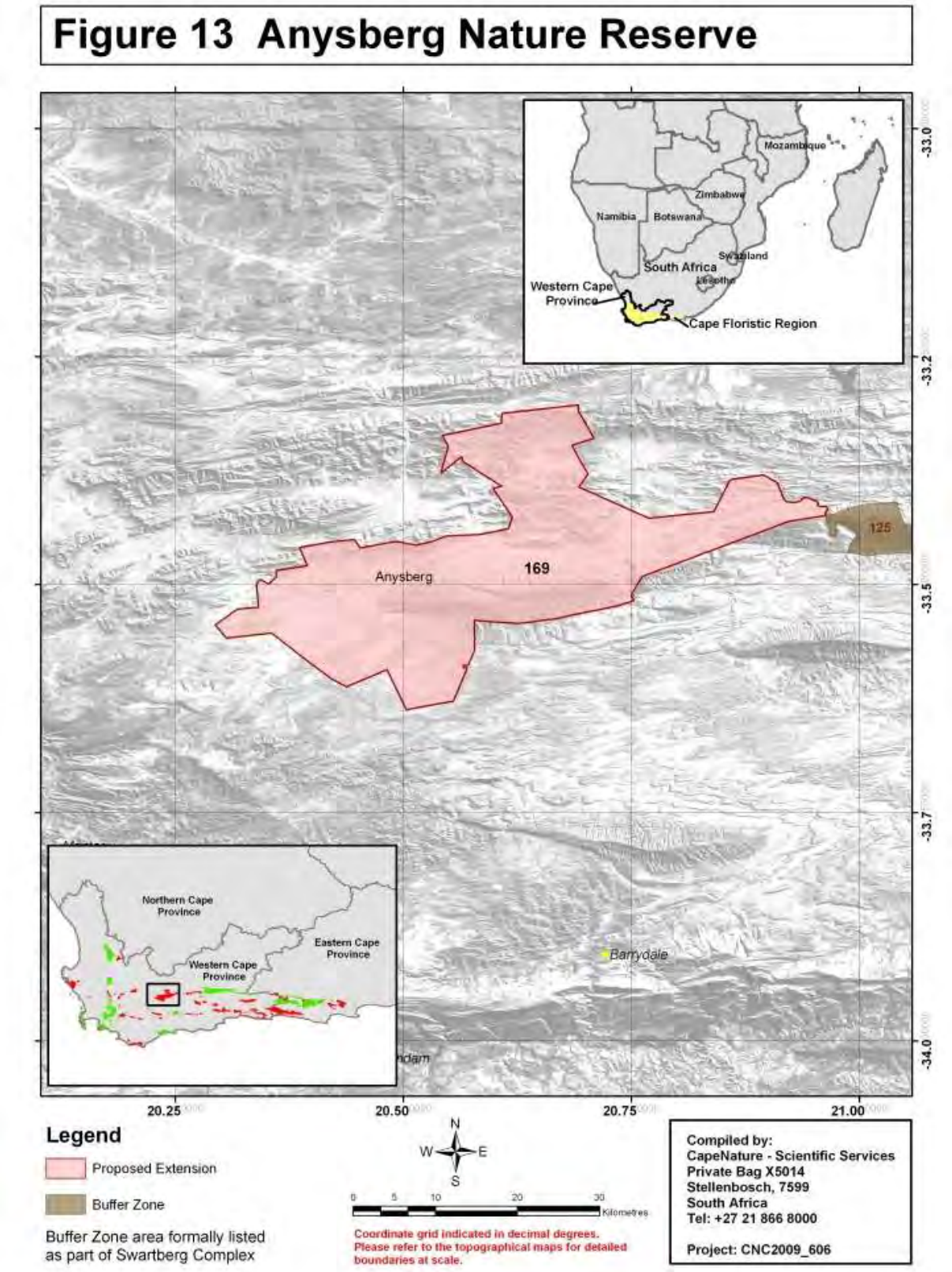

Figure 13 *The location and topography of the Anysberg Nature Reserve, indicating the Inscribed and Extension Nomination World Heritage sites of the Cape Floral Region. Components are numbered according to Table 1.*

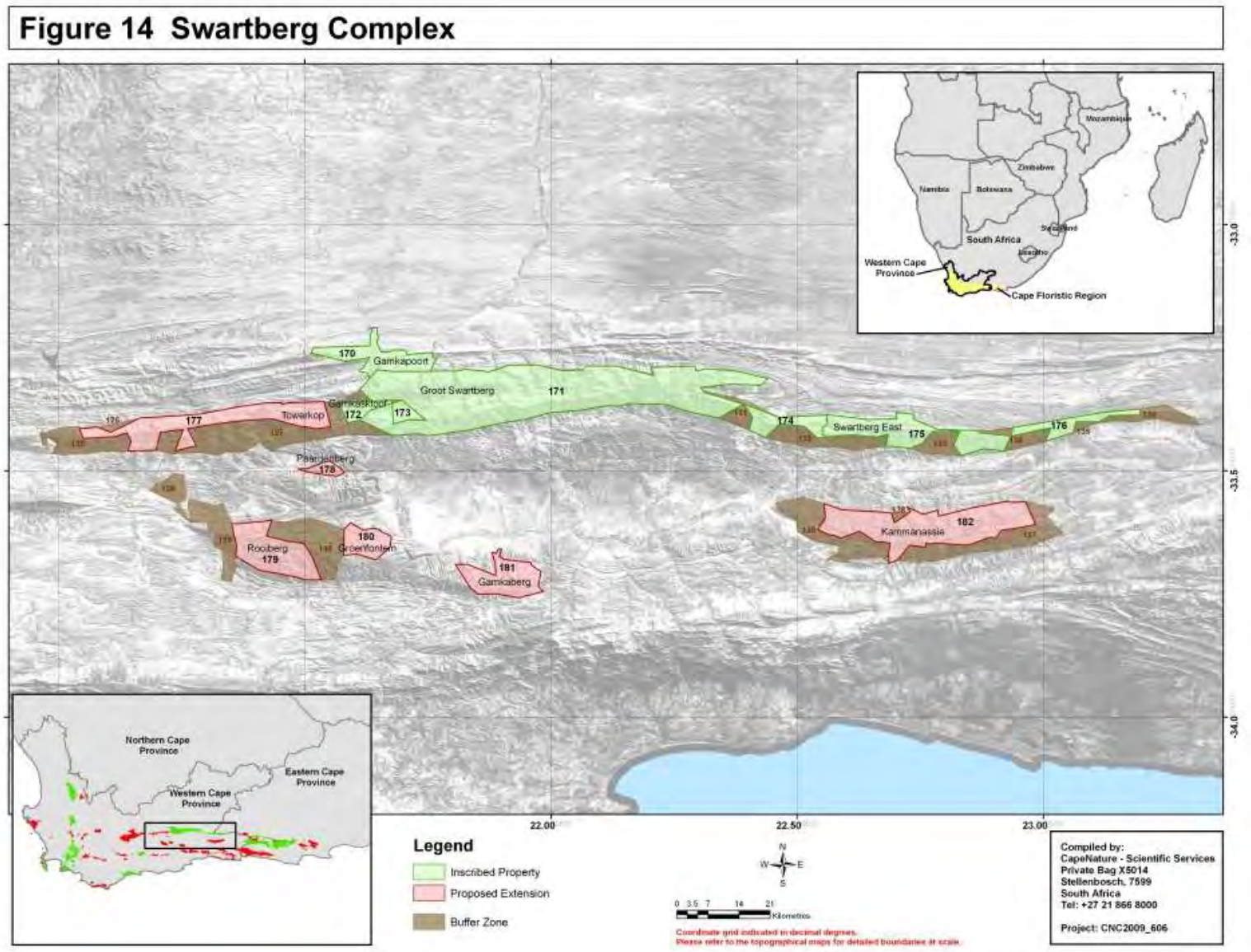

Figure 14 *The location and topography of the Swartberg Complex, indicating the Inscribed and Extension Nomination World Heritage Sites of the Cape Floral Region as well as buffer zones. Components are numbered according to Table 1.*

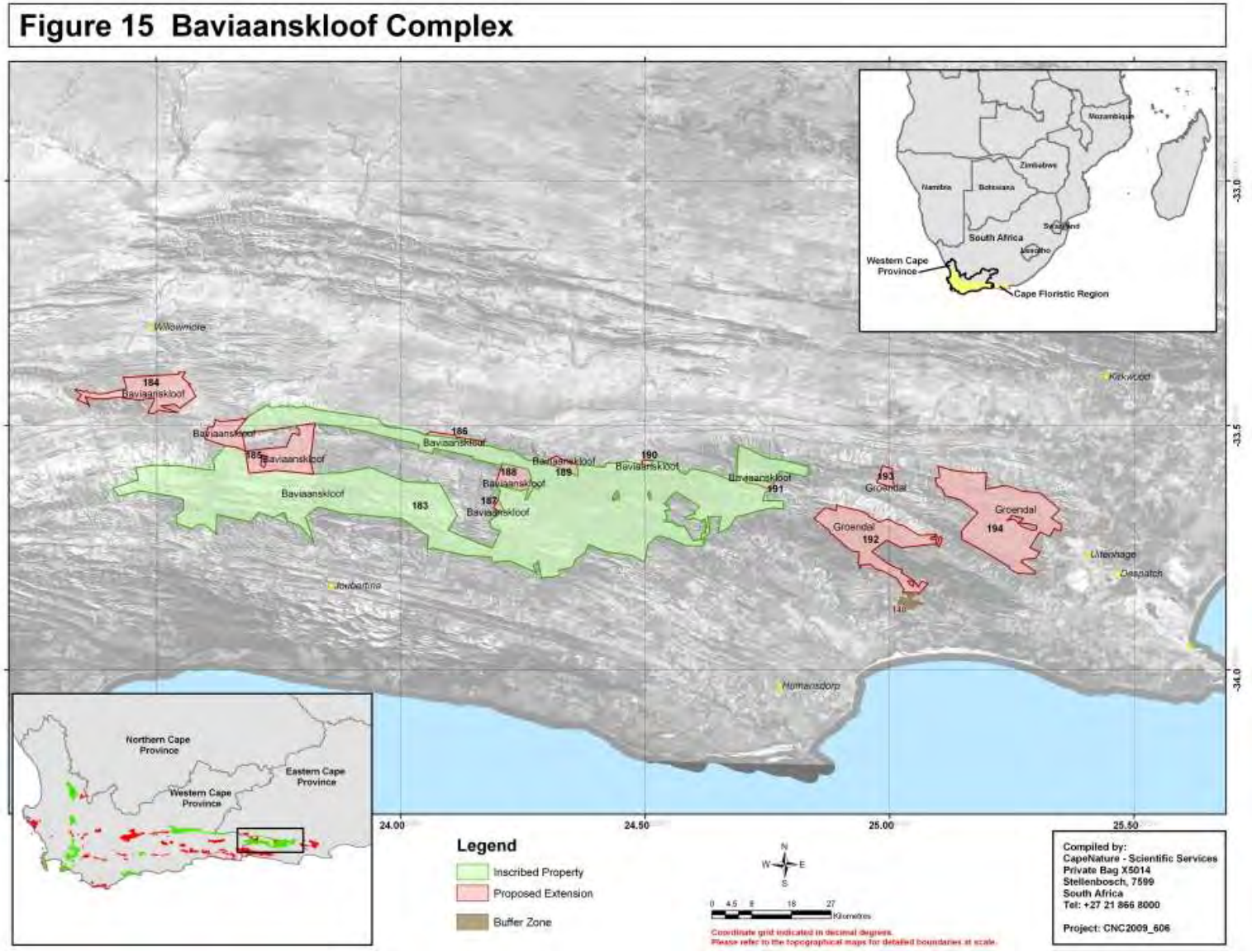

Figure 15 *The location and topography of the Baviaanskloof Complex, indicating the Inscribed and Extension Nomination World Heritage sites of the Cape Floral Region as well as buffer zones. Components are numbered according to Table 1.*

Justification for inscription

The series of eight natural properties inscribed in 2004 as the Cape Floral Region Protected Areas - World Heritage Site (DEAT 2003: Appendix 1) are related because they belong to the same biogeographic province, together having outstanding universal value. The CFR is often loosely referred to as the 'Fynbos Biome', since fynbos is the dominant vegetation type and contributes most of the species to the flora of this Region (Figure 1.2.1, Chapter 1). The flora that is characteristic of the CFR is commonly referred to as the 'Cape Flora'.

This section addresses the justification of the extension of the inscribed CFRPA. Where relevant, further justification of each selected protected area is provided in the relevant sections in Chapters 2 – 15.

The sites nominated for extension fulfill two of the criteria for inclusion in the World Heritage List as a natural property, namely criteria (ix), and (x) defined in Paragraph 77 of UNESCO's Operational Guidelines for the Implementation of the World Heritage Convention (refer to section 1.3a).

With its highly distinctive flora, exceptional species richness and high degree of **endemism**, the CFR has long been recognised as a global priority for conservation action. Owing to this diversity of plants and its vulnerability to threats, the CFR is considered by many to be one of 34 biodiversity "**hotspot**" of global significance (Mittermeier et al. 2005; Myers 1990; Mittermeier et al. 1998; biodiversityhotspots.org/). The CFR is also listed as a global Centre of Plant Diversity (WWF & IUCN 1994); an Endemic Bird Area (Bibby et al. 1992); and, a Global 200 EcoRegion (Olson & Dinerstein 1998).

The CFR's species richness of just on 9 000 plant species in an area of only 90 000 km^2 is exceptional when compared with the rest of Africa and southern Africa. Global comparisons reveal that its diversity is similar to some of the most species-rich regions on earth, including tropical rainforests. The CFR has higher levels of species richness, and particularly endemism (6 403 endemic plant species (Manning & Goldblatt 2012), than several ecosystems and islands representing **hotspots** in the comparable climate of the Mediterranean Basin (Manning & Goldblatt 2012).

Although comprising only 4% of southern Africa's land surface, the CFR encompasses 46% of the southern African subcontinent's plant species, 176 (40%) of the 435 national vegetation types (103 are endemic to the region) and a highly disproportionate 15 out of 24 "critically endangered" national vegetation types (Manning & Goldblatt 2012, Rouget *et al.* 2004a).

A recent review of **threatened** plant species and **species of conservation concern**[1] (Raimondo *et al.* 2009) finds that the Fynbos Biome contains the highest concentration of the country's threatened plant taxa (67%) and taxa of conservation concern (64%). SANBI (2013) identified 1 799 threatened plant species (of which 1 738 are endemic) and 3 250 species of conservation concern (3 107 endemic) within the Fynbos Biome. Most were classified because they are highly localised endemics, which persist in very small populations. Threatened plant species are concentrated in the lowland areas where most of the natural habitat has been lost to agriculture.

The CFR is exceptional in terms of the pattern, or the arrangement, of plant richness across the landscape. The region has relatively high ***alpha* diversity** – a measure of plant species richness in one habitat. However, the Cape is special with regard to measures of plant species turnover, having very high ***beta*** diversity – that is plant species turnover along habitat gradients, and particularly special in having very high ***gamma*** diversity - species turnover in similar habitats across geographical gradients. The high levels of species turnover, particularly in terms of *gamma* diversity, as well as the high levels of floral endemicity, have enabled botanists to divide the entire region into eight Phytogeographic Centres of endemism (refer to DEAT 2003: Appendix 1). Each Phytogeographic Centre is delimited by large numbers of endemic plant species.

The Cape Faunal Centre (*sensu* Stuckenberg 1962) coincides roughly with the CFR and contains a distinctive fauna with some invertebrates showing little change over millions of years. These relictual faunas date back to the time of Gondwanaland. There are numerous natural phenomena and, in global terms, areas of exceptional beauty, aesthetic value and cultural significance. It is truly a remarkable area of global conservation significance.

---

[1] Threatened species are those that are facing a high risk of extinction, indicated by placement in the categories Critically Endangered (CR), Endangered (EN) and Vulnerable (VU). Species of Conservation Concern are those that are important for South Africa's conservation decision-making processes. Hence, in the 2009 South African Red List, 'species of conservation concern' are considered to include all those that are threatened (CR, EN, VU), Extinct in the Wild (EW), Data Deficient (DDD), Near Threatened (NT), Critically Rare (extremely rare), Rare and Declining (Raimondo *et al.* 2009).

The findings of a workshop on Nominations and Management of Serial Natural World Heritage Properties (Engels *et al.* 2008) concluded that extensions of serial properties are desirable if:

- They significantly strengthen the values represented within the already inscribed property; and/or,
- Significantly enhance the integrity of the already inscribed property; and,
- Provided that the extended property is (and will continue to be) adequately protected and managed.

It is clear from the assessment of potential extension CFRPAs (Bradshaw & Holness 2013) that the first two conditions are more than adequately met by the sites selected for the CFRPA Extension Nomination. Further, the management and protection of the extended property is currently given the highest attention, as required by international agreement as well as by national policy and legislation.

Statement of Outstanding Universal Value

Values

The CFR is a highly distinctive phytogeographic unit which is regarded as one of the six Floral Kingdoms of the world and is by far the smallest and relatively the most diverse. It is also recognised as the worlds "hottest hotspot" for its diversity of endemic plants and contains outstanding examples of significant on-going ecological, biological and evolutionary processes. It also has some of the most important natural habitats for *in-situ* conservation of biological diversity.

Criterion (ix): Ongoing biological and ecological processes: The CFR forms a centre of active speciation where interesting patterns of endemism and adaptive radiation are found in the flora. In addition to the natural processes of primary production, nutrient recycling, climatic extremes, predation and herbivory, competition, specialized pollination guilds and major natural episodic events such as severe floods and droughts, the Cape flora is dependent on natural fire regimes.

Criterion (x): Biological diversity and threatened species: The CFR has exceptionally high plant species richness and endemism. Some 68% of the estimated 9,000 plant species in the region are endemic, with 1 799 species identified as threatened and with 3 250 species of conservation concern. The Cape Floral Region has been identified as one of the world's 34 biodiversity hot spots.

Integrity

The Cape Floral Region Protected Areas currently comprises a serial property of eight protected areas covering a total area of some 557 584.19 ha, and included a buffer zone of 1,315,000 ha designed to facilitate functional connectivity and mitigate the effects of global climate change and other anthropogenic influences. At the time of inscription, six of the protected areas were surrounded by other conservation lands, while the Boland Mountain Complex was surrounded by mostly rural land uses. The area facing the greatest external pressures is Table Mountain National Park. Progress with increased protection through public awareness and social programmes to combat poverty, improved management of Mountain Catchment Areas and stewardship programmes is being made. The collection of eight inscribed protected areas, all of which have management plans, adds up in a synergistic manner to represent the biological richness and evolutionary story of the Cape Floral Region.

The extended Cape Floral Region Protected Areas (CFRPA) World Heritage Property is made up entirely of 1 135 486.46 ha of protected areas with 810 697.94 ha of buffer zones (Table 1), made up of declared Mountain Catchment Areas and other protected areas, further supported by a Stewardship Programme, Landscape Initiatives, Biosphere Reserves and Critical Biodiversity Areas that are together designed to facilitate functional connectivity and mitigate for the effects of Global Climate Change and other anthropogenic influences. All the protected areas, other than some of the privately owned Mountain Catchment Areas, have existing dedicated management plans, which have been revised, or are in the process of revision in terms of the NEM: Protected Areas Act (refer to section 1.5.b(ii)). Mountain Catchment Areas are managed in terms of the Mountain Catchment Areas Act (refer to DEAT 2003: Appendix 1).

Requirements for Protection and Management

The National Environmental Management: Protected Areas Act (57 of 2003) defines a 'protected area' (PA) as one of the following types: Special Nature Reserves; National Parks; Nature Reserves; Protected Environments; World Heritage Sites; Marine Protected Areas; Specially Protected Forest Areas; and Mountain Catchment Areas.

The CFRPA World Heritage Property is legally protected and managed by the three authorities (SANParks, Western Cape Nature Conservation Board and Eastern Cape Parks and Tourism Agency) that, with the

national Department of Environmental Affairs, make up the "CFRPA-World Heritage Property Joint Management Committee". Knowledge management systems are being expanded, to advise improved planning and management decision-making, thus facilitating the efficient use of limited, but increasing, resources relating in particular to the management of fire and alien invasive plants.

Criteria under which the CFRPA Extension Nomination is nominated

Criterion (ix): Ongoing biological and ecological processes.

Criterion (x): Biological diversity and threatened species.

Name and contact information of the CFRPA official authorities

Three entities have been involved with the management of the components of the property, namely, the South African National Parks (SANParks), CapeNature (Western Cape Nature Conservation Board) and the Eastern Cape Parks and Tourism Agency. In order to facilitate coordination between these entities, the Minister appointed the Director-General of the Department of Environmental Affairs to be the management authority for the property. In terms of this arrangement, the Director-General will continue to recognize SANParks, CapeNature and the Eastern Cape Parks and Tourism Agency as managing agents for components they have been involved with by delegating some of the functions in terms of the World Heritage Convention Act to these entities. Coordination of reports and activities of these entities will be done through a Joint Management Committee that will be constituted by the Chief Executive Officers of these entities together with a representative of the national Department of Environmental Affairs and Tourism.

A Memorandum of Understanding (MoU) (Appendix 6) has been signed by the Director-General of the National Department of Environmental Affairs, and the Chief Executive Officers of the three management authorities to outline "…*mutually acceptable communication, reporting and accounting lines that meet the requirements of legislation and respects the mandates and independence of the Parties."*

The three management authorities for the CFRPA are as follows:

Organisation: .South African National Parks (SANParks)

Address (1):..... Planning Manager Table Mountain National Park, P.O. Box 37, Constantia, 7848
Address (2):..... SANParks Head-Office, P O Box 787, Pretoria 0001, South Africa
Tel:..... (1) +27 (0)21 712 2337 / (2) +27 (0)12 426 5000
F**ax:**..... (1) +27 (0)21 713 1542 / (2) +27 (0)12 343 9959
E-mail (1): ..... Mr. Michael Slayen: Michael.slayen@sanparks.org
E-mail (2): ..... CEO: Dr David Mabunda: davidm@sanparks.org
Web address: ... sanparks.org/
..... sanparks.org/conservation/scientific/cape/default.php

Organisation: .Eastern Cape Parks and Tourism Agency

Address (1):..... Regional Manager: West 20 4th Ave, Newton Park, Port Elizabeth, 6014, Eastern Cape
Address (2):..... Eastern Cape Parks and Tourism Agency Head Office P.O. Box 11235, Southernwood, East London, 5213
Tel:..... (1) +27 (0)41 364 2570 / (2) +27 (0)43 705 4400
Fax:..... (1) +27 (0)86 619 3569 / (2) +27 (0)86 611 1623/ 4
E-mail (1): ..... (1) Mr. Wayne Erlank: wayne.erlank@ecpta.co.za
E-mail (2): ..... (2) CEO: Mr. Luxolo Rubushe: Luxolo.Rubushe@ecpta.co.za
Web address: ... visiteasterncape.co.za

Organisation: .Western Cape Nature Conservation Board (CapeNature)

Address (1)**:**..... Scientific Services Private Bag X5014 Stellenbosch 7599 Western Cape
Address (2)**:**..... CapeNature Head Office, X29, Gatesville 7766 Western Cape
Tel:..... (1) +27 (0)21 866 8009 / (2) +27 (0)21 483 0001
Fax:..... (1) +27 (0)86 528 0977 / (2) +27 (0)86 295 7527
E-mail (1): ..... (1) Mr. Guy Palmer: gpalmer@capenature.co.za.
E-mail (2): ..... (2) CEO: Dr Razeena Omar romar@capenature.co.za
Web address .... capenature.org.za/

CHAPTER 1: AN OVERVIEW OF THE CAPE FLORAL REGION: NOMINATED EXTENSION TO THE INSCRIBED CAPE FLORAL REGION PROTECTED AREAS – WORLD HERITAGE SITE

1.1 IDENTIFICATION OF THE PROPERTY

This document (and relevant supporting information) comprises the official Nomination of the Extension of the inscribed Cape Floral Region Protected Areas (CFRPA) World Heritage Site. South Africa ratified the World Heritage Convention on July 10, 1997 and the eight protected areas, representing the CFRPA, were inscribed as a serial World Heritage Site on June 30, 2004 (Table 1 and Figure 1).

1.1.a Country and State Party

South Africa.

1.1.b State, Province or Region

The Nominated Extensions to the inscribed CFRPA are all in South Africa, spanning the Western Cape and Eastern Cape Provinces, and represent the Cape Floral Region (CFR).

1.1.c Name of Property

Cape Floral Region Protected Areas (CFRPA) (extension).

The CFRPA is presently represented by eight inscribed areas[2] (refer to DEAT 2003: Appendix 1 – the Nomination documentation; and to Table 1. Nominated Extensions to the inscribed CFRPA are listed in Table 1 and are described in more detail in Chapters 2–14.

1.1.d Geographical coordinates to the nearest second

The Cape Floristic Region (CFR) is situated on the southwestern tip of Africa between latitudes 31^{o} and 34.5^{o}S and longitudes 18^{o} and 26^{o}E with a central point of S 32° 56' 37.68" E 18° 46' 50.52". Figure 1 and Table 1 provide details of the geographic location of the various components of this Extension Nomination.

1.1.e Maps and plans, showing the boundaries of the CFRPA Extension Nomination, buffers zones and buffering mechanisms

A map indicating the Nominated Extension to the inscribed CFRPA; the relevant provinces in relation to Africa and South Africa; and, the varied topography of the CFR is provided in Figure 1. Figures 1.2.1 and 1.2.2 indicate the Fynbos Biome, or the CFR, and the Nominated Extension as they relate to the biomes and National Vegetation Types respectively. The various buffer zones and buffering mechanisms that are currently in place are depicted in Figures 1, 1.2.3, 1.2.4, 1.2.5 and 1.2.6 for the UNESCO Biosphere Reserves, Landscape Initiatives, Stewardship Sites and Critical Biodiversity Areas respectively. The full extent of the CFR and maps of each protected area are provided in topographical maps appended to this document (Appendix 2). Geographical co-ordinates of the inscribed and extension component areas are listed in Table 1.

The Extension Nomination, comprising 163 components in fifteen clusters of Protected Areas (adding 577 902.27 ha to the inscribed 557 584.19 ha, and all managed by the three authorities currently responsible for the CFRPA), is relatively evenly distributed across the CFR (Figure 1). Detailed GIS maps of each of the component clusters or individual Nature Reserves or National Parks are provided in

[2] These areas are the Table Mountain National Park (the Cape Peninsula National Park was renamed the Table Mountain National Park in 2004), Cederberg Wilderness Area, Groot Winterhoek Wilderness Area, Boland Mountain Complex, Boosmansbos Wilderness Area, De Hoop Nature Reserve, Swartberg Complex and Baviaanskloof.

Chapters 2-15 and Table 1.1.1 provides the region in which each component occurs as well as a list of the appended topographical maps (Maps 2 to 15, Appendix 2).

Table 1.1.1 List of appended topographic maps of Extension Nomination complexes or single Nature Reserves, and the region in which each component is located, representing the Extension Nomination of the CFRPA (Appendix 2). Inscribed components of the CFRPA are defined by pale grey hatching.

Cape Floral Region

Complex / Nature Reserve Number and name		Region	Map scale	Map number/s
01	Cederberg Complex (extension) *(Chapter 2)*	Western Cape	1:250,000	3118, 3218
	Cederberg Wilderness Area	Western Cape		
02	Groot Winterhoek Complex (extension) *(Chapter 3)*	Western Cape	1:250,000	3218, 3318, 3319
	Groot Winterhoek Wilderness Area	Western Cape		
~~03~~	~~West Coast Complex *(Chapter 4)*~~	~~Western Cape~~	~~1:250,000~~	~~3218, 3318~~
04	TMNP (extension to park boundaries) *(Chapter 5)*	Western Cape	1: 50,000	3318CD, 3418AB & AD
	Table Mountain National Park (TMNP)	Western Cape		
05	Boland Mountain Complex (extension) *(Chapter 6)*	Western Cape	1:250,000	3318, 3319
	Boland Mountain Complex	Western Cape		
06	Hexriver Complex *(Chapter 7)*	Western Cape	1:250,000	3319
07	Riviersonderend Nature Reserve *(Chapter 8)*	Western Cape	1:250,000	3319, 3320,3420
08	Agulhas Complex *(Chapter 9)*	Western Cape	1:250,000	3319, 3420
09	De Hoop Nature Reserve (*Chapter 15*: no change)	Western Cape	1:250,000	3420
10	Langeberg Complex (extension) *(Chapter 10)*	Western Cape	1:250,000	3319, 3320, 3420
	Boosmansbos Nature Reserve	Western Cape		
11	Garden Route Complex *(Chapter 11)*	Western Cape	1:250,000	3320, 3322, 3324
12	Anysberg Nature Reserve *(Chapter 12)*	Western Cape	1:250,000	3320
13	Swartberg Complex (extension) *(Chapter 13)*	Western Cape	1:250,000	3320, 3322
	Swartberg Complex	Western Cape		
14	Baviaanskloof Complex (extension) *(Chapter 14)*	Eastern Cape	1:250,000	3322, 3324
	Baviaanskloof	Eastern Cape		

1.1.f Area of the CFRPA Extension Nomination and proposed buffer zones

Total land area (including the inscribed CFRPA) of the Extension Nomination is 1 135 486.46 ha (Table 1). Many of the reserves and parks in this Extension Nomination previously formed part of the buffer zone for the inscribed CFRPA. This Extension Nomination therefore proposes to redefine the buffer zones for the extended CFRPA as adjacent formally protected areas (Figure 1). The 810 697.94 ha of buffer zones are further supported by other existing buffering mechanisms (discussed below).

Due to the complexity of the arrangement of biodiversity across the landscape, several supporting mechanisms have been developed, and are in place, to ensure the long term persistence of the various habitats and species as well as the ecological and evolutionary processes deemed important to mitigate Global Climate Change. These mechanisms include UNESCO Biosphere Reserves[3] (Figure 1.2.3); Landscape Initiatives (Figure 1.2.4, see also section 1.5.g(v-x); Stewardship Sites (Figure 1.2.5; see also sections 1.5.g(viii) and 1.5.g(xii)) and Critical Biodiversity Areas (CBAs) (Figure 1.2.6).

Together these mechanisms provide protection, often multilayered, to the areas surrounding the CFRPA and the nominated extension. What is particularly significant, regarding these various mechanisms, is that together they provide more protection to the Protected Areas than could possibly be effected by a single WHS Buffer Zone as they are designed for persistence, at a landscape scale, of species and processes. These mechanisms are in place, are operational and several are expanding and evolving, thus becoming increasingly effective. The Stewardship initiatives, in particular, provide a wonderful example of private land owner support for the conservation of the biodiversity of the CFR (see sections 1.5.g(viii) and 1.5.g(xii)).

The CBA initiative is a relatively recent addition to the arsenal of buffering mechanisms, having been included in the 2009 “Guideline regarding the determination of bioregions and the preparation of and

[3] There are currently three Biosphere Reserves that have been formally accepted by UNESCO and there are several more in various stages of nomination and the one for the Gouritz Biosphere Reserve has been submitted to UNESCO. These Biosphere Reserves are extensive and contribute significantly to the buffering of, in particular, the Boland Mountain Complex.

publication of bioregional plans"[4]. A CBA map indicates terrestrial and aquatic features which must be safeguarded in their natural state if biodiversity is to persist and ecosystems are to continue functioning. Land in this category is referred to as a Critical Biodiversity Area. CBAs incorporate: (i) areas that need to be safeguarded in order to meet national biodiversity thresholds (ii) areas required to ensure the continued existence and functioning of species and ecosystems, including the delivery of ecosystem services; and/or (iii) important locations for biodiversity features or rare species.

CBA maps aim to guide sustainable development by providing a synthesis of biodiversity information to decision makers with regard to land- and resource uses which are consistent with the long-term ecological functioning and health of these critical biodiversity areas, as well as the land and resource uses which should be avoided In these areas. They serve thus as a common reference for all multi-sectorial planning procedures, advising which areas can potentially be lost to development, and which areas of critical biodiversity value, and their support zones (often termed Critical Ecological Support Areas (CESAs)), should be protected against any negative impacts.

Importantly, CBA categories and maps do not in themselves serve to grant or take away existing land-use rights, however they serve as a primary informant to the decision-making process when developments are considered in CBA areas and where land-use planning decisions are made. CBA areas trigger authorisation requirements for a range of activities described by the 2010 National Environmental Management Act: Environmental Impact Assessment regulations (NEMA EIA) (Appendix 4). CBA maps are a key input into land-use planning, and typically are incorporated into Spatial Development Frameworks for provincial and local authorities as well as for other bioregional land-use planning initiatives.

What is critical to understand, is that these initiatives are integrated and mutually supportive. CBA maps, in conjunction with Landscape initiatives, may inform Stewardship programmes with regard to priority areas to target for Stewardship contracts and agreements with the landowner. These mechanisms have been developed to safeguard, in a strategic manner, as much as possible of the remaining natural vegetation of the CFR.

1.2 DESCRIPTION

This chapter provides an overarching description of the CFR, and the following 15 chapters give details of each extended Complex, Nature Reserve or National Park where relevant.

The features that make the CFR unique in the world are the exceptionally high plant species richness and endemism with almost 70% of the 9,000 plant species endemic to the region. A range of ecological processes operating within highly variable topographic, climatic, and landscape diversity supports this diversity. The original Nomination (DEAT 2003: Appendix 1) provided extensive details on the CFR, and these details pertain to the reserves and parks proposed to extend the inscribed CFRPA. This Extension Nomination focuses on the details and descriptions relevant to the ten complexes and 5 Nature Reserves (a total of thirty seven Provincial Nature Reserves (reserves) and National Parks (parks)) selected to extend the inscribed CFRPA. These reserves and parks significantly improve connectivity between the inscribed CFRPA components (Figure 1) and are in turn supported by a much wider buffering network of adjacent or surrounding conserved areas ranging from provincial reserves and stewardship sites to Biosphere Reserves and privately owned declared Mountain Catchment Areas.

1.2.a Description of the CFRPA Extension Nomination

The CFR covers much of the Western Cape Province, extending eastwards into the Eastern Cape Province[5] and reaching marginally into the Northern Cape. In the south, and west, the region is restricted by the ocean while the interior margins are formed eastwards by the Thicket-; Succulent Karoo-; and Nama-Karoo Biomes (Figures 1 and 1.2.1). The Succulent Karoo- and the Maputaland-Pondoland-Albany (thicket) region are internationally recognised biodiversity hotspots.

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4 Government Gazette 32006 of 16 March 2009 (Appendix 4).

5 Where it is currently represented by Baviaanskloof within the inscribed CFRPA.

1.2.a(i) Physical description: a summary

The inscribed serial CFRPA comprises eight spatially separate protected areas representing the CFR (Figure 1). The Nomination documentation (DEAT 2003: Appendix 1) described physical and climatic features CFR exhaustively, noting variation in soils derived from the granites, clays and sandstones of the region. This subsection summarises information provided in Appendix 1 (DEAT 2003), since the information remains relevant to the Extension Nomination.

Winter rainfall is a unique climate regime in the sub-continent. Mean annual rainfall in the lowlands ranges between 300 and 500 mm (Fuggle & Ashton 1979; Goldblatt 1978) but is higher at greater elevations (1,000-3,300mm per annum) where rainfall is supplemented by fog and cloud moisture even in the dry months (Kruger 1979; Bond & Goldblatt 1984). Eastwards across the Cape region, there is a trend for an increasing portion of the rainfall to fall in the summer months as well as a general increase in average rainfall. Strong southeast summer winds are a common feature along the Cape coast. In winter, occasional hot, gusty berg winds result from warm subsiding air in the interior (Kruger 1979) causing sudden, steep temperature rises. Wind plays an important role in the fire-climate of the region (Fuggle & Ashton 1979).

The different soil types, highly variable topography (Figure 1), largely winter-rainfall (hot, dry summers between October and April), as well as landscape and local scale differences in aspect, altitude and climate are hypothesized to contribute significantly to extremely high levels of regional plant diversity and endemism.

The Extension Nomination for the inscribed CFRPA proposes the inclusion of a further 163 components of 577 902.27 ha of Protected Areas into the inscribed CFRPA. Most of these reserves and parks contribute to extension of seven[6] of the eight inscribed components of the CFRPA or to ~~four~~ three entirely new Protected Area Complexes[7], but two[8] are proposed as component Protected Areas in their own right (Figure 1; Tables 1). Only one component of the inscribed CFRPA (De Hoop Nature Reserve) remains unchanged. Within this context of high regional biodiversity pattern and process, the wide distribution of the inscribed CFRPA components supported by the proposed Extension Nomination CFRPA Nature Reserves and National Parks across the CFR ensures that a diversity of physical attributes is conserved.

This first chapter deals with information relevant to all the reserves and parks that comprise the Extension Nomination. The following chapters deal in turn with the component Protected Area Complexes, Nature Reserves and National Parks that comprise the Extension Nomination.

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[6] Cederberg Complex (formerly represented only by Cederberg Wilderness Area), Groot Winterhoek Complex (formerly represented only by Groot Winterhoek Wilderness Area), Boland Mountain Complex (extended), Langeberg Complex (formerly represented only by Boosmansbos Wilderness Area), Swartberg Complex (extended) and Baviaanskloof Complex (formerly represented only by Baviaanskloof). Table Mountain National Park has been extended since inscription.

[7] ~~West Coast Complex,~~ Hexriver Complex, Agulhas Complex and Garden Route Complex.

[8] Anysberg Nature Reserve and Riviersonderend Nature Reserve.

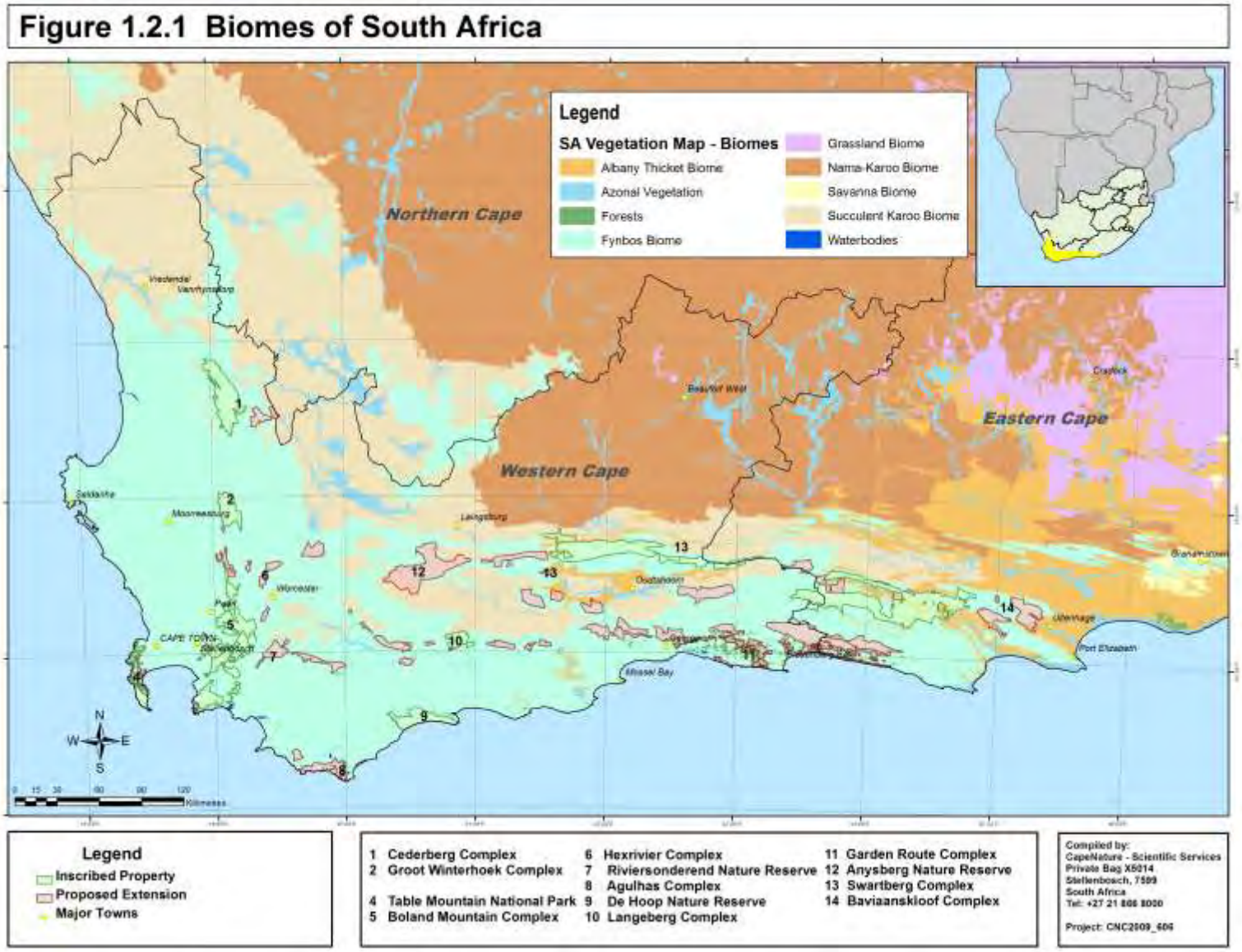

Figure 1.2.1 Biomes across the CFR and the CFRPA World heritage site (sensu Rutherford and Westfall 1986) adapted from the National Vegetation Map (Mucina and Rutherford 2006).

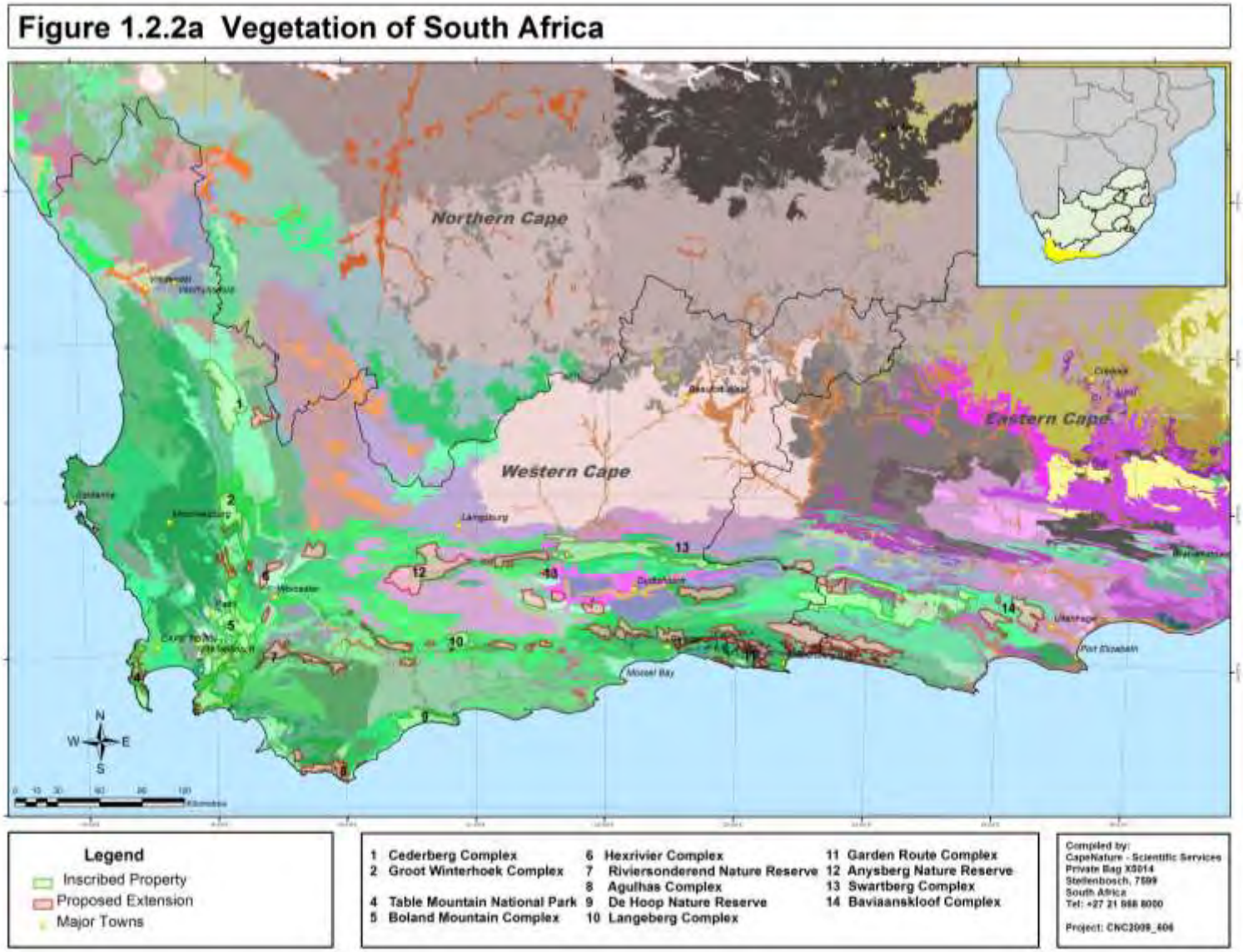

Figure 1.2.2a Vegetation types across the CFR and the CFRPA World heritage site according to the National Vegetation Map (Mucina and Rutherford 2006).

Figure 1.2.2b Legend for the vegetation types across the CFR and the CFRPA World heritage site according to the National Vegetation Map (Mucina and Rutherford 2006).

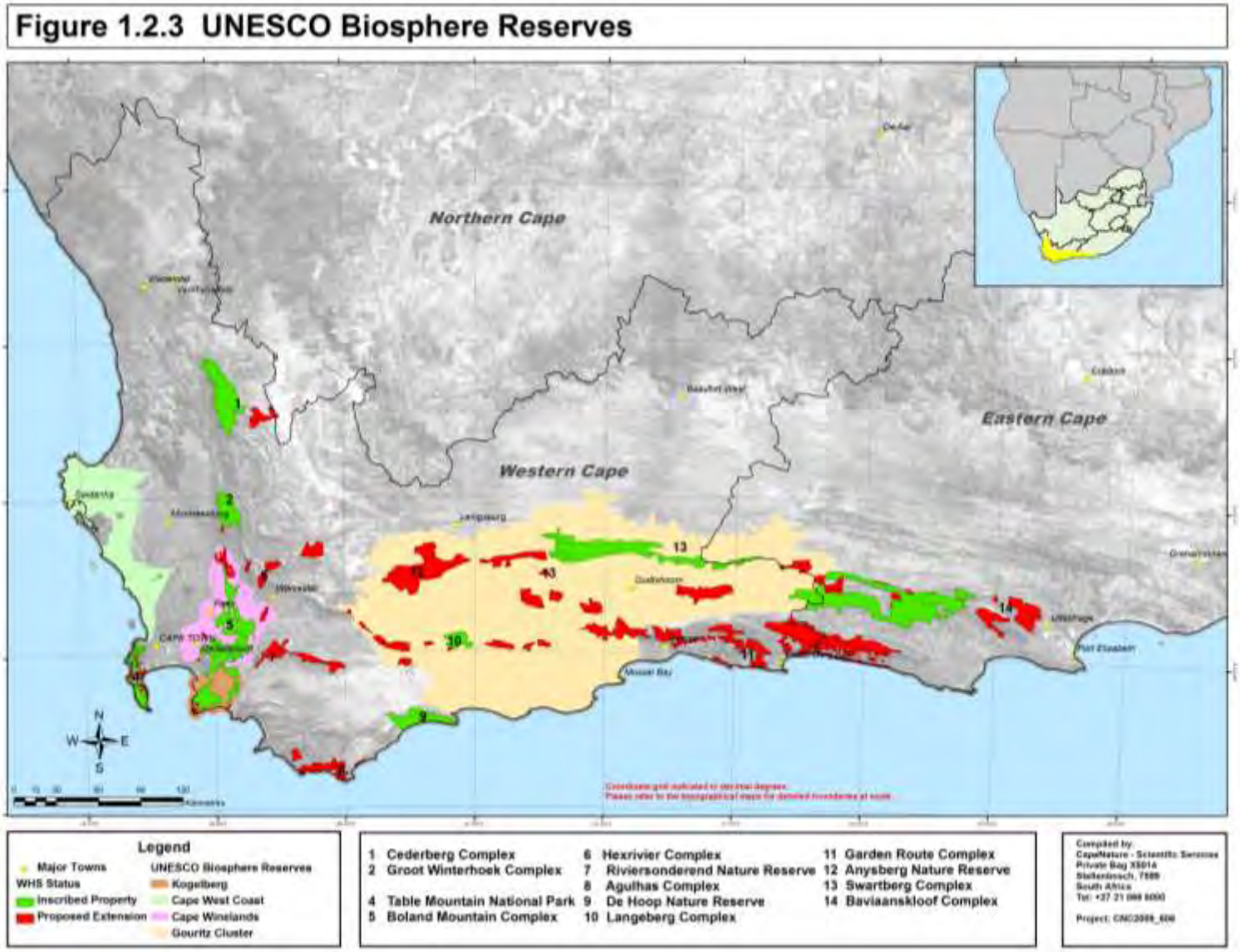

Figure 1.2.3 Cape Floral Region buffering mechanism: UNESCO Biosphere Reserves

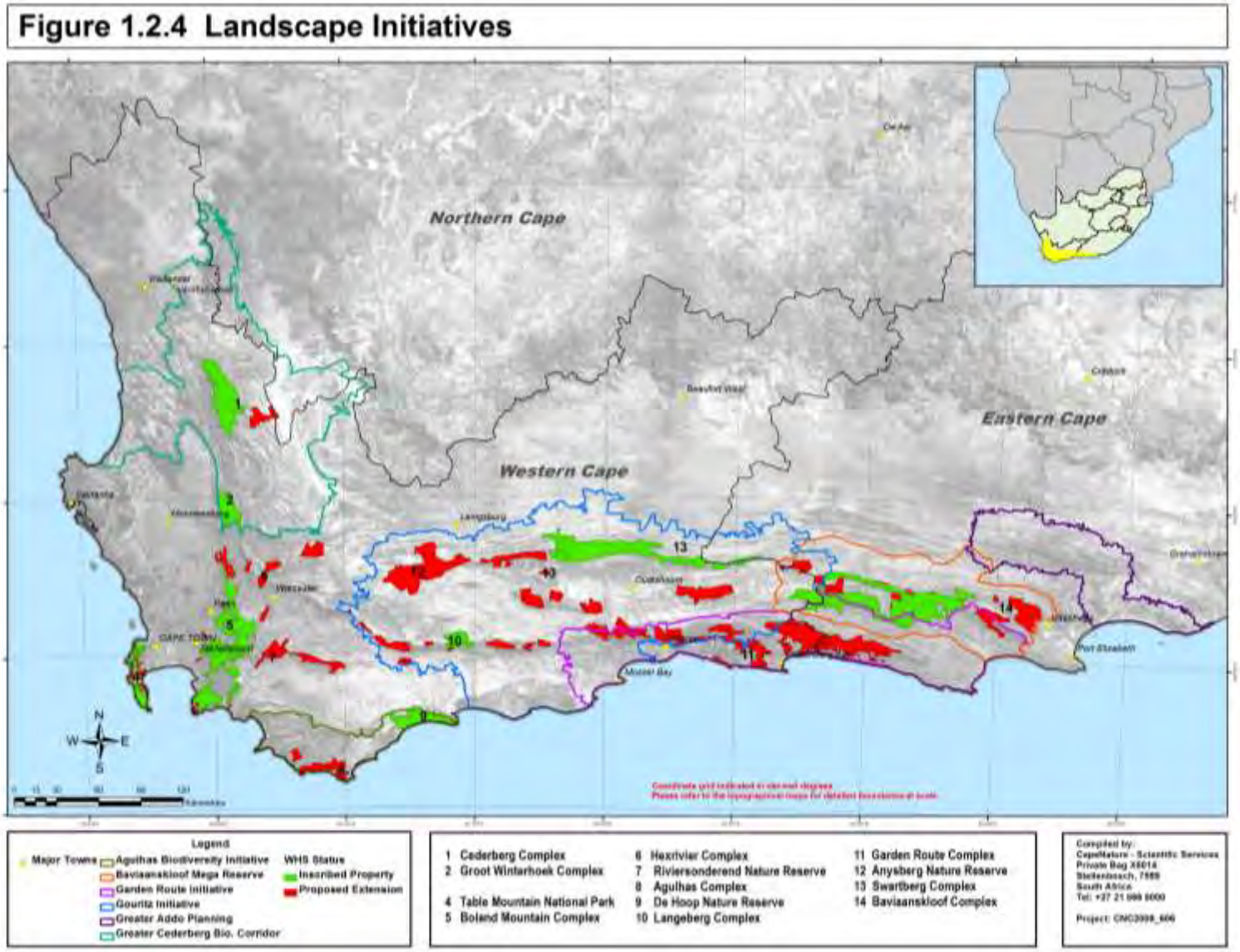

Figure 1.2.4 Cape Floral Region buffering mechanism: Landscape Initiatives in the CFR.

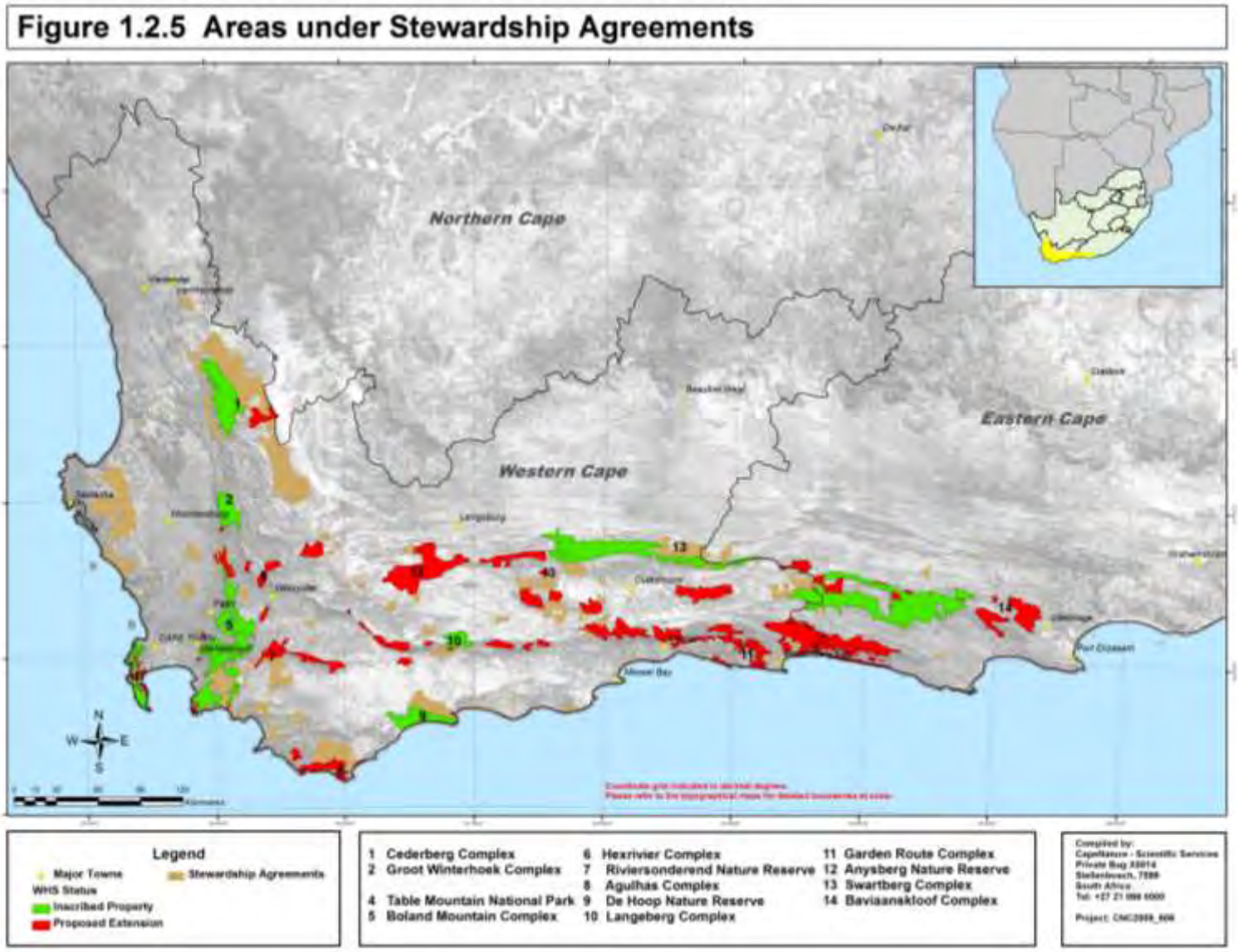

Figure 1.2.5 Cape Floral Region buffering mechanism: Stewardship Agreements.

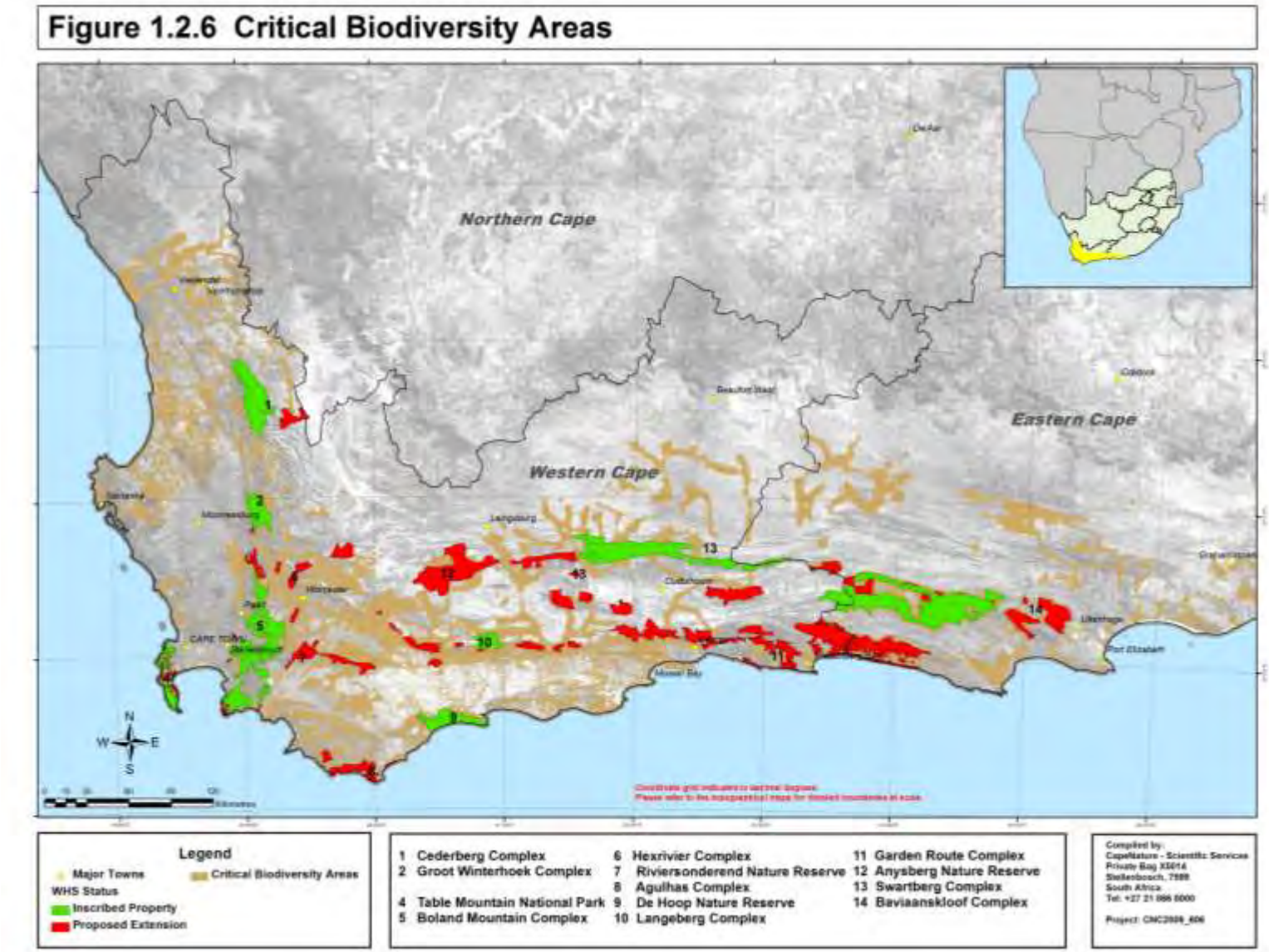

Figure 1.2.6 Cape Floral Region buffering mechanism: Critical Biodiversity Areas, identified through iterative conservation planning initiatives.

The Component Protected Area Complexes, Nature Reserves and National Parks are (inscribed protected areas underlined):

A **Cederberg Complex** (Chapter 2): Cederberg Wilderness Area, Matjiesrivier Nature Reserve;

B **Groot Winterhoek Complex** (Chapter 3): Groot Winterhoek Wilderness Area, Groot Winterhoek Nature Reserve;

~~**C** **West Coast Complex** (Chapter 4): West Coast National Park, Riverlands Nature Reserve;~~

D **Table Mountain National Park** (Chapter 5):

E **Boland Mountain Complex** (Chapter 6): Boland Mountain Complex (Extension), Waterval Nature Reserve, Brandvlei Nature Reserve, Voëlvlei Nature Reserve, Rooisand (Botrivier) Nature Reserve, Simonsberg Nature Reserve, Helderberg Nature Reserve and Buffelstal Nature Reserve;

F **Hexriver Complex** (Chapter 7): Bokkeriviere Nature Reserve, Ben-Etive Nature Reserve, Fonteintjiesberg Nature Reserve, Wittebrug Nature Reserve;

G **Riviersonderend Nature Reserve** (Chapter 8);

H **Agulhas Complex** (Chapter 9): Agulhas National Park, De Mond Nature Reserve;

I **De Hoop Nature Reserve** (Chapter 15): unchanged;

J **Langeberg Complex** (Chapter 10): Boosmansbos Wilderness Area, Marloth Nature Reserve, Garcia Nature Reserve, Bontebok National Park, Tygerberg Nature Reserve, Spioenkop Nature Reserve, Zuurberg Nature Reserve, Twistniet Nature Reserve, Paardeberg Nature Reserve, Witbosrivier Nature Reserve, Grootvadersbos Nature Reserve;

K **Garden Route Complex** (Chapter 11): Garden Route National Park, Ruitersbos Nature Reserve, Doringrivier Wilderness Area, Goukamma Nature Reserve, Keurboomsrivier, Robberg Nature Reserve;

L **Anysberg Nature Reserve** (Chapter 12);

M **Swartberg Complex** (Chapter 13): Swartberg Complex, Kammanassie Nature Reserve, Towerkop Nature Reserve, Rooiberg Nature Reserve, Gamkaberg Nature Reserve, Groenfontein Nature Reserve (Gamkaberg), Paardenberg Nature Reserve;

N **Baviaanskloof Complex** (Chapter 14): Baviaanskloof Nature Reserve, Groendal Nature Reserve.

The **Cederberg Complex**, extended by the Matjiesrivier Nature Reserve, is the most northwesterly protected area, bordering the Succulent Karoo close to the northwestern limit of the CFR (Figures 1 and 1.2.2). To the south lies the **Groot Winterhoek Complex** extended by the Groot Winterhoek Nature Reserve. Both of these are nominated extensions to inscribed CFRPA protected areas.

~~On the coastal plain to the west of these two predominantly montane protected areas is the proposed **West Coast Complex**~~. Further south is the extended **Table Mountain National Park**, the most southwesterly part of the CFR and an inscribed component of the CFRPA which has, as a National Park almost doubled its total land area since inscription. A number of contiguous and otherwise linked reserves comprise the **Boland Mountain Complex**, an inscribed CFRPA component (with proposed extensions), which is situated on the eastern shore of False Bay across the bay from Table Mountain National Park. To the north of the Boland Mountain Complex, across the Breede River, lies the proposed **Hexriver Complex**.

The Cederberg, Groot Winterhoek, Boland and Hexriver Complexes lie in a north/south orientation along a range of mountains which form part of the Cape Fold Belt (refer to DEAT 2003: Appendix 1 for more detail regarding this geological feature).

To the east of the Boland Mountain Complex, stretches the magnificent **Riviersonderend Nature Reserve**, bridging the gap between the Boland Mountain Complex and the extended **Langeberg Complex**. To the south of the Langeberg Complex lies the Agulhas Plain and Agulhas National Park (which contains the most southern point of Africa). Agulhas National Park and De Mond Nature Reserve comprise the proposed **Agulhas Complex**. To the north of the Langeberg Complex lies **Anysberg Nature Reserve**.

East of the Agulhas Complex is **De Hoop Nature Reserve**, an inscribed component of the CFRPA. Further east is the proposed **Garden Route Complex**, a large (roughly 184,000 ha) grouping of reserves and parks, located in one of the most scenic coastal and montane landscapes of the CFR. North of the Garden Route Complex, is the extended **Swartberg Complex** in the Swartberg Mountains, parallel to the east/west trending coast, in the northern extreme of the CFR (Figure 1). The extended **Baviaanskloof Complex** lies to the east of the Swartberg Complex in the Eastern Cape Province.

These protected areas and buffer zones (Table 1), together with extensive buffering mechanisms, conserve a representative sample of the wide diversity of the CFR along both the north/south and east/west axes of the extensive Cape Fold Mountains as well as the lowlands and coastal plains (section 1.3).

1.2.a(ii) Vegetation, habitats and plant species

The distinctive vegetation for the region is fynbos ("fine-bush"), a shrubland, which holds about 80% of the plant richness of the CFR. The immense diversity and splendour of the Cape flora has been described and documented by countless researchers over the past few centuries. A thorough synthesis of much of this information is provided in the Nomination Documentation (DEAT 2003: Appendix 1) and will not be repeated here. A brief summary of salient points is provided to describe the Extension Nomination.

The CFR has been identified as a global centre of plant diversity due to its high species richness and exceptional endemism. For example, although occupying less than 4% of the area of southern Africa, the CFR is home to 40% of the subcontinent's flora of 20,367 species (Manning & Goldblatt 2012) including at least 1,736 threatened plant species and 3,087 species of conservation concern (Raimondo *et al.* 2009).

Almost half of all Southern African genera are represented in the CFR, with *Erica* (655 species) being by far the most sizeable genus among the total of 988 genera. Accounting for over 7% of the species in the Cape flora it is a striking example of radiative diversification (Manning & Goldblatt 2012). Other than *Erica,* 12 plant genera contain over 100 species. An important characteristic is the large species to genus ratio. At 9.1 (all vascular plants), it is one of the highest in the world and more typical of isolated island biota than of a continental region (Goldblatt 1978; Manning & Goldblatt 2012).

The flora of the south-western tip of southern Africa, the Cape flora, with some 9,000 species in an area of 90,000 km^2 is much more speciose than can be expected from its area or latitude, and is comparable to that expected from the most diverse equatorial areas. The endemism of almost 70%, on the other hand, is comparable to that found on islands. This high endemism is accounted for by the ecological and geographical isolation of the Cape Floristic Region, but explanations for the high species richness are not so easily found (Linder 2003).

Fynbos typically grows on coarse-grained, low-nutrient acidic sands generally characteristic of the region. Fynbos extends from the mountain peaks, downhill slopes, across the coastal plains to the seashore, comprising mainly fine-leaved shrubs, such as Erica's (635 endemic species), larger-leaved, showy-flowered Proteaceae (319 endemic species) and clumps of reed-like Restionaceae. Fynbos is further enriched by an assortment of geophytic plants including many Iridaceae (520 endemic species) and Orchidaceae (138 endemic species).

In the valleys and forelands between mountains and coastal plains where richer (usually shale or granite-derived) soils have accumulated, there is another form of fynbos shrubland called renosterveld. Renosterveld shrublands are especially rich in Asteraceae and geophytic plants although Proteaceae elements are less well represented than on the low nutrient soils. Owing to the richer soils, most lowland renosterveld has been transformed by agriculture, especially for cultivation of wheat and deciduous fruit crops.

Adjacent to the coast, on alkaline sands of recent marine origin, fynbos shrublands occur in a mosaic of thicket patches of trees and large shrubs of subtropical affinity, having links extending up the Indian Ocean coast. All of the fine-leaved shrublands are fire-dependent and are highly adapted to a natural fire regime – regenerating, often spectacularly, after fires that burn naturally at intervals of 10 to 20 years (with natural extremes as low as 5 years and as high as 45 years).

Pockets of evergreen forests are found within moist, fire-protected gorges and in areas of deeper soils of the CFR. Along a section of the southern Cape coast in the vicinity of the Garden Route Complex, nestled between a coastal mountain range and the sea, the all-year-round rainfall has resulted in the best-

developed areas of forest. Towards the eastern extent of the CFR, in river valleys and on steep slopes subtropical thicket is found – comprising vegetation types, which, like forest, are not reliant on fire as an ecological process.

The Nomination (DEAT 2003: Appendix 1) ensured that CFRPA components adequately represented the eight Phytogeographic Centres of endemism (each of which is delimited by high numbers of plant species endemic to each centre). Table 1.2.1 illustrates the continued effort to ensure greatest spread of representation. This Extension Nomination is yet another step towards improving linkages between the inscribed CFRPA components, as well as greatly increasing the representation of vegetation types not yet represented within the inscribed CFRPA.

Table 1.2.1 Representation by the inscribed CFRPA and the proposed Extension Nomination Protected Areas within the eight recognised Phytogeographic Centres of endemism falling within the CFR.

Phytogeographic Centre	**Represented by:**
Southwestern	Boland Mountain Complex / Table Mountain National Park / ~~West Coast Complex~~ / Riviersonderend Nature Reserve
Northwestern	Cederberg Complex / Groot Winterhoek Complex / Hexriver Complex
Karoo Mountain	Swartberg Complex / Anysberg Nature Reserve / Hexriver Complex
Langeberg	Langeberg Complex / Riviersonderend Nature Reserve
Southeastern	Baviaanskloof Complex / Garden Route Complex
Agulhas Plain	De Hoop Nature Reserve / Agulhas Complex
Little Karoo	Swartberg Complex
Albany	Baviaanskloof Complex

The vegetation classification used for the Nomination (DEAT 2003: APPENDIX 1) of the CFRPA, was that of Broad Habitat Units (BHUs). These were a surrogate for landscape diversity and especially vegetation pattern (Cowling & Heijnis 2000). Subsequent to 2003 however, finalisation in 2006 of an iterative, comprehensive and intensive national vegetation mapping exercise has resulted in the publication of a National Vegetation Map (Mucina & Rutherford 2006) which recognises 119 fynbos vegetation types. Of these, 27 were already formally conserved in the inscribed CFRPA and nowhere else. Bradshaw & Holness (2013) (refer to section 1.3.a; Table 1.3.2) further found that 48 of the remaining 92 fynbos vegetation types are presently conserved by the proposed components of the Extension Nomination, and that these vegetation types are conserved nowhere else.

The National Vegetation Map (managed by the South African National Biodiversity Institute) contributes to, and informs, various legislative and policy initiatives such as the South African National Spatial Biodiversity Assessment (NSBA) (Driver *et al.* 2005) (refer to section 1.5.b(xi) and Appendix) and to national and regional conservation planning in general. These vegetation types were used as surrogates for defining biodiversity pattern and process in the identification of biodiversity targets for the NSBA.

The draft National Protected Areas Expansion Strategy (NPAES) (DEAT 2007b, refer to Section 1.5.b(xi)) notes that "Biodiversity targets refer to how much (defined as an area) of each biodiversity feature (in this case vegetation types) should ideally be protected to ensure it will persist. Although they may be refined over time as scientific knowledge and information improves, they are not 'action targets' or 'political targets' that change every few years. The spatial analysis in the NPAES is based on the biodiversity targets set in the NSBA (Driver *et al.* 2005), which set national biodiversity targets for a range of biodiversity features. For example, each national vegetation type has a biodiversity target based on its species-richness. The biodiversity target for the least species-rich vegetation types is 16% of the original area of the vegetation type, and for the most species-rich vegetation types the target is 36% of the original areas of the vegetation type. In the absence of a clear ecological basis for setting biodiversity targets, such as for marine and freshwater aquatic systems, the NSBA (Driver *et al.* 2005) set a generic biodiversity target of 20% of the original extent of the biodiversity feature concerned, since the international norm of a flat 10% target was felt to be insufficient in a country as biodiversity rich as South Africa."

1.2.a(iv) Fauna[9]

A distinct zoogeographic zone, called the Cape Faunal Centre (or Cape Centre), approximately coincides with the CFR. The Cape Centre is associated with the north-south axis of the Cape Fold Mountains (Cederberg, Koue Bokkeveld, Hex River and Boland Mountains). The northern boundary of the Cape Centre corresponds roughly with that of the CFR (Stuckenberg 1962). The slightly younger east-west chains of the Riviersonderend Mountains, Swartberg, Langeberg, and Outeniqua Mountains make up a second core of this zoogeographic zone. The eastern limit of the Cape Centre is the George/Knysna area, where the fauna gradually changes to include more Ethiopian elements characteristic of much of Africa. These include larger mammals such as elephant (*Loxodonta africana*), but also smaller mammals, birds, herpetofauna and invertebrates. Wishart (2002) notes that analyses from a wide range of phylogenetically independent taxa in South Africa have shown that while faunal species richness tends to be concentrated in north-east South Africa, endemism is highest and concentrated in the southwestern Cape region. As more surveys of lesser-known taxa are undertaken, the CFR is steadily being acknowledged as an important global repository of biodiversity, extending beyond the flora of the region (Wishart 2002).

The Cape Centre provides habitat for at least 112 animal species listed as rare or threatened in the various Red Data Books. Although the invertebrate diversity vastly exceeds that of the vertebrates, there are a number of recognised vertebrate "hotspots" in the Cape Floral Region including one for small mammals and freshwater fish in the Cederberg. Various threatened and/or endemic mammal and bird species are also conserved in the protected areas. These include species such as the rare leopard (*Panthera pardus*), the Near Threatened endemic fynbos golden mole (*Amblysomus corriae*) and the Vulnerable endemic bontebok (*Damaliscus pygargus dorcas*) and the Vulnerable and endemic Cape mountain zebra (*Equus zebra zebra*) (Friedman & Daly 2004).

Among the birds typical of fynbos habitats are the Cape Floral Region endemics, orange-breasted sunbird (*Nectarinia violacea*) and Protea canary (*Serinus leucopterus*), while threatened birds in the protected areas include martial eagle (*Polemaetus bellicosus*), Cape vulture (*Gyps coprotheres*) and the blue crane (*Anthropoides paradiseus*), all listed as Vulnerable, as well as the Black Harrier (*Circus maurus*) and the Peregrine (*Falco peregrinus*) both listed as Near Threatened.

The zoogeographic centre is characterised by elements of invertebrate fauna, which are survivors of a Gondwanaland fauna[10]. These invertebrates occur in the high altitude mountain fynbos and forests of the southwestern Cape and represent the oldest and least disturbed of the continent's fauna. These animals probably represent the richest surviving assemblage of such basal lineages on the Southern continents. A study, commissioned for the CFRPA Nomination (DEAT 2003: Appendix 1), to evaluate the contribution of the protected areas to the conservation of selected taxa, analysed data for freshwater fish, amphibians and reptiles of the CFR. Results showed that the relatively small area occupied by the constellation of the inscribed protected areas conserves half the species in this set of known records. It is thus highly likely that a far higher number of species will be protected by an extension to the CFRPA, which more than doubles the total land area in the inscribed eight serial sites currently representing the CFRPA.

The vertebrate fauna of the central parts of the CFR are well represented in the inscribed CFRPA. These protected areas harbour more typical fynbos species, such as grysbok (*Raphicerus melanotis*), grey rhebuck (*Pelea capreolus*) and klipspringer (*Oreotragus oreotragus*), more generalised species such as steenbok (*Raphicerus campestris)* and grey duiker (*Sylvicapra grimmia*), as well as Karoo species not usually found in fynbos-covered mountains, such as springbok (*Antidorcas marsupialus).*

1.2.a(v) Processes[11]

Natural processes are well represented in the proposed selected reserves and parks, operating at various scales. One such process is the effect of natural fires. Fire has been a strong driving-force in the evolution

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[9] The fauna of the CFRPA is covered in detail in the Nomination (refer to Appendix 9 of the Nomination (DEAT 2003: Appendix 1)).

[10] Refer to DEAT 2003: Appendix 1. Relictual Gondwanan invertebrate fauna include the fynbos endemic, flightless stag-beetle (*Colophon* spp.), described in more detail by Endrödy-Younga (1988), of which a number have already been identified as surviving in the peaks of the Cape Peninsula, Boosmansbos Wilderness Area, Swartberg Complex and Baviaanskloof.

[11] Refer to DEAT 2003: Appendix 1 for a comprehensive overview of the patterns and processes operating in the Cape Floral Region.

of fynbos flora (Cowling 1987; Le Maitre & Midgley 1992) and fire adaptations in the CFR are of considerable interest to evolutionary biologists (refer to DEAT 2003: Appendix 1).

Plant reproductive strategies operate on a different scale from fire. The Cape Flora has the highest known ratio of bird-pollinated plant species to nectar-feeding species (Rebelo 1987), the second richest assemblage of mammal-pollinated plants known, and a rich assemblage of fly pollinators, including specialised groups for which the Cape Faunal Centre is thought to be an epicentre (Bowden 1978). Eighty three percent of plants in the CFR are insect-pollinated (Johnson 1992) with fly and beetle pollination probably far more important in the CFR than anywhere else. For some of the more speciose plant groups it has been suggested that pollinator limitation may have been a driving force in speciation (Johnson 1992).

Seed dispersal by ants (myrmecochory) is also a biological process of great importance in the CFR (Bond & Slingsby 1983; Keeley 1992) particularly among endemic plant species. Short seed dispersal distance is seen as a factor in high plant speciation. Estimates of the number of species dispersed by ants in the CFR approximate 28% of the entire flora (Breytenbach 1988) including over half of the family Proteaceae (Bond & Slingsby 1983).

The montane areas in the CFR are particularly important in conserving the highly disjunct Afrotemperate biogeographical links stretching from the Cape Mountains to Ethiopia. In addition, the strong Gondwanaland links, both among plants and animals, are well reflected in the CFR allowing reconstruction of the flora's ancient connections. The links between the Cape Flora and the Afrotemperate flora distinguish it from the tropical African flora (dominating most parts of the continent) and enhances its isolated nature. In this respect, the Western Cape Province best reflects the recent evolutionary history of the region, characterised by shifts in climate and dominant flora of the region, coupled with massive speciation that generated the enormous diversity of an unusual flora.

To ensure persistence a system of conservation areas must also accommodate the processes that maintain and generate biodiversity (Cowling *et al.* 1999; refer to DEAT 2003: Appendix 1). All of the proposed individual Nature Reserves, Complexes and extended Complexes are medium- to large-sized (15,000 – ~190,000ha) conservation areas (Table 1) supported by even larger buffering mechanisms (Table1). The relatively large, physically and biologically heterogeneous Boland, Swartberg, Baviaanskloof, and Garden Route Complexes, all well in excess of 1,000km^2 (i.e. more than 100,000 ha), accommodate most ecological and evolutionary processes. The reserves and parks are surrounded by a number of adjacent and connecting reserves and protected mountain catchment areas that effectively increase the area under conservation, thereby ensuring maintenance of most processes necessary for *in situ* conservation of biological diversity, particularly at a time of uncertainty regarding the potential effects of global climate change.

Although many of the components of the Extension Nomination in reserves and parks are located in mountainous regions there is nonetheless a large degree of altitudinal gradient conserved in the 163 proposed extension CFRPA components, and in all a greater representation of lowland habitats and vegetation types. Global warming predictions suggest that impacts will be much greater in the western, winter-rainfall and generally driest parts of the CFR (Rutherford *et al.* 1999). The Langeberg Complex, Garden Route Complex, Riviersonderend, De Hoop and, to a lesser extent, Swartberg Complex and Baviaanskloof Complex may thus ultimately be the most secure.

Climate change is one of the reasons for pursuing larger size and connectivity of each of the component protected areas where possible, in order to provide improved connectivity thereby conserving larger, connected areas that will allow augmented buffers for change and improve the potential for ecosystem based resilience against future climate change.

1.2.b History and development

1.2b(i) Introduction

The archaeological and historical evidence for human settlement is described in detail in the Nomination (DEAT 2003: Appendix 1) and is only briefly summarised here. Where relevant, historical and cultural details are given in subsequent chapters dealing with each protected area comprising the Extension Nomination. There is a great deal of information about early inhabitants of the CFR dating back thousands of years. Evidence in the form of rock paintings, caves, burial sites and artefacts including

middens are well preserved, suggesting habitation of these protected areas by humans over many centuries.

1.2b(ii) Initial settlement

Dispersion of humans to the southernmost part of Africa and into the CFR started about one million years ago. The oldest sets of artefacts found in the fynbos landscape are those of the Earlier Stone Age (Deacon 1975). One of the more informative sites is in dune sand near the Langebaan Lagoon on the West Coast ~~(West Coast Complex)~~. Among the fossils is a human skull that, with the Kabwe skull from Zambia, represents ancestral Middle Pleistocene (700,000 - 125,000 years before present) populations inhabiting this southern part of Africa.

Middle Stone Age artefacts are widespread, with occupations recorded in open areas and rock shelters, some at high altitudes (Deacon 1989). Geophytes are most prominent in early post-fire succession and it is believed that fire was used to promote geophytes (and other fresh plant growth) from at least the beginning of the Late Pleistocene (Deacon 1986; Deacon *et al.* 1992). These burning practices are thought to have resulted in a substantial increase in the incidence of fires above that of the natural fire regime.

1.2b(iii) Late Pleistocene and Holocene

Hunter-gatherers of the Later Stone Age occupied the CFR from around 21,000 years ago. Zebra, wildebeest and eland were among the main species hunted but became locally extinct at the end of the Pleistocene (Klein 1983). Their extinction meant not only a change in the environment, but also a change in human activities.

1.2b(iv) Khoi herders

The practice of herding became established with the spread of the Khoi or KhoeKhoen pastoralists who settled in the CFR about 2,000 years ago, and who were reported to have burnt the vegetation in late summer to provide pasture for their sheep. Introduction of domestic stock by Khoi herders would have had two important effects. First, sheep would have had a very different ecological influence on plant communities compared with local wild herbivores. Second, these herders may have pushed the hunter-gatherer San into habitats that were more marginal so that their occupation of the mountains became permanent. This, as mentioned above, in turn changed the fire regime (Meadows & Sugden 1991).

Westward expansion of cattle- and maize-farming Nguni people into the CFR was restricted by poor grazing (on low nutrient soils) and winter rainfall (which was not conducive to summer-growing crops).

1.2b(v) Colonial settlement

During the sixteenth and seventeenth centuries, ships from various countries stopped over at the Cape to gather supplies (Raven-Hart 1967). In 1652 the Dutch East India Company set up a supply station at Cape Town resulting in significant changes in the lives of the Khoi, the San, the natural landscape and the fynbos ecosystems.

By 1760, farming extended over the entire CFR. Expansion of the pastoral frontier was rapid and uncontrolled and agriculture intensified. By the end of the eighteenth century, several areas in the CFR were well settled. Farmers occupied lower-lying foothills and valley lands and used the mountains for grazing. The settlers moved their stock to low-lying areas during winter, and burnt the mountain vegetation in late winter or early spring to provide summer grazing. These unseasonable fires would have been detrimental to the fynbos (Kruger & Bigalke 1984). While the semi-nomadic Khoi pastoralists would have moved their herds when the grazing deteriorated, the sedentary settlers moved their flocks back to the same pasture year after year (Wicht & Kruger 1973).

1.2b(vi) Recent historical events

The recent history of the inscribed CFRPA has been described at length in the Nomination (DEAT 2003: Appendix 1). However, legislative history has been rapidly developing in South Africa. Landmark legislation, regulations and plans have been drafted, promulgated and/or put into action in the years since

inscription of the CFRPA. Many of these regulatory measures relate to the integrated management of landscape systems through an understanding of ecosystem function and process.

The Western Cape Province State of Biodiversity Review (CapeNature 2007: Appendix 7) notes that "*During 2006 the Western Cape Nature Conservation Board (WCNCB) went through an intensive process to update and confirm boundaries and proclamation information for the various types of protected areas proclaimed under WCNCB legislation within the Western Cape Province*."

A similar process has been undertaken by SANParks and Eastern Cape Parks and Tourism Agency. For example, requirements under the NEM:PAA[12] provide that all authorities must submit detailed management plans - for all protected areas, Nature Reserves and special Nature Reserves (as defined by the Act) – within 12 months of being assigned the management of such area.

1.3 JUSTIFICATION FOR INSCRIPTION

1.3.1.a Brief synthesis

The CFR is a highly distinctive phytogeographic unit which is regarded as one of the six Floral Kingdoms of the world and is by far the smallest and relatively the most diverse. It is also recognised as the worlds "hottest hotspot" for its diversity of endemic plants and contains outstanding examples of significant on-going ecological, biological and evolutionary processes. It also has some of the most important natural habitats for *in-situ* conservation of biological diversity.

The series of eight natural properties inscribed in 2004 as the Cape Floral Region Protected Areas - World Heritage Site (DEAT 2003: Appendix 1) are related because they belong to the same biogeographic province, together having outstanding universal value. The CFR is often loosely referred to as the 'Fynbos Biome', since fynbos is the dominant vegetation type and contributes most of the species to the flora of this Region (Figure 1.2.1). The flora that is characteristic of the CFR is commonly referred to as the 'Cape Flora'.

This section addresses the justification of the extension of the inscribed CFRPA. Where relevant, further justification of each selected protected area is provided in the relevant sections in Chapters 2 – 15.

The sites nominated for extension fulfill two of the criteria for inclusion in the World Heritage List as a natural property, namely criteria (ix), and (x) defined in Paragraph 77 of UNESCO's Operational Guidelines for the Implementation of the World Heritage Convention (refer to section 1.3.a).

With its highly distinctive flora, exceptional species richness and high degree of **endemism**, the CFR has long been recognised as a global priority for conservation action. Owing to this diversity of plants and its vulnerability to threats, the CFR is considered by many to be a biodiversity "**hotspot**" of global significance (Myers 1990; Mittermeier *et al.* 1998). The CFR is also listed as a global Centre of Plant Diversity (WWF & IUCN 1994); an Endemic Bird Area (Bibby *et al.* 1992); and, a Global 200 EcoRegion (Olson & Dinerstein 1998).

The CFR's species richness of just over 9,000 plant species in an area of only 90,000 km^2 is exceptional when compared with the rest of Africa and southern Africa. Global comparisons reveal that its diversity is similar to some of the most species-rich regions on earth, including tropical rainforests. The CFR has higher levels of species richness, and particularly endemism, than several ecosystems and islands representing **hotspots** in the comparable climate of the Mediterranean Basin (Manning & Goldblatt 2012).

Although comprising only 4% of South Africa's land surface, the CFR encompasses 39% of the country's plant species, 176 (40%) of the 435 national vegetation types (103 are endemic to the region) and a highly disproportionate 15 out of 24 "critically endangered" national vegetation types (Rouget *et al.* 2004a).

The CFR is home to 1 799 Red Data Book (threatened) plant species of which 1 738 are endemic to the CFR (redlist.sanbi.org/stats.php). Most were thus classified because they are highly localised endemics, which persist in very small populations. A recent review of **threatened** plant species and **species of**

[12] Chapter 4 of the Protected Areas Act (57 of 2003) refer to section 1.5.b(ii)).

conservation concern[13] (Raimondo *et al.* 2009) finds that the Fynbos Biome contains the highest concentration of the country's threatened plant taxa (67%) and taxa of conservation concern (64%). Raimondo *et al.* (2009) identified 1 799 threatened plant species (of which 1 738 are endemic) and 3250 species of conservation concern (3 107 endemic) within the Fynbos Biome. Threatened plant species are concentrated in the lowland areas where most of the natural habitat has been lost to agriculture.

The CFR is exceptional in terms of the pattern, or the arrangement, of plant richness across the landscape. The region has relatively high ***alpha* diversity** – a measure of plant species richness in one habitat. However, the Cape is special with regard to measures of plant species turnover, having very high ***beta*** diversity – that is plant species turnover along habitat gradients, and particularly special in having very high ***gamma*** diversity - species turnover in similar habitats across geographical gradients. The high levels of species turnover, particularly in terms of *gamma* diversity, as well as the high levels of floral endemicity have enabled botanists to divide the entire region into eight Phytogeographic Centres of endemism (refer to DEAT 2003: Appendix 1). Each Phytogeographic Centre is delimited by large numbers of endemic plant species.

The Cape Faunal Centre (*sensu* Stuckenberg 1962) coincides roughly with the CFR and contains a distinctive fauna with some invertebrates showing little change over millions of years. These relictual faunas date back to the time of Gondwanaland. There are numerous natural phenomena and, in global terms, areas of exceptional beauty, aesthetic value and cultural significance. It is truly a remarkable area of global conservation significance.

Findings of a workshop on Nominations and Management of Serial Natural World Heritage Properties (Engels *et al.* 2008) included the understanding that extensions of serial properties are desirable if:

- They significantly strengthen the values represented within the already inscribed property; and/or,
- Significantly enhance the integrity of the already inscribed property; and,
- Provided that the extended property is (and will continue to be) adequately protected and managed.

It is clear from the assessment of potential extension CFRPAs (Bradshaw & Holness 2013) that the first two conditions are more than adequately met by the sites selected for the CFRPA Extension Nomination. The management and protection of the extended property is currently given the highest attention, as required by international agreement as well as by national policy and legislation.

1.3.b Criteria under which inscription is proposed (and justification for inscription under these criteria)

It is proposed that the 163 components, representing the Extension Nomination for the CFRPA, satisfy two criteria for inscription of the CFRPA extension. The natural splendour of the CFR provides an extraordinary backdrop for the remarkable biodiversity of this, the smallest of the world's six floral kingdoms. Protected area-specific details are provided in Chapters 2-15.

CRITERION (ix)	***Outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial ecosystems and communities of plants and animals;***

The CFR is considered to be of universal value in that it represents outstanding examples of significant ongoing ecological and biological processes in the evolution of terrestrial ecosystems and plant communities.

The CFR is one of the most intensively researched floral regions in the world (refer to section 1.7.c and DEAT 2003: Appendix 1). Certainly over the past 40 years, the Cape has enjoyed unparalleled co-operation between managers and scientists, fostered by Co-operative Scientific Programmes and the current Fynbos Forum. These structures add to the conservation of the natural systems, ensuring the

[13] Threatened species are those that are facing a high risk of extinction, indicated by placement in the categories Critically Endangered (CR), Endangered (EN) and Vulnerable (VU). Species of Conservation Concern are those that are important for South Africa's conservation decision-making processes. Hence, in the 2009 South African Red List, 'species of conservation concern' are considered to include all those that are threatened (CR, EN, VU), Extinct in the Wild (EW), Data Deficient (DDD), Near Threatened (NT), Critically Rare (extremely rare), Rare and Declining (Raimondo *et al.* 2009).

continued operation of biodiversity patterns and processes (refer to DEAT 2003: Appendix 1 for a synthesis of some of the many patterns and processes investigated in the CFR).

The proposed Extension Nomination Nature Reserves and National Parks, together with the inscribed CFRPA, comprise a total of 15 medium to large protected areas or clusters thereof, ranging in area from 23,000 to 243,000 ha. In total, they cover 6% of the CFR but together with the safeguards afforded by surrounding reserves, and in particular, the contiguous area of the Cederberg / Groot Winterhoek / Boland Mountain Complex, this percentage increases to 20%. The great size of the areas ensures that natural processes, such as fire regimes, are able to operate successfully. These natural processes are described in some detail in Appendix 9 of the Nomination (DEAT 2003: Appendix 1).

Two scales of processes are relevant; local- and large-scale. Local-scale processes include plant reproductive strategies, in some cases involving faunal pollinators such as rodents (Rourke & Wiens 1977) and seed dispersal by ants (myrmecochory). These operate at the size of the protected areas or at a smaller scale. However, local population declines could lead to extinction unless there is connectivity to areas from where recolonisation can occur. In addition to the size of the protected areas, the adjacent reserves fill this much needed connectivity gap and allow natural recolonisation of the protected areas. The added advantage is that these larger areas are supportive of large-scale ecological processes such as fire or drought and impart a greater diversity of altitudinal gradients to ensure climatic ranges, as well as a spatial spread, across the CFR.

The CFR forms a centre of active speciation where interesting patterns of endemism and adaptive radiation are found in the flora. In addition, the southwestern Cape represents a distinct zoogeographic zone, characterised by the phylogenetic antiquity of much of its invertebrate fauna.

In addition to the natural processes of primary production, nutrient recycling, climatic extremes, predation and herbivory, competition, and major natural episodic events such as severe floods and droughts, the Cape flora is dependent on natural fire regimes and specialised pollination guilds (refer to DEAT 2003: Appendix 1 for a synthesis of these aspects). In view of the particular complexity of the flora it is vital that, within these protected areas, there is clear guidance from management plans based on scientific understanding of the systems and processes. The organisations responsible for the protected areas have scientific staff and experienced management personnel who contribute to the drafting of management plans to ensure that natural processes continue to operate effectively in the protected areas.

With the exception of nutrient cycling by termites (which is largely restricted to Renosterveld), the ecological and biological processes in evolution (described in DEAT 2003: Appendix 1), are relevant and applicable throughout the entire CFR. That is, they are equally important in all of the individual natural properties that make up the CFRPA Extension Nomination series.

The combination of effective management plans for all protected areas; and, the large, relatively undisturbed protected areas with surrounding reserves (as well as strategies to link the protected areas with these reserves), suggests that natural processes operate within these areas to maintain the patterns and processes of biodiversity. Importantly, the mountainous terrain of many of these protected areas will provide refuges in the event of climate change thus contributing to the future conservation of the CFR's biodiversity.

CRITERION (x)	***Contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science and conservation.***

The substantial contribution to conserving biodiversity by the inscribed and Extension Nomination protected areas is exemplified in studies commissioned for the Nomination (Lombard 2000 in Appendix 1)[14] and for this Extension Nomination (Bradshaw & Holness 2013) respectively. The results from Lombard (2000) showed that seven of the eight[15] protected areas analysed conserved close to half the

[14] Refer to DEAT 2003: Appendix 1 for further information regarding this study.

[15] Table Mountain National Park was not included in this assessment.

number of plant species and selected vertebrate taxa of the region.[16] This figure was even higher for endemic plants (69%) and for Proteaceae elements (59%).

Preliminary results from Bradshaw & Holness (2013) show that 27 vegetation types that are not conserved anywhere else in the CFR are conserved by the inscribed CFRPA components. However, Bradshaw & Holness (2013) shows that if the proposed extensions to the inscribed CFRPA are accepted for inscription, a further 48 of the total 119 vegetation types currently recognised in the CFR (Mucina & Rutherford 2006) that are not protected elsewhere will be protected by the extended CFRPA bringing the total to 75 of 119 CFR vegetation types protected by the extended CFRPA, which are protected nowhere else.

1.3.1.c Statement of Integrity

Selection of the inscribed CFRPA components emerged from an iterative exercise to identify a minimum series of complementary natural properties that would best reflect and protect the region's biodiversity value, based on information available at that time. Key characteristics of the eight components comprising the inscribed CFRPA, as well as the proposed extensions nominated for the CFRPA, are that:

- each of the protected areas or protected area complexes comprise core areas conferring adequate long-term protection with management plans in place for each of these conservation areas;
- they are located in the most species-rich areas of the CFR with peak concentrations of endemics and therefore, together, they contain a very large proportion of the Cape Flora, including virtually all of its unique elements as well as taxa that are of outstanding value to science and conservation of the region;
- they are spread across all eight centres of endemism in the CFR (Cowling & Heijnis 2000), representing phytogeographically different parts of the CFR (Table 1.2.1). A wide range of climatic zones, altitudes, and soil types are represented;
- they are separated and spread over a considerable geographic range, which should reflect the high levels of gamma diversity (between-landscape species turnover) characteristic of the CFR which is essential so that disjunct portions of the same habitat, but with different constituent species conserved, to maximise the protection of existing diversity and allow for future diversification of ecologically equivalent taxa (Simmons & Cowling 1996). The proposed extension to the inscribed CFRPA further expands the selection of geographic range while at the same time bridging "gaps" between the currently inscribed CFRPA components; and
- all inscribed and/or proposed extension CFRPAs or CFRPA Complexes are over 15,000ha in size. They contain many of the important habitats for biodiversity conservation and are extensive enough to allow the perpetuation of individual taxa and entire communities. The size, connectivity, and management of these protected areas and their surrounding reserves, allows for the operation of even larger-scale natural processes that are essential for the long term conservation of biodiversity.

All selected protected areas (Nature Reserves and National Parks) fall under the jurisdiction of recognised National (SANParks) and Provincial (CapeNature and Eastern Cape Parks and Tourism Agency) Conservation Authorities, which have remained the same with only minor restructuring since inscription of the CFRPA in 2004 (Table 1.3.2).

These national and provincial organisations, despite a number of organisational transitions over the past decades, have long term experience in nature conservation and their philosophy is guided by a vision or mission that directly promotes the long term conservation of natural processes and biodiversity through a process of scientific management and empowerment in order to facilitate the wise utilisation and management of environmental resources.

The nominated extension Nature Reserves and National Parks are largely unspoiled and in a natural state. Nonetheless, where necessary, re-establishment of near-extinct plants and locally extirpated animals is being actively managed and monitored. Active management programmes and strategies are in place, or are being developed to deal, in an integrated and directed way, with major threats of inappropriate burning regimes and invasive alien plants and animals. Furthermore, strategies have been formulated to develop biodiversity corridors, or landscape initiatives, among surrounding reserves and protected areas, which will further secure long term conservation of these protected areas.

[16] These totals are likely to be higher with the inclusion of Table Mountain National Park.

The World Heritage Site Nomination process, and subsequent inscription of the inscribed property, was part of a larger initiative that began with the creation of conservancies, biosphere reserves, and other bioregional planning initiatives by CapeNature and the Cape Action for People and the Environment (C.A.P.E.) programme and their partners. Many of these initiatives have subsequently been embraced and carried forward by local authorities and provincial and national government planning departments in recognition and support of the World Heritage Site status of the CFR.

As noted in the CFRPA State of Conservation (SoC) Report (DEAT 2007a: Appendix 3) "*the potential for considerable expansion of the baseline configuration of the Cape Floral Region World Heritage Site is excellent in the not too distant future, but submission of proposals for expansion have been postponed until the final outcome of the current negotiations towards establishing a single coordinating authority for the eight protected areas*". The CFRPA World Heritage Property is legally protected and managed by the three authorities (SANParks, CapeNature and Eastern Cape Parks and Tourism Agency) that, with the national Department of Environmental Affairs (DEA), make up the newly formed "CFRPA-World Heritage Property Joint Management Committee".

Knowledge management systems are being expanded to better inform planning and management decision making thus facilitating the efficient use of limited, but increasing, resources relating in particular to the management of fire and alien invasive plants.

In summary the overall state of conservation and conservation management, of the inscribed and proposed extension CFRPA is in practice at least as sound as it was at the time of submission of the Nomination. All programmes for alien clearing have been continued, and/or supplemented, and day-to-day operational management has continued for all three management agencies, despite minor institutional changes and a number of institutional and fiscal setbacks for CapeNature specifically (detailed in the CapeNature Annual Reports of 2011 and 2012).

With regard to the political and statutory environment, the state of conservation is higher than it has ever been. This is due to the focused direction and contribution of integrated and strategic policy and planning initiatives; changes and additions to the environmental legislative armoury; and the guaranteed political will to establish, support and enable a single coordinating authority for the protected areas. The CFRPA Joint Management Committee will direct and integrate the necessary research and management towards the long-term sustainability of the protected areas.

The relatively rapid statutory responses to international obligations under the World Heritage Convention and the Convention on Biological Diversity indicate that the South African government is committed to a course of sustainable development that views the protection of its bounteous natural resources as one of its most precious assets, which must be conserved and restored where practical or feasible.

This extension nomination is part of an ongoing process to extend the boundaries of all of the protected areas and buffering mechanisms and it is clear that the outstanding universal value, as well as the integrity and security of all eight inscribed protected areas as well as the extended CFRPA is improving steadily.

Despite continued challenges and potential threats to the protected areas by invasive alien plants; wildfire; and, global climate change, the management agencies and their many partners are persevering with day-to-day management, research and strategic interventions. At the same time they are improving their response by combining resources in integrated planning and implementation strategies that transcend the archetypal provincial/national political boundaries. This is undertaken with the common objective of conserving and expanding the Cape Floral Region Protected Areas into a biodiversity conservation system that is secure in the long term.

1.3.1.d Statement of Authenticity (for nominations made under criteria(i) to (vi)

Not applicable to the proposed site.

1.3.1.e Protection and management required

The process of nominating the CFRPA was part of a larger initiative that involves transformation of the managing authorities coordinated by the C.A.P.E. Programme. The inscription as a World Heritage Site

was but one component of this larger pro-active strategy, which integrates social, financial and conservation initiatives towards the long-term sustainability and conservation of the CFR.

The CFR falls wholly within the Republic of South Africa. The national Department of Environmental Affairs is the overarching State authority responsible for legal protection of the CFR. The three conservation agencies to which management is delegated for management of the CFRPA are South African National Parks (SANParks), CapeNature (Western Cape) and Eastern Cape Parks and Tourism Agency (Table 1.3.1). These four organisations together serve on a Joint Management Committee, with an MOU in place setting out functions and responsibilities, thus ensuring a uniform and coordinated approach to management of the property. The nominated components for the extention of the CFRPA fall under the IUCN Protected Areas Categories of Ia -strict nature reserve, Ib -Wildernes area and II nationa park. The inscribed and the nomination extention components thus have the highest legal protection in South Africa and the management of these areas is according to NEMPA. This includes extensive regulations on the compilation and implementaion of management plans.

The long-term challenges and protection strategies for the CFR are numerous. Although the Nomination (DEAT 2003: Appendix 1 and section 1.4) detailed a number of pressures, the three primary factors that affect the long-term survival of the CFR are the control of invasive alien plants, fire management and water catchment management. Management of wildfire and alien invasive plants is particularly relevant within the paradigm of global climate change, where it is forecast that the south-western Cape (winter rainfall area) will become hotter and drier and thus more prone to wildfires. The management of these threats receive significant focus through various government funded programmes, research institutions, etc. as well as through revised and improved legislative and enforcement measures over the past decade. Much of the information pertaining to the response to these pressures, since inscription of the CFRPA, is detailed in DEAT 2007a (Appendix 3). However, the main mechanisms to combat these presures are the Working on Fire (WoF) and Working for Water (WfW) programmes, the recently established DST-NRF Centre of Excellence for Invasion Biology, the Early Detection and Rapid Response (EDRR) for Invasive Alien Plants, and the upgrade of the Advanced Fire Information System (AFIS) to deliver information on locations of active fires in southern and east Africa in real time (afis.meraka.org.za/).

In addition to the buffer zones, there are several additional buffering mechanisms. Due to the complexity of the arrangement of biodiversity across the landscape, several supporting mechanisms have been developed, and are in place, to ensure the long term persistence of the various habitats and species as well as the ecological and evolutionary processes. These mechanisms are also important to mitigate the effects of Global Climate Change. These mechanisms include UNESCO Biosphere Reserves (Figure 1.2.3); Landscape Initiatives (Figure 1.2.4, see also section 1.5.g(v-x); Stewardship Sites (Figure 1.2.5; see also sections 1.5.g(viii) and 1.5.g(xii)) and Critical Biodiversity Areas (CBAs) (Figure 1.2.6). Together these mechanisms provide protection, often multilayered, to the areas surrounding the CFRPA and the nominated extension. What is particularly significant, regarding these various mechanisms, is that together they provide more protection to the Protected Areas than could possibly be effected by a single WHS Buffer Zone as they are designed for persistence, at a landscape scale, of species and processes. These mechanisms are in place, are operational and several are expanding and evolving, thus becoming increasingly effective. The Stewardship initiatives, in particular, provide a wonderful example of private land owner support for the conservation of the biodiversity of the CFR (see sections 1.5.g(viii) and 1.5.g(xii)).

Development pressures in each of the nominated Nature Reserves and National Parks are extremely low to non-existent. Where specific development pressures apply to buffer areas for individual reserves or parks these will be identified in the relevant Chapters.

Most nominated Nature Reserves and National Parks have diverse visitor facilities as well as control mechanisms for limiting visitor numbers where this is necessary for the protection of the property or for protection of a particular feature. Some are however remote and visitor utilisation is restricted to hiking.

The eight inscribed protected areas, and the areas proposed for extension of the CFRPA, contribute to several national monitoring exercises (refer to section 1.6) including the *Protea* Atlas Project, Birds in Reserves Project, Frog Atlas Project, as well as the Provincial Fire Records database maintained by CapeNature. While sensitive data (e.g. on precise localities of threatened taxa) are appropriately safeguarded, these readily accessible records are available for most Conservation staff at the touch of a button and provide a clear indication of management and conservation trends in the protected areas and

Table 1.3.1 Ownership, legal reserve designation, year of establishment and management authority of the component protected areas nominated to extend the inscribed CFRPA.

Protected Area	Ownership	Type of Reserve	Legislation under which proclaimed/protected	Year established	Management Authority
Cederberg Complex (Extended)	State & WWF-SA	CFRPA (proposed extension)	World Heritage Act (WHA) / Protected Areas Act (NEM: PAA)		
Cederberg Wilderness Area	State	Wilderness Area / CFRPA	National Forests Act (NFA)	1897	CapeNature
Matjiesrivier Nature Reserve	WWF-SA	Provincial Nature Reserve	Ordinance	1996	CapeNature
Groot Winterhoek Complex (Extended)	State	CFRPA (proposed extension)	WHA / NEM: PAA		CapeNature
Groot Winterhoek Wilderness Area	State	Wilderness Area / CFRPA	National Forests Act	1976	CapeNature
Groot Winterhoek Nature Reserve	State	State Forest Nature Reserve	National Forests Act	1980	CapeNature
~~**West Coast Complex**~~	~~State~~				
~~West Coast National Park~~	~~State~~	~~National Park~~	~~Protected Areas Act~~	~~1988~~	~~SANParks~~
~~Riverlands Nature Reserve~~	~~State & WWF-SA~~	~~Provincial Nature Reserve~~	~~Ordinance~~	~~1994~~	~~CapeNature~~
Table Mountain National Park	State & WWF-SA	CFRPA (proposed extension)	Protected Areas Act	1998	SANParks
Boland Complex (Extended)	State & WWF-SA	CFRPA (proposed extension)	WHA / NEM: PAA		
Boland Complex	State	CFRPA	WHA / NEM: PAA	1937	CapeNature
Waterval Nature Reserve	State	State Forest Nature Reserve	National Forests Act	1948	CapeNature
Brandvlei Nature Reserve	State	State Forest Nature Reserve	National Forests Act	1964	CapeNature
Vöelvlei Nature Reserve	State	Provincial Nature Reserve	Ordinance	1948	CapeNature
Simonsberg Nature Reserve	State	State Forest Nature Reserve	National Forests Act	1985	CapeNature
Rooisand (Botrivier) Nature Reserve	State	Provincial Nature Reserve	Ordinance	2002	CapeNature
Helderberg Nature Reserve	State	State Forest Nature Reserve	National Forests Act	n/a	CapeNature
Brodie Link Nature Reserve	WWF-SA[++]	Provincial Nature Reserve	Ordinance	2002	CapeNature
Hexriver Complex	State	CFRPA (proposed)			CapeNature
Bokkeriviere Nature Reserve	State	State Forest Nature Reserve	National Forests Act	1897	CapeNature
Ben-Etive Nature Reserve	State	State Forest Nature Reserve	National Forests Act	1971	CapeNature
Fonteintjiesberg Nature Reserve	State	State Forest Nature Reserve	National Forests Act	1964	CapeNature
Wittebrug Nature Reserve	State	State Forest Nature Reserve	National Forests Act	1962	CapeNature
Riviersonderend Nature Reserve	State	State Forest Nature Reserve CFRPA (proposed)	National Forests Act	1940	CapeNature
Agulhas Complex	State	CFRPA (proposed)			
Agulhas National Park	State	National Park	Protected Areas Act	1999	SANParks
De Mond Nature Reserve	State	State Forest Nature Reserve	National Forests Act	1975	CapeNature
Langeberg Complex	State	CFRPA (proposed extension)			
Boosmansbos Wilderness Area	State	Wilderness Area	National Forests Act	1896	CapeNature
Marloth Nature Reserve	State	State Forest Nature Reserve	National Forests Act	1914	CapeNature
Garcia Nature Reserve	State	State Forest Nature Reserve	National Forests Act	1896	CapeNature
Bontebok National Park	State	National Park	Protected Areas Act	1961	SANParks
Tygerberg Nature Reserve	State	State Forest Nature Reserve	National Forests Act	1973	CapeNature
Spioenkop Nature Reserve	State	State Forest Nature Reserve	National Forests Act	1896	CapeNature
Zuurberg Nature Reserve	State	State Forest Nature Reserve	National Forests Act	1914	CapeNature

Protected Area	Ownership	Type of Reserve	Legislation under which proclaimed/protected	Year established	Management Authority
Twistniet Nature Reserve	State	State Forest Nature Reserve	National Forests Act	1914	CapeNature
Paardeberg Nature Reserve	State	State Forest Nature Reserve	National Forests Act	1985	CapeNature
Witbosrivier Nature Reserve	State	State Forest Nature Reserve	National Forests Act	1914	CapeNature
Grootvadersbos Nature Reserve	State	State Forest Nature Reserve	National Forests Act	1981	CapeNature
Garden Route Complex	State & WWF-SA	CFRPA (proposed)			
Garden Route National Park	State	National Park	Protected Areas Act	2009	SANParks
Formosa Provincial Nature Reserve	State	Provincial Nature Reserve	Ordinance	In process	ECPTA
Ruitersbos Nature Reserve	State	State Forest Nature Reserve	National Forests Act	1936	CapeNature
Witfontein Nature Reserve	State	State Forest	National Forests Act		CapeNature
Doringrivier Wilderness Area	State	Wilderness Area	National Forests Act	1988	CapeNature
EC Soetkraal Provincial Nature Reserve	State	Provincial Nature Reserve	Ordinance		CapeNature
Formosa Nature Reserve (Niekerksberg sub-section)	State	Provincial Nature Reserve	Ordinance	In process	ECPTA
Goukamma Nature Reserve	State	Provincial Nature Reserve	Ordinance	1994	CapeNature
Keurboomsrivier Nature Reserve	State	Provincial Nature Reserve	Ordinance	1974	CapeNature
Robberg Nature Reserve	State	Provincial Nature Reserve	Ordinance	1980	CapeNature
Anysberg Nature Reserve	State & WWF-SA	State Forest Nature Reserve Provincial Nature Reserve	National Forests Act Ordinance	1984	CapeNature
Swartberg Complex (Extended)	State & WWF-SA	CFRPA (proposed extension)	WHA / NEM: PAA		
Swartberg Complex	State	CFRPA		1912	CapeNature
Kammanassie Nature Reserve	State	State Forest Nature Reserve	National Forests Act	1923	CapeNature
Towerkop Nature Reserve	State	State Forest Nature Reserve	National Forests Act	1912	CapeNature
Rooiberg Nature Reserve	State	State Forest Nature Reserve	National Forests Act	1934	CapeNature
Gamkaberg Nature Reserve	State	Provincial Nature Reserve	Ordinance	1994	CapeNature
Groenfontein Nature Reserve (Gamkaberg)	WWF-SA	Provincial Nature Reserve	Ordinance	2004	CapeNature
Paardenberg Nature Reserve	State	State Forest Nature Reserve	National Forests Act	1926	CapeNature
Vaalhoek Nature Reserve (Gamkaberg)	WWF-SA	Provincial Nature Reserve	Ordinance	2004	CapeNature
Baviaanskloof Complex	State	CFRPA (proposed extension)			
Baviaanskloof Nature Reserve	State	Provincial Nature Reserve	National Forests Act	1923	Eastern Cape Parks and Tourism Agency (ECPTA)
Groendal Nature Reserve	State	Provincial Nature Reserve	National Forests Act	1976	ECPTA
De Hoop Nature Reserve	State	Provincial Nature Reserve	Ordinance	1976	CapeNature

NOTE: Inscribed CFRPA components are highlighted with grey

the larger CFR. More recently the refinement of GIS tools has aided planning and conservation efforts greatly with particular emphasis on identifying and monitoring threats to the systems.

The above mentioned buffering and monitoring mechanisms are intergrated and supported by state, research and academic institutes and also have the buy-in and participation of key stakeholders that are affected by these mechanisms.

1.3.2 Comparative analysis (including state of conservation of similar properties)

The entire CFR has been identified as a centre of plant diversity since it satisfies the criteria of high species richness and levels of endemism. Species density in the CFR is amongst the highest in the world and is substantially higher than values from climatically similar (warm temperate to subtropical) regions. The richness of other Mediterranean regions of comparable area is relatively low.

Comparisons show that the Cape Flora compares favourably with floral diversity in some Neotropical rainforests, the most species-rich regions on earth, and with selected areas in southern Africa, Australia and North America that were not glaciated during the Pleistocene. For example, Panama supports about 7,300 seed plant species in an area of 75,000 km^2 whereas the flora of Costa Rica (54,000 km^2) comprises approximately 9,000 species. In comparison, 8,884 seed plant species (8,996 vascular plant species) are found in the CFR, extending over an area of 90,000 km^2. The CFR also has much higher levels of species richness (density), and particularly of endemism, than several Mediterranean-type climate regions and islands representing 'hotspots' in the Mediterranean Sea. Only the larger islands of New Zealand and Madagascar have greater values for endemism.

The CFR is one of five Mediterranean-type climate regions of the world. Of these five, the CFR has the highest diversity at the scale of 10-106km^2: For a given area, it has, on average, 1.7 times the diversity of south-western Australia, about 2.2 times the diversity of California and the Mediterranean Basin, and 3.3 times the diversity of Chile.

Taking a regional and continental view of the CFR strongly reinforces its exceptional status. The whole of Africa encompasses an estimated total of 47,000 plant species. Almost half of these, 22,211 species, occur in southern Africa which largely falls within the temperate climate zone. This fact demonstrates that the entire southern African subcontinent, circumscribing the countries South Africa, Lesotho, Swaziland, Namibia and Botswana has a very diverse flora, to which the CFR makes a central contribution. In fact the Cape Floristic Region hosts just under one fifth of all plant species in Africa, despite occupying less than 0.5% of the continent's area.

Bradshaw & Holness (2013) undertook an assessment of the fynbos content of Protected Areas (PAs) to determine their importance for Fynbos World Heritage status, in order to afford additional protection and recognition of this Global Biodiversity Hotspot (Myers *et al.* 2000). Proposed fynbos CFRPAs were assessed at two geographic levels, and compared with inscribed CFRPAs to provide context.

Firstly, inscribed and proposed extension fynbos CFRPA complexes and reserves with strong geographic adjacency were assessed. Secondly, inscribed and proposed fynbos CFRPAs within an expanded network of PAs were assessed to determine the conservation benefits of adding further areas to the inscribed CFRPA (Figure 1.3.1; Table 1.3.2).

Primary criteria included:

a) Total fynbos biome area in the PA;
b) Number of described habitat units (in this case, vegetation types *sensu* Mucina & Rutherford 2006) in a PA; and,
c) Number of habitat units that are endemic to a PA.

These criteria in the eight inscribed CFRPAs were used to indicate potential minimum cut-off values for new candidate reserves proposed for extension CFRPAs.

Additional supporting criteria were assessed, to determine whether there are PAs where broad taxon richness data provide further motivation for extension to the CFRPA in addition to the primary criteria. Supporting criteria included average grid (Quarter Degree Square (QDS)) species richness in core and extended complexes for all

taxa, as recorded by the PRECIS dataset. In addition, a CFR centred dataset (Bradshaw 2009) that contained predominantly fynbos taxa, and Red Data Book taxa (Hilton-Taylor 1996) were assessed, to determine taxon richness of complexes, and endemism richness of complexes.

Species richness and endemism data were calculated from QDS resolution data, which are coarse (Moline and Linder 2006), can therefore contain more than one reserve and were thus only used as a guideline in identifying the importance of PAs for fynbos preservation and World Heritage Status (Table 1.3.2).

An investigation into the possible extension of inscribed and proposed CFRPA (listed in Table 1.3.2), revealed that in many cases, a substantial increase in both primary and secondary criteria assessed could be affected by extending the PA networks of both the inscribed and extended fynbos CFRPA World Heritage Property, thus protecting more of these unique vegetation types across altitudinal and other gradients (Bradshaw & Holness 2013).

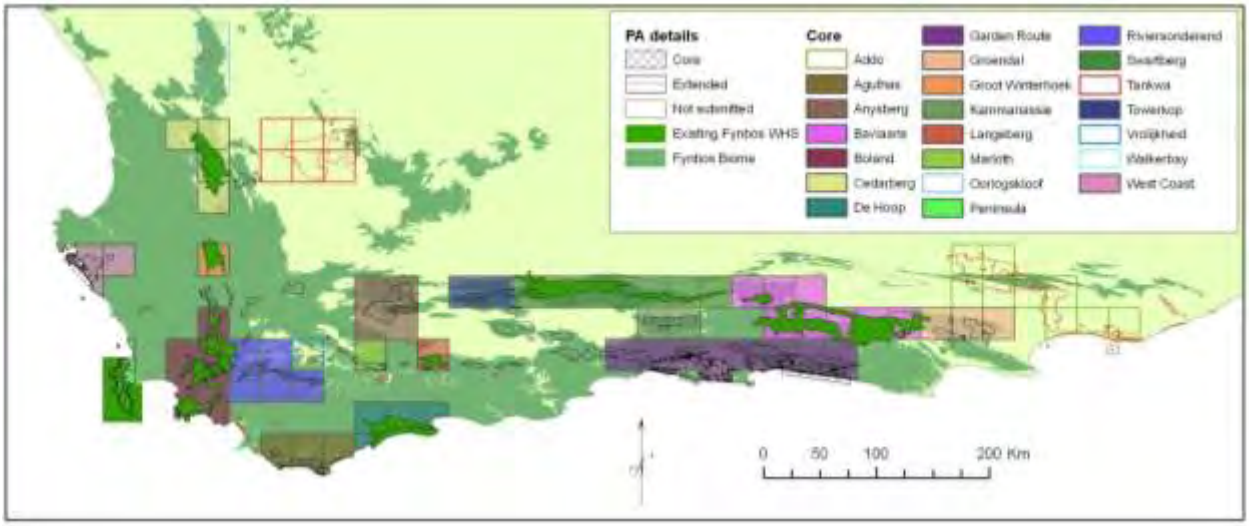

Figure 1.3.1 Core Protected Areas and Complexes that contain portions of the Fynbos Biome, which were assessed for World Heritage Site Status (Bradshaw & Holness 2013).

Table 1.3.2 Primary and supporting criteria for inclusion in the CFKPA of the proposed extended Complexes (bold font); the inscribed CFRPA (shaded) and newly proposed CFRPA complexes, parks and reserves (normal font) (Adapted from Bradshaw & Holness (2013).

Note: Total land areas provided in km² are rounded off. For the purposes of this analisis, the use of an approximate size was considered to be more than adequate. Despite anomalies of scale presented by measuring land area on GIS systems, all boundaries for each protected area are officially, and unambiguously, fixed.

List	Protected Area Inscribed CFRPA	Park Area (Km^2)	Primary Criterion			Supporting Criterion		
			Total fynbos area (Km^2)	Number of fynbos habitat types	Fynbos habitats not protected elsewhere	Average plant species Diversity[1]	Diversity of fynbos species in complexes	Endemic fynbos species in complexes
A	**Cederberg Complex**	**780**	**727**	**6**	**4**	**733**	**721**	**76**
A.1	Cederberg Wilderness Area	652	638	5	3	945	686	54
A.2	Matjiesrivier Nature Reserve	128	89	3	1			
B	**Groot Winterhoek Complex**	**281**	**281**	**6**	**1**	**871**	**457**	**8**
B.1	Groot Winterhoek Wilderness Area	275	275	6	1			
B.2	Groot Winterhoek Nature Reserve	6	6	1	0			
~~**C**~~	~~**West Coast Complex**~~	~~**328**~~	~~**306**~~	~~**7**~~	~~**7**~~	~~**336**~~	~~**330**~~	~~**12**~~
~~**C.1**~~	~~West Coast National Park~~	~~311~~	~~289~~	~~4~~	~~4~~			
~~**C.2**~~	~~Riverlands Nature Reserve~~	~~17~~	~~17~~	~~3~~	~~3~~			
D	**Table Mountain National Park**	**289**	**284**	**7**	**6**	**2097**	**802**	**88**
E	**Boland Mountain Complex (extended)**	**1231**	**1229**	**17**	**7**	**1397**	**1687**	**201**
E.1	Boland Mountain Complex	1127	1125	12	4	1397	1566	182
E.2	Waterval Nature Reserve	68	68	6	0			

List	Protected Area Inscribed CFRPA	Park Area (Km^2)	Primary Criterion			Supporting Criterion		
			Total fynbos area (Km^2)	Number of fynbos habitat types	Fynbos habitats not protected elsewhere	Average plant species Diversity[1]	Diversity of fynbos species in complexes	Endemic fynbos species in complexes
E.3	Brandvlei Nature Reserve	25	25	3	1			
E.4	Voëlvlei Nature Reserve	9	9	3	0			
E.5	Rooisand (Botrivier) Nature Reserve	3	2	3	0			
F	**Hexriver Complex**	**226**	**226**	**9**	**3**	**787**	**811**	**39**
F.1	Bokkeriviere Nature Reserve	119	119	5	0			
F.2	Ben-Etive Nature Reserve	51	51	5	1			
F.3	Fonteintjiesberg Nature Reserve	40	40	6	0			
F.4	Wittebrug Nature Reserve	16	16	6	0			
G	**Riviersonderend Nature Reserve**	**261**	**261**	**7**	**4**	**706**	**1045**	**77**
H	**Agulhas Complex**	**232**	**201**	**8**	**4**	**703**	**658**	**43**
H.1	Agulhas Complex	223	192	7	4	686	611	26
H.2	De Mond Nature Reserve	9	9	2	0			
I	**De Hoop Nature Reserve**	**340**	**333**	**7**	**5**	**681**	**336**	**25**
J	**Langeberg Complex**	**438**	**429**	**9**	**6**	**531**	**815**	**117**
J.0	Boosmansbos Wilderness Area	147	142	5	0	699	244	7
J.1	Marloth Nature Reserve	112	110	7	1	449	313	15
J.2	Garcia Nature Reserve	65	65	5	1			
J.3	Bontebok National Park	34	32	2	1			
J.4	Tygerberg Nature Reserve	28	28	3	0			
J.5	Spioenkop Nature Reserve	13	13	3	0			
J.6	Zuurberg Nature Reserve	12	12	3	0			
J.7	Twistniet Nature Reserve	12	12	5	0			
J.8	Paardeberg Nature Reserve	6	6	2	0			
J.9	Witbosrivier Nature Reserve	5	5	3	0			
J.10	Grootvadersbos Nature Reserve	4	4	3	0			
K	**Garden Route Complex**	**1838**	**1400**	**10**	**7**	**566**	**618**	**48**
K.1	Garden Route National Park	1537	1108	8	3	614	545	30
K.2	Ruitersbos Nature Reserve	181	178	3	0			
K.3	Doringrivier Wilderness Area	95	95	3	0			
K.4	Goukamma Nature Reserve	23	18	2	0			
K.5	Robberg Nature Reserve	2	2	2	0			
L	**Anysberg Nature Reserve**	**670**	**351**	**6**	**3**	**232**	**250**	**9**
M	**Swartberg Complex (extended)**	**1867**	**1541**	**14**	**10**	**334**	**576**	**88**
M.1	Swartberg Complex	1102	945	9	4	312	363	23
M.2	Kammanassie Nature Reserve	271	268	3	2			
M.3	Towerkop Nature Reserve	190	186	5	0			
M.4	Rooiberg Nature Reserve	128	128	4	0			
M.5	Gamkaberg Nature Reserve	96	89	4	0			
M.6	Groenefontein Nature Reserve (Gamkaberg)	52	19	1	0			
M.7	Paardenberg Nature Reserve	15	13	2	0			
N	**Baviaanskloof Complex**	**2433**	**2131**	**6**	**6**	**267**	**308**	**16**
N.1	Baviaanskloof Nature Reserve	1999	1754	5	4	234	234	11
N.2	Groendal Nature Reserve	434	377	3	1			

1.3.3 Proposed Statement of Outstanding Universal Value

Brief syhesis

The CFR is a highly distinctive phytogeographic unit which is regarded as one of the six Floral Kingdoms of the world and is by far the smallest and relatively the most diverse. It is also recognised as the worlds "hottest hotspot" for its diversity of endemic plants and contains outstanding examples of significant on-going ecological, biological and evolutionary processes. It also has some of the most important natural habitats for *in-situ* conservation of biological diversity.

Justification for Criteria

Criterion (ix): Ongoing biological and ecological processes: The CFR forms a centre of active speciation where interesting patterns of endemism and adaptive radiation are found in the flora. In addition to the natural processes of primary production, nutrient recycling, climatic extremes, predation and herbivory,

competition, specialized pollination guilds and major natural episodic events such as severe floods and droughts, the Cape flora is dependent on natural fire regimes.

Criterion (x): Biological diversity and threatened species: The CFR has exceptionally high plant species richness and endemism. Some 69% of the estimated 9,000 plant species in the region are endemic, with 1,736 species identified as threatened and with 3087 species of conservation concern. The Cape Floral Region has been identified as one of the world's 34 biodiversity hot spots.

Statement of Integrity

The Cape Floral Region Protected Areas currently comprises a serial property of eight protected areas covering a total area of some 557 584.19 ha, and included a buffer zone of 1,315,000 ha designed to facilitate functional connectivity and mitigate the effects of global climate change and other anthropogenic influences. At the time of inscription, six of the protected areas were surrounded by other conservation lands, while the Boland Mountain Complex was surrounded by mostly rural land uses. The area facing the greatest external pressures is Table Mountain National Park. Progress with increased protection through public awareness and social programmes to combat poverty, improved management of mountain catchment areas and stewardship programmes is being made. The collection of eight inscribed protected areas, all of which have management plans, adds up in a synergistic manner to present the biological richness and evolutionary story of the Cape Floral Region.

The extended Cape Floral Region Protected Areas (CFRPA) World Heritage Property is made up entirely of 1 135 486.46 ha of protected areas with 810 697.94 ha of buffer zones (Table 1), made up of privately owned, declared Mountain Catchment Areas and other protected areas, further supported by other buffering mechanisms like the Stewardship Programme, Landscape Initiatives, Biosphere Reserves and Critical Biodiversity Areas that are together designed to facilitate functional connectivity and mitigate for the effects of Global Climate Change and other anthropogenic influences. All the protected areas, other than some of the privately owned, declared Mountain Catchment Areas, have existing dedicated management plans, which have been revised, or are in the process of revision in terms of the NEM: Protected Areas Act (refer to section 1.5.b(ii)). Mountain Catchment Areas are managed in terms of the Mountain Catchment Areas Act (refer to DEAT 2003: Appendix 1).

Requirements for Protection and Management

The National Environmental Management: Protected Areas Act (57 of 2003) defines a 'protected area' (PA) as one of the following types: Special Nature Reserves; National Parks; Nature Reserves; Protected Environments; World Heritage Sites; Marine Protected Areas; Specially Protected Forest Areas; and Mountain catchment areas.

The CFRPA World Heritage Property is legally protected and managed by the three authorities (SANParks, Western Cape Nature Conservation Board and Eastern Cape Parks and Tourism Agency[17]; Table 1.3.1) that, with the national Department of Environmental Affairs, make up the "CFRPA-World Heritage Property Joint Management Committee". Knowledge management systems are being expanded, to advise improved planning and management decision-making, thus facilitating the efficient use of limited, but increasing, resources relating in particular to the management of fire and alien invasive plants.

1.4 STATE OF CONSERVATION AND FACTORS AFFECTING THE CFRPA EXTENSION NOMINATION

Recent reporting (DEAT 2007a: Appendix 3) on the State of Conservation of the inscribed CFRPA contains an exhaustive listing of the state of conservation of the CFRPA. Much of the information is in fact pertinent to all Provincial Nature Reserves and National Parks in this Extension Nomination. The information is summarised in this section.

[17] The Eastern Cape Parks Board merged with the Eastern Cape Tourism Board in July 2010 to form the Eastern Cape Parks and Tourism Agency.

1.4.a Present state of conservation

Refer to each Chapter for a description of the state of conservation as it relates to each nominated Complex, Nature Reserve and/ or National Park.

1.4.b Factors affecting the property

The process of nominating the CFRPA was part of a larger initiative that involves transformation of the managing authority, coordinated by the C.A.P.E. Programme. Inscription as a World Heritage Site was but one component of this larger pro-active strategy, which integrates social, financial and conservation initiatives towards the long-term sustainability and conservation of the CFR.

The eight inscribed protected areas, and the areas proposed for extension of the CFRPA, contribute to several national monitoring exercises (refer to section 6) including the *Protea* Atlas Project, Birds in Reserves Project, Frog Atlas Project, as well as the Provincial Fire Records database maintained by CapeNature. While sensitive data (e.g. on precise localities of threatened taxa) are appropriately safeguarded, these readily accessible records are available for most Conservation staff at the touch of a button and provide a clear indication of management and conservation trends in the protected areas and the larger CFR. More recently the refinement of GIS tools has aided planning and conservation efforts greatly with particular emphasis on identifying and monitoring threats to the systems.

Although the Nomination (DEAT 2003: Appendix 1) detailed a number of pressures that affect the protected areas the three primary factors to be discussed in this section are the inseparable topics of invasive alien plants, fire management and water catchment management. In addition, some recent responses by the South African Government to global climate change and the need for long term planning for persistence of ecosystems and processes are briefly discussed.

The State of Conservation Report (DEAT 2007a: Appendix 3) provided a thorough overview of many of the issues relating to fire and alien invasive plants, as well as the various initiatives and responses by the South African Government and their partners and stakeholders to cooperatively and effectively deal with the challenges in an integrated and strategic manner. Management of wildfire and alien invasive plants is particularly relevant within the paradigm of global climate change, where it is forecast that the south-western Cape (winter rainfall area) will become hotter and drier and thus more prone to wildfire.

1.4.b.i Development pressures

Development pressures in each of the nominated Nature Reserves and National Parks are extremely low to non-existent. Where specific development pressures apply to buffer areas for individual reserves or parks these will be identified in the relevant Chapters.

1.4.b.ii Environmental Pressures

The primary environmental pressures are wildfire, alien plant invasion and global climate change.

Wildfire and invasive alien species

Wildfire and invasive alien species (IAS) are issues that have received significant focus through various government funded programmes, research institutions, etc. as well as through revised and improved legislative and enforcement measures over the past decade. Much of the information pertaining to the response to these two pressures, since inscription of the CFRPA, is detailed in DEAT 2007a (Appendix 3).

Refer to section 1.5.g(iv), which provides summary information on both of Working on Fire (WoF) and Working for Water (WfW) programmes, as well as section 1.5.g(xiv) which briefly introduces the recently established DST-NRF Centre of Excellence for Invasion Biology.

SANBI (section 1.5.g(ii)) have recently formed a programme for the Early Detection and Rapid Response (EDRR) for Invasive Alien Plants, and the Council for Scientific and Industrial Research (CSIR) has upgraded its Advanced Fire Information System (AFIS) to deliver information on locations of active fires in southern and east Africa in real time (afis.meraka.org.za/).

Global climate change

Global climate change is seen as a cross cutting theme that is factored into all planning initiatives particularly the management of wildfire and IAS.

The issues relating to global climate change are also addressed through a strategic response, ensuring that protected areas are as large as possible, linked with other protected areas (e.g. along altitudinal gradients) and buffered where possible from external pressures through surrounding reserves and biodiversity-conservation related landscapes.

Global warming is a key threat to biodiversity, but few researchers have assessed the magnitude of this threat at the global scale… ...Especially vulnerable hotspots were the Cape Floristic Region, Caribbean, Indo-Burma, Mediterranean Basin, Southwest Australia, and Tropical Andes, where plant extinctions per hotspot sometimes exceeded 2000 species. Under the assumption that projected habitat changes were attained in 100 years, estimated global-warming-induced rates of species extinctions in tropical hotspots in some cases exceeded those due to deforestation, supporting suggestions that global warming is one of the most serious threats to the planet's biodiversity (Malcolm *et al.* 2006).

Numerous researchers have focused on the implications of global climate change as it might relate to, and influence, biodiversity (e.g. Midgley *et al.* 2002; Midgley *et al.* 2006; Bomhard *et al.* 2005; Williams *et al.* 2005; Malcolm *et al.* 2006). One of many reasons for proposing the extension of the inscribed CFRPA is to improve the potential for buffering against threats and/or change, including global climate change. Improved connectivity along, and across, altitudinal gradients as well as larger protected area sizes are recognised as providing a greater level of protection and ecosystem based resilience against the threats and pressures of climate change at the landscape scale.

Further detailed information on these pressures as they pertain to the CFR and CFRPA may be viewed in Appendices 1 and 3.

1.4.b.iii Natural disasters and risk preparedness

Low levels of natural disaster are experienced in this region. The primary natural disasters are runaway wildfire and flooding.

October 2010 Press release (adapted from New24.com)

The Council for Scientific and Industrial Research (CSIR) has upgraded its Advanced Fire Information System (Afis) to deliver real time information on locations of active fires in southern and east Africa.

The satellite-based fire information tool, developed in collaboration with Eskom and coupled with cellphone technology for distributing alert messages (or SMSes), is the first of its kind in the world.

The new Afis II uses data that is available within 10 minutes after the satellite passes overhead. Its features mean that government departments, such as the department of agriculture, forestry and fisheries, as well as civil organisations such as Working on Fire and local fire protection associations, are able to set up predefined user profiles to assist them in their tasks at national, municipal and provincial levels.

The system can provide active fire location data and it is also possible to get burnt area estimates from the satellite images. It also integrates information on wind speed and direction from 130 automated weather stations every hour.

All protected area managers in the CFR have access to the above system which augments local on-the-ground systems. Further, more detailed information on these pressures as they pertain to the CFR and CFRPA may be viewed in Appendices 1 and 3.

1.4.b.iv Visitor / Tourism pressures

Most nominated Nature Reserves and National Parks have diverse visitor facilities as well as control mechanisms for limiting visitor numbers where this is necessary for the protection of the property or for protection of a particular feature. Some are however remote and visitor utilisation is restricted to hiking.

1.4.b.v Number of inhabitants

The number of inhabitants for each inscribed or Extension Nomination complex or protected area is negligible or zero. Where relevant, habitation is usually restricted to staffing accommodation.

1.5 PROTECTION AND MANAGEMENT OF THE CFRPA

The CFR falls wholly within the Republic of South Africa. The national Department of Environmental Affairs is the overarching State authority responsible for legal protection of the CFR. The three conservation agencies to which management is delegated for management of the CFR are South African National Parks (SANParks), CapeNature (Western Cape) and Eastern Cape Parks and Tourism Agency.

The CFRPA World Heritage Property is thus legally protected and managed by the three authorities (SANParks, Western Cape Nature Conservation Board and Eastern Cape Parks and Tourism Agency) that, with the national Department of Environmental Affairs, make up the "CFRPA-World Heritage Property Joint Management Committee".

1.5.a Ownership

All of the spatially separate protected areas in this CFRPA Extension Nomination include protected areas designated in law as Provincial Nature Reserves[18]; State Forests[19]; Wilderness Areas[20], Mountain Catchment Areas[21] and National Park[22]. These areas, as well as the sea and the sea-shore[23] (portions of which fall within several protected areas that are the subject of this Nomination) are owned, or managed, by the State. The few protected areas which are not owned by the State, were purchased by WWF-SA and have 99-year or "in perpetuity" lease agreements with the relevant management authority.

Please refer to Table 1.3.2 and to individual chapters (2 – 15) for site-specific detail on legal designation.

1.5.b Protective designation

The Nomination Documentation (DEAT 2003: Appendix 1) and State of Conservation Reporting (DEAT 2007a; Appendix 3) list all relevant legislation and regulations, affecting the inscribed and the proposed Extension Nomination sites, up to and including March 2007. A summary of the information is provided in this section, as well as an update of recent (post March 2007) legislative and regulatory mechanisms and plans. Appendices 4, 5 and 6 provide texts of the legislative and regulatory mechanisms (Appendix 4); Park Management plans (Appendix 5); and, other plans, strategies and programmes relating to the CFRPA and Extension Nomination (Appendix 6). Refer to Table 1.3.2.

1.5.b(i) Legislative changes since inscription of the CFRPA[24]

The Nomination (DEAT 2003: Appendix 1) dealt in detail with the issues of ownership and the associated rights of ownership of the inscribed protected areas as well as for the conservation-orientated land surrounding or adjacent to the relevant protected areas. It also described the legal status enjoyed by the

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18 Under the Cape Nature Conservation Ordinance, 19 of 1974.

19 Defined under the National Forests Act, 84 of 1998 (section 2).

20 The Cederberg, Boosmansbos and Groot Winterhoek Wilderness Areas in the Western Cape Province were declared Wilderness Areas under the Forest Act, 122 of 1984.

21 Declared under the Mountain Catchment Areas Act, 63 of 1970 (section 2).

22 Declared under the National Parks Act, 57 of 1976

23 Section 2 of the Sea-shore Act, Act 21 of 1935.

24 Refer also to a report by Smith (2005) in Appendix 3 which provides an excellent summary of environmental legislation.

component parts or different areas of the protected areas as conferred by various statutes. Finally, the Nomination explained the protective measures and their enforcement in a presentation of then current South African environmental laws applicable to the protected areas and their surrounds. The Extension Nomination has continued to uphold the standard set by the Nomination in that all areas proposed to 0extend the inscribed CFRPA are owned by the State. A case in point is that of Table Mountain National Park (Chapter 5) where several large tracts of the National Park which are privately owned, but are managed by SANParks as tightly controlled "contractual National Park" have not been put forward for inscription but are included simply as part of the Table Mountain National Park buffer.

This section of the report provides a brief summary of recent additions to South African environmental laws (since 2003) and the management regimes that regulate different areas within and surrounding the inscribed CFRPA. The baseline presentation may be found in the Nomination documentation, but this section intends to highlight predominantly any amendments or additions to the Nomination rather than to restate baseline information.[25] Without exception, all additions to environmental legislation have been to the benefit of the protected areas and South Africa has some of the most outstanding environmental legislation, certainly within the developing countries, if not globally.

To date however, the single greatest challenge has been regulation and implementation of this robust legislative armoury (Driver *et al.* 2005, Appendix 6). The national, provincial and local level authorities are taking up this challenge in a number of ways, both punitive (through penalties and fines) and persuasive (through various media and education).

Several important pieces of legislation have been promulgated since the completion of the Nomination during late 2003. These include two Acts promulgated under the National Environmental Management Act[26] namely the Protected Areas Act[27] and the Biodiversity Act[28]; as well as regulations promulgated under the Protected Areas Act; 'new' Environmental Impact Assessment 2006 schedules and listed activities; and, the recent 2010 EIA regulations. Draft regulations under the Disaster Management Act[29] were published in 2005 and were subsequently followed in the same year by a Disaster Management Framework. Appendix 4 contains the texts of all the statutes described in this section.

1.5.b(ii) National Environmental Management: Protected Areas Act[28] (NEM:PAA)

The Protected Areas Act (as amended) provides for the protection and conservation of ecologically viable areas that are representative of South Africa's biological diversity and its natural landscapes and seascapes. The Act further provides for the establishment of a national register of all national, provincial and local protected areas; and, for the management of those areas in accordance with national norms and standards. Finally the Act provides for intergovernmental co-operation and public consultation in matters concerning protected areas; and, for matters in connection therewith. Management plans for all components of the inscribed and extended CFRPA have been, or are being, revised in terms of the Protected Areas Act (section 1.5.e).

The NEM:PAA repeals sections 16 (protected natural environment); 17 (management advisory committees in respect of protected natural environment); and, 18 (special Nature Reserves) of the Environmental Conservation Act [30](ECA).

Draft regulations published in August, 2009 under the NEM:PAA provide for the proper regulation and management of all Nature Reserves

1.5.b(iii) National Environmental Management: Protected Areas Amendment Act[31]

The Protected Areas Amendment Act provides the guidelines for declaration, establishment, administration and management of National Parks (as well as Marine Protected Areas within National Parks). This amendment act repeals the majority of the National Parks Act[32].

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[25] The original Nomination documentation with specific land ownership, management and legislation information may be viewed in Section 1.4 of DEAT 2003: Appendix 1.

[26] Act 107 of 1998

[27] Act 57 of 2003

[28] Act 10 of 2004

[29] Act 57 of 2002

[30] Act 73 of 1989

[31] Act 31 of 2004

1.5.b(iv) National Environmental Management: Biodiversity Act[33] (NEM:BA)

The Biodiversity Act (as amended) provides for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act. The Act further provides for the protection of species and ecosystems that warrant national protection. The Act promotes the sustainable use of indigenous biological resources; the fair and equitable sharing of benefits arising from bio-prospecting involving indigenous biological resources. Finally the Act provides for the establishment and describes the functions of a South African National Biodiversity Institute[34]; and for matters connected therewith.

The National Environmental Management: Biodiversity Act: Threatened or Protected Species Regulations (as amended) came into effect during 2007 and draft National Environmental Management: Biodiversity Act: Alien Species and Listed Invasive Species Regulations have been published for public comments.

1.5.b(v) Provincial Parks Board Act (Eastern Cape)[35]

This Parks and Tourism Agency Act provides for: the establishment of the Eastern Cape Parks and Tourism Agency; the appointment of board members; the declaration, management and protection of biodiversity in Provincial parks; the acquisition of rights in or to land; and, for matters connected with these provisions.

A second, separate monitoring and evaluation system has also been introduced, the Management Effectiveness Monitoring Tool (METT). This system fits in with the PAIME assessment. A baseline study was conducted in 2010 and is being followed up by an independent assessment in successive years. Species monitoring in the Baviaanskloof has been initiated and additional staff have been appointed to augment the monitoring team. Adaptive conservation management strategies have been adopted by the Eastern Cape Parks and Tourism Agency and are being implemented on ongoing basis.

1.5.b(vi) Local Government: Municipal Property Rates Act[36]

The Municipal Property Rates Act includes an important provision for a rates-exclusion for formally declared protected areas, including private land, which is declared a contract Nature Reserve in terms of the Protected Areas Act.

1.5.b(vii) Regulations for the proper administration of special Nature Reserves, National Parks and World Heritage Sites.[37]

Regulations published under the Protected Areas Act for the proper administration of special Nature Reserves, National Parks and World Heritage Sites[38] have provided an incentive and obligation for the review of all protected area management plans (including the inscribed CFRPA). In brief, the regulations:

- require the preparation of a protected areas register;
- describe permissible, prohibited and restricted activities, developments and land- and resource-uses;
- describe research and monitoring requirements;
- provide the outline for establishment of advisory committees for each protected area;
- regulate preparation of protected area management plans; and,
- set the basis for penalties and fines that result from the execution of any prohibited activity or use.

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32 Act 57 of 1976

33 Act 10 of 2004

34 The South African National Biodiversity Institute (SANBI) was launched on 1 September 2004

35 Act 12 of 2003

36 Act 6 of 2004

37 Government gazette 28181 of 28 October 2005

38 For the purposes of the Act and the regulations all of the categories described are termed "protected areas'

1.5.b(viii) Environmental Impact Assessment (EIA) Regulations 2010[39]

The National Environmental Management Act is described in the Nomination (DEAT 2003: Appendix 1), as are the initial set of EIA regulations published in 1997 under the Environment Conservation Act (ECA). The administration of many of the key provisions of the ECA has been delegated to the provinces. In the Western Cape these are undertaken by CapeNature or by directorates within the Department of Environmental Affairs and Development Planning (DEA&DP)[40]. In the Eastern Cape, they are undertaken by the Eastern Cape Parks and Tourism Agency or by the relevant directorates within the Department of Economic Affairs, Environment and Tourism.

A recent (2006) listing of scheduled activities and competent authorities was undertaken in order to ensure compliance with section 53 of the Biodiversity Act (section 1.5.b(iv)) (threatening processes in listed ecosystems) and the provisions of the Protected Areas Act (section 1.5.b(ii)).

On 18 June 2010 the National Minister of Water and Environmental Affairs promulgated the Environmental Impact Assessment ("EIA") Regulations 2010[41], which came into effect on 02 August 2010[42]. The EIA regulations 2010 replace the EIA regulations promulgated in 2006 and also introduce new provisions regarding EIAs as well as new regulations regarding the development of Environmental Management Frameworks[43] ("EMF's").

Once NEMA's provisions adequately regulate areas covered by those parts of the ECA that are still extant, the need for the ECA and its policies will be largely removed and its remaining sections will probably be repealed. Appropriate regulation under NEMA will be created in part through the present regulatory reform process, which includes redrafting the Act, itself, and through regulations made under NEMA.

Implementation and enforcement of NEMA and the ECA, as well as the EIA and EMF regulations, is a concurrent national and provincial responsibility. Responsibility for granting approvals under the EIA regulations is assigned to provincial environmental departments in the respective provinces.

1.5.b(ix) Draft Disaster Management Regulations[44]

The publication (2005) of draft regulations and a Disaster Management Framework (Appendix 4) under the Disaster Management Act[45] provided for a regulation and a proposed framework for establishment of volunteer Disaster Management teams and units and Disaster Management planning.

1.5.b(x) Regulations relating to environmental management inspectors[46]

Recently published regulations[47] relating to the qualification criteria, training, identification of, and forms to be used by, environmental management inspectors will aid the implementation of the spectrum of tough environmental legislation.

1.5.b(xi) Western Cape Biosphere Reserves Bill

The Western Cape Biosphere Reserves Bill (Bill Number 5 of 2011) was introduced in the Western Cape Provincial Parliament on 9 March 2011 and published in PG 6895 Notice Number 190 (29 July 2011). When it is promulgated the Western Cape (South Africa) will be the first country in the world to have adopted specific legislation regulating biosphere reserves.

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39 Listed in terms of section 24 and 24(d) of the National Environmental Management Act (NEMA) (Act 107 of 1998).

40 Specifically, environmental impact assessments for activities scheduled under the EIA Regulations are assessed by the Environmental Impact Management Unit within the Department.

41 Government Notice R543, R544, R545, R546 and R547 in Government Gazette 33306 of 18 June 2010.

42 Government Notice R660, R661, R662, R663, R664 and R665 in Government Gazette 33411 of 2 August 2010.

43 EMFs are defined in the EMF regulations (Government Gazette 33306 of 18 June 2010) as "*a study of the biophysical and socio-cultural systems of a geographically defined area to reveal where specific land uses may best be practiced and to offer performance standards for maintaining appropriate use of such land*".

44 Government gazette 27991 of 9 September 2005

45 Act 57 of 2002

46 Government Gazette 27713 of 1 Jul 2005.

47 Published under the National Environmental Management Act (Act 107 of 1998).

1.5.b(xii) Other initiatives that promote actual or potential policy change

Other recent national level programmes and initiatives that can influence policy, planning and practice have included the publication of the 2006 Draft **National Strategic Framework for Sustainable Development** (NSFSD) (Appendix 4), which in an appraisal of natural resources states:

> *"Opportunities to enhance the status of our biodiversity lie in making an effective case for the role and benefits of biodiversity to socio-economic development. To minimise further biodiversity loss, it will be necessary to foster working relations between the biodiversity protection agencies and production sectors such as major land users (including agriculture, infrastructure and property development, forestry, fisheries and mining) in order to develop and implement sector-specific initiatives to prevent further loss and degradation of natural habitat in threatened ecosystems. A major opportunity lies in building the capacity of local governments to include biodiversity considerations into their IDPs. The protected area network can be expanded using the Protected Areas Act in innovative ways."*

The **National Biodiversity Strategy and Action Plan** (NBSAP) launched in 2005, builds on the above legislation by translating biodiversity-related policy goals into prioritised objectives and implementation action plans (Appendix 4).

The **National Spatial Biodiversity Assessment 2004** (NSBA 2004), a component of the NBSAP, launched in 2005, is a first for South Africa and it is required under the Biodiversity Act. The NSBA will be updated every five years or more frequently as new data becomes available and informs the policies, plans and day-to-day activities of a wide range of sectors, both public and private. It is expected that the spatial products presented in the report will be widely used and built upon. The challenge that lies ahead is to translate the biodiversity priorities identified here into conservation action on the ground. This will involve mainstreaming biodiversity priorities in the policies, plans and actions of a wide range of stakeholders whose core business is not biodiversity, but whose day-to-day decisions will ultimately determine whether South Africa's development path is a sustainable one.

The **National Biodiversity Framework 2009** (NBF), a requirement of the National Environmental Management: Biodiversity Act (Act No. 10 of 2004), was published in Government Gazette No. 32474 of 3 August 2009 (Appendix 4). The purpose of the NBF is to provide a framework to co-ordinate and align the efforts of the many organisations and individuals involved in conserving and managing South Africa's biodiversity, in support of sustainable development. The NBF aims to:

- Focus attention on the most urgent strategies and actions required for conserving and managing South Africa's biodiversity; and,
- Point to roles and responsibilities of key stakeholders, including key organs of state whose mandates impact directly on biodiversity conservation and management

The heart of the NBF is a set of 33 Priority Actions, which provide an agreed set of priorities to guide the work of the biodiversity sector in South Africa for the next five years.

The National Protected Area Expansion Strategy 2008-2012 (NPAES) is a framework for implementation of the establishment and management of a representative and effectively managed system of protected areas in South Africa. The NPAES contributes to meeting the objectives of the National Environmental Management: Protected Areas Act[48] (refer to Section 1.5.b(ii)), which include providing for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes. This is a key strategic approach in the conservation of South Africa's biodiversity and in adaptation to the impacts of climate change. In brief, the NPAES identifies spatial focus areas for protected area expansion; mechanisms (including financial mechanisms) for protected area expansion; an institutional framework for protected area expansion; declaration of new or consolidated Protected Area; monitoring and review of the implementation of the NPAES; as well as data gaps and future research needs.

1.5.c Means of implementing protective measures

With the exception of areas that remain under the management and control of the national tier of government (for example, National Parks[49] and National Botanical Gardens[50]), implementation and/or enforcement or

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48 Act 57 of 2003.

49 Proclaimed under the National Parks Act, 15 of 1976.

50 Proclaimed under the Forest Act, 122 of 1984.

protective measures for protected areas and the preservation of biodiversity are delegated to provincial conservation authorities by the relevant National Government departments.[51]

In both the Western- and Eastern Cape Provinces, the provincial conservation authorities, in co-operation with other relevant departments, are tasked with implementation and enforcement of protective legislation and agreements. Where the provincial administration is unable to undertake this responsibility without assistance or where adjudication of management decisions or actions is required, for example in the case of a conflict of interest, the relevant National Department may be called upon to implement or enforce the requisite protective measures.

1.5.d Existing plans related to the Cape Floral Region

Given the vast area spanned by the CFR there are numerous plans at national, regional and local levels which affect the region. These include, but are not limited to:

- The formation of the World Heritage Joint Committee (National Department of Environmental Affairs (DEA), SANParks, CapeNature, Eastern Cape Parks and Tourism Agency);
- The National Spatial Biodiversity Assessment (NSBA) (refer to section 1.5b(xi));
- The National Biodiversity Framework (NBF) (refer to section 1.5.b(xi));
- Various Bioregional and Fine Scale Biodiversity planning initiatives (refer to section 1.5.g(ii) SANBI and BGIS);
- Various Provincial plans for the three provinces spanned by the CFR which include Provincial Environmental Management Frameworks (EMF); Integrated Management Frameworks (IMF) and Biodiversity Plans; as well as District Municipality and Local Authority IMFs, Strategic Development Frameworks (SDFs) and Biodiversity Plans and Policies.

Examples of the following plans, listed in Table 1.5.1, may be viewed in Appendix 6.

Table 1.5.1 List of appended plans relating to the Cape Floral Region (Appendix 6).

AGREED PLANS	DATE	AGENCY RESPONSIBLE FOR PREPARATION	RELEVANT PROVISIONS
National Spatial Biodiversity Assessment	2004	Department of Environmental Affairs (DEA)	Translates biodiversity-related policy goals into prioritised objectives and implementation action plans.
National Protected Area Expansion Strategy (NPAES)	2008	DEA	Provides for protection and conservation of ecologically viable areas representative of South Africa's biological diversity. Identifies inter alia spatial focus areas; mechanisms; and an institutional framework for protected area expansion.
The National Biodiversity Framework	2009	DEA	Provides a framework to co-ordinate and align efforts of all organisations and individuals involved in biodiversity conservation and management, in support of sustainable development.
CFR World Heritage Joint Committee	2010	DEA	Provides for a joint management authority for the CFRPA World Heritage Site.
CapeNature Protected Area Expansion Strategy (PAES)	2010	CapeNature	Addresses formal proclamation of priority natural habitats as Protected Areas to secure biodiversity and ecosystem services in the Western Cape. Aligned to the concepts and goals of the NPAES, the PAES does however identify some different spatial priorities and is primarily a Biodiversity Stewardship-based implementation plan.

1.5.e CFRPA management plans and management systems

The Protected Areas Act[52] (NEM:PAA (section 1.5.b(ii)) requires all conservation management authorities to adopt a coherent spatial planning system in all National Parks and Nature Reserves and stipulates a comprehensive and consultative planning process for the management of National Parks and other protected areas. The Biodiversity

[51] These include permitting procedures, for example for collection of plant material or game translocation, as well as the regulation of change in land use, or other activities that may affect biodiversity (that is, through the enforcement of the EIA regulations).

[52] Act 57 of 2003 (as amended). Refer to section 1.5.b(ii) and 1.5.b(iii).

Act[53] (NEM:BA (section 1.5.b(iv)) calls for integrated and cooperative governance of biodiversity conservation in South Africa.

All management plans are required to identify, and iteratively review current literature and research for each National Park or Nature Reserve. This includes updating species lists, identification of habitats as well as plant and animal communities, special habitats

Section 41 of the NEM:PAA provides specific requirements for the contents and process of management planning. In terms of the NEM:PAA management plans must contain:

- The terms and conditions of any applicable plans for biodiversity management within the bioregional context;
- A coordinated policy framework;
- Planning measures, controls and performance criteria;
- An implementation programme for the plan, with costing;
- Procedures for public participation;
- Where appropriate, the implementation of community-based natural resource management; and,
- Zoning plan/s indicating the conservation objectives of each area and what activities may take place there.

Management plans may also contain:

- Development of economic opportunities within and adjacent to the park in terms of the Integrated Development Plan framework;
- Development of local management capacity and knowledge exchange; and/or,
- Financial and other support to ensure effective administration and implementation of a co-management agreement.

Preparation of all protected area management plans is also governed by related legislation such as the Biodiversity Act, other national policy (e.g. National Water Act), as well as by international conventions that have been ratified by the South African government (e.g. World Heritage Convention).

CapeNature has identified four strategic goals and seven strategic objectives with attached key measurable objectives. These are still in the process of development and refining, but for purposes of illustration an example is provided in Table 1.5.2. Each Provincial Nature Reserve or Conservation Area will be required to compile an Integrated Strategic Management Plan which focuses on these goals, objectives and key measurable objectives.

SANParks names an overall strategic spatial plan (for a National Park) a "Conservation Development Framework" (CDF), which is based on a standardised SANParks zoning scheme and is informed by a biophysical sensitivity-value analysis. The Table Mountain National Park CDF is attached in Appendix 5.

ECPTA has an approved strategic management plan (SMP) for the Baviaanskloof Complex that includes an approved CDF. The SMP has strategic goals and objectives included. Each National Park and Provincial Nature Reserve management plan includes a zoning plan (or CDF) which has been refined through iterative stakeholder participative processes to ensure stakeholder "buy in" for that reserve.

Management plans are completed, or are in preparation, for all of the National Parks and Provincial Nature Reserves proposed for this Extension Nomination. A selection of these is included in Appendix 5.

[53] Act 10 of 2004 (as amended). Refer to Section 1.5.b(iv).

Table 1.5.2 Strategic Goals, Objectives and Key Measurable Objectives developed by CapeNature for integrated and strategic management of Western Cape Provincial Nature Reserves.

STRATEGIC GOALS	STRATEGIC OBJECTIVES	KEY MEASURABLE OBJECTIVES
Strategic Goal 1 Provide cutting-edge leadership and innovative approaches to biodiversity management and maintenance of environmental integrity.	**Strategic Objective 1.1** Improve the reach and quality of biodiversity management.	• Develop and maintain a network of duly proclaimed nature reserves that is effectively managed by CapeNature (incorporating terrestrial, freshwater and marine ecosystems). • Undertake systematic conservation planning in the Western Cape in order to identify key biodiversity areas that require protection outside of the formal CapeNature Nature Reserve Network. • Provide input on biodiversity issues to Western Cape provincial land use planning and decision making processes. • Manage and communicate biodiversity knowledge to ensure effective conservation management. • Identify and implement measures to ensure resilience and persistence of the province's biodiversity in the light of anticipated climate changes.
Strategic Goal 2 Improve corporate sustainability and governance.	**Strategic Objective 2.1** Secure differentiated revenue streams.	• Create awareness of and market CapeNature tourism products to domestic and international visitors. • Develop sustainable and responsible tourism products. • Establish partnerships that will improve corporate and social investment in our reserves, positively impacting on visitor experiences as well as the livelihoods of local communities.
	Strategic Objective 2.2 Develop policies, systems and processes to support service delivery.	• Develop and implement an effective and efficient communication strategy involving all internal and external stakeholders and role-players. • Support strategic decision making to ensure good corporate governance. • Ensure all CapeNature's activities are executed within a framework of sound controls and highest standards of corporate governance. • Create a safe working environment. • Implement a monitoring and evaluation (M&E) system for CapeNature.
	Strategic Objective 2.3 Enhance institution building.	• Provide a professional human resource management support service.
	Strategic Objective 2.4 Establish and maintain partnerships	• Enhance co-operative governance and institutional strengthening through developing biodiversity and corporate partnerships.
Strategic Goal 3 Promote socio-economic development through the conservation economy.	**Strategic Objective 3.1** Develop and implement strategies to facilitate equitable access to and participation in the conservation economy.	• Create a conducive environment for historically disadvantaged individuals to participate in the conservation economy.
Strategic Goal 4 Demonstrate impact on and contribution to the reconstruction and development of social capital.	**Strategic Objective 4.1** Demonstrate impact on and contribution to youth and community development and environmental awareness.	• Creation/upgrading of facilities which will be fully residential and multifunctional and which accommodate a range of groups.

1.5.f Sources and levels of finance

Annual- and financial reports for each of the three management authorities are included in Appendix 9. Each of the management authorities have dedicated conservation and/or environmental departments with dedicated budgets for protected area management.

1.5.g Sources of expertise and training in conservation and management techniques

The three management authorities do not manage, research and plan in isolation. Not only are there collaborations between the three management authorities but a number of supporting institutions and organisations, plans and programmes are significantly allied with the long-term conservation, research, expansion and development of the inscribed and extended CFRPA and the conservation of the CFR as a whole. This has facilitated efforts to obtain funding from international agencies and has assisted collaboration and close associations with universities, research bodies, non-governmental organisations (NGOs), and other branches of provincial and national government. A particularly relevant and extensive partnership exists between SANParks, CapeNature, the Eastern Cape Parks and Tourism Agency, Cape Action for People and the Environment (C.A.P.E.) Programme and the South African National Biodiversity Institute (SANBI).

Other established stakeholders and partners include the WWF-South Africa's Table Mountain Fund (TMF); Working for Water (WfW); Working on Fire (WoF); Working on Wetlands (WoW); the Greater Cederberg Biodiversity Corridor Project (GCBC); the Baviaanskloof Mega-Reserve Project[54] (BMP); the Agulhas Biodiversity Initiative (ABI); the Council for Scientific and Industrial Research (CSIR); the Centre for African Conservation Ecology (ACE)[55]; and a variety of other initiatives and programmes including many of the Western and Eastern Cape universities and other tertiary education institutions.

Many of these institutions and programmes have a broadly national objective (e.g. SANBI and Working for Water) but include focus areas on the CFR and the CFRPA, while others – such as CAPE, TMF, GCBC and ABI are focused entirely on or within the CFR. The following subsections briefly describe the roles and functions of some of these partners and stakeholders since inscription.

1.5.g(i) Cape Action for People and the Environment (C.A.P.E.)

This long term planning strategy has identified challenges associated with conservation in the CFR; has initiated a plan for partnerships; and, has established CapeNature as the lead agent for implementation of C.A.P.E., responsible for the majority of C.A.P.E. Projects. A main aim of the C.A.P.E. Programme was to identify new areas for conservation that would be added to inscribed protected areas to meet conservation targets. The World Heritage Site Nomination of the CFR was simply one layer in a multi-layered approach aimed at long-term, sustainable conservation of the CFR's exceptional biodiversity.

Based on the situation assessment and analysis of threats, three overarching themes that complement and reinforce one another were developed. C.A.P.E. will:

- establish an effective reserve network, enhance off-reserve conservation, and support bioregional planning;
- strengthen and enhance institutions, policies, laws, co-operative governance, and community participation; and
- develop methods to ensure sustainable yields, promote compliance with laws, integrate biodiversity concerns into catchment management, and promote sustainable eco-tourism.

C.A.P.E is designed to be the ultimate co-ordination vehicle for integrated planning, research and monitoring during the 20-year lifespan of the Programme. The persistent lack of integration of these key components of successful landscape management require a robust and resilient model for monitoring and evaluation (M&E) and the development of an integrated M&E system, to measure progress of the strategy towards its 2020 objectives, integrating its biodiversity and socio-economic objectives (Ashwell *et al.* 2006), was completed in mid 2007. Refer to Appendices 1 and 3 for more information on C.A.P.E. and C.A.P.E.'s website is capeaction.org.za/.

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[54] The Project management unit has now finished and is closed. ECPTA has since taken over the BMR initiative.

[55] Formerly known as Terrestrial Ecological Research Unit (TERU)

Background to the Cape Action for People and the Environment.A process of extensive consultation involving various interested parties, including local government and non governmental organisations resulted in the establishment of a strategic plan referred to as the Cape Action Plan for the Environment (C.A.P.E.), made possible with an initial grant from the Global Environment Facility (GEF) in 1998. It identified the key threats and root causes of biodiversity losses that need to be addressed in order to conserve the CFR. This resulted in a spatial plan identifying areas that need to be conserved and a series of broad program activities, which need to be undertaken over a 20-year period ending 2020.

C.A.P.E. is a programme, or managed network, of the South African Government, in partnership with a multitude of National and provincial departments, organisations and institutions, supported by international donors, that seeks to protect the rich biological heritage of the CFR. C.A.P.E seeks to unleash the economic potential of land and marine resources through focused investment in development of key resources, while conserving nature and ensuring that all people benefit from the conservation of the natural resources.

September 2000 marked the end of the strategic planning phase and the beginning of the implementation phase. C.A.P.E. has now become known as the Cape Action for People and the Environment, emphasizing its involvement with and benefit to the people across the CFR.

The goal of C.A.P.E.

"By the year 2020, the natural environment of the CFR will be effectively conserved and restored wherever appropriate, and will deliver significant benefits to the people of the region in a way that is embraced by local communities, endorsed by government and recognised internationally".

Building the biodiversity economy

During 2004-2009, the implementing agencies will accelerate the implementation of the C.A.P.E. 2000 Strategy by laying the foundations for an economy based on biodiversity. To do this:

Capable institutions will co-operate to develop a foundation for mainstreaming biodiversity in the CFR into social and economic development; and

Conservation of the CFR will be enhanced through piloting and adapting programmes for sustainable, effective management.

The six components of the programme are to strengthen institutions; support conservation education; unleash the socio-economic potential of protected areas; facilitate community stewardship of priority areas; integrate biodiversity concerns into watershed management; and, ensure ongoing co-ordination, management and monitoring.

1.5.g(ii) South African National Biodiversity Institute (SANBI)

The South African National Biodiversity Institute was established on 1 September 2004 through the signing into force of the National Environmental Management: Biodiversity Act 10 of 2004 (section 4.1.3) by then President Thabo Mbeki. The Act expanded the mandate of SANBI's forerunner, the National Botanical Institute, to include responsibilities relating to the full diversity of South Africa's fauna and flora, and built on the internationally respected programmes in conservation; research; education; and, visitor services developed over the past century by the National Botanical Institute.

The mandate of SANBI includes reporting to the Minister on the status of the Republic's biological diversity, the conservation status of all listed threatened or protected species and listed ecosystems; and, the status of all listed invasive species. In addition, SANBI may act as an advisory and consultative body on matters relating to biodiversity to organs of state and other biodiversity stakeholders and must co-ordinate and promote the taxonomy of South Africa's biodiversity, manage, control and maintain all national botanical gardens and establish facilities for horticultural display, environmental education, visitor amenities and research.

The Institute must collect, generate, process, co-ordinate and disseminate information about biodiversity, and establish and maintain databases in this regard. SANBI is required to advise the Minister on the identification of bioregions and the contents of any bioregional plans; other aspects of biodiversity planning; the management and conservation of biological diversity; the sustainable use of indigenous biological resources; and, the management of, and development in, national protected areas.

SANBI (based at Kirstenbosch in Cape Town) houses many programmes and projects that are intrinsic to the long-term conservation of the CFR including the Biodiversity GIS unit (BGIS: bgis.sanbi.org/); National Vegetation Mapping Project (bgis.sanbi.org/vegmap/); Protea Atlas- and Conservation Farming Projects (both now complete and in the stages of finalising products); various national and bioregional planning initiatives; and, biodiversity databases such as the Species Status Database (speciesstatus.sanbi.org/). Recent invasion events, which highlighted the need for South Africa to have an early detection programme,

have motivated the formation of the SANBI programme for Early Detection and Rapid Response for Invasive Alien Plants (EDRR), which is funded by the Working for Water programme of the Department of Water Affairs.

Other SANBI initiatives include SANBI's Integrated Biodiversity Information System (sibis.sanbi.org/), which provides threatened species information, distribution maps, area checklists and general species details; Species Status Database (speciesstatus.sanbi.org/); Plants of Southern Africa (posa.sanbi.org/) a site which provides information about all SA plants, their distribution and current names and links to other resources; SANBI's Biodiversity advisor (biodiversityadvisor.sanbi.org/); and, the newly established Biodiversity Information Management Forum (infoforum.org.za/).

Appendix 7 provides further details regarding SANBI and the website for SANBI is sanbi.org/.

1.5.g(iii) Table Mountain Fund (TMF) – the funding arm of WWF-SA for the CFR

Committed to conserving the fynbos ecoregion and its adjacent shores, WWF-SA played a pivotal role in the establishment of the Cape Action Plan for People and the Environment (C.A.P.E.) and continues to contribute to the implementation of this conservation plan largely through activities supported by the Table Mountain Fund (refer to wwf.org.za/what_we_do/tablemountainfund/ for a selection of recent TMF funded or managed projects that directly or indirectly affect the CFRPA).

The objective of both TMF and C.A.P.E. is to secure the conservation of the biodiversity of the CFR and through this to deliver sustainable economic benefits to the people of the region. The opportunity exists in the CFR to create the conditions for the emergence of a new type of conservation management with an ability to integrate biodiversity conservation with social challenges.

A step in this direction is a recently initiated TMF capacity building programme with funding from the Critical Ecosystem Partnership Fund (CEPF). The main focus of the programme will be building capacity among women and people of colour who have the potential to become future conservation leaders. 'For conservation efforts to be more successful,' says Rodney February, manager of the capacity building programme, 'it is essential that the country have previously disadvantaged role models in conservation leadership positions. Only if this is achieved will conservation be seen as the collective responsibility of all South Africans'. TMF's website is wwf.org.za/what_we_do/tablemountainfund/.

What is the Table Mountain Fund?

The Table Mountain Fund (TMF) is a Capital Trust Fund designed to provide a sustainable source of funding to support biodiversity conservation within the Cape Floral Region (CFR).

TMF's vision is that the people of the CFR are inspired to act collectively as custodians of our natural heritage, who see biodiversity conservation as a necessity not a luxury, with conservation an integral part of our economy able to deliver jobs and social development; and the natural treasures so conserved, accessible and to be enjoyed by all South Africans.

The main objective of the TMF is the conservation of the biodiversity of the Cape Peninsula and the CFR as a whole, including the adjacent marine systems.

WWF-South Africa raised "start-up" capital through a campaign launched by Sir Edmund Hillary in 1993. By 1998 South African custodians had donated R10 million and the Trust was registered with World Wide Fund for Nature – South Africa as the founder, and SANParks and the then Cape Peninsula National Park (CPNP) Committee as Trustee Groups.

This support provided the opportunity to expand the operations beyond Table Mountain and the Cape Peninsula, to support conservation efforts throughout the whole of the threatened CFR. The Global Environment Facility increased the capital fund by R30 million, and the World Bank has since overseen the Cape Biodiversity Project, which has also assisted in the establishment of the Table Mountain National Park, and the setting up of Cape Action for People and the Environment (C.A.P.E.).

1.5.g(iv) The Government of South Africa's Expanded Public Works Programme

The National Department of Environmental Affairs (DEA) coordinates the environmental and cultural sector of the National Government's Expanded Public Works Programme (or Social Responsibility Programme)[56]. The sector includes the core programmes Sustainable Land Based Livelihoods, Working for the Coast,

[56] The other member departments are Water Affairs (DWA), Arts and Culture (DAC) and Agriculture (NDA).

People and Parks, Working for Tourism and Working on Waste. The continuous focus in the sector is on how these programmes can be expanded, co-ordinated, integrated and improved in order to ensure increased employment creation and improved environmental outcomes. The implementation and reporting of the activities of the sector have institutionalised through three sub-committees, namely "monitoring and evaluation", "training" and "communication".

The plan aims to create 201,703 jobs through programmes such as the Department of Environmental Affairs and Tourism's People and Parks, Coast Care, Sustainable Land-based Livelihoods, Cleaning up SA, Growing a Tourism Economy programmes; the Department of Agriculture's Land Care programme; and, the Department of Water Affairs' Working for Water-, Wetlands-, and Fire programmes.

The environmental and cultural extended public works programme will result in 200,000 ha of land cleared of aliens, 40 rehabilitated wetlands, 20 fire-protection associations, 700 km of coast cleaned with adequate infrastructure, 10,000 ha of rehabilitated land, 32 waste management programmes and 150 historical and community tourism projects. A total of R249 million has been committed to this programme by government for the period 2004-2009.

Working for Water (WfW)

The Working for Water Programme ("WfW"), established in 1995 by the Department of Water Affairs (previously Department of Water Affairs and Forestry (DWAF)), contributes significantly to the protection of aquatic and terrestrial biodiversity through increasing the availability of water in catchment areas that were previously choked with alien invasive vegetation.

To do this the South African Government has committed some R600 million per year, over the next 20 years, to clear more than 10 million hectares of invaded land nationally. Impoverished people are employed to clear invasive alien plants and use the wood in secondary industries to produce charcoal, firewood, walking sticks, crafts, screens, benches, garden products and other curios.

WfW is functional in the inscribed CFRPA and has been incorporated into the line functions of staff of the protected areas. Salaries for this programme have been assigned as an additional component to the budget of the provincial agencies. In the Western Cape, CapeNature is the implementing agent for the programme, SANParks is the implementing agent for the programme within all of the National Parks, while in the Eastern Cape the Gamtoos Irrigation Board is the implementing authority.

Review of this Public Works programme has provided insight into the need for further integration and prioritisation of efforts in order to effectively combat invasive alien species.

Results from recent research in a mountain catchment in the Western Cape (Currie *et al.* 2009) indicate that despite high costs for restoration of fynbos following alien vegetation clearing, basic restoration costs (and, under certain circumstances – higher input restoration costs) were out-weighed by the water and tourism benefits derived.

Further details are available from the DWA website: dwa.gov.za/wfw/.

Working on Fire (WoF)

Started in 2003 as a government and commercial forestry sector initiative, to develop an integrated national fire prevention and wild fire fighting capacity, WoF (workingonfire.org/) began as a five-year National Poverty Relief programme with an annual budget of R47.3 million from the Expanded Public Works Programme that provides a national veldfire-fighting resource (a combination of fire-fighting aircraft with highly trained ground crews), as well as skills-training for men and women from marginalised communities. Through the National Disaster Management Centre, the programme supplies two Mi8MTV helicopters and two fixed-wing spotter aircraft to supplement local aerial fire-fighting efforts. Following yet another costly fire season in 2006, the government allocated an additional R9.4 million to the Working on Fire programme.

The Working on Fire Programme is funded in terms of contracts with predetermined budgets allocated by DWA. In addition to this funding, the Department of Provincial and Local Government (DPLG) provides funding for aerial support services.

1.5.g(v) Greater Cederberg Biodiversity Corridor Project (GCBC)

This is one of several landscape-scale initiatives undertaken in the CFR (as part of the C.A.P.E. programme), which will result in the formation of a biodiversity corridor (a "protected area" over 400,000 ha in

extent).[57] The GCBC is conceptualised as a matrix of natural and transformed areas, containing two of the inscribed CFRPA protected areas (Cederberg and Groot Winterhoek Wilderness Areas) as well as the Tanqua Karoo National Park, four provincial Nature Reserves (including Matjiesrivier Nature Reserve - the proposed extension to the Cederberg Wilderness Area (refer to Chapter 2)) and the Cederberg Conservancy, and stretches from the coast to the inland karoo.

This project was initially funded by a Conservation International (CI) project, facilitating lowland and mega-reserve corridor conservation. GCBC is currently implemented by CapeNature and supported by the C.A.P.E. Programme as well as partnerships that include SANParks, Agriculture Western Cape, the Global Environment Facility (GEF), Critical Ecosystem Partnership Fund (CEPF) and several non-government organisations such as the Botanical Society of South Africa (botanicalsociety.org.za/) and the Environmental Monitoring Group (emg.org.za/). The GCBC project has been immensely successful to date and continues to gather support. The GCBC project website may be viewed on cederbergcorridor.org.za/.

1.5.g(vi) Agulhas Biodiversity Initiative (ABI)

The proposed extension Agulhas Complex (refer to Chapter 9) and inscribed De Hoop Nature Reserve are located on the Agulhas Plain. All are considered to be part of the "Agulhas Biodiversity Initiative", designed to address the main threats to the globally significant lowland fynbos biodiversity of the Agulhas Plain and to improve the livelihoods of local communities through inter-linked conservation, development and socio-economic activities. ABI, a joint partnership between South African National Parks and Fauna & Flora International, was the first pilot project to be implemented under C.A.P.E.

The four main components of ABI are:

- Conservation management in the productive landscape of the Agulhas Plain including controlling alien invasion; fire management and wetlands rehabilitation;
- Development and implementation of models for sustainable harvesting of wild fynbos. including certification, marketing programmes and monitoring;
- Development and implementation of nature-based tourism activities, including building local support though heritage centres and education programmes; and,
- Building local support for biodiversity conservation on the Agulhas Plain through public awareness activities.

The plants of the Agulhas Plain are among the highest priorities for conservation in South Africa and globally. Seven key areas are being targeted for action to ensure that key habitats and ecological processes are protected from the effects of alien invasion, inappropriate agriculture and damaging fires. Joint alien plant strategies are being developed and fire management plans are being included in the conservation management component of the programme.

The Agulhas Biodiversity Initiative (ABI) is one of three complementary GEF initiatives in support of C.A.P.E., which are aimed at strengthening systemic, institutional and individual capacities and establishing the know-how needed for conservation in different ecological and socio-economic conditions. The model will be replicated in other areas where decentralised conservation approaches are urgently needed. View the website for ABI at: agulhasbiodiversity.co.za/.

1.5.g(vii) Baviaanskloof Mega-Reserve Project (BMP)

A landscape-scale initiative along the lines of the GCBC (1.5.g(v)) the BMP was constituted under the auspices of the Department of Economic Affairs, Environment and Tourism to assist with the implementation of the greater landscape initiative. The original implementing agents were the Wilderness Foundation. More information about this project may be found in Appendices 2 and 8 or viewed on: baviaanskloofmegareserve.org.za/. The Eastern Cape Parks and Tourism Agency took over the BMP in 2009 with the appointment of a coordinator for the mega reserve with final handover to the Eastern Cape Parks and Tourism Agency occurring in November 2009. The Eastern Cape Parks and Tourism Agency is now implementing the project and has launched the Eastern Cape Biodiversity Stewardship program to further implement the BMR project.

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[57] The other four are the Agulhas Biodiversity Initiative, the Baviaanskloof Mega-Reserve Project, the Gouritz Initiative (now the Gouritz Cluster Biosphere Reserve) and the Garden Route Initiative.

1.5.g(viii) Eastern Cape Parks & Tourism Agency Stewardship Program

The Eastern Cape Parks and Tourism Agencies Biodiversity Stewardship Program was launched in May 2010, and an action plan and strategy has been approved by the Board of Directors. In order to achieve biodiversity stewardship targets with the primary goal of biodiversity site security, the objectives during the process need to include the following (in order of priority):

- The Biodiversity Stewardship Unit must develop durable relationships with landowners, communities, local authorities and other government departments that control areas of biodiversity priority.
- The costs of conserving biodiversity must be shared between the public (through the state), the local municipality, the landowner/user and any specific direct beneficiaries of the resources conserved or the area protected, on a basis which is equitable in relation to the benefits accrued to each party.
- The Biodiversity Stewardship Unit must strive to minimise costs and maximise efficiency (in terms of resources and personnel) in conserving biodiversity outside of state-owned protected areas.
- Options should be provided to recognise commitment to and investment in voluntary biodiversity conservation within farming and other land-use systems, such as the various Biodiversity & Business initiatives active in the landscape.
- Securing conservation investments must be of paramount importance, to ensure the sustainability of conservation efforts and funding. Any conservation status afforded to critical biodiversity sites must thus be well managed; durable; legally sound; resilient to changing opinion on land-use; and, easily audited.

Prerequisites for meeting the above objectives are as follows:

- Consideration needs to be given to investing in the skills needed to achieve the objectives. Encouraging conservation action is not an event, but a process that will require using specific skills over a long time.
- A systematic and defensible conservation planning process (with 5 – 20 year goals) for a specific region at a cadastral scale is very useful to build consensus on common objectives.
- Securing land for conservation requires a focused and sustained approach. Thus, in order to achieve biodiversity stewardship targets, the Eastern Cape Parks and Tourism Agency must have dedicated staff with adequate support.
- A total of 89,000 ha of private land, surrounding the Baviaanskloof, are under negotiation with four contracts in process to be signed by landowners and the Member of the Executive Council (MEC) for the Eastern Cape Provincial Legislature. One contract has already been concluded on the western edge of Baviaanskloof in conjunction with CapeNature.

1.5.g(ix) Gouritz Initiative / Gouritz Cluster Biosphere Reserve

The Gouritz Initiative (gouritz.com/), an outcome of the C.A.P.E. Project (refer to section 1.5.g(i)) completed as a project in May 2009, had as its main purpose to create a corridor along the Gouritz River, where naturally occurring indigenous animals and plants could disperse freely from the conservation areas of the inland mountains (Anysberg-Swartberg and Gamkaberg-Rooiberg ranges) to those of the coastal Langeberg-Outeniqua mountains ranges (refer to Figure 1. The intent is to create a conservation area along the Gouritz River from Herbertsdale to the sea to ensure that the inland section is directly linked to the coastal environment. Much of the area influenced by the Gouritz Initiative is either already inscribed as part of the CFRPA (Swartberg Complex and Boosmansbos Wilderness Area) or is proposed as an extension to the CFRPA (Anysberg; Swartberg extended Complex; Langeberg Complex; Rooiberg; etc.). CapeNature is the implementing agency for the C.A.P.E. project.

The vision for the Gouritz Initiative is that “by the year 2020 the Gouritz Biodiversity Landscape Initiative will support a system of sustainable living landscapes that is representative of the region's biodiversity through the co-existence of all stakeholders.”

Objectives of the Gouritz Initiative were:

- To establish a series of conservation areas along the Gouritz River and its tributaries that will link all the major conservation areas of the region and which will ensure that all the critical components of the biodiversity of the region and their associated ecological processes are safeguarded.
- To develop a land use ethic within these conservation areas that will ensure that present and future human activities will not threaten the biodiversity of the region or the ecological processes that support the species richness of the terrestrial and aquatic systems of the area.

- To support programs that will restore severely transformed critical components of the biodiversity of the region and those that inhibit important ecological processes required to maintain the biodiversity patterns of the Gouritz River area.
- To empower civil society within the Gouritz -area to utilise and enjoy their environment optimally, without threatening the species richness of the area or ecological processes that sustain the biodiversity of the region.
- To empower civil society to ensure that all the authorities, within the Gouritz area, practice the principles of sustainable development.

The Gouritz Cluster Biosphere Reserve application was submitted on 15 March 2011 to UNESCO for designation as a biosphere reserve. Depending upon the outcome of the nomination process the GCBR could soon be the fourth biosphere reserve in the Western Cape.

To this end the Gouritz Cluster Biosphere Reserve (GCBR) was officially formed at an inaugural Annual General Meeting on 19 July, 2011, where the first Board of Directors was elected. This new organization has evolved from the Gouritz Initiative through the establishment of a Section 21[58] company.

1.5.g(x) The Garden Route Initiative (GRI)

The GRI partnership programme (gri.org.za/) aims to conserve and restore the unique biodiversity and sense of place in the Garden Route, while supporting the sustainable management of the region and the delivery of benefits to local communities. Through the initiative, partner organisations - including government departments, conservation agencies, non-governmental organisations and community groups - can co-ordinate and align their activities around a common set of objectives.

The Garden Route has a rich diversity of natural habitats, with great natural beauty that underpins the tourism economy. But land-use pressures are increasing through urbanisation, the spread of invasive alien species, and the over-extraction of resources, including water and line fish stocks. Areas of the most critically endangered biodiversity and attractive scenic landscapes are threatened by inappropriately sited residential developments. At the same time there are enormous challenges to meet the needs of a growing population.

Work undertaken in the GRI partnership through the C.A.P.E. programme includes systematic fine scale biodiversity planning, consolidating protected areas in the critical lowlands and marine areas, promoting conservation stewardship among private landowners, and working towards promoting growth in the number of jobs, training and entrepreneurial opportunities through biodiversity management, sustainable natural resource use and responsible tourism.

Objectives of the GRI are to:

- Identify priority biodiversity across the Garden Route through systematic fine scale biodiversity planning;
- Consolidate the Garden Route protected areas through the critical lowlands, and marine areas;
- Promote the conservation stewardship among the owners and managers of land in the Garden Route in order to ensure the appropriate sustainable management of biodiversity and natural resources on their properties;
- Incorporate biodiversity priorities into the land use planning and decision making; and,
- Ensure the sustainable management effectiveness of the Garden Route conservation areas, including:
  - Design and test a strategic performance management system in the Garden Route protected areas including the marine protected areas;
  - Develop an environmental information system;
  - Develop and implement plans for responsible tourism;
  - Develop business plans and mechanisms for financial sustainability; and
  - Implement priority management programmes.

1.5.g(xi) Centre for African Conservation Ecology (ACE)[59]

Based at the Nelson Mandela Metropolitan University in the Eastern Cape, ACE has provided support to the Baviaanskloof initiatives in a number of ways including the compilation in 2000 of a comprehensive booklet

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[58] Section 21 companies are “not for profit” companies formed under Section 21 of the Companies Act (Act 61 of 1973), which allows for a 'not-for-profit company' or 'association incorporated not for gain'.

[59] Formerly known as the Terrestrial Ecological Research Unit (TERU).

on the Baviaanskloof (Boshoff *et al.* 2000), which has since been updated twice (Boshoff 2005; Boshoff 2008) to reflect the progress of the Baviaanskloof Mega-Reserve initiative (Appendix 7).

1.5.g(xii) CapeNature Stewardship Programme

The C.A.P.E. / CapeNature Stewardship Programme (capeaction.org.za/index.php?C=enable/ or / capestewardship.co.za/) is a programme aimed at encouraging, building and sustaining a stewardship ethic in landowners through the negotiation and maintenance of conservation stewardship agreements. Documentation for this programme is presented in Appendix 7.

The overarching goal of the conservation stewardship programme in CapeNature is: "To secure, and maintain, the conservation status of land in high priority conservation areas of the Western Cape."

To realize the goal of the CapeNature conservation stewardship programme, the conservation stewardship programme is focused on achieving the following four complementary key outcomes, each of which has a suite of performance indicators and targets by which progress may be measured against a 2007/2008 baseline.

Outcome 1: Securing the financial and human resources to sustain the conservation stewardship programme.
Outcome 2: Establishing new stewardship sites in the priority areas for conservation.
Outcome 3: Maintaining stewardship agreements in the priority areas for conservation.
Outcome 4: Maintaining an enabling operating framework for the stewardship programme.

The vision of the Stewardship Program is threefold:

- To ensure that privately owned areas with high biodiversity value receive secure conservation status and are linked to a network of other conservation areas in the landscape;
- To ensure that landowners who commit their property to a stewardship option, will enjoy tangible benefits for their conservation actions; and,
- To expand biodiversity conservation by encouraging commitment to, and implementation of, good biodiversity management practice, on privately owned land, in such a way that the private landowner becomes an empowered decision maker.

The underlying principles of the Stewardship Programme are as follows:

- Focus on biodiversity conservation outcomes;
- Target priority areas;
- Be responsive to needs;
- Secure the highest conservation tenure possible;
- Provide ongoing support to landowners; and,
- Build cooperation and partnerships.

The Three Stewardship options that the CapeNature Conservation Stewardship Programme promotes include:

- Contract Nature Reserves - Contract Nature Reserves are legally recognized contracts or servitudes on private land to protect biodiversity in the long term.
- Biodiversity Agreements - Biodiversity Agreements are negotiated legal agreements between the conservation agency and a landowner for conserving biodiversity in the medium term.
- Conservation Areas - Conservation Areas are flexible options with no defined period of commitment (includes conservancies).

To date, the Stewardship Programme has secured 38 Contract Nature Reserves (53,000 ha), 19 Biodiversity Agreements (12,000 ha) and 25 Conservation Areas for CapeNature (20,500 ha). It must be mentioned that the majority of these sites are in close proximity to the inscribed and proposed extension CFRPA thus consolidating the edges and supporting the buffering mechanisms. It is envisaged that in the future, once "stability" has been reached with this process, that the Contract Nature Reserves will be evaluated for a possible further extension/consolidation of the CFRPA.

1.5.g(xiii) The Biodiversity and Wine Initiative (BWI)

The Biodiversity and Wine Initiative (bwi.co.za/) is a partnership between the wine industry and the conservation sector in the fynbos areas of the Western Cape, with the following aims:

- No further loss of natural habitat in critical sites;
- A positive contribution to biodiversity conservation through setting aside natural habitat in contractual protected areas;
- Changes in farming practices to enhance the suitability of vineyards as habitat for biodiversity, and a reduction in farming practices that have negative impacts on biodiversity, both in the vineyards and in surrounding natural habitat; and,
- Benefits to the wine industry by using the introduction of biodiversity guidelines as a marketing tool to differentiate Brand South Africa.

1.5.g(xiv) DST-NRF Centre of Excellence for Invasion Biology (CIB)

The DST-NRF Centre of Excellence for Invasion Biology (CIB) (academic.sun.ac.za/cib/) was established at the University of Stellenbosch during 2004 with the "*mandate to conduct research and development (R&D) and training in biodiversity science especially as it applies to understanding the impacts of, and managing and preventing biological invasions*".

An inter-institutional Centre of Excellence, the CIB comprises a network of senior researchers and their associated postdoctoral associates and graduate students throughout South Africa, thus contributing extensive expertise and internationally recognised research in biodiversity and ecosystem-functioning. The CIB have already contributed significantly to the volume of current information on invasive species, restoration and ecosystem services.

1.5.g(xv) Other initiatives, institutions and programmes

Other research and monitoring programmes at Western- and Eastern Cape Universities and Tertiary Education Institutions include the Plant Conservation Unit (PCU) based at the University of Cape Town (pcu.uct.ac.za/) which hosts extensive expertise in invasive alien plant (IAP) research, conservation planning and climate change research; and, the Animal Demography Unit (ADU)[60] (adu.org.za/), which contributes (through atlassing and other projects) to datasets of birds (sabap2.adu.org.za/); reptiles (sarca.adu.org.za/); butterflies (sabca.adu.org.za/) and frogs (adu.org.za/frog_atlas) in southern Africa. The ADU also hosts the Birds in Reserves Project (BIRP) (birp.adu.org.za/), from which much of the avian information used in this Extension Nomination was sourced.

There are a variety of other initiatives which support research, collective understanding and feedback of information in the CFR. These include the Botanical Society of South Africa's "Fynbos Forum" (botanicalsociety.org.za/cu/fynbosforum) as well as various other projects conducted by the Botanical Society (botanicalsociety.org.za/) and their active Conservation Unit (botanicalsociety.org.za/cu/).

1.5.h Visitor facilities and statistics

Millions of tourists from all over the world are drawn to the natural beauty of the CFR. The many attractions include spectacular spring flower displays, hiking in the Cape Fold mountain ranges, or watching Southern Right whales. A spectacular and worthy tourist destination, the region has well-developed infrastructure to facilitate the safety, comfort and enjoyment of tourists. For this reason, all visitor facilities are managed as potential international destinations, providing a variety of economic options and opportunities for local and international visitors.

Most protected areas have diverse visitor facilities as well as control mechanisms for limiting visitor numbers where this is necessary for the protection of the property or for protection of a particular feature. Various parts of the Nature Reserves and National Parks do not have controlled access (e.g. fencing or check-points) and visitor numbers for these areas are not available.

Location specific statistics and facility descriptions are provided where relevant or significant in Chapters 2 – 15.

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[60] Formerly known as the Avian Demography Unit.

1.5.i Policies and programmes related to the presentation and promotion of the CFRPA

A R4,5 million World Heritage Site Interpretive Centre was launched in Baviaanskloof in December 2007. Overlooking the Cambria Valley, it was built to showcase the natural and cultural history and diversity of the Baviaanskloof. The centre forms part of the Baviaanskloof Mega Reserve, and was funded by the Department of Environmental Affairs (previously Department of Environmental Affairs and Tourism).

The CFRPA Joint Management Committee will be responsible for a concerted publicity drive to advertise and promote the CFRPA as well as the concept of World Heritage to the South African public as well as to international tourists. At present, most of the presentation and promotion of the CFRPA is undertaken on an *ad hoc* basis, by the individual management authorities; their various partners; and, by the tourism sector. This is an aspect that requires coordination and resources to achieve the full potential of the CFRPA. A selection of promotional material is to be found in Appendix 8.

1.5.j Staffing levels (professional, technical, maintenance)

Staffing capacity for each protected area varies according to the needs and sizes of the site. Each protected area has at least one Reserve Manager, overseeing a number of personnel who attend to day-to-day operations of the reserve including the conservation, baseline data collection and monitoring, maintenance, administration and technical aspects of reserve functioning. The field staff are in turn supported by scientific sections that deal with knowledge management, GIS, research coordination and general advice relating to both planning and management of the Protected Areas as well as the surrounding landscape.

All staffing levels are adjusted appropriately as management plans are completed (and/or revised) for each area according to the provisions of the Protected Areas Act (section 1.5.b(ii)). This is however, funding dependant and in some cases the field staff to area ratio is not at the desired level.

1.6 MONITORING

The Cape Action for People and the Environment (C.A.P.E.) Monitoring and Evaluation (M&E) protocol has been finalised and aims to evaluate the contribution of the World Bank funded programme to the conservation efforts in the broader Cape Floristic Region (CFR). CapeNature, being the main implementing agent in the CFR, is intimately involved in this effort. More recently the Western Cape Department of Environment Affairs and Development Planning (the provincial government department to which CapeNature is answerable) initiated the development of an M&E system to evaluate the performance specifically of CapeNature in fulfilling its mandate of conserving the biodiversity of the Western Cape Province as a whole. These two systems have been developed so as to minimise duplication, and thus effort, when undertaking these onerous evaluations. It is intended that through these mechanisms deficiencies will be timeously identified and addressed through the appropriate channels.

The concern over the increasing fire frequency, especially due to the proximity of the Table Mountain National Park to urban Cape Town, led to commissioning of the Council for Scientific and Industrial Research (CSIR) to update its fire management programme and set in place scientifically based desired measure and targets with respect to fire management. As such, an intensive fire monitoring programme, based on adaptive conservation management, is underway and a dedicated fire Management budget now exceeds R10 million per year for this CFRPA component alone.

Inter-linked with the prevailing fire regime is that of alien vegetation management. This is due to invasive aliens being fire dependant and fire promoting within the fynbos biome. As such, SANParks has undertaken a strategic internal review of the Invasive Species Management Programme in conjunction with its key government partner, Working for Water programme of the Department of Water Affairs. Aspects of the review included, clearing targets, cost effectiveness of operations, achievements to date, etc. A revised strategy linked to a business plan to identify any medium to long-term shortfalls was completed during 2009. Currently an annual budget of over R8 million is dedicated to invasive alien clearing.

Eastern Cape Parks and Tourism Agency has recently undertaken a Protected Area Integrity Management Effectiveness (PAIME) project of all its protected areas in order to determine its level of effectiveness to conserve biodiversity. This assessment identified a number of shortfalls within the reserves and these areas are being addressed by Eastern Cape Parks and Tourism Agency with the buy-in of protected area managers and senior management, including the Board.

A second, separate monitoring and evaluation system, the Management Effectiveness Monitoring Tool (METT), has also been introduced. This system fits in with the PAIME assessment and provides a detailed assessment of the state of the protected areas. Species monitoring in the Baviaanskloof Complex has been initiated and additional staff appointed to beef up the monitoring team. Adaptive conservation management strategies have been adopted by the Eastern Cape Parks and Tourism Agency and are being implemented on ongoing basis.

A large proportion of the monitoring done within the inscribed and proposed Extension Nomination protected areas forms part of the national monitoring programmes administered by NGOs and university research units. These include the South African Bird Ringing Project; the Birds in Reserves Project; the Southern African Frog Atlas Project; the Nest Record Card Scheme; the South African Reptile Conservation Assessment (all projects and schemes administered by the Animal Demography Unit at the University of Cape Town (adu.org.za/)); the Black Oystercatcher Annual Census (part of the Oystercatcher Conservation Programme run by the Percy Fitzpatrick Institute of African Ornithology at the University of Cape Town (uct.ac.za/depts/fitzpatrick/)); the Crane Working Group (that monitors Blue Cranes); and, the Poison Working Group (that monitors the use of chemicals). The Endangered Wildlife Trust (ewt.org.za) administers the two latter working while SANBI manages the Protea Atlas project, which aimed to atlas all southern African Proteaceae (proteaatlas.org.za/).

In addition, reserve-specific programmes include Fire Mapping (GIS-based), the PRECIS-based Information System for Endangered Plants (**ISEP**), invasive alien plant eradication (Fynbos Working for Water Programme) and monitoring populations of threatened animals such as Cape mountain zebras, Cape vultures, leopards, geometric tortoises, and endemic fishes. Re-establishment of indigenous species into reserves are recorded, as are general sightings of plants and animals in each protected area using a palm–held computer which electronically links data with a GPS reading. This can be downloaded directly onto a computer database. This information is detailed in the separate chapters dealing with each protected area.

For CapeNature, the State of Biodiversity reporting structure provides a monitoring framework, supported by an Ecological Auditing Procedure.

CapeNature suggested that because of the area-specific responses of vegetation to variation in fire regimes, the use of Thresholds of Potential Concern (TPCs) could provide a framework within which strategic adaptive management can be followed to ensure ecologically sound fire management. A TPC aims to measure the impact of a disturbance on biodiversity, to set acceptable limits for the disturbance, and to identify appropriate management actions that should be taken (Ecological Monitoring Manual 2006). Fire return interval targets for all protected areas in the province have been set. In all areas, except where fire is used to control alien plant invasion, no more than 5% of the area should exceed the threshold (or 10 years if unknown) (Ninham Shand 2006: CapeNature Biodiversity Monitoring System).

CapeNature has continued to develop the TPC concept based on serotinous, obligate seeding Proteaceae with a view to setting fire return interval and season guidelines which cater for the climatic variation across the reserves in the CFR since 2004. This work draws from experience in the Kruger National Park, and has already been applied to other National Parks (see van Wilgen and Scott 2001). The motivation and methods for this work is presented in a manual provided to all reserve managers (de Klerk *et al.* 2006). Initially this work has focused on the Swartberg and Outeniqua mountains and the initial results presented at a number of conferences and submitted for publication. The Fire Data Analysis Project (section 5.2.3) is aimed at speeding up the development of Thresholds of Potential Concern for more individual reserves and evaluating the state of the vegetation on these reserves relative to the thresholds.

SANParks has also adopted the concepts of Adaptive Resource Management, and Strategic Adaptive Management as key approaches to biodiversity management (refer to the SANParks Management Plan Framework in Appendix 5 for more details on the management strategy).

A recently developed framework for guiding the structure and development of a Biodiversity Monitoring System (BMS) for South African National Parks (SANParks) (McGeoch *et al.* 2011). The BMS comprises the following ten biodiversity monitoring programmes:

1 Biodiversity Mechanisms Monitoring Programme

With the maintenance of biological diversity as SANPark's key mandate, most conservation actions take place at site level with implementing decisions taken at park section and park level. Conservation actions focus on providing the opportunity for ecological processes to operate. If such processes are constrained, actions focus on restoring or mimicking these. Conservation actions thus focus on managing drivers that directly influence conservation objectives and specifically also those factors that modulate how drivers

influence key objectives. Mechanisms underpinning a conservation concern are thus the key focus of most site-based biodiversity management actions. This programme seeks to establish the mechanistic linkages between key conservation objectives for each park, how drivers work and what modulates the effect of drivers explicitly. Heuristic models are used to guide the identification and development of park-specific monitoring requirements across these linkages.

2 Species of Special Concern Monitoring Programme

Particular species may be of special concern because they are threatened, or their conservation status is in decline. Such species include local endemics and otherwise rare and threatened species (IUCN 2009). Species may be of particular conservation concern for other reasons, including their functional significance, once common species experiencing rapid decline (Nielsen *et al.* 2009; Gaston 2010), or species occurring as disjunct populations in a specific area (see e.g. Geldenhuys 1992). Species loss from protected areas is a key measure of the performance of protected areas and of the effectiveness of conservation management more generally (Gaston *et al.* 2008).

3 Freshwater and Estuarine Systems Monitoring Programme

Freshwater and estuarine systems are under intense pressure from increasing extraction as well as contamination from urban, agricultural and industrial return flows (Driver *et al.* 2005; Revenga *et al.* 2005; deVilliers & Thiart 2007). Pressure on these systems is exacerbated by the climatic aridity of South Africa, along with climate change predictions that total annual precipitation in the region is likely to decrease (Schulze 2007).

4 Alien and Invasive Species Monitoring Programme

Alien invasive species (IAS) are recognized as one the three principle threats to biodiversity, and both the number, extent and impact of IAS are increasing (Hulme 2009; McGeoch *et al.* 2010). Monitoring introduction pathways, new introductions, the spread of alien species within parks, and the success of management intervention is crucial to the successful management of this threat to biodiversity (Foxcroft 2009; Foxcroft *et al.* 2009).

5 Habitat Degradation and Rehabilitation Monitoring Programme

This includes both the loss of habitat and decline in habitat quality as a consequence of, for example, inappropriate fire or herbivory regimes, alien species invasion, the loss of key biodiversity elements of ecosystem processes (Carey *et al.* 2000). In some instances it is possible to reverse the effects of habitat degradation via ecological restoration (e.g. recovery of wetlands from old agricultural land and post alien clearing rehabilitation). Monitoring the success of the latter is critical, particularly given protected area expansion in some cases into areas with a history of alternative land uses.

6 Resource Use Monitoring Programme

There is a historical relationship between protected areas, their resources and stakeholders, particularly against the South African backdrop of land ownership, social segregation and restricted access to resources (Fabricius 2004; Von Maltitz & Shackleton 2004). The purpose of sustainable resource use in national parks is to contribute to improved human well-being (Naughton-Treves *et al.* 2005). This includes encouraging people to manage their own resources better, and strengthening the links between human livelihoods, the value of conservation and sustainable resource use with special attention to those peoples historically disadvantaged or marginalized by the South African protected area management authorities or their activities (SANParks 2008). Resource use in terrestrial and marine environments differs significantly in terms of their drivers, impact and management. For example, recreational fishing is a key form of resource extraction in the marine environment (Lombard *et al.* 2004) with high economic value (Leipold & van Zyl 2008). Some forms of resource use also currently generate income for parks (timber and wildlife sales). However, this objective must be carefully balanced with the overarching biodiversity objective of parks. Unsustainable, inappropriate and uncontrolled use of national park resources can result in adverse impacts on biodiversity and undermine the ecosystem integrity of parks.

7 Habitat Representation and Persistence Monitoring Programme

Nationally, particular ecosystems may be of special concern because of their conservation status and poor level of protection within formal reserves (Driver *et al.* 2005). At a park level, the patterns and processes that support ecosystem functioning within the park are directly dependent on the persistence of biodiversity and processes in areas around the park (Hansen & DeFries 2007). Key issues include the fragmentation of

habitat, integrity of linkages and corridors between reserves and along gradients required for climate change adaptation, and the potential impacts of external park developments and activities.

8 Disease Monitoring Programme

Disease is one of the natural complement of factors that affect plant and animal populations. However, human manipulation of plant and animal distributions, livestock and wildlife interfaces, and increasing individual stress as a consequence of declines in environmental quality all contribute to human-induced disease (Daszak *et al.* 2000; Bengis *et al.* 2003). The term "emerging infectious diseases" (EIDs) is now used to describe the global phenomenon of increasing incidence of previously unknown diseases, and changes in the distribution of known diseases (Daszak *et al.* 2000). EID's are thought to be driven by a combination of socio-economic and environmental factors (including, for example drug resistance and rainfall), and many EID's are zoonotic and originate in wildlife (Jones *et al.* 2008). Disease therefore poses a significant potential threat to both the security of protected areas, and the health of their biota.

9 Climate and Climate Change Monitoring Programme

Climate plays a pivotal role as the basis for understanding biodiversity pattern and ecosystem processes (and thus often provides critical baseline data for other programmes listed here) (Bas *et al.* 2008, Lepetz *et al.* 2009). Global climate change has significant implications for human well being and biodiversity conservation. In particular, questions are being asked about the role of protected areas in the face of climate change, the impacts on them and possible mitigation measures (Midgley *et al.* 2007; Schulze 2007).

10 Organisational Reporting Monitoring Programme

Various biodiversity monitoring activities are more appropriately reported for the whole national park system managed by SANParks than for individual parks. This is often because of reporting requirements arising from legislation, national conservation programmes or international conventions. Examples are (1) the contribution of the national park system towards national targets set for the conservation of threatened biomes or vegetation types, and (2) the role of the national park system in protecting species that are of concern to Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) as a result of international trade.

1.6.a Key indicators for measuring state of conservation

One of the first urgent requirements for the joint management authority of the CFRPA will be the compilation of an overarching management plan for this vast property with its many component areas. Until such time, monitoring (at the protected area- and regional levels) is undertaken by the three management authorities (and their partners). In terms of the Protected Areas Act (refer to section 1.5.b(ii)) indicators for monitoring performance with regard to the management of national protected areas, and the conservation of biodiversity in those areas, may be established by the Minister.

The concept of monitoring using key indicators is a fundamental principle of the existing Ecological Auditing Procedure adopted by all three management authorities.

The importance of these indicators varies in each reserve. The Ecological Audit (described in Volume 2 of the Nomination (DEAT 2003: Appendix 1)) requires that each reserve identifies relevant indicators, monitors these using the most appropriate techniques, ensures that the data are current, and that the data are available for decision-making.

CapeNature applies a Biodiversity Monitoring System (BMS), a tool co-developed with the Provincial Department of Environmental Affairs and Development Planning to monitor the extent to which the management authorities realise their biodiversity objectives.

For SANParks, monitoring is essential to adapt Park management plans and activities to changing circumstances. All National Parks ensure that an integrated approach to research and monitoring of key management indicators in order to enable an adaptive management approach. To this end, Park Scorecards have been developed and implemented to monitor the achievement of the Parks' business objectives. A series of indicators known as thresholds of potential concern (TPC's) have been developed as indicators for biodiversity, tourism and people centred conservation. Each of these indicator sets will evolve through the process of adaptive management.

The monitoring and evaluation system compiled for the C.A.P.E. Programme (section 1.5.g(i)) serves as the basis for integrating and directing research, monitoring and evaluation across all of the protected areas,

using common indicators where feasible in order to evaluate and assess progress against baseline monitoring data.

The National Department of Environmental Affairs has recently established an online Environmental Indicator Database (enviroindicator.deat.gov.za/cocoon/rsadb/docs/index) to aid uniformity in state of the environment reporting.

Tables 1.6.1 and 1.6.2 provide some indication of current monitoring standards and efforts within the various components of the CFRPA.

Table 1.6.1 Examples of procedures, systems or tools for measuring state of conservation within the CFRPA.

Procedure / System / Tool	Management authority	Location of records
Biodiversity Monitoring System (BMS)	CapeNature	CapeNature (Section 1.8)
Thresholds of potential concern (TPC)	SANParks	SANParks (Section 1.8)
Protected Area Integrity Management Effectiveness (PAIME)	Eastern Cape Parks and Tourism Agency	ECPTA (Section 1.8)
Management Effectiveness Tracking Tool (METT)	Eastern Cape Parks and Tourism Agency	ECPTA (Section 1.8)

Table 1.6.2 Examples of key indicators for measuring state of conservation within the CFRPA.

Theme/Indicator/s	periodicity	Management authority	Location of records
Fire / Fire frequency, intensity and season	Updated with every fire	ALL	See section 1.8
Fire / Vegetation age and # number of hectares burnt prematurely	Updated with every fire	ALL	See section 1.8
Fire / which eco-zones or vegetation types have burned	Updated with every fire	ALL	See section 1.8
Species / Decline or increase of selected key indicator species	Annual / 5-year / 20-year	ALL	See section 1.8
Alien invaders / Hectares under invasion (increase/decrease)	Annual	ALL	See section 1.8
Alien invaders / Hectares under invasion (per invasive alien species)	Annual	ALL	See section 1.8
Tourism / Decline or increase in number of visitors	Annual / Seasonal	ALL	See section 1.8

1.6.b Administrative arrangements for monitoring of the CFRPA

The South African National Biodiversity Institute (SANBI) is in the process of developing a monitoring system for the biotic components and attributes of the country which is closely aligned to, and where relevant integrated with, finer scale systems.

Several monitoring and evaluation (M&E) systems are already in place for measuring progress towards some of the stated objectives of the C.A.P.E. Programme. These include (but are not limited to):

- Project level M&E systems for various projects including those funded by GEF.
- An M&E system for the CEPF investment.

Further, the C.A.P.E. Programme has developed an integrated M&E system that measures progress of the C.A.P.E. strategy towards its 2020 objectives and will integrate its biodiversity and socio-economic objectives.

1.6.b(i) Western Cape

CapeNature have designed an iterative State of Biodiversity (SoB) reporting mechanism[61] that includes planning and conservation actions based on inventory and monitoring. The SoB report co-ordinates the gathering of biological data from a range of institutions including the World Wildlife Fund, SANParks, South

[61] The SoB is published every five years. A copy of the latest (2007) SoB report may be found in Appendix 7.

African National Biodiversity Institute, universities, museums, professional and amateur societies and relevant government departments. These data are then reported in terms of species statistics, analyses and conservation status of habitats, especially sensitive habitats, threats to biodiversity, economic opportunities as well as the accuracy and reliability of the data used. Each report concludes with a set of recommendations for the next five years.

The State of Biodiversity report is itself monitored through implementation of an Ecological Auditing (eco-audit) Procedure that ensures accountability of this process. Each reserve in the Western Cape is required to have a full eco-audit every two years, with an inspection by the Area Manager in alternate years.

Implementation by CapeNature of the Ecological Auditing Procedure was aimed at providing an open and efficient public service. Its basis is that CapeNature should be accountable for its financial expenditure through monitoring, and efficient use of income to carry out its mission, namely "The conservation of the natural heritage of the Western Cape for the benefit, well-being and enjoyment of present and future generations".

Details of the Ecological Auditing Procedure are described in the Nomination (DEAT 2003: Appendix 1). Briefly, the implementation involves assigning points to particular essential activities, depending on how well those activities are completed. The rationale is to provide reserve management staff the opportunity to compare their progress with previous records and to identify areas of weakness so that improvements can be made. The aim is not to compare one reserve with another, but rather to standardize monitoring and thus to monitor progress within each reserve over time.

Reserve management personnel (in association with, and supported by, CapeNature Regional Ecologists as well as the Scientific Services and Administrative Divisions) are responsible for liaison with external monitoring agencies; and/or management-; and/or co-ordination of monitoring programmes within Western Cape conservation areas (such as Nature Reserves and Wilderness Areas), depending upon the level of involvement of CapeNature within each monitoring programme.

Monitoring programmes undertaken by institutes or agencies, external to the CapeNature, are linked to CapeNature through various means, including structured reporting channels as well as structured administrative requirements for data-capture (e.g. allowable number of specimens) and data-sharing. With respect to the latter, collection permits issued for collection of research material (e.g. plant- or animal specimens for identification or research purposes) stipulate that researchers must supply information on the specimen/s collected, locality, purpose for which taken, etc. in order to ensure that these data are adequately relayed to the central database of the CapeNature.

CapeNature ensures that all data gathered in their reserves are stored in a digital database suitable for analysis using a Geographical Information System (GIS). A section, comprising three professional staff within the Scientific Services Division, is responsible for the maintenance of the GIS as well as the training of all relevant management and support staff in the use of GIS. The GIS Section is based at Jonkershoek, near Cape Town.

1.6.b(ii) Eastern Cape

Eastern Cape Parks and Tourism Agency, which manages all the components of the Baviaanskloof Complex, has initiated a practical and realistic monitoring programme, which examines management efficiency aspects of the organisation.

Eastern Cape Parks and Tourism Agency has recently undertaken a Protected Area Integrity Management Effectiveness (PAIME) project of all its protected areas in order to determine its level of effectiveness to conserve biodiversity. This assessment identified a number of shortfalls within the reserves and these areas are being addressed by Eastern Cape Parks and Tourism Agency in collaboration with protected area managers and senior management, including the Board.

A second, separate monitoring and evaluation system has also been introduced, the Management Effectiveness Monitoring Tool (METT). This system fits in with the PAIME assessment. A baseline study was conducted in 2010 and is being followed up by an independent assessment in 2011. Species monitoring in the Baviaanskloof has been initiated and additional staff have been appointed to augment the monitoring team. Adaptive conservation management strategies have been adopted by the Eastern Cape Parks and Tourism Agency and are being implemented on ongoing basis.

Currently, all management activities are monitored and recorded by management staff and all data, related to monitoring and evaluation, are housed at the Eastern Cape Parks and Tourism Agency.

1.6.b(iii) SANParks

Monitoring data are recorded at appropriate intervals. Monitoring data are maintained in specially developed software (ZIZO) as part of an Integrated Environmental Management System (IEMS) based on the International Standards Organisation (ISO) 14001 series. In brief:

- All geo-referenced data is maintained in a Geographical Information System (GIS) database;
- Financial information is maintained in corporate financial system/s; and,
- The parks maintain a library of all planning reports/ information/ publications/ research reports/ legislation relating to the park.

Records and data not stored and maintained at the SANParks are easily accessible from SANBI, other local research institutions and the local authorities (e.g. City of Cape Town). SANParks maintains a web page (sanparks.org/) providing public access to a wide variety of information about the various National Parks.

1.6.c Results of previous reporting exercises

For the national and both provincial conservation authorities, appropriate recording practices, facilities and means of access to regularly updated records are being formulated and improved in order to facilitate sound management of all conservation-related areas that fall under their jurisdiction. As suggested above, records for each reserve are kept and are available to reserve management for comparative purposes; for informing management- and budgetary decision-making; and, for improved focus with respect to e.g. prioritising research programmes.

At the 30th session of the World Heritage Committee that was held in Vilnius, Lithuania in July 2006, the Committee requested South Africa in terms of Decision 30 COM 7B.5 "…*to provide the World Heritage Centre with a detailed report before 1 February 2007 on the state of conservation of the property for examination by the Committee at its 31st session in 2007*". Subsequently, a State of Conservation report for the CFRPA (DEAT 2007a: Appendix 3) was compiled and presented before the 31st session of the World Heritage Committee that was held in Christchurch, New Zealand in 2007 for consideration. Following consideration of the first report, the Committee requested the State Party of South Africa to provide the World Heritage Centre with a report on progress made in the implementation of the recommendations outlined in Decision 31 COM 7B.8 for examination by the Committee at its 33rd session in 2009. This second report (DEAT 2007a: Appendix 3) was submitted in February 2009.

1.7 DOCUMENTATION

1.7.a Photographs, slides, image inventory and authorization table and other audiovisual materials of the CFRPA

The CFRPA is such a vast area that it is almost impossible to portray the total extent of the system without providing many thousands of images.

Appendix 1 (DEAT 2003) provided an initial selection of images of the property.

Appendix 8 of this Extension Nomination contains a copy of the book "Cape Floral Region Protected Areas: W*orld Heritage Sites of South Africa"* (McIntosh and CapeNature 2008) as well as a selection of other photographic and marketing materials.

1.7.b Texts relating to protective designation, copies of property management plans or documented management systems and extracts of other plans relevant to the CFRPA Nomination Extension

The Nomination Documentation (DEAT 2003: Appendix 1) and State of Conservation Reporting (DEAT 2007a; Appendix 3) list all relevant legislation and regulations, affecting the inscribed and the proposed Extension Nomination sites, up to and including March 2007. A summary of the information is provided in this section, as well as an update of recent (post March 2007) legislative and regulatory mechanisms and plans. Appendices 4, 5 and 6 provide texts of the legislative and regulatory mechanisms (Appendix 4); a selection of Park Management plans (Appendix 5); and, other plans, strategies and programmes relating to the CFRPA and Extension Nomination (Appendix 6).

1.7.c Form and date of most recent records or inventory of property

CapeNature uses a desktop GIS facility to update records and to ensure that all staff members have access to existing information as soon as it becomes available. This initiative has allowed improved data recording and access across all reserve and protected areas. All six Western Cape protected areas have GIS and Internet facilities and are able to record and access records as a matter of course. CapeNature's iterative State of Biodiversity reporting is one example of the application of captured data.

Eastern Cape Parks and Tourism Agency has Internet and GIS facilities and steady progress is being made to improve recording facilities, data capture and access to existing records. A database manager has been appointed to update state of knowledge for all reserves and to record and update data (ecological, GIS) on a regular basis.

SANParks uses a personal computer-based Environmental Information System (EIS), founded on commercial GIS and database software, which enables park staff to update and access park information. The system:

- Allows park personnel to report on the status of the park;
- Assists park staff with strategic day-to-day decision making;
- Makes information on the park widely available to rangers, managers, researchers, visitors and the public; and,
- Improves the efficiency of gathering, storing and managing data about the park.

A number of broad studies and research programmes have contributed significantly to a variety of management strategies towards the conservation of ecological process and biodiversity within the CFR. These include work on alien invasive species (e.g. Underhill and Hofmeyr 2007; Currie *et al.* 2009) and climate change (Williams *et al.* 2005; Swart *et al.* 2009). Information provided through these and a multitude of other intensive and far-reaching studies have contributed immeasurably to the selection of target areas for conservation initiatives, as well as enhanced conservation management, throughout the CFR.

In conclusion, published sources of information, resulting from previous reporting exercises, include an array of scientific and popular literature on various facets of the CFR, many of which have been published in internationally recognised journals and/or publishing houses. Reference to a selection of these, published since submission of the original Nomination, may be found in the extended reference list.

1.7.d Address where inventory, records and archives are held

All records for CapeNature are stored at Scientific Services, Knowledge Management Section in Jonkershoek Nature Reserve, Stellenbosch.

All records relating to the Baviaanskloof Complex are held at the Eastern Cape Parks and Tourism Agency.

All records for SANParks are held at the Cape Research Centre (the research wing of SANParks' Conservation Services Division).

Refer to Section 1.8.b for complete contact details for each of these agencies.

1.7.e Reference list

* = references of information not cited in this document but published on various facets of the CFR since the CFRPA nomination 2003 (Appendix 1).

Ashwell A, Sandwith T, Barnett M, Parker A and Wisani F. 2006. Fynbos Fynmense: people making biodiversity work. *SANBI Biodiversity Series* 4. South African National Biodiversity Institute, Pretoria.

Bas Y, Devictor V, Moussus JP and Jiguet F. 2008. Accounting for weather and time-of-day parameters when analysing count data from monitoring programs. *Biodiversity and Conservation*, 17: 3403−3416. Cited in McGeoch *et al.* 2011.

*Bekker SJ, de Villiers C, Erasmus Z and Stafford L. 2005. *CapeNature: Manager of the Western Cape's natural capital portfolio*. Unpublished Report prepared by CapeNature.

Bengis RG, Grant R and De Vos V. 2003. Wildlife diseases and veterinary controls: A savanna ecosystem perspective. In: JT du Toit, KH Rogers & HC Biggs (eds.). *The Kruger experience: Ecology and management of savanna heterogeneity*, pp. 349−369, Island Press, Washington. Cited in McGeoch *et al.* 2011.

Bibby CJ, Collar NJ, Crosby MJ, Heath MF, Imboden C, Johnson TH, Long AJ, Stattersfield AJ and Thirgood SJ. 1992. *Putting biodiversity on the map: priority areas for global conservation.* International Council for Bird Preservation, Cambridge, United Kingdom.

Bomhard B, Richardson, DM, Donaldson JS, Hughes GO, Midgley GF, Raimondo DC, Rebelo AG, Rouget M and Thuiller W. 2005. Potential impacts of future land use and climate change on the Red List status of the Proteaceae in the Cape Floristic Region, South Africa. *Global Change Biology*, 11: 1452–1468.

Bond P and Goldblatt P. 1984. Plants of the Cape Flora - A descriptive catalogue. *Journal of South African Botany*. Suppl. Vol 13.

Bond WJ and Slingsby P. 1983. Seed dispersal by ants in shrublands of the Cape Province and its evolutionary implications. *South African Journal of Science* 79: 231-233.

*Boonzaaier C, McGeoch MA and Parr CL. 2007. Fine-scale temporal and spatial dynamics of epigaeic ants in Fynbos: sampling implications. *African Entomology* 15: 1-11.

*Born J, Linder HP and Desmet P. 2007. The Greater Cape Floristic Region. *Journal of Biogeography*, 34: 147–162.

Boshoff, A.F., Cowling, R.M. & Kerley, G.I.H. 2000. The Baviaanskloof Conservation Area – a conservation and tourism development priority. *TERU Report* No. 27.

Boshoff A. 2005. The Baviaanskloof Mega Reserve. Terrestrial Ecology Research Unit UPE. *TERU Report* No. 52.

Boshoff A. 2008. The Baviaanskloof Mega Reserve: From concept to implementation. Centre for African Conservation Ecology, Nelson Mandela Metropolitan University, Port Elizabeth. *ACE Report* No. 58.

*Boshoff AF and Kerley GIH. 2001. Potential distributions of the medium- to large-sized mammals in the Cape Floristic Region, based on historical accounts and habitat requirements. African Zoology 36(2):245-273.

*Botanical Society of SA Conservation Unit. 2007. *Recommended Terms of Reference for the consideration of biodiversity in environmental assessment and decision making*. Claremont. Botanical Society of SA Conservation Unit.

*Botes A, McGeoch MA, Robertson HG, van Niekerk A, Davids HP and Chown SL. 2006. Ants, altitude and change in the northern Cape Floristic Region. *Journal of Biogeography*, 33: 71–90.

Bowden, RN. 1978. Diptera. In: *Biogeography and Ecology of Southern Africa*. Werger, M. J. A. (ed.), W. Junk publishers, The Hague, 774-796.

Bradshaw, P. 2009. *Endemism and Richness in the Cape Floristic Region: Phytogeographic Patterns and Environmental Correlates in a Global Biodiversity Hotspot*. Unpublished Ph. D. Thesis. UCT.

Bradshaw, P. and Holness S. 2013. *Fynbos World Heritage Site Assessments*. Internal report compiled for comparative analysis of sites appropriate for the Extension Nomination of the Cape Floral Region Protected Areas World Heritage Site. Revised.

Breytenbach GJ. 1988. Why are myrmecochorous plants limited to fynbos (Macchia) vegetation types? *South African Journal of Forestry*, 144: 3-5.

*Brown, N. A. C., and Botha, P. A. (2004) Smoke seed germination studies and a guide to seed propagation of plants from the major families of the Cape Floristic Region, South Africa. *South African Journal of Botany* 70: 559-581.

*Brown, N. A. C., van Staden, J., Daws, M. I., and Johnson, T. (2003) Patterns in the seed germination response to smoke in plants from the Cape Floristic Region, South Africa. *South African Journal of Botany* 69: 514-525.

*Brownlie S. 2005. *Guideline for involving biodiversity specialists in EIA processes*: Edition 1. CSIR Report No ENV-S-C 2005 053 C. Cape Town. Republic of South Africa, Provincial Government of the Western Cape, Department of Environmental Affairs & Development Planning.

*CAPE ACTION FOR PEOPLE AND THE ENVIRONMENT 2008. Monitoring and evaluation: tools for biodiversity conservation and development projects. *SANBI Biodiversity Series* 11. South African National Biodiversity Institute, Pretoria.

CapeNature Annual reports - Available at: capenature.co.za/ and selected reports contained in Appendix 9.

*CapeNature. 2006. CapeNature Invasive Alien Plant Strategy. Final Draft Strategy for CapeNature compiled by Stafford, L. May 2006.

CapeNature. 2007. *Western Cape Province State of Biodiversity*. CapeNature Scientific Services. ISBN 978-0-620-39289-1

Carey C, Dudley N and Stolton S. 2000. *Threats to protected areas. Squandering paradise? The importance and vulnerability of the world's protected areas*. World Wide Fund for Nature International, Gland, Switzerland. Cited in McGeoch *et al.* 2011.

*Carlson JE, Holsinger KE and Prunier R. 2011. Plant responses to climate in the Cape Floristic Region of South Africa: evidence for adaptive differentiation in the Proteaceae. *Evolution*, 65: 108–124.

*CEPF. 2004. *Cape Floristic Region Biodiversity Hotspot*. Portfolio review of the Critical Ecosystem Partnership Fund, September 2004.

*CEPF. 2008. *Assessing five years of CEPF investment in the Succulent Karoo Biodiversity Hotspot*. Special Report: CEPF.

*Cilliers CD, Botha A, Esler KJ and Boucher C. 2005. Effects of alien plant management, fire and Soil chemistry on soil microbial populations in the Table Mountain National Park, South Africa. *South African Journal of Botany* 71(2): 211-220.

*Cilliers CD, Esler KJ and Boucher C. 2004. Effects of alien plant management and fire on soil seed banks and regeneration in the Cape Peninsula National Park, South Africa. *South African Journal of Botany* 70(5): 705-712.

*Cowan GI. 2006. *Management Plan Framework: Guidance for the development of management plans in terms of the National Environmental Management: Protected Areas Act (Act 57 of 2003*). Department of Environmental Affairs and Tourism, Pretoria.

Cowling RM and Heijnis C. 2000. Broad Habitat Units as biodiversity entities for systematic conservation planning in the Cape Floristic Region. *South African Journal of Botany*. 67: 15-38

*Cowling RM and Lombard AT. 2002. Heterogeneity, speciation/extinction history and climate: explaining regional plant diversity patterns in the Cape Floristic Region. *Diversity and Distributions* 8: 163-179.

Cowling RM, Pressey RL, Lombard AT, Desmet PG and Ellis AG. 1999. From representation to persistence: requirements for a sustainable reserve system in the species-rich Mediterranean-climate deserts of southern Africa. *Diversity And Distributions* 5: 51-71.

*Cowling RM, Pressey RL, Rouget M and Lombard AT. 2003. A conservation plan for a global biodiversity hotspot – the Cape Floristic Region, South Africa. *Biological Conservation,* 112: 191-216.

Cowling, RM. 1987. Fire and its role in coexistence and speciation in Gondwanan shrublands. South African Journal of Science 83: 106-112.

*CSIR. 2006. *Integrated veldfire management in South Africa: An assessment of current conditions and future approaches.* Unpublished report compiled for the CSIR by Forsyth, G.G., van Wilgen, B.W., Scholes, R.J., Levendal, M.R., Bosch, J.M., Jayiya, T.P. and le Roux, R.

Currie B, Milton SJ and Steenkamp JC. 2009. Cost–benefit analysis of alien vegetation clearing for water yield and tourism in a mountain catchment in the Western Cape of South Africa. *Ecological Economics*, 68(10): 2574-2579.

Daszak P, Cunningham AA and Hyatt AD. 2000. Emerging infectious diseases of wildlife – threats to biodiversity and human health. *Science* 287: 443−449. Cited in McGeoch *et al.* 2011.

De Klerk H, Schutte Vlok A, Vlok J, Shaw K, Palmer G, Martens C, Viljoen P, Marshall T, van Ross G, Wessels N, Geldenhuys D, Wolfaardt A and Kirkwood D. 2006. *Ecological Fire Monitoring Manual*. Western Cape Nature Conservation Board, Internal Report, Stellenbosch.

*De Villiers CC, Driver A, Clark B, Euston-Brown DIW, Day EG, Job N, Helme NA, Holmes PM, Brownlie S and Rebelo AB. 2005. *Fynbos Forum Ecosystem Guidelines for Environmental Assessment in the Western Cape*. Fynbos Forum and Botanical Society of South Africa, Cape Town.

*De Villiers CC. 2007. Threatened biodiversity, the NEMA EIA regulations and cultivation of virgin land: More of the sorry same? *Potchefstroom Electronic Law Journal*. Vol 3, 1-42.

De Villiers S & Thiart C. 2007. The nutrient status of South African rivers: Concentrations, trends and fluxes from the 1970s to 2005, *South African Journal of Science* 103, 343−349. Cited in McGeoch *et al.* 2011.

Deacon HJ, Jury MR and Ellis F. 1992. Selective regime and time. In: *The Ecology of Fynbos - Nutrients, Fire and Diversity*. Cowling, RM (ed.). Oxford University Press. Cape Town.

Deacon HJ. 1975. Demography, subsistence and culture during the Archeulian in southern Africa. In: *After the Australopithecines*. Butzer KW & Isaac GL (eds.). Mouton, The Hague.

Deacon HJ. 1986. Human settlement in South Africa and archaeological evidence for alien plants and animals. In: *The Ecology and Management of Biological Invasions in southern Africa.* MacDonald IA, Kruger FJ & Ferrar AA (eds.). Oxford University Press, Cape Town.

Deacon, HJ. 1989. Late Pleistocene palaeoecology and archaeology in the southern Cape, South Africa. In: *The Human Revolution: Behavioural and Biological Perspectives on the Origins of Modern Humans*. Mellars P & Stringer C (eds.). Edinburgh University Press, Edinburgh.

*DEAT and SANBI. 2008. *National Protected Areas Expansion Strategy for South Africa*. Draft for Mintech dated September 2008. DEAT & SANBI.

*DEAT. 1997. *White Paper on the Conservation and Sustainable Use of South Africa's Biological Diversity*. Pretoria, DEAT.

DEAT. 2003. *Nomination of the Cape Floral Region of South Africa for inclusion on the World Heritage List*. Compiled for the Department of Environmental Affairs and Tourism, South African National Parks, Western Cape Nature Conservation Board and the Chief Directorate: Environmental Affairs Eastern Cape. For submission to UNESCO.

*DEAT. 2004. *A National Climate Change Response Strategy for South Africa*. Pretoria, DEAT.

*DEAT. 2005a. *South Africa's National Biodiversity Strategy and Action Plan*. Pretoria, DEAT.

*DEAT. 2005b. *South Africa Country Study 2005. Situational Assessment Undertaken to Inform South Africa's National Biodiversity Strategy and Action Plan*. Pretoria, DEAT.

*DEAT. 2005c. National Action Programme. Combating land degradation to alleviate rural poverty. Published in *Government Gazette* 27952 of 26 August 2005.

*DEAT. 2006. *South African Environment Outlook*. Pretoria, DEAT.

DEAT. 2007a. *State of Conservation Report for the Cape Floral Region Protected Areas World Heritage Site of South Africa*. Report commissioned by DEAT for Submission to UNESCO.

*DEAT. 2007b. South Africa's National Biodiversity Framework. Draft. Published in *Government Gazette* 30027 of 29 June 2007.

*DEAT. 2008a. *People – Planet – Prosperity: A National Framework for Sustainable Development in South Africa*. Pretoria, DEAT.

*DEAT. 2008b. *Department of Environmental Affairs and Tourism. 2007/08 Annual Report.* DEAT

*DEAT. 2008c. *Strategic Plan for the Environmental Sector 2008 – 2013*. Pretoria, DEAT

*DEAT. 2008d. *Second Edition Environmental Implementation and Management Plan*. Pretoria, DEAT.

*DEAT. 2009. Threatened Ecosystems in South Africa: General Information. Draft National List of Threatened Ecosystems. Notice 1477 of 2009, *Government Gazette* No. 32698, 6 November 2009.

*Department of Minerals and Energy. 2007. *Biofuels Industrial Strategy of the Republic of South Africa.* Pretoria: Department of Minerals and Energy.

*Department of Water Affairs (DWA) 2010. *Resource Directed Measures for protection of water resources: Methods for the Determination of the Ecological Reserve for Estuarie*s. Water Resource Protection and Assessment Policy Implementation Process. Version 3. Pretoria.

*Dippenaar-Schoeman AS, Van der Walt AE, Le Roux E and Van den Berg A. 2005. The spiders of the Swartberg Nature Reserve in South Africa (Arachnida: Araneae). *Koedoe* 48: 77-86.

*Driver A, Cowling RM and Maze K. 2003. *Planning for Living Landscapes: Perspectives and Lessons from South Africa*. Center for Applied Biodiversity Science at Conservation International, Washington, DC; Botanical Society of South Africa, Cape Town.

Driver A, Maze K, Rouget M, Lombard AT, Nel J, Turpie JK, Cowling RM, Desmet P, Goodman P, Harris J, Jonas Z, Reyers B, Sink K. and Strauss T. 2005. National Spatial Biodiversity Assessment 2004: Priorities for Biodiversity Conservation in South Africa. *Strelitzia* 17. Pretoria, SANBI.

*DWAF. 2007. Department of Water Affairs and Forestry. 2006/07 Annual Report. Pretoria, DWAF.

*EnAct International. 2008. *Draft report on the costing of the National Biodiversity Framework*. Draft report prepared for DEAT.

Endrödy-Younga S. 1988. Evidence for the low-altitude origin of the Cape mountain biome derived from the systematic revision of the genus Colophon Gray (Coleoptera, Lucanidae). *Annals of the South African Museum* 96: 359-424.

Engels B, Ohnesorge B and Burmester A. (Eds). 2008. *Nominations and Management of Serial Natural World Heritage Properties – Present Situation, Challenges and Opportunities*. Proceedings of a workshop organised by the German Federal Agency for Nature Conservation (BfN) in cooperation with the UNESCO World Heritage Centre and IUCN November 26th – 30th, 2008.

*Erasmus Z. 2006. *The Demand for Resources to Practice Fire Management in the Protected Areas of the Western Cape – South Africa*. Unpublished report.

*EWT. 2002. Endangered Wildlife Trust. *The Biodiversity of South Africa 2002: Indicators, Trends and Human Impacts*. Cape Town, Struik.

Fabricius C. 2004. The fundamentals of community-based natural resource management. In: C Fabricius, E Koch, H Magome & S Turner (eds.), *Rights, resources and rural development: Community-based natural resource management in Southern Africa*, pp. 3−43, Earthscan, London. Cited in McGeoch *et al.* 2011.

*Ford FY. 2006. *A Geographical Information System for Fire Management by the Western Cape Nature Conservation Board.* Unpublished Masters thesis. University of Stellenbosch.

*Forsyth GG and van Wilgen BW. 2007. *An analysis of the fire history records from protected areas in the Western Cape*. CSIR Report Number: CSIR/NRE/ECO/ER/2007/0118/C.

Foxcroft LC, Richardson DM, Rouget M and MacFadyen S. 2009. Patterns of alien plant distribution at multiple spatial scales in a large national park: implications for ecology, management and monitoring. *Diversity and Distributions* 15: 367−378. Cited in McGeoch *et al.* 2011.

Foxcroft LC. 2009. Developing thresholds of potential concern for invasive alien species: Hypotheses and concepts. *Koedoe* 51: 11−16. Cited in McGeoch *et al.* 2011.

*Friedman Y and Daly B. (eds). 2004. *Red Data Book of the Mammals of South Africa: A Conservation Assessment:* CBSG South Africa, Conservation Breeding Specialist Group (SSC/IUCN), Endangered Wildlife Trust, South Africa.

Fuggle RF and Ashton ER. 1979. Climate. In: Fynbos ecology: a preliminary synthesis. Day, J, Siegfried, WR, Louw, GN & Jarman, ML (eds.). *South African National Scientific Programmes Report* 40. CSIR. Pretoria.

*Galatowitsch SM and Richardson DM. 2005. Riparian scrub recovery after clearing of invasive alien trees in headwater streams of the Western Cape, South Africa. *Biological Conservation* 122: 509-521.

*Galley C and Linder HP. 2006. Geographical affinities of the Cape flora, South Africa. *Journal of Biogeography*, 33: 236–250.

Gaston KJ, Jackson SF, Cantú-Salazar L & Cruz-Piñón G. 2008. The ecological performance of protected areas, Annual Review of Ecology, Evolution, and Systematics 39, 93−113. Cited in McGeoch *et al.* 2011.

Gaston KJ. 2010. Valuing common species, Science 327, 154−155. Cited in McGeoch *et al.* 2011.

*Geertsema H and Owen CR. 2007. Notes on the habitat and adult behaviour of three red-listed Colophon spp. (Coleoptera: Lucanidae) of the Cape Floristic Region, South Africa. *Journal of Insect Conservation* 11: 43-46.

*GEF. 2008. *Country Profile for South Africa.* Available on gefonline.org/Country/CountryDetails.cfm.

Geldenhuys CJ. 1992. Disjunctions and distribution limits of forest species in the Southern Cape. *South African Forestry Journal* 161: 1 - 14.

*Geldenhuys. CJ. 1992. Disjunctions and distribution limits of forest species in the southern Cape, South African Forestry Journal 161, 1−13. Cited in McGeoch *et al.* 2011.

*Giliomee JH. 2003. Insect diversity in the Cape Floristic Region. *African Journal of Ecology* 41: 237-244.

Goldblatt P. 1978. An analysis of the flora of Southern Africa: its characteristics, relationships and origins. *Annals of the Missouri Botanical Gardens* 65: 369-436.

*Haddad CR and Dippenaar-Schoeman AS. 2009. A checklist of the non-acarine arachnids (Chelicerata: Arachnida) of the De Hoop Nature Reserve, Western Cape Province, South Africa. *Koedoe* 51 (#149): 1–9.

*Hannah L, Midgley GF and Hughes G. 2005. The view from the Cape: Extinction risk, protected areas and climate change. *Bioscience* 55: 231-242.

Hansen AJ and DeFries R. 2007. Ecological mechanisms linking protected areas to surrounding lands. *Ecological Applications* 17: 974–988. Cited in McGeoch *et al.* 2011.

*Helme NA and Trinder-Smith TH. 2006. The endemic flora of the Cape Peninsula, South Africa. South African Journal of Botany 72: 205-210.

Hilton-Taylor C. 1996. Red Data List of Southern African Plants. *Strelitzia* **4**.

*Holmes PM and Foden W. 2001. The effectiveness of post-fire soil disturbance in restoring fynbos after alien clearance. *South African Journal of Botany* 67: 533-539.

*Holmes PM, Richardson DM, Esler KJ, Witkowski ETF and Fourie S. 2005. A decision-making framework for restoring riparian zones degraded by invasive alien plants in South Africa. *South African Journal of Science* 101: 553-564.

*Holmes PM, Richardson DM, van Wilgen BW and Gelderblom C. 2000. Recovery of South African fynbos vegetation following alien woody plant clearing and fire: implications for restoration. *Austral Ecology* 25: 631-639.

*Holmes, P.M., 2008. Optimal ground preparation treatments for restoring lowland Sand Fynbos vegetation on old fields. *South African Journal of Botany* 74: 33–40.

*Holness S, Jonas Z, Bradshaw P and Nel J. 2008. *Conservation assessment for the National Protected Areas Expansion Strategy*, Pretoria.

*Huitric M (Ed.), Walker B, Moberg F, Österblom H, Sandin L, Grandin U, Olsson P and Bodegård J. 2009. *Biodiversity, Ecosystem Services and Resilience – Governance for a Future with Global Changes*. Background report for the scientific workshop »Biodiversity, ecosystem services and governance – targets beyond 2010« on Tjärnö, Sweden, 4-6 September 2009. Albaeco, Stockholm, Sweden.

Hulme PE. 2009. Trade, transport and trouble: Managing invasive species pathways in an era of globalization, *Journal of Applied Ecology* 46, 10−18. Cited in McGeoch *et al.* 2011.

IUCN Standards and Petitions Working Group. 2009. *Guidelines for Using the IUCN Red List Categories and Criteria, Version 7.0.*, prepared by the Standards and Petitions Working Group of the IUCN SSC Biodiversity Assessments Sub-Committee in August 2008, viewed 15 October 2009, from http://intranet.iucn.org/webfiles/doc/SSC/RedList/RedListGuidelines.pdf. Cited in McGeoch *et al.* 2011.

Johnson SD. 1992. Plant-animal relationships. In: *The Ecology of Fynbos - Nutrients, Fire and Diversity*. Cowling, RM (ed.). Oxford University Press. Cape Town.

Jones KE, Patel NG, Levy MA, Storeygard A, Balk D, Gittleman, JL, *et al.* 2008. Global trends in emerging infectious diseases, *Nature* 451, 990−993. Cited in McGeoch *et al.* 2011.

Keeley JE. 1992. A Californian's view of fynbos. In: *The Ecology of Fynbos - Nutrients, Fire and Diversity*. Cowling, RM (ed.). Oxford University Press. Cape Town.

Klein RG. 1983. Palaeoenvironmental implications of Quaternary large mammals in the fynbos region. In: *Fynbos palaeoecology: a preliminary synthesis*. In: Deacon, HJ, Hendey, QB & Lambrechts, JJN (eds.). South African National Scientific Programmes Report 75, CSIR, Pretoria.

Kruger FJ and Bigalke RC. 1984. Fire in fynbos. In: Booysen PdeV & Tainton NM (eds.). *Ecological effects of fire in South African ecosystems*. Springer-Verlag. Berlin.

Kruger FJ. 1979. South African Heathlands. In: *Ecosystems of the World - Heathlands and related Shrublands* 9A: pp. 19-80. Elsevier Scientific Publishing Company. Amsterdam.

*Laros MT and Benn GA. 2007. *The identification and prioritisation of a biodiversity network for the City of Cape Town. Unpublished report for City of Cape Town.*. Available online at: http://www.capetown.gov.za/en/EnvironmentalResourceManagement/publications/Documents/BioDNet_Final_Report_02_2007_19122007172753_465.pdf

*Latimer AM, Silander JA, Gelfand AE, Rebelo AG and Richardson DM. 2004. A method for quantifying the magnitude of threat to plant biodiversity from alien plant invasions and other anthropogenic factors – A case study in the Cape Floristic Region, South Africa. *South African Journal of Science* 100: 81-86.

Le Maitre DC and Midgley JJ. 1992. Plant reproductive ecology. In: *The Ecology of Fynbos - Nutrients, Fire and Diversity.* Cowling, RM (ed.). Oxford University Press, Cape Town.

*Le Maitre DC, Richardson DM and Chapman RA. 2004. Alien plant invasions in South Africa: driving forces and the human dimension. *South African Journal of Science* 100: 103-112.

Leipold M and Van Zyl CJ. 2008. *The economic impact of sport and recreational angling in the Republic of South Africa, 2007*, Project Report, pp. 48, Development Strategies International, Cape Town. Cited in McGeoch *et al.* 2011.

Lepetz V, Massot M, Schmeller DS and Clobert J. 2009. Biodiversity monitoring: some proposals to adequately study species' responses to climate change. *Biodiversity and Conservation*, 18: 3185−3203. Cited in McGeoch *et al.* 2011.

*Levyns, M. R. 1964. Migrations and Origins of the Cape Flora. *Transactions of the Royal Society of South Africa* **37**: 85-107.

*Linder PH. 2003. The radiation of the Cape flora, southern Africa. *Biological Reviews*, 78: 597–638.

*Linder PH. 2010. Gradual speciation in a global hotspot of plant diversity. *Molecular Ecology*, 19: 4583–4585.

*Lombard AT, Strauss T, Harris J, Sink K, Attwood C and Hutchings L. 2004. Marine Component. In: *South African National Spatial Biodiversity Assessment Technical Report, Chapter 4*, South African National Biodiversity Institute, Pretoria. Cited in McGeoch *et al.* 2011.

Lombard, AT. 2000. *World Heritage Site Nomination: Plant and vertebrate distributions in relation to nominated World Heritage Sites in the Cape Floristic Region, South Africa*. Unpublished report compiled for Common Ground Consulting. October 2000.

*Makady EM. 2009. *Large herbivore stocking rate effects on plant palatability, forage preference and soil properties in an Alluvium Fynbos-Renosterveld mosaic*. Unpublished MSc thesis. University of Stellenbosch.

Malcolm JR, Liu C, Neilson RP, Hansen L and Hannah L. 2006. Global Warming and Extinctions of Endemic Species from Biodiversity Hotspots. *Conservation Biology*, 20: 538–548.

*Manne LL, Williams PH, Midgley GF, Thuiller W, Rebelo T and Hannah L. 2007. Spatial and temporal variation in species-area relationships in the Fynbos biological hotspot. *Ecography*, 30: 852–861.

Manning, J. and Goldblatt, P. 2012. Plants of the Greater Cape Floristic Region 1: the Core Cape flora. *Strelitzia* 29. South African National Biodiversity Institute, Pretoria.

*Marais CM, van Wilgen, BW and Stevens D. 2004. The clearing of invasive alien plants in South Africa: a preliminary assessment of costs and progress. *South African Journal of Science* 100: 97-103.

McGeoch MA, Butchart SHM, Spear D, Marais E, Kleynhans EJ, Symes A. *et al.* 2010. Global indicators of biological invasion: species numbers, biodiversity impact and policy responses, Diversity & Distributions 16, 95−108. Cited in McGeoch *et al.* 2011.

McGeoch MA, Dopolo M, Novellie P, Hendriks H, Freitag S, Ferreira S, Grant, R, Kruger J, Bezuidenhout H, Randall RM, Vermeulen W, Kraaij T, Russell IA, Knight MH, Holness S and Oosthuizen A. 2011. A strategic framework for biodiversity monitoring in SANParks. *Koedoe* 53(2).

*McIntosh F and CapeNature. 2006. *Cape Floral Region Protected Areas*. Southbound Pocket Guide Series on World Heritage Sites of South Africa. 30° South Publishers (Pty) Ltd. Johannesburg.

McIntosh F and CapeNature. 2008. Cape Floral Region Protected Areas: W*orld Heritage Sites of South Africa Travel Guides. Southbound Pocket Guides to South Africa's World Heritage Sites* illustrated Edition. 30° South Publishers. 206 pages

Meadows ME and Sugden JM. 1991. A vegetation history of the last 14 500 years on the Cederberg, SW Cape. *South African Journal of Science* 87: 34-43.

Midgley G, Hannah L, Millar D, Rutherford M and Powrie L. 2002. Assessing the vulnerability of species richness to anthropogenic climate change in a biodiversity hotspot. *Global Ecology and Biogeography*, 11: 445–451.

*Midgley GF, Chapman RA, Hewitson B, Johnston P, De Wit M, Ziervogel G, Mukheibir P, Van Niekerk L, Tadross M, Van Wilgen BW, Kgope B, Morant PD, Theron A, Scholes RJ and Forsyth GG. 2005. *A Status Quo, Vulnerability and Adaptation Assessment of the Physical and Socio-economic Effects of Climate Change in the Western Cape*. CSIR, Stellenbosch.

Midgley GF, Chown SL and Kgope BS. 2007. Monitoring effects of anthropogenic climate change on ecosystems: A role for systematic ecological observation? *South African Journal of Science* 103: 282−286. Cited in McGeoch *et al.* 2011.

*Midgley GF, Hannah L, Millar D, Thuiller W and Booth A. 2003. Developing regional and species-level assessments of climatic change impacts on biodiversity in the Cape Floristic Region. *Biological Conservation* 112(1/2): 87–97.

Midgley GF, Hughes GO, Thuiller W and Rebelo AG. 2006. Migration rate limitations on climate change-induced range shifts in Cape Proteaceae. *Diversity and Distributions*, 12: 555–562.

Mittermeier RA, Gil PR, Hoffman M, Pilgrim J, Brooks T, Mittermeier CG, Lamoreux J and Da Fonseca GAB. 2005. *Hotspots revisited: earth's biologically richest and most threatened terrestrial ecoregions*. Cemex, Conservation International and Agrupacion Sierra Madre, Monterrey, Mexico.

Mittermeier RA, Myers N, Thomsen JB, da Fonseca GAB & Olivieri S. 1998. Biodiversity hotspots and major tropical wilderness areas: Approaches to setting conservation priorities. *Conservation Biology* 12: 516-520.

Moline PM and Linder HP. 2006. Input data, analytical methods and biogeography of *Elegia* (Restionaceae). *Journal of Biogeography* 43(1): 47-62.

Mucina L and Rutherford MC. (eds). 2006. Vegetation Map of South Africa, Lesotho, and Swaziland. *Strelitzia* 19. South African National Botanical Institute. Pretoria.

Myers N, Mittermeier RA, Mittermeier CG, da Fonseca GAB and Kent J. 2000. Biodiversity hotspots for conservation priorities. *Nature* 403: 853-858.

Myers N. 1990. The biodiversity challenge: expanded hotspot analysis. *The Environmentalist* 10: 243-255.

Naughton-Treves L, Buck Holland M and Brandon K. 2005. The role of protected areas in conserving biodiversity and sustaining local livelihoods, *Annual Review of Environment and Resources*. 30: 219−252. Cited in McGeoch *et al.* 2011.

*Nel J, Maree G, Roux D, Moolman J, Kleynhans N, Silberbauer M. & Driver A. 2004. National Spatial Biodiversity Assessment 2004: Technical Report. Volume 2: River Component. CSIR Report Number ENVS-S-I-2004-063. Stellenbosch, Council for Scientific and Industrial Research.

*Nel JL, Richardson DM, Rouget M, Mgidi T, Mdzeke N, Le Maitre DC, van Wilgen BW, Schonegevel L, Henderson L and Neser S. 2004 A proposed classification of invasive alien plant species in South Africa: towards prioritising species and areas for management action. *South African Journal of Science* 100: 53-64.

Nielsen SE, Haughland DL, Bayne E and Schieck J. 2009. Capacity of large-scale, long-term biodiversity monitoring programmes to detect trends in species prevalence. *Biodiversity and Conservation* 18, 2961−2978. Cited in McGeoch *et al.* 2011.

Ninham Shand Consulting Services. 2006. *Biodiversity Monitoring System for CapeNature's Activities.* Department of Environmental Affairs and Development Planning. Cape Town.

Olson DM and Dinerstein E. 1998. The Global 200: a representation approach to conserving the earth's most biologically valuable ecoregions. *Conservation Biology* 12: 502-515.

*Parker-Allie F, Richardson DM and Holmes PM. 2004. The effects of past management practices for invasive alien plant control on subsequent recovery of fynbos on the Cape Peninsula, South Africa. *South African Journal of Botany* 70, 804-815.

*Parr CL and Chown SL. 2003. Burning issues for conservation: A critique of faunal fire research in Southern Africa. *Austral Ecology*, 28: 384–395.

*Petersen C. 2007. *The business case for biodiversity and good biodiversity practice in the Republic of South Africa*. Report for submission to the Secretariat of the Convention on Biological Diversity in preparation for the ninth meeting of the Conference of the Parties. Prepared for DEAT through SANBI.

*Pierce SM, Cowling RM, Sandwith T and MacKinnon K. (eds). 2002. *Mainstreaming biodiversity in development: case studies from South Africa*. Washington DC, World Bank Environment. Department. vi + 153 pp..

*Pressey RL, Cowling RM and Rouget M. 2003. Formulating conservation targets for biodiversity pattern and process in the Cape Floristic Region, South Africa. *Biological Conservation*, 112:99-127

*Prins N, Holmes PM and Richardson DM. 2004. A reference framework for the restoration of riparian vegetation in the Western Cape, South Africa, degraded by invasive Australian Acacias. South African Journal of Botany 70: 767-776.

*Procheş S and Cowling RM. 2006. Insect diversity in Cape fynbos and neighbouring South African vegetation. *Global Ecology and Biogeography* 15(5): 445–451.

*Pyke CR, Andelman S and Midgley GF. 2005. Identifying priority areas for bioclimatic representation under climate change: A case study for Proteaceae in the Cape Floristic Region, South Africa. *Biological Conservation* 125: 1-9.

Raimondo D, Von Staden L, Foden W, Victor JE, Helme NA, Turner RC, Kamundi DA and Manyama PA. (eds). (2009). Red List of South African Plants. *Strelitzia* 25. South African National Biodiversity Institute, Pretora.

Raven-Hart R. 1967. *Before Van Riebeeck: callers at South Africa from 1488 to 1652.* Struik, Cape Town.

Rebelo AG. 1987. *A preliminary synthesis of pollination biology in the Cape flora*. South African National Scientific Programmes Report 141, FRD, Pretoria.

Revenga C, Campbell I, Abell R, De Villiers P and Bryer M. 2005. Prospects for monitoring freshwater ecosystems towards the 2010 targets, *Philosophical Transactions of the Royal Society* B 360, 397−413. Cited in McGeoch *et al.* 2011.

*Richardson DM, Rouget M, Ralston SJ, Cowling RM, van Rensburg BJ and Thuiller W. 2005. Species richness of alien plants in South Africa: Environmental correlates and the relationship with indigenous plant species richness. *Ecoscience* 12: 391-402.

*Richardson DM. 2006. Pinus: a model group for unlocking the secrets of alien plant invasions? *Preslia* 78: 375-388.

Rouget M, Reyers B, Jonas Z, Desmet P, Driver A, Maze K, Egoh B and Cowling RM. 2004a. *National Spatial Biodiversity Assessment 2004: Technical Report*. Volume 1: Terrestrial Component. Pretoria, SANBI.

*Rouget M, Richardson DM and Cowling RM. 2003a. The current configuration of protected areas in the Cape Floristic Region, South Africa—reservation bias and representation of biodiversity patterns and processes. *Biological Conservation* 112:129-145.

*Rouget M, Richardson DM, Cowling RM, Lloyd MW and Lombard AT. 2003b. Current patterns of habitat transformation and future threats to biodiversity in the Cape Floristic Region, South Africa. *Biological Conservation* 112: 63-85.

*Rouget M, Richardson DM, Nel JL, Le Maitre DC, Egoh B and Mgidi T. 2004. Mapping the potential spread of major plant invaders in South Africa using climatic suitability. *Diversity and Distributions* 10: 475-484.

Rourke, J and Wiens, D. 1977. Convergent floral evolution in South African and Australian Proteaceae and its possible bearing on pollination by non-flying mammals. *Annals of the Missouri Botanic Garden* 64: 1-17.

*Rutherford MC and Westfall R. 1986. Biomes of southern Africa – an objective categorization. *Memoirs of Botanical Survey of South Afr*ica 54: 1-98.

Rutherford MC, Midgley GF, Bond WJ, Powrie LW, Roberts R and Allsopp J. 1999. *South African country study on Climate change. Plant biodiversity: Vulnerability and adaptation assessment*. Unpublished report. National Botanical Institute, Cape Town, South Africa.

*Rymer PD, Manning JC, Goldblatt P, Powell MP and Savolainen V. 2010. Evidence of recent and continuous speciation in a biodiversity hotspot: a population genetic approach in southern African gladioli (*Gladiolus*; Iridaceae). *Molecular Ecology*, 19: 4765–4782.

*Samways MJ. 2006. National Red List of South African Odonata. *Odonatologica* 35: 341-368.

*SANBI. 2005. *Specialist Review Paper on Biodiversity for the National Strategy for Sustainable Development*. Unpublished report compiled by Driver A, Smith T and Maze K.

SANBI. 2013. Statistics: Red List of South African Plants version 2013.1. Downloaded from Redlist.sanbi.org on 2013/12/20. redlist.sanbi.org/stats.php -

*Scheepers K, Swemmer L and Vermeulen WJ. 2011. Applying adaptive management in resource use in South African National Parks: A case study approach. *Koedoe* 53(2).

Schulze GC. 2007. Atmospheric observations and numerical weather prediction, *South African Journal of Science* 103, 3180−322. Cited in McGeoch *et al.* 2011.

*Seydack AHW, Bekker SJ and Marshall AH. 2007. Shrubland fire regime scenarios in the Swartberg Mountain Range, South Africa: implications for fire management. *International Journal of Wildland Fire* 16: 81–95.

*Sharratt NJ, Picker MD and Samways MJ. 2000. The invertebrate fauna of the sandstone caves of the Cape Peninsula (South Africa): patterns of endemism and conservation priorities. *Biodiversity and Conservation* 9: 107-143.

Simmons MT and Cowling RM. 1996. Why is the Cape Peninsula so rich in plant species? An analysis of the independent diversity components. *Biodiversity and Conservation* 5: 551-574.

*Slabbert E, Kongor RY, Esler KJ and Jacobs K. 2010. Microbial diversity and community structure in Fynbos soil. *Molecular Ecology*, 19: 1031–1041

Smith N. 2005. *Guideline document on environmental legislation applicable to CapeNature's activities*. Unpublished report prepared for CapeNature.

*South African National Parks (SANParks). 2004. *Heritage Resources Management Plan, Priorities for Heritage Resources Management in the TMNP, 2005 – 2010.*

*South African National Parks (SANParks). 2008. *South African National Parks Resource Use Policy*. South African National Parks, Pretoria. Cited in McGeoch *et al.* 2011.

*Spear D, McGeoch MA, Foxcroft LC and Bezuidenhout H. 2011. Alien species in South Africa's national parks. *Koedoe* 53(1).

*Stiller M. 2002. Leafhopper (Hemiptera: Cicadellidae) Diversity in the Fynbos Biome of South Africa. Denisia 04, zugleich Kataloge des OÃ–.Landesmuseums, *Neue Folge* 179: 379-400.

Stuckenberg, BR. 1962. The distribution of the montane palaeogenic element in the South African invertebrate fauna. *Annals of the Cape Provincial Museum* II.

Swart BL, Tolley KA and Matthee CA. 2009. Climate change drives speciation in the southern rock agama (*Agama atra*) in the Cape Floristic Region, South Africa. *Journal of Biogeography*, 36: 78–87.

*Thuiller W, Lavorel S and Araújo MB. 2005. Niche properties and geographic extent as predictors of species sensitivity to climate change. *Global Ecology and Biogeography* 14: 347-357.

*Thuiller W, Lavorel S, Midgley GF, Lavergne S and Rebelo AG. 2004. Relating plant traits and species distributions along bioclimatic gradients for 88 Leucadendron taxa. *Ecology* 85(6): 1688-1699.

*Tolley KA, Burger M, Turner AA and Matthee CA. 2006. Biogeographic patterns and phylogeography of dwarf chameleons (*Bradypodion*) in an African biodiversity hotspot. *Molecular Ecology*, 15: 781–793.

*Turner C. 2007. Water beetles associated with reservoirs on Table Mountain, Cape Town: implications for conservation. *Journal of Insect Conservation* 11: 75-83.

*Turpie J. 2004. The role of resource economics in the control of invasive alien plants in South Africa. *South African Journal of Science*, 100:

Underhill LG and Hofmeyr JH. 2007. Barn Swallows Hirundo rustica disperse seeds of Rooikrans Acacia cyclops, an invasive alien plant in the Fynbos Biome. *Ibis*, 149: 468–471.

*Underwood EC, Kirk R, Klausmeyer KR, Cox RL, Busby SM, Morrison SA and Shaw MR. 2008. Expanding the global network of protected areas to save the imperiled Mediterranean Biome. Conservation Biology, 23(1): 43–52.

*Van der Niet T and Johnson SD. 2009. Patterns of plant speciation in the Cape floristic region. *Molecular Phylogenetics and Evolution* 51: 85-93.

Van Wilgen BW and Scott DF. 2001. Managing fires on the Cape Peninsula, South Africa: dealing with the inevitable. *Journal of Mediterranean Ecology* 2: 197-208.

*Von Hase A, Rouget M and Cowling RM. 2010. Evaluating Private Land Conservation in the Cape Lowlands, South Africa. *Conservation Biology*, 24: 1182–1189.

Von Maltitz GP and Shackleton SE. 2004. Use and management of forests and woodlands in South Africa: Stakeholders, institutions and processes from past to present. In: MJ Lawes, HAC Eeley, CM Shackleton & BGS Geach (eds.), *Indigenous forests and woodlands in South Africa: Policy, people and practice*. pp. 109−135, University of KwaZulu-Natal Press, Durban. Cited in McGeoch *et al.* 2011.

*Watson LH and Chadwick P. 2007. Management of Cape mountain zebra in the Kammanassie Nature Reserve, South Africa. *South African Journal of Wildlife Research* Apr 2007: Vol. 37, Issue 1, pg(s) 31-39.

Wicht CL and Kruger FJ. 1973. Die ontwikkeling van bergveldbestuur in Suid-Afrika/ (The development of mountain veld management in South Africa). *South African Journal of Forestry* 86: 1-17.

Williams P, Hannah L, Andelman S, Midgley G, Araújo M, Hughes G, Manne L, Martinez-Meyer E and Pearson R. 2005. Planning for Climate Change: Identifying Minimum-Dispersal Corridors for the Cape Proteaceae. *Conservation Biology*, 19: 1063–1074.

*Willis CK. (ed). 2006. Conserving South Africa's plants: a South African response to the Global Strategy for Plant Conservation. *SANBI Biodiversity Series 1*. Pretoria, SANBI.

*Winter SJ, Prozesky H and Esler KJ. 2007. A case study of landholder attitudes and behaviour towards the conservation of Renosterveld, a critically endangered vegetation type in the Cape Floral Kingdom, South Africa. *Environmental Management*, 40:46-61

Wishart MJ. 2002. *A comparative phylogeographic approach toward defining functional units for the conservation of biodiversity in lotic systems*. University of Cape Town. PhD Thesis.

WWF and IUCN. 1994. Centres of plant diversity: a guide and strategy for their conservation. Volume 1. Europe, Africa, Southwest Africa and the Middle East. IUCN Publications Unit, Cambridge, United Kingdom.

*Yeld J and Barker M. 2004. *Mountains in the sea, Table Mountain to Cape Point: An interpretive guide to the Table Mountain National Park*. South African National Parks, Cape Town

*Yelenik S, Stock WD and Richardson DM. 2004 Ecosystem-level impacts of invasive alien nitrogen-fixing plants. Ecosystem and community-level impacts of invasive alien Acacia saligna in the fynbos vegetation of South Africa. *Restoration Ecology* 12: 44-51.

1.7.e(i) Websites with related material

Project/Programme/Organisation	Website address
Birds in reserves Project:	**birp.adu.org.za/**
Southern African Butterfly Conservation Assessment:	**sabca.adu.org.za/**
C.A.P.E. Project:	**capeaction.org.za/**
South African Biodiversity Information Facility (SIBIS):	**sabif.ac.za/**
SANBI Integrated Biodiversity Information System:	**sibis.sanbi.org/**
SANBI Biodiversity GIS System (BGIS)	**bgis.sanbi.org/** **bgis.sanbi.org/municipality.asp**
Table Mountain Fund:	**wwf.org.za/who_we_are/how_we_work/associated_trusts/tmf/**
SA Venues:	**sa-venues.com/unesco-site-cape-floral-kingdom.htm**

1.8 CONTACT INFORMATION OF AUTHORITIES RESPONSIBLE FOR THE CFRPA

1.8.a Preparer

Company: Indigenous Vegetation Consultancy
Address: P.O. Box 22750, Scarborough, 7975
City / Country: Scarborough, Cape Town, South Africa
Tel: +27+72 235 6774
Fax: +27+21 780 1327
Email: Ms F. Elizabeth Jones eljay.ivc@gmail.com

1.8.b Official Local Institution/Agency

Organisation: .South African National Parks (SANParks)
Address (1):..... Planning Manager Table Mountain National Park, P.O. Box 37, Constantia, 7848
Address (2):..... SANParks Head-Office, P O Box 787, Pretoria 0001, South Africa
Tel:..... (1) +27 (0)21 712 2337 / (2) +27 (0)12 426 5000
F**ax:**..... (1) +27 (0)21 713 1542 / (2) +27 (0)12 343 9959
E-mail (1): ..... Mr. Michael Slayen: Michael.slayen@sanparks.org
E-mail (2): ..... CEO: Dr David Mabunda: davidm@sanparks.org
Web address: ... sanparks.org/
..... sanparks.org/conservation/scientific/cape/default.php

Organisation: .Eastern Cape Parks and Tourism Agency

Address (1):..... Regional Manager: West 20 4th Ave, Newton Park, Port Elizabeth, 6014, Eastern Cape
Address (2):..... Eastern Cape Parks and Tourism Agency Head Office P.O. Box 11235, Southernwood, East London, 5213
Tel:..... (1) +27 (0)41 364 2570 / (2) +27 (0)43 705 4400
Fax:..... (1) +27 (0)86 619 3569 / (2) +27 (0)86 611 1623/ 4
E-mail (1): ..... (1) Mr. Wayne Erlank: wayne.erlank@ecpta.co.za
E-mail (2): ..... (2) CEO: Mr. Luxolo Rubushe: Luxolo.Rubushe@ecpta.co.za
Web address: ... visiteasterncape.co.za

Organisation: .Western Cape Nature Conservation Board (CapeNature)
Address (1)**:**..... Scientific Services Private Bag X5014 Stellenbosch 7599 Western Cape
Address (2)**:**..... CapeNature Head Office, X29, Gatesville 7766 Western Cape
Tel:..... (1) +27 (0)21 866 8009 / (2) +27 (0)21 483 0001
Fax:..... (1) +27 (0)86 528 0977 / (2) +27 (0)86 295 7527
E-mail (1): ..... (1) Mr. Guy Palmer: gpalmer@capenature.co.za.
E-mail (2): ..... (2) CEO: Dr Razeena Omar romar@capenature.co.za
Web address .... capenature.org.za/

1.8.c Other Local Institutions

Table 1.8.1 List of museums, visitor centres and official tourism offices who should receive the free *World Heritage Newsletter.*

NAME	*ADDRESS*	*TELEPHONE*	*FAX*	*EMAIL ADDRESS*
Baviaanskloof World Heritage Site	Regional Manager: West 20 4th Ave Newton Park, Port Elizabeth 6014 Eastern Cape	+27 (0)41 364 2750	+27 (0)86 619 3569	wayne.erlank@ecpta.co.za
South African National Parks	Park Manager, Table Mountain National Park, P O Box 37, Constantia, 7848	+27 (0)21 701 8692	+27 (0)21 701 8773	paddy.gordon@sanparks.org
CapeNature	Program Manager World Heritage Sites, PO Box 26, Porterville, 6810	+27 (0)22 931 2900	+27 (0)22 931 2913	jgouza@capenature.co.za gpalmer@capenature.co.za
Cape Town & Western Cape Information Centre	Private Bag X9108, Cape Town, 8000	+27 (0)21 487 4833	+27 (0)86 746 8779	abigaili@tourismcapetown.co.za
Iziko Musem	PO Box 61, Cape Town, 8000	+27 (0)21 481 3800	+27 (0)21 481 3993	info@iziko.org.za
Bayworld	PO Box 13147, Humewood, 6013, Port Elizabeth	+27 (0) 41 584 0650	+27 (0) 41 584 0661	pr@bayworld.co.za
Dias Museum	Private Bag X1, Mossel Bay, 6500	+27 (0)44 691 1067	+27 (0)44 691 1915	info@diasmuseum.co.za
AGULHAS PARK eBULLETIN	Agulhas National Park, PO Box 120, L'Agulhas, 7287	+27 (0)28 435 6078	+27 (0)28 435 6225	emmerentiad@sanparks.org

1.8.d Official Web Address

To date no dedicated website has been extablished for the CFRPA. Since the recent formation of the CFRPA-World Heritage Property Joint Management Committee it is an urgent item for action by this Joint Management Committee.

Please refer to 1.8.b for internet addresses for the three management authorities.

1.9 SIGNATURE ON BEHALF OF THE STATE PARTY

NOMINATION OF THE EXTENSION

of the

CAPE FLORAL REGION PROTECTED AREAS:

WORLD HERITAGE SITE

of

SOUTH AFRICA

as a World Heritage Site

Signature on behalf of the State Party

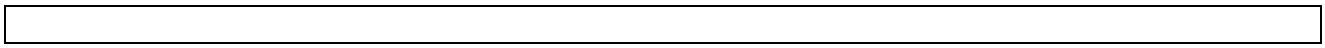
Signed: .....

Full Name: .....

Title: .....

Date: .....

Place: .....



CHAPTER 2: CEDERBERG EXTENDED COMPLEX

2.1 IDENTIFICATION OF THE PROPERTY

Cederberg Complex falls wholly within the Western Cape Province. The conservation authority to which management is currently delegated is CapeNature.

2.1.a Country (and State Party if different)

South Africa

2.1.b State, Province or Region

Western Cape Province, Cape Floral Region

2.1.c Name of Property

Cederberg Complex.

Matjiesrivier Nature Reserve is proposed as the extension to the inscribed CFRPA Cederberg component (refer to Section 1.2.a(i);Table 1.3.1 and, Figure 2).

2.1.d Geographical coordinates to the nearest second

Geographical co-ordinates of the Cederberg Complex are provided in Table 1

2.1.e Maps and plans, showing the boundaries of the Cederberg Complex and buffers

A map of Cederberg Complex in relation to the CFRPA and nominated extension properties is shown in Figure 1 and a detailed map of the Cederberg Complex is provided in Figure 2.

Topographical maps for the Cederberg Complex (Map 2) are provided in Appendix 2.

2.2 DESCRIPTION

The Cederberg Complex is situated on the southwestern tip of Africa in the Western Cape Province of South Africa and is the most northerly component of the CFRPA Extension Nomination.

2.2.a Description of the Cederberg Complex

This chapter summarises the significant features of the Matjiesrivier Nature Reserve, which is nominated to extend the inscribed Cederberg Wilderness Area to form the extended Cederberg Complex, thereby increasing the total land area of the inscribed Cederberg Wilderness Area from 65 151.70 ha to **77 945.50** ha (Table 1).

Cederberg Complex is supported by a wide network of adjacent or surrounding conserved areas ranging from Provincial Nature Reserves to Private Nature Reserves, Stewardship sites and Mountain Catchment Areas. Cederberg Complex comprises two large protected areas, which are supported by the Greater Cederberg Biodiversity Corridor (see box below).

Greater Cederberg Biodiversity Corridor (GCBC)

One of the main objectives of the GCBC is to establish a link between the Cederberg Wilderness Area and Matjiesrivier Nature Reserve and to expand the Matjiesrivier Nature Reserve through the establishment of the Rooi Cederberg Karoo Park, a private conservation area, and to ultimately create a corridor from the Tankwa National Park in the east to the west coast.

The Cederberg core corridor falls within the domain of the Cederberg Conservancy, which was established in 1997 and has a long working relationship with CapeNature. From a biodiversity perspective, the corridor will link formally protected areas, which represent both the Fynbos- and Succulent Karoo biomes as well as the transitional, or ecotonal, vegetation between these biomes (adapted from the GCBC website: cederbergcorridor.org.za/corridors/cederberg.

The CFRPA extension to the inscribed Cederberg Wilderness Area is a primarily montane but somewhat lower altitude reserve named Matjiesrivier Nature Reserve to the east of the Cederberg Wilderness Area (Figure 2) on the escarpment of the Tankwa Karoo.

Two of the country's eight biomes (Fynbos and Succulent Karoo) are represented in the Cederberg Complex. The Cederberg's exceptional floral diversity is testament to the great physical and climatic diversity in this area of transition between montane and lowland habitats, which are topographically, geologically and climatically remarkable. The Cederberg Complex spans two internationally recognised "Biodiversity HotSpots" namely the Cape Floral Region (fynbos) and semi-arid Succulent Karoo. The Cederberg Wilderness Area alone houses over 1,778 different flowering plant species, including the Endangered endemic cedar *Widdringtonia cedarbergensis.*

Three fynbos vegetation types (Northern Inland Shale Band Vegetation, Cederberg Sandstone Fynbos and Swartruggens Quartzite Fynbos) cover almost 70% of the Matjiesrivier Nature Reserve land area. The latter is presently formally conserved within Matjiesrivier Nature Reserve and nowhere else. The remaining vegetation types within Matjiesrivier Nature Reserve comprise Succulent Karoo and alluvial (e.g. riparian) vegetation types.

Expanding the inscribed Cederberg Wilderness Area component to include the Matjiesrivier Nature Reserve will add a number of other species of interest, but will also, and most importantly, add one fynbos vegetation type (Swartruggens Quartzite Fynbos) presently not protected elsewhere, nor in the inscribed CFRPA (Bradshaw & Holness 2013), as well as increase the existing size of the inscribed CFRPA component.

Available species lists for Matjiesrivier Nature Reserve and Cederberg Wilderness Area include:

- Reserve species databases assembled, regularly updated and maintained by reserve personnel and stored at CapeNature;
- Bird counts, species data and breeding information from the Animal Demography Unit's (ADU) "Birds in Reserves Project" (birp.adu.org.za/site_summary.php?site=32281921). To date, over 50 bird species have been identified within Matjiesrivier Nature Reserve;
- Reptile species lists from the ADU's Southern African Reptile Conservation Assessment (SARCA) project's virtual museam at the full, half or quarter degree square (sarca.adu.org.za);
- Butterfly species lists from the ADU's Southern African Butterfly Conservation Assessment (SABCA) project's virtual museum at the full, half or quarter degree square (sabca.adu.org.za);
- Protea data from the Protea Atlas Project (proteaatlas.org.za/); and,
- Frog records for full degree square from the completed Southern African Frog Atlassing Project (also conducted by the ADU (adu.org.za/frog_atlas).

All of these databases, studies and projects (as well as others by research institutes and academic institutions) contribute to the body of knowledge about the wide species diversity found in the Matjiesrivier Nature Reserve and the Cederberg Complex as a whole.

Matjiesrivier Nature Reserve houses the Cape Leopard Trust (capeleopard.org.za/) along with the Environmental Education camp of the Cape Leopard Trust and CapeNature. The Cederberg Conservancy (cederberg.co.za/matjiesrivier.html) offices are also based here.

2.2.b History and Development

The history and development of the inscribed Cederberg Wilderness CFRPA is comprehensively described in the original Nomination (DEAT 2003: Appendix 1).

Matjiesrivier Nature Reserve (Figure 2), previously a livestock farm, was bought in 1995 with funds raised by World Wide Fund for Nature (WWF-SA), proclaimed a Provincial Nature Reserve on 19 January 1996)[62], and CapeNature has managed Matjiesrivier Nature Reserve since 1996.

In 2004, the Cederberg Wilderness Area was inscribed as a component of the CFRPA and in the same year the Greater Cederberg Biodiversity Corridor Project (GCBC) was launched (section 1.5.g(v)). The GCBC, one of several landscape-scale initiatives being undertaken in the Cape Floral Region (initiated as part of the

[62] Proclaimed under the Cape Nature Conservation Ordinance, 19 of 1974.

C.A.P.E. programme), will eventually result in the formation of a biodiversity corridor (a “protected area”) over 400,000 ha in extent.

2.3 JUSTIFICATION FOR INSCRIPTION

Refer to section 1.1.3 for the overarching justification for extension of the inscribed CFRPA.

2.3.a Criteria under which inscription is proposed (and justification for inscription under these criteria)

Cederberg Complex (extended) fulfills two of the criteria for inclusion in the World Heritage List as a natural property, namely:

Criterion (ix): Ongoing biological and ecological processes.

Criterion (x): Biological diversity and threatened species.

Refer to Section 1.3.a for detail regarding the whole CFRPA property.

2.3.b Proposed Statement of Outstanding Universal Value

Refer to Section 1.3.b.

2.3.c Comparative analysis (including state of conservation of similar properties)

Refer to Section 1.3.c.

2.3.d Integrity

Cederberg Complex is owned and managed by the State.

Refer to Section 1.3.d for information pertaining to the integrity of the CFRPA as a whole.

2.4 STATE OF CONSERVATION AND FACTORS AFFECTING THE CEDERBERG COMPLEX

2.4.a Present state of conservation

The primary issues facing the Cederberg Complex are (in common with most of the CFR) invasive alien species; disturbance by wildfire and disruption of fire regimes; and, global climate change.

Refer also to Section 1.1.4 for details of the State of Conservation of the inscribed CFRPA.

2.4.b Factors affecting the property

World Heritage Site status places the inscribed Cederberg Wilderness Area (and thus also the Extended Nomination) in a special category in terms of the Protected Areas Act (refer to section 1.5.b(ii)). As such the area receives special attention from all three management authorities in terms of a newly established and dedicated management authority.

2.4.b(i) Development pressures

There are currently no development pressures.

2.4.b(ii) Environmental Pressures

Property management plans, including invasive alien management and fire management plans are in the process of revision in terms of the Protected Areas Act (section 1.5.b(ii)). All data are held by CapeNature.

2.4.b(iii) Natural disasters and risk preparedness

Natural disasters in the Cederberg Complex relate mostly to wildfire. The Greater Cederberg Fire Protection Association was established in 2005 in accordance with the Veld and Forest Fires Act[63].

2.4.b(iv) Visitor / Tourism pressures

Matjiesrivier Nature Reserve is not subject to high visitor and tourism pressures.

2.4.b(v) Number of inhabitants

Matjiesrivier Nature Reserve is uninhabited except by essential management personnel.

2.5 PROTECTION AND MANAGEMENT OF THE CEDERBERG COMPLEX

Refer to section 1.5 for detailed information of the protection and management of the inscribed CFRPA and the nomination extension.

2.5a Ownership

Cederberg Complex (extended) is owned or managed by the State, Matjiesrivier was purchased by WWF-SA and leased to CapeNature on a 99-year lease agreement. Refer to section 1.5a.

2.5b Protective designation

Matjiesrivier Nature Reserve is a designated Provincial Nature Reserve (refer to section 1.5.a) in terms of the Cape Nature Conservation Ordinance, 19 of 1974.

2.5.c Means of implementing protective measures

Please refer to section 1.5.c. for details regarding the implementation of protective measures.

2.5.d Existing plans related to municipality and region in which the proposed property is located

CapeNature ensure their active engagement and input into programmes (such as the GCBC) and plans for the West Coast District Municipality and the Cederberg Municipality, where they relate to, or might impact upon, the Cederberg Complex.

2.5.e Property management plan or other management system

The Protected Areas Act[64] (refer to section 1.5.b(ii)) requires CapeNature to adopt a coherent spatial planning system in all Nature Reserves.

Matjiesrivier Nature Reserve management plan, first compiled in 1997, is currently under review in terms of the Protected Areas Act, as is the Cederberg Wilderness Area management plan (2000). The draft Strategic Management Plans focus on CapeNature's identified strategic goals, objectives and key measurable objectives (section1.5.e) and are subject to the guidelines, principles and policies outlined in the Protected Areas Act (as amended).

The Reserve Manager takes full responsibility for implementation of, and reporting on, all aspects of the Management Plan, while the Area Manager is directly responsible for strategic oversight of its implementation.

Refer to section 1.5.e for information on integrated management plans and management systems for CapeNature and the CFRPA.

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[63] Act 101 of 1998.

[64] Act 57 of 2003.

2.5.f Sources and levels of finance

In order to optimise capacity and funding limitations and opportunities, the Area Manager, Reserve Management and Scientific Services together prioritise achievable activities, focusing on the identified strategic goals, objectives and key measurable objectives during each five year management plan review cycle.

Refer to section 1.5.f for information on the sources and levels of finance for the CFRPA.

2.5.g Sources of expertise and training in conservation and management techniques

Branches (e.g. Scientific Services, Fire Management and Law support Services) of Directorates (e.g. Biodiversity, Operations and Finance) from CapeNature provide direct professional, technical and administrative support in the implementation of the Management Plans for the Cederberg Complex under the strategic guidance of the reserve management and Area Manager.

Refer to section 1.5.g for a summary of various sources of expertise and training, which are available from the provincial and national authorities as well as other organisations and institutions.

2.5.h Visitor facilities and statistics

The primary tourism facilities for Matjiesrivier are day hikes to visit Khoisan rock art, mostly within the area known as the "Stadsaal" (www.cederberg.co.za/rockart.html). A permit is required for any activities within the Cederberg Complex.

Please refer to Section 1.5.h for information on accessing visitor statistics for CapeNature and to DEAT 2003: Appendix 1 for information on the inscribed Cederberg Wilderness Area.

2.5.i Policies and programmes related to the presentation and promotion of the Cederberg Complex

Please refer to Section 1.5.i for information on policies and programmes related to the presentation and promotion of the CFRPA.

2.5.j Staffing levels (professional, technical, maintenance)

Please refer to Section 1.5.j for information on staffing levels for CapeNature.

2.6 MONITORING

A variety of projects and programmes contribute to baseline monitoring, evaluation and assessment undertaken by CapeNature within the Cederberg Complex. Refer to section 2.2.a for a list of selected projects and programmes which contribute to the monitoring of biodiversity within Matjiesrivier Nature Reserve.

Please refer to section 1.6 for further information on monitoring of the CFRPA.

2.6.a Key indicators for measuring state of conservation

Please refer to Section 1.6.a for a list of key indicators for measuring the state of conservation in CapeNature Nature Reserves.

2.6.b Administrative arrangements for monitoring property

The inscribed Cederberg Wilderness Area and Matjiesrivier Nature Reserve are under full responsibility of CapeNature.

Please refer to Section 1.6.b for the details pertaining to CapeNature's administrative monitoring arrangements.

2.6.c Results of previous reporting exercises

All data relating to vegetation, invasive alien species management and fire management, etc. are maintained by CapeNature. Areas are monitored and assessed regularly in order to inform and fine-tune adaptive management practices and processes.

For example, invasive alien fish-; invasive alien plant-; vegetation restoration-; and fire record monitoring programs are maintained as decision-support tools for ongoing assessment, and adaptive management of the biodiversity, heritage and general administration of Matjiesrivier Nature Reserve and the Cederberg Wilderness Area.

Refer to section 1.6.c for information on the CFRPA as a whole.

2.7 DOCUMENTATION

2.7.a Photographs, slides, image inventory and authorisation table and other audiovisual materials

Refer to section 1.7.a.

2.7.b Texts relating to protective designation, copies of property management plans or documented management systems and extracts of other plans relevant to the property

Please refer to section 1.7.b and Appendix 5 for information on property management plans. Refer to section 1.5 and Appendix 4 for information relating to protective designation.

2.7.c Form and date of most recent records or inventory of property

The 1997 Management Plan is the most recent version of Matjiesrivier Nature Reserves management records. This management plan is presently under revision in terms of the Protected Areas Act (refer to sections 1.5.b(ii) and 1.5.e).

All management information, inventories and plans are, however, iteratively updated and records of flora and fauna species; invasive alien flora and fauna management; fire management, etc. are readily available from Scientific Services at CapeNature.

2.7.d Address where inventory, records and archives are held

Please refer to section 1.7.d for addresses and contact details for CapeNature.

2.7.e Reference list

Southey D. 2009. *Wildfires in the Cape Floristic Region: Exploring vegetation and weather as drivers of fire frequency*. Unpublished MSc thesis. University of Cape Town.

Swart BL, Tolley KA and Matthee CA. 2009. Climate change drives speciation in the southern rock agama (Agama atra) in the Cape Floristic Region, South Africa. *Journal of Biogeography* 36: 78–87

CHAPTER 3: GROOT WINTERHOEK EXTENDED COMPLEX

3.1 IDENTIFICATION OF THE PROPERTY

Groot Winterhoek Complex falls wholly within the Western Cape Province. The conservation authority to which management is currently delegated is CapeNature.

3.1.a Country (and State Party if different)

South Africa

3.1.b State, Province or Region

Western Cape Province, Cape Floral Region

3.1.c Name of Property

Groot Winterhoek Complex.

Groot Winterhoek Nature Reserve is proposed as the extension to the inscribed CFRPA Groot Winterhoek Wilderness Area component (refer to Table 1.3.1; Section 1.2.a(i); and, Figure 3).

3.1.d Geographical coordinates to the nearest second

Geographical co-ordinates of the Groot Winterhoek Complex are provided in Table 1.

3.1.e Maps and plans, showing the boundaries of the Groot Winterhoek Complex and buffers

A map of Groot Winterhoek Complex in relation to the CFRPA and nominated extension properties is shown in Figure 1 and a detailed map of Groot Winterhoek Complex is provided in Figure 3.

Topographical maps for the Groot Winterhoek Complex (Map 3) are provided in Appendix 2.

3.2 DESCRIPTION

The Groot Winterhoek Complex is situated on the southwestern tip of Africa in the Western Cape Province of South Africa to the south of the Cederberg Complex (Chapter 2).

3.2.a Description of the Groot Winterhoek Complex

This chapter summarises the significant features of the Groot Winterhoek Nature Reserve, which is nominated to extend the inscribed Groot Winterhoek Wilderness Area to form the extended Groot Winterhoek Complex, thereby increasing the total land area of the inscribed Groot Winterhoek Wilderness Area from 26 806.29 to **27 509.61** ha (Table 1).

Groot Winterhoek Complex is supported by a wide network of adjacent or surrounding conserved areas ranging from Provincial Nature Reserves to Private Nature Reserves, Stewardship sites and Mountain Catchment Areas. Groot Winterhoek Complex is also supported by the Greater Cederberg Biodiversity Corridor (refer to sections 1.5.g(v) and 2.2.a).

CapeNature secures first freshwater corridor in South Africa

During 2009, CapeNature entered into a partnership with the World Wide Fund for Nature (WWF-SA) and Table Mountain Fund (TMF) to establish the Groot Winterhoek freshwater corridor as part of CapeNature's initiatives to secure and restore freshwater resources for the citizens of the Western Cape, amid growing scientific consensus that the province will experience increasing water scarcity and rising temperatures in the future.

The catchments of the Groot Winterhoek Mountain provide water to the Clanwilliam, Voëlvlei and Ceres dams, all very important storage dams for economic and agricultural development in the Western Cape.

The Groot Winterhoek project will be an important stepping stone in conserving the freshwater ecosystems of the Western Cape.

The project is phased over three years with the first year focusing on the planning and initiation of stewardship agreements that will ensure the wise use, management and protection of biodiversity by private landowners in priority catchments, including the upper Olifants, Thee, Ratel and Noordhoek rivers as well as raising awareness about these important freshwater systems.

During the second and third years CapeNature, in conjunction with private landowners, will be focusing on the implementation of conservation management interventions - including invasive alien species; fire; sustainable agricultural practices; and, ecosystem services projects.

A planned and coordinated approach to the management of river basins, catchments and aquifers is critical to ensure the provision of clear and unpolluted water ideal for human use, as water quality and quantity are affected by varying land use practices.

The Groot Winterhoek corridor will be a core corridor within a larger conservation initiative, the Greater Cederberg Biodiversity Corridor (GCBC) an area of 1, 8 million hectares, stretching from Elands Bay on the West Coast through the Sandveld region, the Cederberg Wilderness and the Succulent Karoo and extending northwards to Niewoudtville in Bokkeveld Plato. Refer to sections 1.5.g(v) and 2.2.a; as well as the GCBC website cederbergcorridor.org.za/corridors/cederberg.

The CFRPA extension to the inscribed Groot Winterhoek Wilderness Area is a small montane reserve named Groot Winterhoek Nature Reserve, situated to the south west of the Groot Winterhoek Wilderness Area (Figure 3) on the escarpment between the West Coast and the Tankwa Karoo.

The catchment areas of the Groot Winterhoek Mountains provide water to the Clanwilliam, Voëlvlei and Ceres dams, all very important storage dams for economic and agricultural development in the Western Cape.

The Groot Winterhoek's exceptional floral diversity is testament to the great physical and climatic diversity in this area of transition between montane and lowland habitats, which are topographically, geologically and climatically remarkable. The Groot Winterhoek Complex represents the internationally recognised "Biodiversity HotSpot" - the Cape Floral Region (fynbos).

A single fynbos vegetation type (Winterhoek Sandstone Fynbos) covers the whole of the Groot Winterhoek Nature Reserve land area. This vegetation type is also presently formally conserved within Groot Winterhoek Wilderness Area, thus the primary reason for addition of this Nature Reserve is for increasing and improving the overall size, connectivity and integrity of the inscribed Groot Winterhoek Wilderness Area in the face of global climate change.

Available species lists for Groot Winterhoek Nature Reserve and Groot Winterhoek Wilderness Area include:

- Reserve species databases assembled, regularly updated and maintained by reserve personnel and stored at CapeNature;
- Bird counts, species data and breeding information from the Animal Demography Unit's (ADU) "Birds in Reserves Project" (birp.adu.org.za/site_summary.php?site=33001907). To date, over 50 bird species have been identified within Groot Winterhoek Nature Reserve;
- Reptile species lists from the ADU's Southern African Reptile Conservation Assessment (SARCA) project's virtual museum at the full, half or quarter degree square (sarca.adu.org.za);
- Butterfly species lists from the ADU's Southern African Butterfly Conservation Assessment (SABCA) project's virtual museum at the full, half or quarter degree square (sabca.adu.org.za);
- Protea data from the Protea Atlas Project for the whole of the Groot Winterhoek Wilderness Area (proteaatlas.org.za/); and,
- Frog records for full degree square from the completed Southern African Frog Atlassing Project (also conducted by the ADU (adu.org.za/frog_atlas).

All of these databases, studies and projects (as well as others by research institutes and academic institutions) contribute to the body of knowledge about the wide species diversity found in the Groot Winterhoek Nature Reserve and the Groot Winterhoek Complex as a whole.

3.2.b History and Development

The history and development of the inscribed Groot Winterhoek Wilderness Area CFRPA is comprehensively described in the original Nomination (DEAT 2003: Appendix 1).

Groot Winterhoek Nature Reserve (Figure 3), is owned by the State, is presently State Forest land (refer to DEAT 2003: Appendix 1), proclaimed under the National Forests Act[65] and is managed by CapeNature.

In 2004, the Groot Winterhoek Wilderness Area was inscribed as a component of the CFRPA and in the same year the Greater Cederberg Biodiversity Corridor Project (GCBC) was launched (section 1.5.g(v)). The GCBC, one of several landscape-scale initiatives being undertaken in the Cape Floral Region (initiated as part of the C.A.P.E. programme), will eventually result in the formation of a biodiversity corridor (a "protected area") over 400,000 ha in extent, and will include the whole of the Groot Winterhoek Complex.

3.3 JUSTIFICATION FOR INSCRIPTION

Refer to section 1.1.3 for the overarching justification for extension of the inscribed CFRPA.

3.3.a Criteria under which inscription is proposed (and justification for inscription under these criteria)

Groot Winterhoek Complex (extended) fulfills two of the criteria for inclusion in the World Heritage List as a natural property, namely:

Criterion (ix): Ongoing biological and ecological processes.

Criterion (x): Biological diversity and threatened species.

Refer to Section 1.3.a for detail regarding the whole CFRPA property.

3.3.b Proposed Statement of Outstanding Universal Value

Refer to Section 1.3.b.

3.3.c Comparative analysis (including state of conservation of similar properties)

Refer to Section 1.3.c.

3.3.d Integrity

Groot Winterhoek Complex is owned and managed by the State.

Refer to Section 1.3.d for information pertaining to the integrity of the CFRPA as a whole.

[65] National Forests Act (Act 84 of1998)

3.4 STATE OF CONSERVATION AND FACTORS AFFECTING THE GROOT WINTERHOEK COMPLEX

3.4.a Present state of conservation

The primary issues facing the Groot Winterhoek Complex are (in common with most of the CFR) invasive alien species; disturbance by wildfire and disruption of fire regimes; and, to a lesser extent global climate change.

Refer also to Section 1.1.4 for details of the State of Conservation of the inscribed CFRPA.

3.4.b Factors affecting the property

World Heritage Site status places the inscribed Groot Winterhoek Wilderness Area (and thus also the Extended Nomination) in a special category in terms of the Protected Areas Act (refer to section 1.5.b(ii)). As such the area receives special attention from all three management authorities in terms of a newly established and dedicated management authority.

3.4.b(i) Development pressures

There are currently no development pressures.

3.4.b(ii) Environmental Pressures

Property management plans, including invasive alien management and fire management plans are in the process of revision in terms of the Protected Areas Act (section 1.5.b(ii)). All data are held by CapeNature.

3.4.b(iii) Natural disasters and risk preparedness

Natural disasters in the Groot Winterhoek Complex relate mostly to wildfire. The Groot Winterhoek Complex is associated with the Greater Cederberg Fire Protection Association, which was established in 2005 in accordance with the Veld and Forest Fires Act[66].

3.4.b(iv) Visitor / Tourism pressures

Groot Winterhoek Nature Reserve is not normally subject to high visitor and tourism pressures, however some trails require periodic upgrading and rehabilitation, and at these times the trails are closed during maintenance.

3.4.b(v) Number of inhabitants

Groot Winterhoek Nature Reserve and the Groot Winterhoek Complex are uninhabited except by essential management- and administrative personnel and their families.

3.5 PROTECTION AND MANAGEMENT OF THE PROPERTY

Refer to section 1.5 for detailed information of the protection and management of the inscribed CFRPA and the nomination extension.

3.5.a Ownership

Groot Winterhoek Complex (extended) is wholly owned by the State. Refer to section 1.5a.

[66] Act 101 of 1998.

3.5.b Protective designation

Groot Winterhoek Nature Reserve is a State Forest Nature Reserve (refer to section 1.5.a) in terms of the National Forests Act and the Cape Nature Conservation Ordinance, 19 of 1974.

3.5.c Means of implementing protective measures

Please refer to section 1.5.c. for details regarding the implementation of protective measures.

3.5.d Existing plans related to municipality and region in which the proposed property is located

CapeNature ensure their active engagement and input into programmes (such as the GCBC – refer to section 1.5.g(v)) and plans for the Bergrivier Municipality, where they relate to, or might impact upon, the Groot Winterhoek Complex.

3.5.e Property management plan or other management system

The Protected Areas Act[67] (refer to section 1.5.b(ii)) requires CapeNature to adopt a coherent spatial planning system in all Nature Reserves.

Groot Winterhoek Nature Reserve is managed as a component of the Groot Winterhoek Wilderness Area management plan. This is currently under review in terms of the Protected Areas Act. The draft Strategic Management Plans for all Western Cape Provincial Reserves focus on CapeNature's identified strategic goals, objectives and key measurable objectives (section1.5.e) and are subject to the guidelines, principles and policies outlined in the Protected Areas Act (as amended).

The Reserve Manager takes full responsibility for implementation of, and reporting on, all aspects of the Management Plan, while the Area Manager is directly responsible for strategic oversight of its implementation.

Refer to section 1.5.e for information on integrated management plans and management systems for CapeNature and the CFRPA.

3.5.f Sources and levels of finance

In order to optimise capacity and funding limitations and opportunities, the Area Manager, Reserve Management and Scientific Services together prioritise achievable activities, focusing on the identified strategic goals, objectives and key measurable objectives during each five year management plan review cycle.

Refer to section 1.5.f for information on the sources and levels of finance for the CFRPA.

3.5.g Sources of expertise and training in conservation and management techniques

Branches (e.g. Scientific Services, Fire Management and Law support Services) of Directorates (e.g. Biodiversity, Operations and Finance) from CapeNature provide direct professional, technical and administrative support in the implementation of the Management Plans for the Groot Winterhoek Complex under the strategic guidance of the reserve management and Area Manager.

Refer to section 1.5.g for a summary of various sources of expertise and training, which are available from the provincial and national authorities as well as other organisations and institutions.

3.5.h Visitor facilities and statistics

The primary tourism draw card for the Groot Winterhoek Nature Reserve is hiking and a permit is required for any activities within the Groot Winterhoek Complex.

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[67] Act 57 of 2003.

Please refer to Section 1.5.h for information on accessing visitor statistics for CapeNature and to DEAT 2003: Appendix 1 for information on the inscribed Groot Winterhoek Wilderness Area.

3.5.i Policies and programmes related to the presentation and promotion of the property

Please refer to Section 1.5.i for information on policies and programmes related to the presentation and promotion of the CFRPA.

3.5.j Staffing levels (professional, technical, maintenance)

Please refer to Section 1.5.j for information on staffing levels for CapeNature.

3.6 MONITORING

A variety of projects and programmes contribute to baseline monitoring, evaluation and assessment undertaken by CapeNature within the Groot Winterhoek Complex. Refer to section 3.2.a for a list of selected projects and programmes which contribute to the monitoring of biodiversity within Groot Winterhoek Nature Reserve and the Groot Winterhoek Complex as a whole.

Please refer to section 1.6 for further information on monitoring of the CFRPA.

3.6.a Key indicators for measuring state of conservation

Please refer to Section 1.6.a for a list of key indicators for measuring the state of conservation in CapeNature Nature Reserves.

3.6.b Administrative arrangements for monitoring property

Monitoring of the inscribed Groot Winterhoek Wilderness Area and Groot Winterhoek Nature Reserve are under the full management of CapeNature.

Please refer to Section 1.6.b for the details pertaining to CapeNature's administrative monitoring arrangements.

3.6.c Results of previous reporting exercises

All data relating to vegetation, invasive alien species management and fire management, etc. are maintained by CapeNature. Areas are monitored and assessed regularly in order to inform and fine-tune adaptive management practices and processes.

For example, invasive alien fish-; invasive alien plant-; vegetation restoration-; and fire record monitoring programs are maintained as decision-support tools for ongoing assessment, and adaptive management of the biodiversity, heritage and general administration of Groot Winterhoek Nature Reserve and the inscribed Groot Winterhoek Wilderness Area.

Refer to section 1.6.c for information on the CFRPA as a whole.

3.7 DOCUMENTATION

3.7.a Photographs, slides, image inventory and authorisation table and other audiovisual materials

Refer to section 1.7.a.

3.7.b Texts relating to protective designation, copies of property management plans or documented management systems and extracts of other plans relevant to the property

Please refer to section 1.7.b and Appendix 5 for information on property management plans. Refer to section 1.5 and Appendix 4 for information relating to protective designation.

3.7.c Form and date of most recent records or inventory of property

The existing "Groot Winterhoek Conservation Area Management Plan" is the most recent version of Groot Winterhoek Nature Reserves management records. This management plan is presently under revision in terms of the Protected Areas Act (refer to sections 1.5.b(ii) and 1.5.e).

All management information, inventories and plans are, however, iteratively updated and records of flora and fauna species; invasive alien flora and fauna management; fire management, etc. are readily available from Scientific Services at CapeNature.

3.7.d Address where inventory, records and archives are held

Please refer to section 1.7.d for addresses and contact details.

3.7.e Reference list

Daniels F and Helme NA. 2006. Phylica trachyphylla (Eckl. & Zeyh.) D.Dietr. *National Assessment: Red List of South African Plants*.

CHAPTER 4: WEST COAST COMPLEX
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CHAPTER 5: TABLE MOUNTAIN NATIONAL PARK

5.1 IDENTIFICATION OF THE PROPERTY

Table Mountain National Park falls wholly within the Western Cape Province. The conservation agency to which management is currently delegated is SANParks.

5.1.a Country (and State Party if different)

South Africa.

5.1.b State, Province or Region

Western Cape Province, Cape Floral Region.

5.1.c Name of Property

Table Mountain National Park (hereafter named TMNP) is proposed as the most easterly extension to the inscribed CFRPA (refer to Table 1.3.1; Section 1.2.a(i); and, Figure 5).

5.1.d Geographical coordinates to the nearest second

Geographical co-ordinates of the TMNP are provided in Table 1.

5.1.e Maps and plans, showing the boundaries of the nominated property and buffers

A map of TMNP in relation to the CFRPA and nominated extension properties is shown in Figure 1 and a detailed map of TMNP is provided in Figure 5.

Topographical maps for TMNP (Map 5) are provided in Appendix 2.

5.2 DESCRIPTION

TMNP is located in the extreme southwest of the Fynbos Biome, within the Western Cape Province of South Africa, to the west of the Boland Mountain Complex (Chapter 6) ~~and to the south of the West Coast Complex (Chapter 4)~~.

5.2.a Description of the Table Mountain National Park

This chapter summarises the significant features of the properties which have been proclaimed part of the TMNP since inscription.

The TMNP is supported by a wide network of adjacent or surrounding conserved areas ranging from municipal Nature Reserves, Private Nature Reserves, Stewardship sites, contractual public/private partnerships, public open space systems and Marine Protected Areas. The inscribed TMNP comprises a number of adjoining as well as many disjunct smaller components, most of which are buffered by a network of conservancies and stewardship sites under formal agreement (Figure 5).

Located on the montane Cape Peninsula, the TMNP is a relatively new national park which is in a state of continual growth as areas are added to the boundaries of the initially proclaimed protected area. This “consolidation” of additional newly proclaimed areas, which comprise the national park, constitutes the proposed extension for the purposes of this extension nomination.

The primary reason for inclusion of these areas into the extension nomination for the CFRPA is thus to request formal international recognition of the extension of this newly proclaimed land within the TMNP, which is protected under national legislation as part of the national park, and thus

ensure protection of the increased land area within the World Heritage Site. These land areas significantly improve connectivity between the existing elements of the inscribed TMNP.

Available species lists for the TMNP include:

- Species databases assembled, regularly updated and maintained by SANParks personnel, stored at SANParks and listed on the official SANParks website for each National Park;
- Bird counts, species data and breeding information from the Animal Demography Unit's (ADU) "Birds in Reserves Project" (e.g. birp.adu.org.za/site_summary.php?site=34001822). To date, some 61 bird species have been identified within the TMNP;
- Reptile species lists from the ADU's Southern African Reptile Conservation Assessment (SARCA) project's virtual museum at the full, half or quarter degree square (sarca.adu.org.za);
- Butterfly species lists from the ADU's Southern African Butterfly Conservation Assessment (SABCA) project's virtual museum at the full, half or quarter degree square (sabca.adu.org.za);
- Protea data from the Protea Atlas Project (proteaatlas.org.za/); and,
- Frog records for full degree square from the completed Southern African Frog Atlassing Project (also conducted by the ADU adu.org.za/frog_atlas).

All of these databases, studies and projects (as well as many others by research institutes and academic institutions) contribute to the body of knowledge about the wide species diversity found in TMNP.

5.2.b History and Development

The history and development of the inscribed TMNP CFRPA is comprehensively described in the original Nomination (DEAT 2003: Appendix 1).

All recent land area additions to the TMNP are owned by the State and have recently been proclaimed National Park in terms of the Protected Areas Act (as amended: refer to sections 1.5.b(ii) and (iii)).

5.3 JUSTIFICATION FOR INSCRIPTION

Refer to section 1.1.3 for the overarching justification for extension of the inscribed CFRPA.

5.3.a Criteria under which inscription is proposed (and justification for inscription under these criteria)

TMNP fulfills two of the criteria for inclusion in the World Heritage List as a natural property, namely:

Criterion (ix): Ongoing biological and ecological processes.

Criterion (x): Biological diversity and threatened species.

Refer to Section 1.3.a for detail regarding the whole CFRPA property.

5.3.b Proposed Statement of Outstanding Universal Value

Refer to Section 1.3.b.

5.3.c Comparative analysis (including state of conservation of similar properties)

Refer to Section 1.3.c.

5.3.d Integrity and/or Authenticity

The TMNP is owned and managed by the State.

Refer to Section 1.3.d for information pertaining to the authenticity and integrity of the CFRPA as a whole.

5.4 STATE OF CONSERVATION AND FACTORS AFFECTING THE PROPERTY

5.4.a Present state of conservation

The Protected Areas Act requires that a national park be managed exclusively for the purpose for which it was declared. However, SANParks recognises that the environment is in constant flux, is interlinked with the socio-economic and political spheres and could be affected by societal values. Protected area management should therefore take cognisance of the ever changing environment and diversity of influences, and plan accordingly. In consultation with stakeholders SANParks will be revising the management plan of each park approximately every six years.

The primary issues facing the TMNP are (in common with most regions of the CFR) invasive alien species; disturbance by wildfire and disruption of fire regimes; and, global climate change. Given its proximity to the City of Cape Town, another factor affecting TMNP is high visitor pressures, since certain parts of the TMNP experience extremely high visitor numbers. The TMNP management plan (Appendix 5); Conservation Development Framework (CDF) and associated recreational environmental management programmes (e.g. “Dog-walking-; Horse-riding-; and, Mountain-biking Environmental Management Programmes”) address visitor management through identified zonation of the park and appropriate management of different user groups.

Refer also to Section 1.1.4 for details of the State of Conservation of the inscribed CFRPA.

5.4.b Factors affecting the property

As a National Park, the TMNP receives extremely high levels of protection in terms of the Protected Areas Act. Inscribed World Heritage Site status further places the TMNP (and thus also the extended nomination) in a special category in terms of the Protected Areas Act (refer to section 1.5.b(ii)). The TMNP receives special attention from all three management authorities in terms of the newly established, and dedicated, management authority. TMNP is also in the process of being declared a Grade 1 National Heritage site in terms of the National Heritage Resources Act No. 25 of 1999.

5.4.b(i) Development pressures

There are currently no development pressures within the TMNP, since where necessary, facility and infrastructure developments are managed in terms of the existing Park Management Plan, Conservation Development Framework as well as in terms of the Protected Areas Act and other relevant national and provincial legislation. Development pressures on the borders of the TMNP are managed in consultation with the relevant Provincial and Local Authorities, in terms of regulations for the proper administration of special Nature Reserves, National Parks and World Heritage Sites (section 1.5.b(vii)); the Environmental Impact Assessment regulations (1.5.b(viii)); and, various rigorous municipal and provincial development controls.

5.4.b(ii) Environmental Pressures

Invasive species-, habitat rehabilitation and restoration plan and fire environmental management plans have been completed for the TMNP and are in operation. All data are held by SANParks.

Working for Water is responsible for clearing invasive alien plants in the TMNP in association with SANParks officials.

Please refer to section 1.4.b(ii) for more information on the CFR and the CFRPA.

5.4.b(iii) Natural disasters and risk preparedness

Natural disasters include wildfire and very occasional flooding. In order to reduce the incidence of wildfire in the TMNP area, the Cape Peninsula Fire Protection Association (CPFPA) has been established. In terms of the National Veld and Forest Fire Act[68], SANParks is obliged to be a member of the CPFPA to gain full legal benefit thereof and stakeholder support.

TMNP went into partnership with the Working on Fire (WoF) Programme (refer to section 1.5.g(iv)) in 2004, giving access to the assistance of additional ground crew and equipment, such as helicopters. In addition, Table Mountain National Park Wildfire Volunteers are citizens who give freely of their time to assist TMNP in fighting fires and are on call throughout the fire season.

5.4.b(iv) Visitor / Tourism pressures

The approved TMNP Management Plan (Appendix 5) covers visitor and tourism pressures, facilities and requirements in detail.

5.4.b(v) Number of inhabitants

The TMNP is inhabited only by essential SANParks personnel.

5.5 PROTECTION AND MANAGEMENT OF THE PROPERTY

Refer to section 1.5 for detailed information of the protection and management of the inscribed CFRPA and the Nomination Extension.

5.5.a Ownership

The TMNP is mainly owned by the State and local authorities. The designation of all components of the TMNP is as a National Park (refer to section 1.5.a). Portions of private land are contracted into the Park on a long term basis and proclaimed as National Park.

5.5.b Protective designation

The TMNP is declared a National Park in terms of the National Environmental Management: Protected Areas Amendment Act (Act 31 of 2004), refer to section 1.5.b(iii)).

5.5.c Means of implementing protective measures

Refer to section 1.5.c.

5.5.d Existing plans related to municipality and region in which the proposed property is located

SANParks ensure their active engagement and input into plans including Bioregional, District and Local Authority Plans (e.g. Integrated Development Plans and Spatial Development Frameworks for the City of Cape Town) especially where they relate to, or might impact upon, the TMNP.

A formal partnership between the City of Cape Town and Table Mountain National Park aims to facilitate cooperation between the City and Table Mountain National Park (TMNP) in respect of the urban interface, strategic planning and development coordination. The partnership has the following objectives:

- Coordinating and implementing the quarterly high-level bilateral meetings between the City and TMNP.
- Planning and coordinating the nine working groups which provide the conduit for the operational work between the City and the Park.

[68] Act 101 of 1998. This is described in some detail in the Nomination of the CFRPA (Appendix 1).

- Facilitating and coordinating City input into TMNP strategic and detailed development proposals, including strategic and management planning documentation.
- Facilitating cooperation between the City and TMNP in respect of the urban interface, including fire management, informal settlements, alien invasive species, safety and security and recreational use.

5.5.e Property management plan or other management system

The Protected Areas Act (Section 1.5.b(ii))) requires SANParks to adopt a coherent spatial planning system in all national parks.

The TMNP has an approved and operational Management Plan (Appendix 5), last revised in 2008, which incorporates and directs the management of the whole of TMNP. The Management Plan was approved on condition of the review of certain aspects including the programme of implementation (and its costing); the land consolidation plan; and, the infrastructure development plan. SANParks has initiated a revision process to attend to the conditions and the plans will be reviewed within 5-6 years to address the shortcomings.

The TMNP Management Plan identifies and documents a hierarchy of objectives, which relate to the TMNP's vital attributes, perceived threats and constraints, guiding principles and the vision for TMNP. Included in the management plan are a suite of Biodiversity-; Cultural Heritage-; and, Socio-Economic objectives. Amongst other, the Management Plan identifies a "park consolidation programme and strategy", which seeks to best conserve the remaining natural heritage on the Cape Peninsula within a national park which is protected under national law.

The Park Zoning and Conservation Development Framework identifies *inter alia* the use zones, which were classified through a process of iterative and consultative spatial development planning and, which guide and co-ordinate conservation, tourism and visitor experience initiatives. The zoning is based on analysis and mapping of the sensitivity and value of TMNP's biophysical, heritage and scenic resources; an assessment of the regional context; and assessment of the park's current and planned infrastructure and tourist routes/products; all interpreted within the context of the TMNP objectives.

Park managers take full responsibility for the implementation of, and reporting on, the Management Plan, while the Regional Manager is directly responsible for strategic oversight of its implementation.

A copy of the TMNP Management Plan and SANPark's framework for development and implementation of National Park management plans is included in Appendix 5 (refer also to section 1.5.e).

5.5.f Sources and levels of finance

In order to optimise capacity, funding limitations and opportunities, the Park Manager, Regional Manager and Scientific Services: Cape Region, together prioritise achievable activities, focusing on the Management Plan's objectives, programmes and action projects.

Refer to section 1.5.f for information on the sources and levels of finance for the CFRPA.

5.5.g Sources of expertise and training in conservation and management techniques

SANParks' Scientific Services: Cape Region provides direct professional, technical and administrative support in the implementation of the operational Management Plan.

Refer to section 1.5.g for a summary of the various sources of expertise and training which are available from provincial and national authorities as well as other organizations and institutions.

5.5.h Visitor facilities and statistics

A variety of facilities, activities and opportunities are available for visitors to the TMNP and most are described in the Nomination documentation (DEAT 2003: Appendix 1). A new addition to the facilities available is the Hoerikwaggo hiking trail (sanparks.org/parks/table_mountain/ht/default.php) and tented camps, which provide hikers with a spectacular 5-day, 75 km trail from Cape Point to Table Mountain.

Many tourism facilities are easily accessible and activities include horse riding and overnight hiking. Being an open access system, SANParks has undertaken a comprehensive Visitor Survey in 2006 to understand visitor numbers, trends and attitudes.

Please refer to Section 1.5.h for information on accessing current visitor statistics for SANParks.

5.5.i Policies and programmes related to the presentation and promotion of the property

Please refer to Section 1.5.i for information on policies and programmes related to the presentation and promotion of the property.

5.5.j Staffing levels (professional, technical, maintenance)

Some 126 permanent staff members are presently employed at the TMNP. Please refer to Section 1.5.j for information on staffing levels for SANParks and the CFRPA.

5.6 MONITORING

SANParks personnel monitor a wide array of aspects relating to biophysical, heritage, administrative and socio-economic management of the TMNP. In addition, a number of projects, programmes and institutions contribute to monitoring in the TMNP. These include (but are not limited to) the many projects noted in sections 1.2.a and 5.2.a which compile species lists and monitor a variety of aspects of plant and animal interactions. Amongst other, various units, programmes and departments based at the Universities of Cape Town, Stellenbosch and the Western Cape, as well as the South African National Biodiversity Institute (based at Kirstenbosch), all contribute richly to the wealth of information on the patterns and processes within the TMNP.

Please refer to section 1.6 for further information on monitoring of the property.

5.6.a Key indicators for measuring state of conservation

Please refer to Section 1.6.a for a list of key indicators for measuring state of conservation by SANParks.

5.6.b Administrative arrangements for monitoring property

The TMNP is presently the full responsibility of SANParks.

Please refer to Section 1.6.b for all relevant details pertaining to SANParks.

5.6.c Results of previous reporting exercises

Managed primarily as a botanical reserve to preserve the extraordinary floral wealth of the Cape Peninsula, TMNP is one of the most researched National Parks in South Africa owing greatly to the exceptional plant diversity and its proximity to the City of Cape Town, which are great draw cards for researchers as well as for tourists.

Refer to the Nomination (DEAT 2003: Appendix 1) for information on the TMNP and to section 1.6.c for information on the CFRPA as a whole.

5.7 DOCUMENTATION

5.7.a Photographs, slides, image inventory and authorization table and other audiovisual materials

Refer to section 1.7.a.

5.7.b Texts relating to protective designation, copies of property management plans or documented management systems and extracts of other plans relevant to the property

Please refer to section 1.7.b and Appendix 5 for information on property management plans. Refer to section 1.5 and Appendix 4 for information relating to protective designation.

5.7.c Form and date of most recent records or inventory of property

The 2008 revision of the Park Management Plan is the most recent version of the TMNP's management records. A 2006-2011 Conservation Development Framework is currently being revised in terms of the 5-6 yearly review requirement.

All management information, habitat and species inventories and plans are iteratively updated. Records of species of flora and fauna, invasive alien species management, fire management, results and records from monitoring and evaluation projects, etc. are readily available from SANParks. A detailed property inventory is maintined by the TMNP Planning Department.

5.7.d Address where inventory, records and archives are held

Please refer to section 1.7.d for addresses and contact details for SANParks.

5.7.e Reference list

Helme NA and Trinder-Smith TH. 2006. The endemic flora of the Cape Peninsula, South Africa. *South African Journal of Botany* 72: 205–210.

Pryke JS. 2008, *Conservation of invertebrate fauna of the Cape Peninsula.* PhD thesis, Dept. of Conservation Ecology and Entomology, Stellenbosch University.

Pryke JS and Samways MJ. 2008, Conservation of invertebrate biodiversity on a mountain in a global biodiversity hotspot, Cape Floral Region. *Biodiversity and Conservation*, 17: 3027−3043.

Rebelo TG, Freitag S, Cheney C and McGeoch MA. 2011. Prioritising species of special concern for monitoring in Table Mountain National Park: The challenge of a species-rich, threatened ecosystem. *Koedoe* 53(2).

5.7.e(i) Websites with related material

The official SANParks website for the TMNP is www.sanparks.org/parks/table_mountain/.

CHAPTER 6: BOLAND MOUNTAIN EXTENDED COMPLEX

6.1 IDENTIFICATION OF THE PROPERTY

Boland Mountain Complex falls wholly within the Western Cape Province. The conservation authority to which management is currently delegated is CapeNature.

6.1.a Country (and State Party if different)

South Africa

6.1.b State, Province or Region

Western Cape Province, Cape Floral Region

6.1.c Name of Property

Boland Mountain Complex.

The name remains the same as the inscribed CFRPA component but the property is extended.

The Buffelstal-; Rooisand (Botrivier)-; Waterval-; Voëlvlei-; Brandvlei-; Simonsberg-; and Helderberg Nature Reserves are nominated as extensions to the inscribed CFRPA Boland Mountain Complex component (refer to Table 1.3.1; Section 1.2.a(i); and, Figure 6).

6.1.d Geographical coordinates to the nearest second

Geographical co-ordinates of the Boland Mountain Complex are provided in Table 1.

6.1.e Maps and plans, showing the boundaries of the Boland Mountain Complex and buffers

A map of the Boland Mountain Complex in relation to the CFRPA and nominated extension properties is shown in Figure 1 and a detailed map of Boland Mountain Complex is provided in Figure 6.

Topographical maps for the Boland Mountain Complex (Map 6) are provided in Appendix 2.

6.2 DESCRIPTION

The Boland Mountain Complex is situated in the Western Cape Province of South Africa to the east of Table Mountain National Park (Chapter 5) and south of the Groot Winterhoek and Hexrivier Complexes (Chapters 3 and 7 respectively).

6.2.a Description of the Boland Mountain Complex

This chapter summarises the significant features of the eight small Nature Reserves, which are nominated to extend the inscribed Boland Mountain Complex, to form the extended Boland Mountain Complex, thereby increasing the total land area of the inscribed Boland Mountain Complex to over 124 717.37 ha.

The Boland Mountain Complex, inscribed as a component of the CFRPA in 2004, is supported and buffered by a wide network of adjacent or surrounding conserved areas ranging from Provincial Nature Reserves to Private Nature Reserves, Stewardship sites and Mountain Catchment Areas. The UNESCO-registered Kogelberg- and Cape Winelands Biosphere Reserves, which surrounds and includes the Kogelberg- and Jonkershoek Nature Reserves (Figure 6), form part of the extensive buffer and buffering mechanisms for the southern part of this large complex.

The nominated CFRPA extension, to the inscribed Boland Mountain Complex, comprises six small Nature Reserves, ranging from the 478.25 ha Brodie Link-; 394.12 ha Buffelstal and 273.34ha Rooisand (Botrivier) Nature Reserves in the south to the 6 835.23 ha Waterval-, 877.17 ha Voëlvlei and 2 530.62 ha Brandvlei Nature Reserves in the northwest and northeast of the main Boland Mountain range, as well as two small mountain reserves (Simonsberg (463.23 ha) and Helderberg (218.43 ha)) which, despite their location at a short distance to the south west of the main Boland Mountain range (Figure 6), are considered to be floristically and geologically part of the Boland Mountain Complex. These eight reserves contribute to the extension of the overall size of the inscribed Boland Mountain Complex, as well as to improved mountain to coast linkages in the south.

The catchment areas of the Boland Mountain Complex provide water to the City of Cape Town and most of the towns and settlements of the surrounding Overberg, Bergrivier, Drakenstein and West Coast districts and district municipalities. These mountain catchment areas, and their long term conservation, are thus critical for human settlement as well as economic and agricultural development in the Western Cape.

A total of 18 fynbos vegetation types are found in the extended Boland Mountain Complex, of which seven are not formally protected elsewhere (Table 1.3.1). One of these vegetation types, the Vulnerable Breede Sand Fynbos, is contributed by the proposed Brandvlei Nature Reserve CFRPA extension to the northeast. Increased protection of the biodiversity rich Boland Mountain Complex, and the vegetation types which it safeguards, will be achieved through improving connectivity and increasing the extent of the inscribed Boland Mountain Complex.

Available species lists for the proposed extension Nature Reserves and the Boland Mountain Complex include:

- Reserve species databases assembled, regularly updated and maintained by reserve personnel and stored at CapeNature;
- Bird counts, species data and breeding information from the Animal Demography Unit's (ADU) "Birds in Reserves Project", for example over 146 bird species have been recorded in the Helderberg Nature Reserve alone (birp.adu.org.za/site_summary.php?site=34031853);
- Reptile species lists from the ADU's Southern African Reptile Conservation Assessment (SARCA) project's virtual museum at the full, half or quarter degree square (sarca.adu.org.za);
- Butterfly species lists from the ADU's Southern African Butterfly Conservation Assessment (SABCA) project's virtual museum at the full, half or quarter degree square (sabca.adu.org.za);
- Protea data from the Protea Atlas Project for most of the Nature Reserves in the Boland Mountain Complex (proteaatlas.org.za/); and,
- Frog records for full degree square from the completed Southern African Frog Atlassing Project (also conducted by the ADU (adu.org.za/frog_atlas).

All of these databases, studies and projects (as well as others by research institutes and academic institutions) contribute to the body of knowledge about the wide species diversity found in the Boland Mountain Complex as a whole.

6.2.b History and Development

The history and development of the inscribed Boland Mountain Complex CFRPA is comprehensively described in the original Nomination (DEAT 2003: Appendix 1).

All eight Nature Reserves nominated for the extension of the Boland Mountain Complex (Figure 6), are owned by the State. The Nature Reserves are variously proclaimed as Provincial Nature Reserve or State Forest (refer to DEAT 2003: Appendix 1), proclaimed under the National Forests Act[69] and all eight are managed by CapeNature.

The exceptional floral diversity and high levels of endemism in the Boland Mountain Complex (Lombard 2000) are testament to the great physical and climatic diversity in this area of transition

[69] National Forests Act (Act 84 of1998)

between montane, lowland and coastal habitats, which are topographically, geologically and climatically remarkable. The Boland Mountain Complex represents the internationally recognised "Biodiversity Hot Spot" - the Cape Floral Region (fynbos).

Extending the inscribed Boland Mountain Complex component, to include the eight Nature Reserves, will increase and improve the overall size, connectivity, resilience and integrity of the inscribed Boland Mountain Complex in the face of global climate change.

6.3 JUSTIFICATION FOR INSCRIPTION

Refer to section 1.1.3 for the overarching justification for extension of the inscribed CFRPA.

6.3.a Criteria under which inscription is proposed (and justification for inscription under these criteria)

Boland Mountain Complex (extended) fulfills two of the criteria for inclusion in the World Heritage List as a natural property, namely:

Criterion (ix): Ongoing biological and ecological processes.

Criterion (x): Biological diversity and threatened species.

Refer to Section 1.3.a for detail regarding the whole CFRPA property.

6.3.b Proposed Statement of Outstanding Universal Value

Refer to Section 1.3.b.

6.3.c Comparative analysis (including state of conservation of similar properties)

Refer to Section 1.3.c.

6.3.d Integrity

Boland Mountain Complex, inscribed and extended, is owned and managed by the State.

Refer to Section 1.3.d for information pertaining to the integrity of the CFRPA as a whole.

6.4 STATE OF CONSERVATION AND FACTORS AFFECTING THE BOLAND MOUNTAIN COMPLEX

6.4.a Present state of conservation

The primary issues facing the Boland Mountain Complex are (in common with most of the CFR) invasive alien species; disturbance by wildfire and disruption of fire regimes; and, global climate change.

Refer also to Section 1.1.4 for details of the State of Conservation of the inscribed CFRPA.

6.4.b Factors affecting the property

World Heritage Site status places the inscribed Boland Mountain Complex (and thus also the Extended Nomination) in a special category in terms of the Protected Areas Act (refer to section 1.5.b(ii)). As such the area receives special attention from all three management authorities in terms of a newly established and dedicated management authority.

6.4.b(i) Development pressures

Development pressures are experienced in the locality of the Boland Mountain Complex, particularly near the coast, where demand for housing estates and resort developments is high. These pressures are significantly moderated, and in most instances alleviated, or completely removed, by the extensive array of environmental legislation available to the authorities and other stakeholders in whose interests it falls to protect the ecological integrity and ecosystem functioning of this extensive mountain complex.

6.4.b(ii) Environmental Pressures

Property management plans, including invasive alien management and fire management plans are in the process of revision in terms of the Protected Areas Act (section 1.5.b(ii)). All data are held by CapeNature.

6.4.b(iii) Natural disasters and risk preparedness

Natural disasters in the Boland Mountain Complex relate mostly to wildfire. Waterval Nature Reserve has evolved into a technical support reserve with regard to fire-fighting and gives support to other business units during wildfires. Two helicopters are based at Waterval and one spotter plane at the nearby Worcester Airfield. Two Working on Fire teams are based at Waterval Nature Reserve. Volunteer Wildfire Services (VWS) (www.capefires.com/) has one of three hubs stationed at Jonkershoek Nature Reserve in the inscribed Boland Mountain Complex. The VWS provides invaluable support to Working on Fire, Nature Reserve personnel and other emergency services in the event of wildfire.

6.4.b(iv) Visitor / Tourism pressures

Tourism pressures are monitored annually and in those sections of the Boland Mountain Complex where visitor pressures are experienced and identified, visitor numbers are appropriately limited by means of issue of daily permits and gated access.

6.4.b(v) Number of inhabitants

The eight Nature Reserves proposed for extension of the Boland Mountain Complex are uninhabited except by essential management- and administrative personnel and their families.

6.5 PROTECTION AND MANAGEMENT OF THE PROPERTY

Refer to section 1.5 for detailed information of the protection and management of the inscribed CFRPA and the Nomination Extension.

6.5.a Ownership

All components of the Boland Mountain Complex (extended) are managed by the State and all components, apart from the Brodie Link and Buffelstal (which are owned by WWF-SA and leased to CapeNature on a 99-year lease agreement), are owned by the State. Refer to section 1.5a.

6.5.b Protective designation

The Buffelstal-; Simonsberg-; Waterval-; Helderberg-; and, Brandvlei Nature Reserves are proclaimed State Forest Nature Reserves (refer to section 1.5.a) in terms of the National Forests Act, and the Voëlvlei-, Brodie Link- and Rooisand Nature Reserves are proclaimed Provincial Nature Reserves in terms of the Cape Nature Conservation Ordinance, 19 of 1974.

6.5.c Means of implementing protective measures

Please refer to section 1.5.c. for details regarding the implementation of protective measures.

6.5.d Existing plans related to the municipality and region in which the Boland Mountain Complex is located

CapeNature ensure their active engagement and input into local planning and programmes (such as Kogelberg Biosphere Reserve planning) as well as District plans for the Stellenbosch, Cape Town, Breede Valley, Overstrand and Drakenstein Municipalities, where they relate to, or might impact upon, the Boland Mountain Complex.

6.5.e Property management plan or other management system

The Protected Areas Act[70] (refer to section 1.5.b(ii)) requires CapeNature to adopt a coherent spatial planning system in all Nature Reserves.

All existing management plans are currently under review in terms of the Protected Areas Act. The draft Strategic Management Plans for all Western Cape Provincial Reserves focus on CapeNature's identified strategic goals, objectives and key measurable objectives (section1.5.e) and are subject to the guidelines, principles and policies outlined in the Protected Areas Act (as amended).

The Reserve Managers take full responsibility for implementation of, and reporting on, all aspects of the Nature Reserve Management Plan, while the Regional Manager is directly responsible for strategic oversight of its implementation.

Refer to section 1.5.e for information on integrated management plans and management systems for CapeNature and the CFRPA.

6.5.f Sources and levels of finance

In order to optimise capacity and funding limitations and opportunities, the Regional Manager, Reserve Management and Scientific Services together prioritise achievable activities, focusing on the identified strategic goals, objectives and key measurable objectives during each five year management plan review cycle.

Refer to section 1.5.f for information on the sources and levels of finance for the CFRPA.

6.5.g Sources of expertise and training in conservation and management techniques

Branches (e.g. Scientific Services, Fire Management and Law support Services) of Directorates (e.g. Biodiversity, Operations and Finance) from CapeNature provide direct professional, technical and administrative support in the implementation of the Management Plans for the Boland Mountain Complex under the strategic guidance of Reserve Managers and Regional Manager.

Refer to section 1.5.g for a summary of various sources of expertise and training, which are available from the provincial and national authorities as well as other organisations and institutions.

6.5.h Visitor facilities and statistics

Ecotourism is an enormous draw card for the various components of the Boland Mountain Complex. Hiking, birding, camping and mountain-biking are just some of the activities permitted in different use zones and a permit is required for any activities within all areas which are considered to be ecologically sensitive.

Please refer to Section 1.5.h for information on accessing visitor statistics for CapeNature and to DEAT 2003: Appendix 1 for information on the inscribed Boland Mountain Complex.

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[70] Act 57 of 2003.

6.5.i Policies and programmes related to the presentation and promotion of the Boland Mountain Complex

Please refer to Section 1.5.i for information on policies and programmes related to the presentation and promotion of the CFRPA.

6.5.j Staffing levels (professional, technical, maintenance)

Please refer to Section 1.5.j for information on staffing levels for CapeNature.

6.6 MONITORING

A variety of projects and programmes contribute to baseline monitoring, evaluation and assessment undertaken by CapeNature within the Boland Mountain Complex. Refer to section 6.2.a for a list of selected projects and programmes which contribute to the monitoring of biodiversity within the CapeNature Nature Reserves and the Boland Mountain Complex as a whole.

Please refer to section 1.6 for further information on monitoring of the CFRPA.

6.6.a Key indicators for measuring state of conservation

Please refer to Section 1.6.a for a list of key indicators for measuring the state of conservation in CapeNature Nature Reserves.

6.6.b Administrative arrangements for monitoring property

Monitoring of the inscribed Boland Mountain Complex and all eight Nature Reserves proposed to extend the Boland Mountain Complex are under dedicated CapeNature management.

Please refer to Section 1.6.b for the details pertaining to CapeNature's administrative monitoring arrangements.

6.6.c Results of previous reporting exercises

All data relating to vegetation, invasive alien species management and fire management, etc. are maintained by CapeNature. Areas are monitored and assessed regularly in order to inform and fine-tune adaptive management practices and processes.

For example, invasive alien fish-; invasive alien plant-; vegetation restoration-; and fire record monitoring programs are maintained as decision-support tools for ongoing assessment, and adaptive management of the biodiversity, heritage and general administration of the various Provincial Nature Reserves in the Boland Mountain range and the inscribed Boland Mountain Complex.

In addition, an in depth assessment of sensitivity values (Holness and Skowno 2008) contributed to the identification of appropriate zonation of the Boland Mountain Complex as a whole, into areas defined as "Remote", "Primitive", "Quiet" and "Low Intensity" use zones for management by CapeNature.

Refer to section 1.6.c for information on the CFRPA as a whole.

6.7 DOCUMENTATION

6.7.a Photographs, slides, image inventory and authorisation table and other audiovisual materials

Please refer to section 1.7.a.

6.7.b Texts relating to protective designation, copies of property management plans or documented management systems and extracts of other plans relevant to the property

Please refer to section 1.7.b and Appendix 5 for information on property management plans. Refer to section 1.5 and Appendix 4 for information relating to protective designation.

6.7.c Form and date of most recent records or inventory of property

The existing Nature Reserve management plans are the most recent version of the extended Boland Mountain Complex management records. All CapeNature management plans are presently under revision in terms of the Protected Areas Act (refer to sections 1.5.b(ii) and 1.5.e).

All management information, inventories and plans are, however, iteratively updated and records of flora and fauna species; invasive alien flora and fauna management; fire management, administration and monitoring, etc. are readily available from Scientific Services at CapeNature.

6.7.d Address where inventory, records and archives are held

Please refer to section 1.7.d for addresses and contact details for the CapeNature.

6.7.e Reference list

Holness S and Skowno A. 2008. *Report on Sensitivity-Value Analysis and Zonation Process for the Boland Reserve Complex*. Unpublished report prepared for CapeNature.

CHAPTER 7: HEXRIVER COMPLEX

7.1 IDENTIFICATION OF THE PROPERTY

The Hexriver Complex falls wholly within the Western Cape Province. The conservation authority to which management is currently delegated is CapeNature.

7.1.a Country (and State Party if different)

South Africa

7.1.b State, Province or Region

Western Cape Province, Cape Floral Region

7.1.c Name of Property

Hexriver Complex.

The Wittebrug-; Fonteintjiesberg-; Ben-Etive-; and, Bokkeriviere State Forest Nature Reserves are nominated as extensions to the inscribed CFRPA. These four Nature Reserves comprise the proposed Hexriver Complex CFRPA component (refer to Table 1.3.1; Section 1.2.a(i); and, Figure 7).

7.1.d Geographical coordinates to the nearest second

Geographical co-ordinates of the Hexriver Complex are provided in Table 1.

7.1.e Maps and plans, showing the boundaries of the Hexriver Complex, and buffers

A map of the Hexriver Complex in relation to the CFRPA and nominated extension properties is shown in Figure 1 and a detailed map of Hexriver Complex is provided in Figure 7.

Topographical maps for the Hexriver Complex (Map 7) are provided in Appendix 2.

7.2 DESCRIPTION

The Hexriver Complex is situated in the Western Cape Province of South Africa (refer to Figure 1 and Figure 7.) to the east and north of the Groot Winterhoek- and Boland Mountain Complexes (Chapters 3 and 6 respectively) and to the south and west of the Cederberg- and Langeberg Complexes (Chapters 2 and 10 respectively). The Hexriver Valley (near De Doorns; refer to Figure 1) is renowned internationally for the production of export-quality deciduous fruit, particularly grapes.

7.2.a Description of the Hexriver Complex

This chapter summarises the significant features of the four State Forest Nature Reserves, which are nominated to extend the inscribed CFRPA, to form the Hexriver Complex.

The Hexriver Complex is well supported with extensive buffering mechanisms including adjacent formally conserved areas ranging from Provincial Nature Reserves to Mountain Catchment Areas, as well as Private Nature Reserves and Stewardship sites. Most of the buffer is Mountain Catchment Area.

The Hexriver Mountain Catchment Areas provide water to the Breede-, Berg-, Olifants/Doring- and Gouritz catchments, which in turn provide water for the City of Cape Town and most of the towns and settlements of the surrounding Overberg, Bergrivier, Drakenstein, Witzenberg and West Coast districts and district municipalities. As for many of the CFRPA components, these mountain catchment areas, and their long term conservation, are thus critical for human settlement as well as economic- and agricultural development in the Western Cape.

This nominated Hexriver Complex CFRPA extension comprises four small Nature Reserves, totaling almost 22 641.40 ha, ranging from the 11 948.33 ha Bokkeriviere Nature Reserve in the east; to the central 5 095.00 ha Ben-Etive- and 3 997.30 ha Fonteintjiesbrug Nature Reserves; and finally, the 1 600.77 ha Wittebrug Nature Reserve in the west of the Hexriver Mountain range (Table 1).

These four reserves contribute to the Extension Nomination of the inscribed CFRPA, through the addition of linkages between the inscribed Cederberg-; Groot Winterhoek; and Boland Mountain Complexes as well as providing some initial linkages between these inscribed components and the nominated CFRPA extension Riviersonderend Nature Reserve (Chapter 8) and the proposed extended Langeberg Complex (Chapter 10).

Of the nine fynbos vegetation types found in the four Hexriver Complex Nature Reserves, three vegetation types, including South Hex Sandstone Fynbos and North Hex Sandstone Fynbos, are not formally protected elsewhere (Table 1.3.1). Threatened vegetation types present within the Hexriver Complex include Breede Alluvium Fynbos (Endangered), Breede Shale Fynbos (Vulnerable) and Ceres Shale Renosterveld (Vulnerable), the latter of which is not formally protected elsewhere.

The addition of the Hexriver Complex with its buffering mechanisms will improve connectivity between the adjacent inscribed components of the CFRPA, and representivity of vegetation types in the CFRPA.

Available species lists for the nominated Hexriver Complex CFRPA extension include:

- Reserve species databases assembled, regularly updated and maintained by reserve personnel and stored at CapeNature;
- Reptile species lists from the ADU's Southern African Reptile Conservation Assessment (SARCA) project's virtual museum at the full, half or quarter degree square (sarca.adu.org.za);
- Birding lists at the full degree square from the South African Bird Atlassing Project (SABAP2) for various locations around the Hex River mountains (sabap2.adu.org.za/data_summary_area.php?Area=33_19);
- Butterfly species lists from the ADU's Southern African Butterfly Conservation Assessment (SABCA) project's virtual museum at the full, half or quarter degree square (sabca.adu.org.za);
- Protea data from the Protea Atlas Project for the Ben-Etive-, Wittebrug- and Fonteintjieberg Nature Reserves (proteaatlas.org.za/);
- Frog records at the full degree square from the completed Southern African Frog Atlassing Project (also conducted by the ADU (adu.org.za/frog_atlas).

All of these databases, studies and projects (as well as others by research institutes and academic institutions) contribute to the body of knowledge about the wide species diversity found in the Hexriver Mountains and the Hexriver Complex as a whole.

7.2.b History and Development

All four Nature Reserves nominated for the Hexriver Complex (Figure 7) are owned by the State. The Nature Reserves are proclaimed as State Forest Nature Reserves (refer to DEAT 2003: Appendix 1), proclaimed under the National Forests Act[71] and are managed by CapeNature.

The Hexriver Complex represents the internationally recognised "Biodiversity Hot Spot" - the Cape Floral Region (fynbos). The landscape transitions and floral diversity in the Hexriver Complex provide physical and climatic diversity in an area of transition between montane and lowland habitats, and juxtaposed Fynbos and Succulent Karoo Biomes.

The addition of the Hexriver Complex to the inscribed CFRPA will increase the overall size of the CFRPA; contribute three new vegetation types to the CFRPA; and, improve connectivity, resilience and integrity of the surrounding inscribed component properties in the face of global climate change.

[71] National Forests Act (Act 84 of1998)

7.3 JUSTIFICATION FOR INSCRIPTION

Refer to section 1.1.3 for the overarching justification for extension of the inscribed CFRPA.

7.3.a Criteria under which inscription is proposed (and justification for inscription under these criteria)

Hexriver Complex fulfills two of the criteria for inclusion in the World Heritage List as a natural property, namely:

Criterion (ix): Ongoing biological and ecological processes.

Criterion (x): Biological diversity and threatened species.

Refer to Section 1.3.a for detail regarding the whole CFRPA property.

7.3.b Proposed Statement of Outstanding Universal Value

Refer to Section 1.3.b.

7.3.c Comparative analysis (including state of conservation of similar properties)

Refer to Section 1.3.c.

7.3.d Integrity

Hexriver Complex, inscribed and extended, is owned and managed by the State.

Refer to Section 1.3.d for information pertaining to the integrity of the CFRPA as a whole.

7.4 STATE OF CONSERVATION AND FACTORS AFFECTING THE HEXRIVER COMPLEX

7.4.a Present state of conservation

The primary issues facing the Hexriver Complex are (in common with most of the CFR) invasive alien species; disturbance by wildfire and disruption of fire regimes; and, global climate change.

Refer also to Section 1.1.4 for details of the State of Conservation of the inscribed CFRPA.

7.4.b Factors affecting the Hexriver Complex

World Heritage Site status will place the Extended Nomination (and thus also the Hexriver Complex) in a special category in terms of the Protected Areas Act (refer to section 1.5.b(ii)). As such, following inscription, the property will receive special attention from all three management authorities in terms of a newly established and dedicated management authority.

7.4.b(i) Development pressures

Development pressures are experienced in the broad locality of the Hexriver Complex, particularly at lower altitudes, where there is moderate demand for agricultural lands and township developments. These pressures are significantly moderated and in most instances alleviated, or completely removed, by the extensive array of environmental legislation available to the authorities, and other stakeholders, in whose interests it falls to protect the ecological integrity and ecosystem functioning of this mountain complex.

7.4.b(ii) Environmental Pressures

Management plans, including invasive alien management and fire management plans are in the process of revision in terms of the Protected Areas Act (section 1.5.b(ii)). All data are held by CapeNature.

7.4.b(iii) Natural disasters and risk preparedness

Natural disasters in the Hexriver Complex relate mostly to wildfire. The various fire-fighting units based at the Boland Mountain Complex (refer to Chapter 6) provide support during wildfires. The Volunteer Wildfire Services (VWS) (capefires.com/) provides invaluable support to Working on Fire, Nature Reserve personnel and other emergency services in the event of wildfire.

7.4.b(iv) Visitor / Tourism pressures

Tourism pressures to the Hexriver Complex are negligible. Hiking and mountaineering are the primary tourist activities and are controlled by means of permit.

7.4.b(v) Number of inhabitants

The State Forest Nature Reserves proposed for the Hexriver Complex Extension Nomination of the CFRPA are uninhabited, except by essential management- and administrative personnel and their families.

7.5 PROTECTION AND MANAGEMENT OF THE PROPERTY

Refer to section 1.5 for detailed information of the protection and management of the inscribed CFRPA and the Nomination Extension.

7.5.a Ownership

All components of the Hexriver Complex are wholly owned by the State. Refer to section 1.5a.

7.5.b Protective designation

All four Nature Reserves are proclaimed State Forest Nature Reserve (refer to section 1.5.a) in terms of the National Forests Act.

7.5.c Means of implementing protective measures

Please refer to section 1.5.c. for details regarding the implementation of protective measures.

7.5.d Existing plans related to the municipality and region in which the Hexriver Complex is located

CapeNature ensure their active engagement and input into local planning and programmes such as District plans for the Breede Valley, Cape Winelands and Witzenberg Municipalities, where they relate to, or might impact upon, the Hexriver Complex.

7.5.e Property management plan or other management system

The Protected Areas Act[72] (refer to section 1.5.b(ii)) requires CapeNature to adopt a coherent spatial planning system in all Nature Reserves.

All existing management plans are currently under review in terms of the Protected Areas Act. The draft Strategic Management Plans for all Western Cape Provincial Reserves focus on CapeNature's identified strategic goals, objectives and key measurable objectives (section1.5.e) and are subject to the guidelines, principles and policies outlined in the Protected Areas Act (as amended).

[72] Act 57 of 2003.

The Reserve Managers take full responsibility for implementation of, and reporting on, all aspects of the Nature Reserve Management Plan, while the Area Manager is directly responsible for strategic oversight of its implementation.

Refer to section 1.5.e for information on integrated management plans and management systems for CapeNature and the CFRPA.

7.5.f Sources and levels of finance

In order to optimise capacity and funding limitations and opportunities, the Area Manager, Reserve Management and Scientific Services together prioritise achievable activities, focusing on the identified strategic goals, objectives and key measurable objectives during each five year management plan review cycle.

Refer to section 1.5.f for information on the sources and levels of finance for the CFRPA.

7.5.g Sources of expertise and training in conservation and management techniques

Branches (e.g. Scientific Services, Fire Management and Law support Services) of Directorates (e.g. Biodiversity, Operations and Finance) from CapeNature provide direct professional, technical and administrative support in the implementation of the Management Plans for the Hexriver Complex under the strategic guidance of Reserve Managers and Area Manager.

Refer to section 1.5.g for a summary of various sources of expertise and training, which are available from the provincial and national authorities as well as other organisations and institutions.

7.5.h Visitor facilities and statistics

Ecotourism is a draw card for the various components of the Hexriver Complex. Hiking, birding, camping and mountain-biking are just some of the activities permitted in different use zones and a permit is required for any activities within all areas which are considered to be ecologically sensitive.

Please refer to Section 1.5.h for information on accessing visitor statistics for CapeNature and to DEAT 2003: Appendix 1 for information on the inscribed CFRPA.

7.5.i Policies and programmes related to the presentation and promotion of the Hexriver Complex

Please refer to Section 1.5.i for information on policies and programmes related to the presentation and promotion of the CFRPA.

7.5.j Staffing levels (professional, technical, maintenance)

Please refer to Section 1.5.j for information on staffing levels for CapeNature.

7.6 MONITORING

A variety of projects and programmes contribute to baseline monitoring, evaluation and assessment undertaken by CapeNature within the Hexriver Complex. Refer to section 7.2.a for a list of selected projects and programmes which contribute to the monitoring of biodiversity within CapeNature managed Nature Reserves and the Hexriver Complex.

Please refer to section 1.6 for further information on monitoring of the CFRPA.

7.6.a Key indicators for measuring state of conservation

Please refer to Section 1.6.a for a list of key indicators for measuring the state of conservation in CapeNature Nature Reserves.

7.6.b Administrative arrangements for monitoring property

Monitoring of the Hexriver Complex presently falls under dedicated CapeNature management.

Please refer to Section 1.6.b for the details pertaining to CapeNature's administrative monitoring arrangements.

7.6.c Results of previous reporting exercises

All data relating to vegetation, invasive alien species management and fire management, etc. are maintained by CapeNature. Areas are monitored and assessed regularly in order to inform and fine-tune adaptive management practices and processes.

For example, invasive alien plant-; vegetation restoration-; and fire record monitoring programs are maintained as decision-support tools for ongoing assessment, and adaptive management of the biodiversity, heritage and general administration of the State Forest Nature Reserves in the Hexriver Mountain range.

Refer to section 1.6.c for information on the CFRPA as a whole.

7.7 DOCUMENTATION

7.7.a Photographs, slides, image inventory and authorisation table and other audiovisual materials

Please refer to section 1.7.a.

7.7.b Texts relating to protective designation, copies of property management plans or documented management systems and extracts of other plans relevant to the property

Please refer to section 1.7.b and Appendix 5 for information on property management plans. Refer to section 1.5 and Appendix 4 for information relating to protective designation.

7.7.c Form and date of most recent records or inventory of property

The existing Nature Reserve management plans are the most recent version of the Hexriver Complex management records. All CapeNature management plans are presently under revision in terms of the Protected Areas Act (refer to sections 1.5.b(ii) and 1.5.e).

All management information, inventories and plans are, however, iteratively updated and records of flora and fauna species; invasive alien flora and fauna management; fire management, administration and monitoring, etc. are readily available from Scientific Services at CapeNature.

7.7.d Address where inventory, records and archives are held

Please refer to section 1.7.d for addresses and contact details for the CapeNature.

CHAPTER 8: RIVIERSONDEREND NATURE RESERVE

8.1 IDENTIFICATION OF THE PROPERTY

Riviersonderend Nature Reserve falls wholly within the Western Cape Province. The conservation authority to which management is currently delegated is CapeNature.

8.1.a Country (and State Party if different)

South Africa

8.1.b State, Province or Region

Western Cape Province, Cape Floral Region

8.1.c Name of Property

Riviersonderend Nature Reserve is proposed as an extension to the inscribed CFRPA (refer to Table 1.3.1; Section 1.2.a(i); and, Figure 8).

8.1.d Geographical coordinates to the nearest second

Geographical co-ordinates of Riviersonderend Nature Reserve are provided in Table 1.

8.1.e Maps and plans, showing the boundaries of Riviersonderend Nature Reserve and buffers

A map of Riviersonderend Nature Reserve, in relation to the inscribed CFRPA and nominated extension properties, is shown in Figure 1 and a detailed map of Riviersonderend Nature Reserve is provided in Figure 8.

Topographical maps for Riviersonderend Nature Reserve (Map 8) are provided in Appendix 2.

The Riviersonderend Nature Reserve is situated on the southwestern tip of Africa in the Western Cape Province of South Africa to the east of the Boland Mountain Complex (Chapter 6) and to the south west of the Langeberg Complex (Chapter 10).

8.2 DESCRIPTION

8.2.a Description of the Riviersonderend Nature Reserve

This chapter summarises the significant features of the Riviersonderend Nature Reserve, which is nominated to extend the inscribed CFRPA with an area of 26 630.52 ha (Table 1).

Riviersonderend Nature Reserve is supported by a network of adjacent or surrounding conserved areas ranging from Provincial Nature Reserves to Private Nature Reserves, Stewardship sites and Mountain Catchment Areas.

The mountain catchments of the Riviersonderend Mountains provide water to the Overberg and Boland regions, which are important economic and agricultural areas in the Western Cape, feeding into the Riviersonderend River which is the main tributary of the Breede River.

Seven fynbos vegetation types (Winterhoek Sandstone Fynbos) cover Riviersonderend Nature Reserve, of which four are not presently protected elsewhere. These include Greyton Shale Fynbos and Breede Alluvium Renosterveld (Vulnerable) thus a strong reason for inclusion of this Nature Reserve as a component of the CFRPA extension nomination is for the improved protection of the exceptional species- and habitat diversity which it currently conserves.

Plant species of interest in Riviesonderend Nature Reserve include Proteaceae such as the attractive but Endangered *Mimetes splendidus* as well as a variety of plant species which are endemic to the Riviersonderend Mountain Range, of which a number are rare, primarily due to limited distribution. These include Proteaceae such as the recently described and Critically Rare *Serruria viridifolia* and the Endangered *Sorocephalus pinifolius*; *Staavia zeyheri*, a Critically Endangered member of the family Bruniaceae; as well as both species of a bispecific genus *Endonema* from the fynbos endemic family Penaeaceae.

Available species lists for Riviersonderend Nature Reserve include:

- Reserve species databases assembled, regularly updated and maintained by reserve personnel and stored at CapeNature;
- Bird counts, species data and breeding information from the Animal Demography Unit's (ADU) "Birds in Reserves Project" (birp.adu.org.za/site_summary.php?site=34001930). To date, some 182 bird species have been identified within Riviersonderend Nature Reserve and Mountain Catchment Area;
- Reptile species lists from the ADU's Southern African Reptile Conservation Assessment (SARCA) project's virtual museam at the full, half or quarter degree square (sarca.adu.org.za);
- Butterfly species lists from the ADU's Southern African Butterfly Conservation Assessment (SABCA) project's virtual museum at the full, half or quarter degree square (sabca.adu.org.za);
- Protea data from the Protea Atlas Project for the Riviersonderend Nature Reserve (proteaatlas.org.za/); and,
- Frog records for full degree square from the completed Southern African Frog Atlassing Project (also conducted by the ADU (adu.org.za/frog_atlas).

All of these databases, studies and projects (as well as others by research institutes and academic institutions) contribute to the body of knowledge about the wide species diversity found in the Riviersonderend Nature Reserve and surrounding buffering mechanisms.

In summary, Riviersonderend Nature Reserve's exceptional floral diversity is due to the physical and climatic diversity in this area of transition between montane and lowland, mesic and semi-arid habitats.

Expanding the inscribed CFRPA to include Riviersonderend Nature Reserve will increase and improve the overall size, connectivity and integrity of the inscribed CFRPA components in the face of global climate change.

8.2.b History and Development

Riviersonderend Nature Reserve (Figure 8) is owned by the State and is proclaimed State Forest land (refer to DEAT 2003: Appendix 1), proclaimed under the National Forests Act[73] and managed by CapeNature.

The earliest recorded use, during the early 19th century, of the Riviersonderend area was for plantations and wood collection from indigenous forests. Felling of indigenous trees was prohibited during the 1920s. Grazing of livestock in the area was first recorded from around 1893, while the 1960s saw the onset of flower harvesting for the export market, which has subsequently been discontinued, even in the neighbouring local authority Greyton Nature Reserve.

Regulated fire management programmes were instituted during 1977, with rotational burning of component areas intended to create a mosaic of varying vegetation ages, however these planned burns proved too work intensive and fire management was scaled back and used as a management tool to curb the spread of invasive alien plants (predominantly pines spreading from plantations) instead.

The primary management objective of the Riviersonderend Nature Reserve is as a water management area, which requires that vegetation be kept as pristine as possible, and that invasive alien vegetation and wildfires be controlled. To this end Government Notice No 1198 was published in the Government Gazette No 29426 (28 November 2006) which prohibits making of fires in the open air in the districts of

[73] National Forests Act (Act 84 of1998)

Caledon, Worcester, Robertson and Swellendam (the Riviersonderend Mountain Range), made in terms of section 25(1) of the Forest Act, 1984 (Act No 122 of 1984).

8.3 JUSTIFICATION FOR INSCRIPTION

Refer to section 1.1.3 for the overarching justification for extension of the inscribed CFRPA.

8.3.a Criteria under which inscription is proposed (and justification for inscription under these criteria)

Riviersonderend Nature Reserve fulfills two of the criteria for inclusion in the World Heritage List as a natural property, namely:

Criterion (ix): Ongoing biological and ecological processes.

Criterion (x): Biological diversity and threatened species.

Refer to Section 1.3.a for detail regarding the whole CFRPA property.

8.3.b Proposed Statement of Outstanding Universal Value

Refer to Section 1.3.b.

8.3.c Comparative analysis (including state of conservation of similar properties)

Refer to Section 1.3.c.

8.3.d Integrity

The Riviersonderend Nature Reserve is owned and managed by the State. Please refer to Section 1.3.d for information pertaining to the integrity of the CFRPA as a whole.

8.4 STATE OF CONSERVATION AND FACTORS AFFECTING RIVIERSONDEREND NATURE RESERVE

8.4.a Present state of conservation

The primary issues facing Riviersonderend Nature Reserve are (in common with most of the CFR) invasive alien species; disturbance by wildfire and disruption of fire regimes; and, global climate change.

Refer also to Section 1.1.4 for details of the State of Conservation of the inscribed CFRPA.

8.4.b Factors affecting Riviersonderend Nature Reserve

World Heritage Site status will place Riviersonderend Nature Reserve in a special category in terms of the Protected Areas Act (refer to section 1.5.b(ii)), affording the area special attention in terms of the newly established and dedicated management authority.

8.4.b(i) Development pressures

There are currently no development pressures.

8.4.b(ii) Environmental Pressures

Property management plans, including invasive alien management and fire management plans are in the process of revision in terms of the Protected Areas Act (section 1.5.b(ii)). All data are held by CapeNature.

8.4.b(iii) Natural disasters and risk preparedness

Natural disasters in Riviersonderend Nature Reserve relate mostly to wildfire. Working on Fire (refer to section 1.5.g(iv)) is active in the protection of the Riviersonderend mountain range and works together with CapeNature and volunteer fire-fighting organizations to combat unplanned wildfire.

8.4.b(iv) Visitor / Tourism pressures

Riviersonderend Nature Reserve is not subject to high visitor and tourism pressures, however during upgrading and rehabilitation the scenic hiking trails are closed during maintenance.

8.4.b(v) Number of inhabitants

Riviersonderend Nature Reserve is uninhabited.

8.5 PROTECTION AND MANAGEMENT OF RIVIERSONDEREND NATURE RESERVE

Refer to section 1.5 for detailed information of the protection and management of the inscribed CFRPA and the nomination extension.

8.5.a Ownership

Riviersonderend Nature Reserve is wholly owned by the State. Refer to section 1.5a.

8.5.b Protective designation

Riviersonderend Nature Reserve is a declared State Forest Nature Reserve (refer to section 1.5.a) in terms of the National Forests Act and the Cape Nature Conservation Ordinance, 19 of 1974.

8.5.c Means of implementing protective measures

Please refer to section 1.5.c. for details regarding the implementation of protective measures.

8.5.d Existing plans related to municipality and region in which Riviersonderend Nature Reserve is located

CapeNature ensure their active engagement and input into programmes and plans for the various Local and District Municipalities, where they relate to, or might impact upon, Riviersonderend Nature Reserve.

8.5.e Property management plan or other management system

The Protected Areas Act[74] (refer to section 1.5.b(ii)) requires CapeNature to adopt a coherent spatial planning system in all Nature Reserves.

Riviersonderend Nature Reserve is managed in terms of an existing management plan, which is under review in terms of the Protected Areas Act (refer to section 1.5.b(ii)). The draft Strategic Management Plans for all Western Cape Provincial Reserves focus on CapeNature's identified strategic goals, objectives and key measurable objectives (section1.5.e) and are subject to the guidelines, principles and policies outlined in the Protected Areas Act (as amended).

The Reserve Manager takes full responsibility for implementation of, and reporting on, all aspects of the Management Plan, and the Area Manager is directly responsible for strategic oversight of its implementation.

Refer to section 1.5.e for information on integrated management plans and management systems for CapeNature and the CFRPA.

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[74] Act 57 of 2003.

8.5.f Sources and levels of finance

In order to optimise capacity and funding limitations and opportunities, the Area Manager, Reserve Management and Scientific Services together prioritise achievable activities, focusing on the identified strategic goals, objectives and key measurable objectives during each five year management plan review cycle.

Refer to section 1.5.f for information on the sources and levels of finance for the CFRPA.

8.5.g Sources of expertise and training in conservation and management techniques

Branches (e.g. Scientific Services, Fire Management and Law support Services) of Directorates (e.g. Biodiversity, Operations and Finance) from CapeNature provide direct professional, technical and administrative support in the implementation of the Management Plans for Riviersonderend Nature Reserve under the strategic guidance of the reserve management and Area Manager.

Refer to section 1.5.g for a summary of various sources of expertise and training, which are available from the provincial and national authorities as well as other organisations and institutions.

8.5.h Visitor facilities and statistics

The primary tourism draw card for the Riviersonderend Nature Reserve is hiking and a permit is required for any activities within the Riviersonderend Nature Reserve and Mountain Catchment Area.

Please refer to Section 1.5.h for information on accessing visitor statistics for CapeNature.

8.5.i Policies and programmes related to the presentation and promotion of Riviersonderend Nature Reserve

Please refer to Section 1.5.i for information on policies and programmes related to the presentation and promotion of the CFRPA.

8.5.j Staffing levels (professional, technical, maintenance)

Please refer to Section 1.5.j for information on staffing levels for CapeNature.

8.6 MONITORING

A variety of projects and programmes contribute to baseline monitoring, evaluation and assessment undertaken by CapeNature within Riviersonderend Nature Reserve. Refer to section 2.2.a for a list of selected projects and programmes which contribute to the monitoring of biodiversity within Riviersonderend Nature Reserve and the Riviersonderend Mountain Catchment Area as a whole.

Please refer to section 1.6 for further information on monitoring of the CFRPA.

8.6.a Key indicators for measuring state of conservation

Please refer to Section 1.6.a for a list of key indicators for measuring the state of conservation in CapeNature Nature Reserves.

8.6.b Administrative arrangements for monitoring property

Monitoring of Riviersonderend Nature Reserve is under the full management of CapeNature.

Please refer to Section 1.6.b for the details pertaining to CapeNature's administrative monitoring arrangements.

8.6.c Results of previous reporting exercises

All data relating to vegetation, invasive alien species management and fire management, etc. are maintained by CapeNature. Areas are monitored and assessed regularly in order to inform and fine-tune adaptive management practices and processes.

For example, invasive alien fish-; invasive alien plant-; vegetation restoration-; and fire record monitoring programs are maintained as decision-support tools for ongoing assessment, and adaptive management of the biodiversity, heritage and general administration of Riviersonderend Nature Reserve.

Refer to section 1.6.c for information on the CFRPA as a whole.

8.7 DOCUMENTATION

8.7.a Photographs, slides, image inventory and authorisation table and other audiovisual materials

Refer to section 1.7.a.

8.7.b Texts relating to protective designation, copies of property management plans or documented management systems and extracts of other plans relevant to the property

Please refer to section 1.7.b and Appendix 5 for information on property management plans. Refer to section 1.5 and Appendix 4 for information relating to protective designation.

8.7.c Form and date of most recent records or inventory of property

The existing “Sonderend Management Plan” is the most recent version of Riviersonderend Nature Reserve management records. This management plan is presently under revision in terms of the Protected Areas Act (refer to sections 1.5.b(ii) and 1.5.e).

All management information, inventories and plans are, however, iteratively updated and records of flora and fauna species; invasive alien flora and fauna management; fire management, etc. are readily available from Scientific Services at CapeNature.

8.7.d Address where inventory, records and archives are held

Please refer to section 1.7.d for addresses and contact details for the CapeNature.

CHAPTER 9: AGULHAS COMPLEX

9.1 IDENTIFICATION OF THE PROPERTY

The Agulhas Complex falls wholly within the Western Cape Province. The conservation agencies to which management is currently delegated are SANParks and CapeNature.

9.1.a Country (and State Party if different)

South Africa.

9.1.b State, Province or Region

Western Cape Province, Cape Floral Region.

9.1.c Name of Property

Agulhas Complex.

This grouping of a National Park and a Provincial Nature Reserve is proposed as an extension to the inscribed CFRPA (refer to Tables 1.3.1 and 1.5.2; Section 1.2.a(i); and, Figure 9).

9.1.d Geographical coordinates to the nearest second

Geographical co-ordinates of the Agulhas Complex are provided in Table 1.

9.1.e Maps and plans, showing the boundaries of the Agulhas Complex and buffers

A map of the Agulhas Complex in relation to the CFRPA and nominated extension properties is shown in Figure 1 and a detailed map of the Agulhas Complex is provided in Figure 9.

Topographical maps for the Agulhas Complex (Map 9) are provided in Appendix 2.

9.2 DESCRIPTION

The Agulhas Complex is located in the extreme south of the Fynbos Biome in the Western Cape Province of South Africa (Figure 1). The Complex lies to the west of De Hoop Nature Reserve (Chapter 15), south of the Riviersonderend Nature Reserve (Chapter 8) and south east of the Boland Complex (Chapter 6) and includes the southern most tip of Africa, the internationally acclaimed meeting place of the Indian and Atlantic Oceans.

9.2.a Description of the Agulhas Complex

This chapter summarises the significant features of the two properties, comprising the Agulhas Complex, which are proposed to extend the CFRPA with an area of 23 491.38 ha (Table 1).

The Agulhas Complex is supported by a wide network of adjacent or surrounding conserved areas ranging from Provincial Nature Reserves, Local Authority Nature Reserves, Private Nature Reserves and Stewardship sites to contractual public/private partnerships and Marine Protected Areas. The Agulhas Complex comprises two components, which are buffered by provincial nature reserves and stewardship sites under formal agreement (Figure 9) and which are linked by undeveloped land including private nature reserves and conservancies.

Located on the Agulhas Plain at the southern tip of Africa, the Agulhas Complex comprises a relatively new national park; the Agulhas National Park (proclaimed in 1998), which is the single largest component; as well as the proclaimed De Mond Provincial Nature Reserve.

Agulhas National Park is described in the 2008 approved Management Plan (Appendix 5) as a "new and developing park". There is a strong emphasis throughout the Management Plan on consolidation and expansion of the existing National Park area.

Agulhas Park expansion programme (Agulhas National Park –Park Management Plan 2008)

The ANP is an internationally and nationally identified priority conservation area, according to the South African national conservation assessment. Therefore expansion of ANP is important for SANParks as it attempts to consolidate some of the botanically diverse remaining fragments of the lowland fynbos vegetation types in an otherwise highly fragmented and transformed landscape at the southernmost tip of Africa (Driver *et al.* 2005).

Objectives of the Park expansion programme

- To create representative ecosystems by incorporating a spectrum of viable aquatic, marine and terrestrial ecosystems characteristic of the Agulhas Plain area as well as cultural historical aspects.
- To re-introduce missing elements where possible. This will entail consolidation of protected areas, focusing on under-represented/high-priority ecosystems, functional linkages and processes across the land-sea interface.
- Expansion will lead to a Park that represents the threatened lowland fynbos vegetation types and important wetlands of the Agulhas Plain region.

The expansion programme is in full congruence with SANParks' accepted biodiversity values and follows the SANParks land acquisition framework. This expansion will be achieved through acquisition, transfer of land from other organs of state or inclusion of private land by contractual agreement in terms of Section 20(3) of the Protected Areas Act. The envisaged expansion consolidates this important biodiversity across the marine, terrestrial and wetland environments expected to be affected by the environmental legislation governing these areas.

The Agulhas Complex supports eight fynbos vegetation types, four of which are not protected elsewhere. These include tracts of Vulnerable Agulhas Sand Fynbos, Critically Endangered Central Ruens Shale Renosterveld and Critically Endangered Overberg Sandstone Fynbos.

Species lists have not been compiled for the whole of the Agulhas Complex to provide the total number of species within the complex, however, species data for the Agulhas National Park and De Mond Nature Reserve, show high floral species diversity, significantly levels of endemism for flora and some invertebrate groups, and a relatively high number of threatened plant species.

The Agulhas Biodiversity Initiative (adapted from www.agulhasbiodiversity.co.za)

One of several conservation initiatives in the Cape Floral Region, the Agulhas Biodiversity Initiative (ABI) integrates and coordinates efforts to minimise further loss of threatened natural habitats in an area of approximately 270 000 ha on the Agulhas Plain near the southernmost point of Africa.

The 5 year ABI project is implemented by a number of partners who have pooled resources to conserve biodiversity and ecosystems on the Agulhas Plain, and to ensure that benefits reach the local economy through activities such as responsible nature-based tourism and sustainable harvesting of natural resources.

Some landowners have conserved their land and vegetation for many years, but at the start of ABI only 14% of the Agulhas Plain was conserved by means of legally binding arrangements through stewardship agreements with landowners and the expansion of the Agulhas National Park, this figure now stands at over 37% (>102 000 ha).

A mosaic of agricultural land separated by stretches of rare, endemic coastal lowland fynbos and wetlands, roughly 40% of this area is privately owned, which reinforces the important role of landowners and the agricultural sector in conservation.

Since the fynbos of the Agulhas Plain is of global significance, ABI was able to source funds from the Global Environment Facility (GEF) for its preservation. Substantial funding has also come from the ABI partners. The ABI programme supports the Cape Action for People and the Environment (C.A.P.E.), another GEF-funded programme.

The primary reasons for inclusion of this complex into the extension nomination for the CFRPA are thus to improve representation of vegetation types within the CFRPA, as well as to increase and improve the overall size, connectivity and integrity of the CFRPA, thus ensuring protection of an increased land area within the World Heritage Site. The Agulhas Complex improves connectivity between the inscribed De Hoop Nature Reserve and Boland Complex elements of the inscribed

CFRPA, thereby increasing resilience in the face of global climate change and improving both biodiversity pattern and process of the inscribed CFRPA World Heritage Site.

Available species lists for the components of the Agulhas Complex include:

- Species databases assembled, regularly updated and maintained by SANParks and CapeNature personnel, collated and stored at the relevant authorities' premises;
- Bird counts, species data and breeding information from the Animal Demography Unit's (ADU) "Birds in Reserves Project" (birp.adu.org.za/);
- Reptile species lists from the ADU's Southern African Reptile Conservation Assessment (SARCA) project's virtual museum at the full, half or quarter degree square (sarca.adu.org.za);
- Butterfly species lists from the ADU's Southern African Butterfly Conservation Assessment (SABCA) project's virtual museum at the full, half or quarter degree square (sabca.adu.org.za);
- Protea data from the Protea Atlas Project (proteaatlas.org.za/); and,
- Frog records for full degree square from the completed Southern African Frog Atlassing Project (also conducted by the ADU adu.org.za/frog_atlas).

All of these databases, studies and projects (as well as many others by research institutes and academic institutions) contribute to the body of knowledge about the wide species diversity found in the Agulhas Complex.

The Agulhas Complex, comprising two components, showcases the unique fynbos vegetation and habitats of the Agulhas Plain. Together, this nature reserve and national park provides an indispensable contribution to the inscribed CFRPA and a welcome extension to the inscribed De Hoop Nature Reserve.

The Agulhas National Park and De Mond support important habitats other than fynbos including estuaries, forests, rivers and marine environments. For example the Heuningnes Estuary (in De Mond Nature Reserve is one of the most important estuary systems in South Africa and De Mond has been included in the De Hoop Vlei Ramsar site.

9.2.b History and Development

Historical references for the broader Agulhas area are manifold, with evidence of human activity extending back for over a million years. The history and development of the Agulhas National Park, and the Agulhas Plain, is extensively described in the recent State of Knowledge reports for the Agulhas National Park (Appendix 7)) and this history will not be repeated here. Further information on the history of the area is contained in the Agulhas Park Management Plan (Appendix 4).

De Mond State Forest Nature Reserve, to the east of Agulhas National Park on the Agulhas Plain, was established in 1975 to preserve the Heuningnes estuary and the adjoining coastal fynbos vegetation. The estuary and dunes on either side of the Heuningnes estuary form a Ramsar Site, designated in 1986. The area is rich in cultural historical aspects and includes National Monuments.

Much of the Agulhas Complex has been conserved and managed over the years under forestry related legislation. Intensive management has taken place since the 1990s with a focus of attention on declaring a National Park on the Agulhas Plain. Investigations to include the establishment of a Marine Protected Area (MPA) are underway.

9.3 JUSTIFICATION FOR INSCRIPTION

Refer to section 1.1.3 for the overarching justification for extension of the inscribed CFRPA.

9.3.a Criteria under which inscription is proposed (and justification for inscription under these criteria)

The Agulhas Complex fulfills two of the criteria for inclusion in the World Heritage List as a natural property, namely:

Criterion (ix): Ongoing biological and ecological processes.

Criterion (x): Biological diversity and threatened species.

Refer to Section 1.3.a for detail regarding the whole CFRPA property.

9.3.b Proposed Statement of Outstanding Universal Value

Refer to Section 1.3.b.

9.3.c Comparative analysis (including state of conservation of similar properties)

Refer to Section 1.3.c.

9.3.d Integrity and/or Authenticity

Both components of the Agulhas Complex are owned and managed by the State.

Refer to Section 1.3.d for information pertaining to the authenticity and integrity of the CFRPA as a whole.

9.4 STATE OF CONSERVATION AND FACTORS AFFECTING THE AGULHAS COMPLEX

9.4.a Present state of conservation

The Protected Areas Act requires that National Parks and Provincial Nature Reserves be managed exclusively for the purpose for which they were declared. However, the two conservation authorities recognise that the natural environment is interlinked with the socio-economic and political spheres and affected by societal values. Both management authorities take cognisance of the ever changing environment and diversity of influences, and plan accordingly. All Nature Reserve and National Park management plans are to be revised every five to six years in consultation with stakeholders.

The primary issues facing the Agulhas Complex are (in common with most regions of the CFR) invasive alien species; disturbance by wildfire, disruption of fire regimes; and, global climate change. A further threat to the Agulhas Complex is that of groundwater abstraction.

Given its location at the southern-most tip of Africa, Agulhas National Park is a popular tourist destination and experiences high visitor numbers. The Park Management Plan (Appendix 5) and environmental management plan components addresses visitor management through zonation of the national park and directs appropriate management of different user groups.

Refer also to Section 1.1.4 for details of the State of Conservation of the inscribed CFRPA.

9.4.b Factors affecting the property

As a National Park, the Agulhas National Park receives extremely high levels of protection in terms of the Protected Areas Act. De Mond Nature Reserve too presently receives high level protection, and inscription as a component of the CFRPA World Heritage Site would further place the Agulhas Complex in a special category in terms of the Protected Areas Act (refer to section 1.5.b(ii)). The Agulhas Complex, once inscribed, will receive special attention from all three management authorities in terms of the newly established, and dedicated, management authority.

9.4.b(i) Development pressures

There are a variety of development pressures on the components of the Agulhas Complex, however, where necessary, facility and infrastructure developments are managed in terms of the existing Park and Nature Reserve Management Plans as well as in terms of the Protected Areas

Act, Environmental Impact Assessment Regulations and other relevant national and provincial legislation (refer to the various sections within section 1.5 as well as to the comprehensive legislation review provided in the original nomination (DEAT 2003: Appendix 1).

The most pressing development pressure is that of groundwater abstraction abstraction caused by urban development in the four coastal towns of the area. The Agulhas Plain is a relatively water-scarce area and much of the water, for domestic-, agricultural- and other uses, is harvested from the aquifers on the Plain with water shortages during peak tourism times in the summer months. There are concerns that increased tourism might further jeopardize the long-term sustainability of this natural resource, and threaten water quality and integrity of wetlands and other water systems on the Agulhas Plain.

Development pressures on the borders of the Agulhas Complex are managed in consultation with the relevant Provincial and Local Authorities, in terms of regulations for the proper administration of special Nature Reserves, National Parks and World Heritage Sites (section 1.5.b(vii)); the Environmental Impact Assessment regulations (1.5.b(viii)); and, various rigorous municipal, provincial and national development controls.

9.4.b(ii) Environmental Pressures

Invasive species-, habitat rehabilitation- and restoration plans as well as fire environmental management plans are in varying stages of completion for the two components of the Agulhas complex, but are fully operational in these conservation areas.

Various projects for managing invasive alien plants are, or have been, undertaken in this area. The Plant Protection Research Institute, in collaboration with ABI, is monitoring the long-term combined impact of three biocontrol agents available against *Acacia cyclops* (Wood 2006 in Kraaij *et al.* 2009). These agents are the flower-bud gall midge *Dasineura dielsi*, the seed feeding weevil *Melanterius servulus*, and the die-back fungus *Psuedolagarobasidium acaciicola*. Two monitoring sites have been established, including one in the Agulhas National Park (the other is in De Hoop Nature Reserve).

Working for Water is responsible for clearing invasive alien plants in the Agulhas Complex in association with SANParks and Capenature. Working on Wetlands is responsible for wetland rehabilitation programmes and the Working for the Coast programme is responsible for coastal rehabilitation, cleanup and maintenance on the Agulhas Plain Complex coast line. All data are held by SANParks and CapeNature.

Please refer to section 1.4.b(ii) for more information on the CFR and the CFRPA.

9.4.b(iii) Natural disasters and risk preparedness

Natural disasters in this region include wildfire and occasional flooding. In order to reduce the incidence of wildfire on the Agulhas Plain various Fire Protection Associations (FPA) have been established. In terms of the National Veld and Forest Fire Act[75], SANParks and CapeNature are obliged to be members of the FPAs to gain full the legal benefit thereof as well as stakeholder support.

Kraaij *et al.* (2009) notes that the Agulhas Biodiversity Initiative (ABI) is working towards developing and implementing a fire management strategy that will include the conservation management component of the AP, and train a rapid response team to augment conservancy initiatives in priority areas to ensure that wildfire be actively prevented and fought on the Agulhas Plain by the management authorities and other stakeholders.

Many private landowners (especially farmers) in this region are actively involved in fire prevention, detection and fire-fighting through their membership with the FPAs as well as through the Agulhas Biodiversity Initiative (ABI) (section 1.5.g(vi)).

[75] Act 101 of 1998. This is described in some detail in the Nomination of the CFRPA (Appendix 1).

Disaster management in this region, as for much of South Africa, is well coordinated and all relevant authorities work hand-in-hand to attend to the events as well as the consequences (such as wildfire and floods).

9.4.b(iv) Visitor / Tourism pressures

The approved Agulhas National Park - Park Management Plan (Appendix 5) covers visitor and tourism pressures, facilities and requirements in detail. A variety of facilities, activities and opportunities are available for visitors to the Agulhas Complex, although not much in the way of accommodation yet exists in the Complex.

Agulhas National Park has plans for various accommodation and tourism facilities including a 60-bed restcamp at Pietie se Punt; a Lighthouse Precinct development and a Southern Tip precinct development; as well as cultural historical accommodation projects at Ratel River, Rietfontein Langhuis, Bergplaas, Soutbosch, Bosheuwel and Rhenoster Kop. De Mond has a six-bed cottage for hire as well as picnic sites for day visitors. Most of the tourism facilities are easily accessible and activities include mountain biking, hiking, fishing, bird-watching and a broad spectrum of environmental education opportunities.

De Mond Nature Reserve is also properly controlled, and where visitor pressures might cause damage, visitor numbers are limited through a permit system and some particularly sensitive areas are maintained as being “off limit” to the general public.

9.4.b(v) Number of inhabitants

The components of the agulhas complex are inhabited only by essential SANParks and CapeNature personnel.

9.5 PROTECTION AND MANAGEMENT OF THE AGULHAS COMPLEX

Refer to section 1.5 for detailed information of the protection and management of the inscribed CFRPA and the Nomination Extension.

9.5.a Ownership

All land areas within the Agulhas Complex are owned by the State (refer also to section 1.5.a).

9.5.b Protective designation

Agulhas National Park is a declared National Park in terms of the National Environmental Management: Protected Areas Amendment Act (Act 31 of 2004), refer to section 1.5.b(iii)). De Mond is a State Forest Nature Reserve (refer to section 1.5.a).

9.5.c Means of implementing protective measures

Refer to section 1.5.c.

9.5.d Existing plans related to municipality and region in which the Agulhas Complex is located

SANParks and CapeNature ensure their active engagement and input into plans including Bioregional, District and Local Authority Plans (e.g. Integrated Development Plans and Strategic Development Frameworks for the Overberg District-, Cape Agulhas- and Overstrand Municipalities) especially where they relate to, or might impact upon, the Agulhas Complex.

Further, both authorities are proactively and intrinsically involved in regional- and bioregional planning and/or conservation initiatives, including the ABI – which has been instrumental in

consolidating conservation efforts within this region – refer to section 1.5.g(vi) as well as various fine-scale conservation plans for the region and municipalities which this complex occupies.

Refer also to section 1.5.d for further information on plans relating to the CFRPA as a whole.

9.5.e Property management plan or other management system

The Protected Areas Act (Section 1.5.b(ii))) requires SANParks and CapeNature to adopt a coherent spatial planning system in all National Parks and Provincial Nature Reserves.

Agulhas National Park has an approved and operational Management Plan (Appendix 5), last revised in 2008, which incorporates and directs park management. The Management Plan was approved on condition of the review of certain aspects including the programme of implementation and its costing; the expansion plan; the infrastructure development plan; and, the invasive species control and eradication plan. SANParks has initiated a revision process to attend to the conditions and the plans will be reviewed within 5-6 years to address the shortcomings.

The Agulhas National Park Management Plan identifies and document a hierarchy of objectives, which relate to the vital attributes, perceived threats and constraints, guiding principles and the overarching vision for the Park. Included in the management plans are a suite of Biodiversity-; Cultural Heritage-; and, Socio-Economic objectives. Amongst other, the Management Plans identify "park consolidation programmes", which seek to best conserve the remaining natural heritage on the Agulhas Plain within a National Park.

The Agulhas National Park Park Zoning and Conservation Development Framework identifies *inter alia* the use zones, which were classified through a process of iterative and consultative spatial development planning and, which guide and co-ordinate conservation, tourism and visitor experience initiatives. The zoning is based on analysis and mapping of the sensitivity and value of the Agulhas National Park's biophysical, heritage and scenic resources; an assessment of the regional context; and assessment of the park's current and planned infrastructure and tourist routes/products; all interpreted within the context of the Agulhas National Park objectives.

The Agulhas National Park Park Management Plan and SANPark's framework for development and implementation of National Park management plans are included in Appendix 5 (refer also to section 1.5.e).

CapeNature is presently revising the existing management plan for De Mond Nature Reserve. This nature reserve has been managed in terms of the De Hoop Nature Reserve Management Plan, but the revision will be a stand alone management plan for the De Mond Nature Reserve. This revision will follow the CapeNature standardized format.

National Park and Provincial Nature Reserve managers take full responsibility for the implementation of, and reporting on, management plans, while the Area Managers are directly responsible for strategic oversight of management plan implementation.

9.5.f Sources and levels of finance

In order to optimise capacity, funding-limitations and opportunities, the Park Manager, Regional Manager and Scientific Services: Cape Region, together prioritise achievable activities, focusing on SANParks' Agulhas National Park - Park Management Plan's objectives, programmes and action projects.

CapeNature's Area Manager, together with De Mond Reserve Management and Scientific Services, prioritises activities, focusing on the identified strategic goals, objectives and key measurable objectives during each five year management plan review cycle, according to the Integrated Reserve Management Policy Framework developed by CapeNature.

Refer to section 1.5.f for information on the sources and levels of finance for the CFRPA.

9.5.g Sources of expertise and training in conservation and management techniques

SANParks' Scientific Services: Cape Region and the various branches (e.g. Scientific Services, Fire Management and Law support Services) of Directorates (e.g. Biodiversity, Operations and Finance) from CapeNature all provide direct professional, technical and administrative support in the implementation of the operational Management Plans for each of the Agulhas Complex's component areas.

Refer to section 1.5.g for a summary of the various sources of expertise and training which are available from provincial and national authorities as well as other organizations and institutions.

9.5.h Visitor facilities and statistics

Most of the tourism facilities in the Agulhas Complex are easily accessible and activities include walking trails, mountain-biking, fishing, bird-watching boating, picnicking, and limited overnight accommodation.

The facilities, activities and opportunities available for visitors to the Agulhas Complex vary from visiting the southern-most point of Africa to environmental education facilities at Bosheuwel farmstead.

Please refer to Section 1.5.h for information on accessing current visitor statistics for SANParks and CapeNature properties.

9.5.i Policies and programmes related to the presentation and promotion of the Agulhas Complex

The Agulhas Biodiversity Initiative and the proclamation of the Agulhas National Park have both brought an enormous amount of promotional material on the Overberg region to light over the past decade.

Brochures produced by CapeNature for many of its more popular reserves may be viewed on the CapeNature website, and a selection of these is provided in Appendix 8.

Please refer to Section 1.5.i for information on policies and programmes related to the presentation and promotion of the property.

9.5.j Staffing levels (professional, technical, maintenance)

Permanent staff members are presently employed within both components of the Agulhas Complex.

Please refer to Section 1.5.j for information on staffing levels for the CFRPA.

9.6 MONITORING

SANParks and CapeNature personnel monitor a wide array of aspects relating to biophysical, heritage, administrative and socio-economic management of the various components of the Agulhas Complex.

In addition, a number of projects, programmes and institutions contribute to monitoring in the Agulhas Complex. These include (but are not limited to) the many projects noted in sections 1.2.a and 5.2.a which compile species lists and monitor a variety of aspects of plant and animal interactions. Amongst other, various units, programmes and departments based at the Universities of Cape Town, Stellenbosch and the Western Cape as well as at the South African National Biodiversity Institute (based at Kirstenbosch), all contribute richly to the wealth of information on biodiversity patterns and processes as well as sustainable use and conservation of natural resources within the Agulhas Complex and the broader Agulhas Plain.

Please refer to section 1.6 for further information on monitoring of the property.

9.6.a Key indicators for measuring state of conservation

Please refer to Section 1.6.a for a list of key indicators for measuring state of conservation by SANParks and CapeNature.

9.6.b Administrative arrangements for monitoring the Agulhas Complex

The Agulhas Complex is presently the full responsibility of SANParks and CapeNature.

Please refer to Section 1.6.b for relevant details pertaining to these authorities.

9.6.c Results of previous reporting exercises

Although some areas in the Agulhas Complex were historically conserved under forestry related legislation (under the Department of Water and Forestry), presently these conservation areas are managed primarily as reserves to preserve the floral and faunal diversity of this part of the Cape Floral Region.

All information gathered on this extensive area is used, amongst other, to manage terrestrial and aquatic habitats and the diverse vegetation types; address threats of invasion by alien plants and animals; and, to manage wildfire and other challenges to the environment. Knowledge gathered from previous reporting exercises, has contributed significantly to milestones such as the proclamation and subsequent extension of the Agulhas National Park and has aided in informing priorities for the Agulhas Biodiversity Initiative.

Refer to the Nomination (DEAT 2003: Appendix 1) and to section 1.6.c for information on the CFRPA as a whole.

9.7 DOCUMENTATION

9.7.a Photographs, slides, image inventory and authorization table and other audiovisual materials

Refer to section 1.7.a.

9.7.b Texts relating to protective designation, copies of property management plans or documented management systems and extracts of other plans relevant to the property

Please refer to section 1.7.b and Appendix 5 for information on property management plans. Refer to section 1.5 and Appendix 4 for information relating to protective designation.

9.7.c Form and date of most recent records or inventory of the Agulhas Complex

The 2008 revision of the Agulhas National Park Park Management Plan is the most recent version of the Agulhas National Park's management records. A State of Knowledge Report for the Agulhas National Park (Kraaij *et al.* 2009) provides a wealth of further information on the park as well as on the surrounding Agulhas Plain.

Management Plans for all Nature Reserves managed by CapeNature are presently in revision.

All management information, habitat and species inventories and plans are iteratively updated at regular intervals. Records of species of flora and fauna, invasive alien species management, fire management, results and records from monitoring and evaluation projects, etc. are readily available from SANParks and CapeNature.

9.7.d Address where inventory, records and archives are held

Please refer to section 1.7.d for addresses and contact details for SANParks and CapeNature.

9.7.e Reference list

Bezuidenhout H. 2003. *Major soil types of Cape Agulhas National Park*. Internal document, South African National Parks.

Carr AS. 2004. *Late Quaternary environmental change on the Agulhas Plain, Winter Rainfall Zone, South Africa*. PhD thesis, Department of Geography, University of Sheffield, Sheffield.

Kraaij T, Hanekom N, Russell IA and Randall RM. 2009. *Agulhas National Park – State of Knowledge*. South African National Parks.

Nowell MS. 2011. *Determining the hydrological benefits of clearing invasive alien vegetation on the Agulhas Plain, South Africa*. Unpublished Masters thesis. University of Stellenbosch.

Pence GQK, Botha MA and Turpie JK . 2003. Evaluating combinations of on-and off-reserve conservation strategies for the Agulhas Plain, South Africa: a financial perspective. *Biological Conservation* 112(1-2): 253-273,

Privett S, Bailey R, Raimondo D, Kirkwood D and Euston-Brown D. 2005. *A vulnerability index for rare and harvested plant species on the Agulhas Plain*. For The Flower Valley Conservation Trust and the Agulhas Biodiversity Initiative.

Privett S, Heydenrych BJ. and Cowling RM. 2002. Putting biodiversity to business on the Agulhas Plain. In: *Mainstreaming biodiversity in development. Case studies from South Africa*. Pierce SM, Cowling RM, Sandwith T and MacKinnon K. (eds), pp. 101-116. World Bank, Washington DC.

Radloff FGT. *The ecology of large herbivores native to the coastal lowlands of the Fynbos Biome in the Western Cape, South Africa*. Unpublished DSc Thesis. University of Stellenbosch.

Rouget, M. 2003. Measuring conservation value at fine and broad scales: implications for a diverse and fragmented region, the Agulhas Plain. *Biological Conservation* 112:217-232.

Russell IA and Impson ND. 2006. Aquatic systems in and adjacent to Agulhas National Park with particular reference to the fish fauna. *Koedoe* 49(2):45-57.

9.7.e(i) Websites with related material

The SANParks website for the Agulhas National Park is sanparks.org/parks/agulhas/ while CapeNature's website (capenature.co.za/reserves.htm) provides brochures and maps for De Mond Nature Reserve.

The Agulhas Biodiversity Initiative website is agulhasbiodiversity.co.za/.

CHAPTER 10: LANGEBERG COMPLEX

10.1 IDENTIFICATION OF THE PROPERTY

The Langeberg Complex, which includes the inscribed Boosmansbos Wilderness Area, falls wholly within the Western Cape Province. The conservation agencies to which management is currently delegated are SANParks and CapeNature.

10.1.a Country (and State Party if different)

South Africa.

10.1.b State, Province or Region

Western Cape Province, Cape Floral Region.

10.1.c Name of Property

Langeberg Complex (extension of the inscribed Boosmansbos Wilderness Area).

This grouping of a National Park and Provincial Nature Reserves is proposed as an extension to the inscribed CFRPA (refer to Tables 1.3.1 and 1.5.2; Section 1.2.a(i); and, Figure 1 and Figure 11).

10.1.d Geographical coordinates to the nearest second

Geographical co-ordinates of the Langeberg Complex are provided in Table 1.

10.1.e Maps and plans, showing the boundaries of the Langeberg Complex and buffers

A map of the Langeberg Complex in relation to the CFRPA and nominated extension properties is shown in Figure 1 and a detailed map of the Langeberg Complex is provided in Figure 11.

Topographical maps for the Langeberg Complex (Map 11) are provided in Appendix 2.

10.2 DESCRIPTION

The Langeberg Complex is located in the south of the Fynbos Biome, within the Western Cape Province of South Africa (Figure 1 and Figure 11). The Complex lies to the east of Riviersonderend Nature Reserve (Chapter 8), south of Anysberg Nature Reserve (Chapter 12), north of De Hoop Nature Reserve (Chapter 15) and west of the Garden Route Complex (Chapter 11).

10.2.a Description of the Langeberg Complex

This chapter summarises the significant features of the properties, comprising the Langeberg Complex, which are proposed to extend the CFRPA with an area of 43 669.22 ha (Table 1).

The Langeberg Mountain range is part of the Langeberg phytogeographical centre (Table 1.2.1) with over 2,360 species and endemism at 11.7% (Goldblatt and Manning 2000). This natural property creates a link between the western and southern mountains of the CFR. The mountains are characterised by high topographical heterogeneity and steep rainfall gradients running from the coastal to inland slopes. The different habitats support distinct assemblages of taxa and most of the range-restricted species are associated with cool, moist sites (McDonald & Cowling 1995). Mountain fynbos is predominant but patches of Afromontane forest occur in the wetter kloofs.

The Langeberg Complex is supported by a network of adjacent or surrounding conserved areas ranging from Provincial Nature Reserves, Local Authority Nature Reserves, Private Nature Reserves and Stewardship sites to contractual public/private partnership, and is supported by the

Gouritz Cluster Biosphere Reserve (refer to section 1.5.g.ix). The Langeberg Complex comprises a number of adjoining as well as several disjunct components, some of which are buffered by provincial nature reserves and stewardship sites under formal agreement (Figure 11) but most of which are linked by undeveloped land including private Mountain Catchment Areas and conservancies.

Located in the scenic southern Cape, the Langeberg Complex comprises the inscribed Boosmansbos Wilderness Area (the single largest component of the complex); the Bontebok National Park (BNP), as well as nine proclaimed State Forest Reserves (Figure11; Table 10.2.1).

The inscribed Boosmansbos Wilderness Area has been thoroughly described in the Nomination (DEAT 2003: Appendix 1) and as the single largest component of this complex underpins the extension nomination for this complex. A number of smaller components, varying from

The BNP is the smallest National Park in South Africa, originally established to protect the Fynbos endemic antelope, the Bontebok (*Damaliscus pyrgargus pyrgargus*). Despite having a relatively small size, this reserve is remarkably rich in biodiversity and is a popular destination for local and international tourists, for recreation such as hiking and bird-watching, picnicking and game-viewing.

Marloth Nature Reserve is one of the more popular tourist resorts for the locals of Swellendam, offering horse-riding, mountain-biking, picnicking and hiking as well as overnight accommodation.

A summary of the components of the Langeberg Complex is provided in Table 5.2.1.

The Langeberg Complex comprises 11 components (Table 10.2.1), each of which showcases fynbos vegetation and habitats of the Langeberg Mountain Range and Coastal Plains in its own unique manner. Together, these nature reserves and national park provide an indispensable link between the inscribed De Hoop, Swartberg Complex and Boosmansbos Wilderness Area as well as between these inscribed CFRPA components and the proposed extensions of the Garden Route, Riviersonderend and Anysberg.

Most of the conservation areas support important habitats other than fynbos, such as wetlands, forests and rivers. The total flora of the Langeberg is composed of 1 228 species and distinct sub-species, 366 genera and 104 families (Vass 2004). Particularly noteworthy is the occurrence of the monotypic family Geissolomataceae and the monotypic genus Langebergia (Asteraceae) which are endemic to the Langeberg (McDonald & Cowling 1995).

An astoundingly large number of species are restricted to the Langeberg Range and the level of regional endemism (160 species or 13.02%) is very high by all, including global, standards (McDonald & Cowling 1995). Most of the endemics are, however, wide-spread along the Langeberg itself.

Despite its small size, the Bontebok National Park hosts at least 466 plant species (Vass 2004) with over 50 of these being Red Data List species, most of which are found on the Endangered Swellendam Silcrete Fynbos vegetation type that this National Park is key in conserving.

There are a considerable number of Red Data List species in the Langeberg Mountain range, but the low incidence of threats in the montane vicinity means that few of these fall into the ‘threatened’ category but are range-restricted Rare species. This is not the case on the lowlands, where agricultural development has fragmented habitats and a number of threatened species are protected by the lower-lying Bontebok National Park in particular.

There is a very high concentration of Proteaceae species in the Langeberg and Grootvadersbosch Nature Reserve and Boosmansbos Wilderness Area in the central part of the range are of great biodiversity significance for overall species richness within the CFR. Marloth Nature Reserve, in the western Langeberg, has also been identified as having extremely high overall species richness.

The Langeberg mountains are rich in *Colophon* beetle species as well as other palaeogenic groups. The diversity of component invertebrate groups that define the CFR begin to decrease eastwards of this zone.

Table 10.2.1 Formally protected areas comprising the proposed Langeberg Complex extension to the CFRPA

Name	Designation	Area (km^2)	Management authority
Boosmansbos Wilderness Area	Wilderness Area	147	CapeNature
Marloth Nature Reserve*	State Forest Nature Reserve	112	CapeNature
Garcia Nature Reserve	State Forest Nature Reserve	65	CapeNature
Bontebok National Park	National Park	34	SANParks
Tygerberg Nature Reserve	State Forest Nature Reserve	28	CapeNature
Spioenkop Nature Reserve	State Forest Nature Reserve	13	CapeNature
Zuurberg Nature Reserve*	State Forest Nature Reserve	12	CapeNature
Twistniet Nature Reserve*	State Forest Nature Reserve	12	CapeNature
Paardeberg Nature Reserve	State Forest Nature Reserve	6	CapeNature
Witbosrivier Nature Reserve	State Forest Nature Reserve	5	CapeNature
Grootvadersbos Nature Reserve	State Forest Nature Reserve	4	CapeNature

** Managed together under the Langeberg Central Conservation Area Management Plan*

Twistniet-, Zuurberg-, Garcia-, Tygerberg-, Spioenkop-, Paardeberg- and Witbosrivier State Forest Nature Reserves are less visited conservation areas, which nonetheless offer a variety of hiking opportunities such as the Sleeping Beauty Trail in Garcia Nature Reserve.

The Langeberg Complex supports nine fynbos vegetation types, six of which are not protected elsewhere, including tracts of Critically Endangered Eastern Rûens Shale Renosterveld, Endangered Swellendam Silcrete Fynbos and Vulnerable Breede Shale Fynbos.

Species lists for the whole of the Langeberg Complex have not been compiled to show the total number of species within the complex, however, existing species data for each conservation area indicates high floral species diversity, significant levels of endemism for flora and some invertebrate groups, and a relatively high number of threatened plant species. The endemic antelope Bontebok (*Damaliscus pyrgargus pyrgargus*) is just one of the mammal species conserved within this large complex of conservation areas.

The primary reasons for inclusion of this complex into the extension nomination for the CFRPA are thus to improve representation of vegetation types within the CFRPA, as well as to increase and improve the overall size, connectivity and integrity of the CFRPA, thus ensuring protection of an increased land area within the World Heritage Site. The extended Langeberg Complex improves connectivity between the inscribed De Hoop, Swartberg Complex and Boosmansbos Wilderness Area components and form a critical east-west link along the Langeberg range, between the inscribed CFRPA and the proposed CFRPA extensions of the Garden Route Complex, Riviersonderend- and Anysberg Nature Reserves. The inclusion of the Langeberg Complex into the inscribed CFRPA will aid in increasing resilience in the face of global climate change and improve both biodiversity pattern and process of the inscribed CFRPA World Heritage Site.

Available species lists for the components of the Langeberg Complex include, but are not limited to:

- Species databases assembled, regularly updated and maintained by SANParks and CapeNature personnel, collated and stored at the relevant authorities' premises;
- Bird counts, species data and breeding information from the Animal Demography Unit's (ADU) "Birds in Reserves Project" (birp.adu.org.za/);
- Reptile species lists from the ADU's Southern African Reptile Conservation Assessment (SARCA) project's virtual museum at the full, half or quarter degree square (sarca.adu.org.za);
- Butterfly species lists from the ADU's Southern African Butterfly Conservation Assessment (SABCA) project's virtual museum at the full, half or quarter degree square (sabca.adu.org.za);
- Protea data from the Protea Atlas Project (proteaatlas.org.za/); and,
- Frog records for full degree square from the completed Southern African Frog Atlassing Project (also conducted by the ADU adu.org.za/frog_atlas).

All of these databases, studies and projects (as well as many others by research institutes and academic institutions) contribute to the body of knowledge about the wide species diversity found in the Langeberg Complex.

10.2.b History and Development

The Langeberg region, and coastal plain to the south, has long been visited and inhabited by people, due to its fertile soils and a relative abundance of fresh water systems, particularly within the Breede River catchment.

The history and development of the inscribed Boosmansbos Wilderness Area is described in the 2003 Nomination of the CFRPA (DEAT 2003: Appendix 1) and the recent Park Management Plan (SANParks 2008a) and State of Knowledge Report (Kraaij *et al.* 2009) for the Bontebok National Park (Appendix 7) synthesize the history of the National Park and the region and will not be repeated here.

IUCN Red list of threatened species (iucnredlist.org/apps/redlist/details/30208/0)

"*The Bontebok was historically confined to the coastal plain (60 - 200 m) of the Western Cape, South Africa, where overhunting reduced it from locally abundant to the verge of extinction. It was saved from extinction in the mid-19th century by a few Cape farming families who protected the small remnant populations. From a low of less than 20 animals in the original Bontebok National Park (established near Bredasdorp in 1931), the population of this antelope has gradually recovered. The population of Bontebok National Park had reached 84 when the animals were translocated to the more suitable site of the current Bontebok National Park near Swellendam in 1960, and increased to a population of 320 in 1981. The park's Bontebok population has subsequently been maintained at between 130 – 170 animals.*"

Further information on the history of the area is contained in the Gouritz Cluster Biosphere Reserve (GCBR) Nomination (Appendix 6) which was submitted to UNESCO in March 2011. In brief, the GCBR Nomination notes that in "*pre-colonial times the area was inhabited by indigenous hunter-gatherer populations (the San, also known as Bushmen), who were later followed by livestock herders (the Khoi). The first Dutch colonialists arrived in the early 1700s - initially as elephant hunters, later as stock farmers – and the subsequent two centuries saw gradual settlement by European immigrants, practicing a similar extensive pastoralism as their indigenous counterparts. During the 20th century there has been a shift towards more intensive farming systems, including ostrich, dairy, citrus, wine cultivation etc, combined with extensive grazing of sheep and cattle*."

Much of the Langeberg Complex and surrounding area has been conserved and managed over the years under forestry and mountain catchment related legislation. As for most Forestry managed areas which were not actively afforested, the main tasks of Forestry were firebreak creation and control of mountain fires. More intensive management has taken place since 1985 with an increased budget and the appointment of more staff for the area. Livestock transgressions were curbed by 1990 and the exotic plant problem was tackled with great success through the Working for Water programme (administered by the Gouritz Irrigation Board).

10.3 JUSTIFICATION FOR INSCRIPTION

Refer to section 1.1.3 for the overarching justification for extension of the inscribed CFRPA.

10.3.a Criteria under which inscription is proposed (and justification for inscription under these criteria)

The Langeberg Complex fulfills two of the criteria for inclusion in the World Heritage List as a natural property, namely:

Criterion (ix): Ongoing biological and ecological processes.

Criterion (x): Biological diversity and threatened species.

Refer to Section 1.3.a for detail regarding the whole CFRPA property.

10.3.b Proposed Statement of Outstanding Universal Value

Refer to Section 1.3.b.

10.3.c Comparative analysis (including state of conservation of similar properties)

Refer to Section 1.3.c.

10.3.d Integrity and/or Authenticity

All components of the Langeberg Complex are owned and managed by the State.

Refer to Section 1.3.d for information pertaining to the authenticity and integrity of the CFRPA as a whole.

10.4 STATE OF CONSERVATION AND FACTORS AFFECTING THE LANGEBERG COMPLEX

10.4.a Present state of conservation

The Protected Areas Act requires that National Parks and Provincial Nature Reserves be managed exclusively for the purpose for which they were declared. However, both conservation authorities recognise that the natural environment is interlinked with the socio-economic and political spheres and affected by societal values. Both management authorities thus take cognisance of the ever changing environment and diversity of influences, and plan accordingly. All Nature Reserve and National Park management plans are to be revised every five to six years in consultation with stakeholders.

The primary issues facing the Langeberg Complex are (in common with most regions of the CFR) invasive alien species; disturbance by wildfire and disruption of fire regimes; and, global climate change. However, a further threat is experienced by this region, that of groundwater abstraction (SANParks 2008). Refer also to Section 1.1.4 for details of the State of Conservation of the inscribed CFRPA.

10.4.b Factors affecting the property

Bontebok National Park receives extremely high levels of protection in terms of the Protected Areas Act. The Boosmansbos Wilderness Area and State Forest Nature Reserves also presently receive high level protection under the Protected Areas Act, the National Forests Act as well as under the Provincial Ordinance. Inscription as a component of the CFRPA World Heritage Site would further place the Langeberg Complex in a special category in terms of the Protected Areas Act (refer to section 1.5.b(ii)).

The Langeberg Complex, once inscribed, will receive special attention from all three CFRPA management authorities in terms of the newly established, and dedicated, management authority.

10.4.b(i) Development pressures

The various development pressures on the components of the Langeberg Complex are mostly focused on the lower-lying areas near urban development and on the coastal plain to the south of the Langeberg Range. Where necessary, facility and infrastructure developments within the Langeberg Complex (e.g. construction or upgrading of roads and services) are managed in terms of the existing Park- and Nature Reserve Management Plans as well as in terms of the Protected Areas Act, Environmental Impact Assessment Regulations and other relevant national and provincial legislation (refer to the various legislation described in section 1.5.b, as well as to the comprehensive legislation review provided in the original nomination (DEAT 2003: Appendix 1).

Abstraction of groundwater for agricultural purposes is a threat to the water quality in the Breede River, as well as potentially leading to a drawdown of groundwater tables particularly in lower-lying areas such as the Bontebok National Park. The various environmental-, conservation- and water management authorities are well aware of the potential issues and challenges and monitoring programmes for water quality in the Breede River are ongoing.

Development pressures on the borders of the Langeberg Complex are managed in consultation with the relevant Provincial and Local Authorities, in terms of regulations for the proper administration of special Nature Reserves, National Parks and World Heritage Sites (section 1.5.b(vii)); the Environmental Impact Assessment regulations (1.5.b(viii)); and, various rigorous municipal-, provincial- and national development controls.

10.4.b(ii) Environmental Pressures

Invasive species-, habitat rehabilitation- and restoration plans as well as fire environmental management plans are in varying stages of completion for the various components of the Langeberg Complex, but invasive species removal and fire management programmes are fully operational in most of the conservation areas.

Fynbos and riparian vegetation is susceptible to encroachment by invasive alien plants (IAPs) and the problem is exacerbated at the Bontebok National Park by the peri-urban context. A Working for Water IAP control program focuses on invaded riparian areas and in those parts of the National Park adjacent to the town of Swellendam.

Woody alien species such as *Acacia mearnsii*, *A. saligna* and *Eucalyptus* spp. are the most problematic in Bontebok National Park and all areas that have been cleared of IAPs are cleared on a prescribed minimum rotation. Records of area and infestation density, clearance and follow-up are kept in a central GIS database for management use. Areas infested with IAPs but not yet treated are demarcated and monitored as are new infestations, potential emergent weeds and sources of disturbance (e.g. roads).

Pinus spp, *Hakea spp.* and *Acacia* spp. are amongst the most problematic woody invasive species in the CapeNature managed Nature Reserves and the surrounding areas, although several other species, notably *Schinus molle* and *Tamarix* spp. are also problematic in the broader Gouritz area (Lombard *et al.* 2004).

Working for Water is responsible for clearing invasive alien plants in the Langeberg Complex in association with SANParks and Capenature officials. All data are held by SANParks and CapeNature.

Please refer to section 1.4.b(ii) for more information on the CFR and the CFRPA.

10.4.b(iii) Natural disasters and risk preparedness

Natural disasters in this region include wildfire and occasional flooding. In order to reduce the incidence of wildfire in the Langeberg Complex and surrounding areas, various Fire Protection Associations (FPAs) have been established and Working on Fire teams are based at Marloth and Grootvadersbosch Nature Reserves.

In terms of the National Veld and Forest Fire Act[76], SANParks and CapeNature are obliged to be members of the FPAs to gain full the legal benefit thereof as well as stakeholder support.

In partnership with the various FPAs as well as with the Working on Fire (WoF) Programme (refer to section 1.5.g(iv)), which provides access to the assistance of additional ground crew and equipment (e.g. helicopters) wildfire is actively prevented and fought in all components of the Langeberg Complex, by the management authorities and other stakeholders.

[76] Act 101 of 1998. This is described in some detail in the Nomination of the CFRPA (Appendix 1).

Many private landowners (especially farmers) in this region are actively involved in fire prevention, detection and fire-fighting through their membership with the FPAs as well as through the Gouritz Cluster Biosphere Reserve (section 1.5.g(ix)).

Disaster management in this region, as for much of South Africa, is well coordinated and all relevant authorities work hand-in-hand to attend to the events as well as the consequences (such as landslides).

10.4.b(iv) Visitor / Tourism pressures

The approved Bontebok National Park - Park Management Plan (Appendix 5), and the various management plans for the CapeNature-managed Nature Reserves, describe the impacts of visitor and tourism pressures, facilities and requirements.

A variety of facilities, activities and opportunities are available for visitors to the Langeberg Complex including mountain biking, hiking, boating, bird-watching and a spectrum of environmental education opportunities. These are controlled through appropriate zonation of the various component conservation areas as well as access control requiring permits for areas where excessive visitor pressures might be harmful or otherwise cause degradation.

All of the Provincial Nature Reserves within the Langeberg Complex are also properly controlled, and where visitor pressures might cause damage, visitor numbers are limited through a permit system and some particularly sensitive areas are maintained as being “off limit” to the general public.

10.4.b(v) Number of inhabitants

The components of the Langeberg Complex are inhabited only by essential SANParks and CapeNature.

10.5 PROTECTION AND MANAGEMENT OF THE LANGEBERG COMPLEX

Refer to section 1.5 for detailed information of the protection and management of the inscribed CFRPA and the Nomination Extension.

10.5.a Ownership

All components of the Langeberg Complex are owned by the State. Designation of the components of the Langeberg Complex are provided in Table 10.2.1 (refer also to section 1.5.a).

10.5.b Protective designation

The Bontebok National Park is a declared National Park in terms of the National Environmental Management: Protected Areas Amendment Act (Act 31 of 2004), refer to section 1.5.b(iii)). The other components comprise a proclaimed Wilderness Area and proclaimed State Forest Nature Reserves (refer to sections 1.5.b).

10.5.c Means of implementing protective measures

Refer to section 1.5.c.

10.5.d Existing plans related to municipality and region in which the Langeberg Complex is located

SANParks and CapeNature ensure their active engagement and input into plans including Bioregional, District and Local Authority Plans (e.g. Integrated Development Plans and Strategic Development Frameworks for the Swellendam-, Cape Winelands District-, Hessequa- and Langeberg Municipalities) especially where they relate to, or might impact upon, the Langeberg Complex.

Both authorities are proactively and intrinsically involved in regional- and bioregional planning and/or conservation initiatives, including the Gouritz Cluster Biosphere Reserve (refer to section 1.5.g(xi)) and various fine-scale conservation plans for the region and municipalities which this vast span of areas covers.

The Gouritz Initiative, which submitted a nomination to UNESCO for Biosphere Reserve status in March 2011, formally became a Section 21 company in July 2011, called the Gouritz Cluster Biosphere Reserve. This initiative has been instrumental in consolidating conservation efforts within this region.

Refer also to section 1.5.d for further information on plans relating to the CFRPA as a whole.

10.5.e Property management plan or other management system

The Protected Areas Act (Section 1.5.b(ii))) requires SANParks and CapeNature to adopt coherent spatial planning systems in all National Parks and Nature Reserves.

Bontebok National Park has an approved and operational Management Plan (Appendix 5) (presently in revision), which incorporates and directs park management. The Management Plan was approved on condition of the review of certain aspects including the expansion plan and the invasive species control and eradication plan. SANParks has initiated a revision process to attend to these conditions. All the plans will be reviewed within the next 5-6 years to address the shortcomings.

The Bontebok National Park Management Plan identifies and documents a hierarchy of objectives, which relate to the vital attributes, perceived threats and constraints, guiding principles and the overarching vision for the Park. Included in the management plans are a suite of Biodiversity-; Cultural Heritage-; and, Socio-Economic objectives. Amongst other, the Management Plans identify “park consolidation programmes”, which seek to best conserve the remaining natural heritage through the “consolidation of untransformed lowland fynbos associated with the renosterveld/fynbos and Breede River systems interface, into a contiguous park unit” within the National Park.

The Bontebok National Park ‘Park Zoning and Conservation Development Framework’ identifies *inter alia* use zones, which were classified through a process of iterative and consultative spatial development planning and, which guide and co-ordinate conservation, tourism and visitor experience initiatives. The zoning is based on analysis and mapping of the sensitivity and value of the Park’s biophysical, heritage and scenic resources; an assessment of the regional context; and assessment of the park’s current and planned infrastructure and tourist routes/products; all interpreted within the context of the SANPark objectives.

Bontebok National Park Management Plan and SANPark’s framework for development and implementation of National Park management plans are included in Appendix 5 (refer also to section 1.5.e).

In keeping with CapeNature’s Policy Framework for Integrated Reserve Management Plans, the Langeberg Central Conservation Area Reserve Management Plan (in preparation) sets Strategic Goals, Objectives and Key Measurable Objectives for the management of Marloth-, Zuurberg and Twistniet Nature Reserves managing them as a single entity. The management plans for the other CapeNature-managed properties which comprise the Langeberg Complex, which are also presently in revision in terms of the Protected Areas Act, also follow the CapeNature standardized format.

National Park and Nature Reserve management takes full responsibility for the implementation of, and reporting on, management plans, while the Area Managers are directly responsible for strategic oversight of management plan implementation.

10.5.f Sources and levels of finance

In order to optimise capacity, funding limitations and opportunities, the Park Manager, Regional Manager and Scientific Services: Cape Region, together prioritise achievable activities, focusing on SANParks Management Plan objectives, programmes and action projects.

CapeNature's Area Manager, together with Reserve Management and Scientific Services, prioritises activities, focusing on the identified strategic goals, objectives and key measurable objectives during each five year management plan review cycle, according to the Integrated Reserve Management Policy Framework developed by CapeNature.

Refer to section 1.5.f for information on the sources and levels of finance for the CFRPA.

10.5.g Sources of expertise and training in conservation and management techniques

SANParks' Scientific Services: Cape Region and the various branches (e.g. Scientific Services, Fire Management and Law support Services) of Directorates (e.g. Biodiversity, Operations and Finance) from CapeNature all provide direct professional, technical and administrative support in the implementation of the operational Management Plans for each of the Langeberg Complex's component areas.

Refer to section 1.5.g for a summary of the various sources of expertise and training which are available from provincial and national authorities as well as other organizations and institutions.

10.5.h Visitor facilities and statistics

Most of the tourism facilities in the Langeberg Complex are easily accessible and activities include walking trails, boating, swimming, picnicking, mountain-biking and overnight accommodation.

The facilities, activities and opportunities available for visitors to the Langeberg Complex vary from the quiet mountain retreats in the Boosmansbos Wilderness Area and Grootvadersbosch Nature Reserve to a variety of overnight and shorter hiking trails, basic rustic accommodation and campsites.

Please refer to Section 1.5.h for information on accessing current visitor statistics for SANParks and CapeNature properties.

10.5.i Policies and programmes related to the presentation and promotion of the Langeberg Complex

The Gouritz Initiative (GRI) (refer to section 1.5.g(xi)) proactively brought together an enormous amount of promotional material on the region during the past five years.

Brochures produced by CapeNature for many of its more popular reserves may be viewed on the CapeNature website (www.capenature.co.za/reserves.htm) and a selection of these brochures is provided in Appendix 8.

Please refer to Section 1.5.i for information on policies and programmes related to the presentation and promotion of the property.

10.5.j Staffing levels (professional, technical, maintenance)

Permanent staff members are presently employed within all components of the Langeberg Complex.

Please refer to Section 1.5.j for information on staffing levels for the CFRPA.

10.6 MONITORING

SANParks and CapeNature personnel monitor a wide array of aspects relating to biophysical, heritage, administrative and socio-economic management of the various compenents of the Langeberg Complex.

In addition, a number of projects, programmes and institutions contribute to monitoring in the Langeberg Complex. These include (but are not limited to) the many projects noted in sections 1.2.a and 10.2.a which compile species lists and monitor a variety of aspects of plant and animal interactions. Amongst other, various units, programmes and departments based at the many universities within the CFR, as well as the South African National Biodiversity Institute (based at Kirstenbosch), all contribute richly to the wealth of information on biodiversity patterns and processes as well as sustainable use and conservation of natural resources within the Langeberg Complex.

Please refer to section 1.6 for further information on monitoring of the property.

10.6.a Key indicators for measuring state of conservation

Please refer to Section 1.6.a for a list of key indicators for measuring state of conservation by SANParks and CapeNature.

10.6.b Administrative arrangements for monitoring the Langeberg Complex

The Langeberg Complex is presently the full responsibility of SANParks and CapeNature.

Please refer to Section 1.6.b for relevant details pertaining to these authorities.

10.6.c Results of previous reporting exercises

Most components of the Langeberg Complex were historically conserved as Mountain Catchment or forestry areas, but presently these conservation areas are managed primarily as reserves to preserve the floral and faunal diversity of this part of the Cape Floral Region.

All information gathered on this extensive area is used, amongst other, to manage terrestrial and aquatic habitats and the diverse vegetation types; address threats of invasion by alien plants and animals; and, to manage wildfire and other challenges to the environment. Knowledge gathered from previous reporting exercises, has contributed significantly to milestones such as the extension of Provincial Nature Reserves and has aided in informing priorities for the Gouritz Initiative which has resulted in the Gouritz Cluster Biosphere Reserve.

Refer to the Nomination (DEAT 2003: Appendix 1) and to section 1.6.c for information on the CFRPA as a whole.

10.7 DOCUMENTATION

10.7.a Photographs, slides, image inventory and authorization table and other audiovisual materials

Refer to section 1.7.a.

10.7.b Texts relating to protective designation, copies of property management plans or documented management systems and extracts of other plans relevant to the property

Please refer to section 1.7.b and Appendix 5 for information on property management plans. Refer to section 1.5 and Appendix 4 for information relating to protective designation.

10.7.c Form and date of most recent records or inventory of the Langeberg Complex

The 2008 revision of the Bontebok National Park - Park Management Plan (SANParks 2008) is the most recent version of the Bontebok National Park's management records. A 2009 State of Knowledge report (Kraaij *et al.* 2009) provides a comprehensive review of environmental, historical, administrative and other information on the national park. Management Plans for all of the CapeNature Nature Reserves are presently in revision in terms of the Protected Areas Act (Act 57 of 2003) but each of these State Forest reserves is managed in terms of official management plans.

All management information, habitat and species inventories and plans are iteratively updated at regular intervals. Records of species of flora and fauna, invasive alien species management, fire management, results and records from monitoring and evaluation projects, etc. are readily available from SANParks and CapeNature.

10.7.d Address where inventory, records and archives are held

Please refer to section 1.7.d for addresses and contact details for SANParks and CapeNature.

10.7.e Reference list

Baron ST. 1981. An updated list of birds of the Bontebok National Park. Koedoe 24:79-98.

Goldblatt P and Manning J. 2000. Cape Plants: A Conspectus of the Cape Flora of South Africa. *Strelitzia* 9. Cape Town, National Botanical Institute and Missouri Botanical Gardens.

Kraaij T, Randall RM, Novellie PA, Russell IA and Kruger N. 2009. *Bontebok National Park – State of Knowledge*. South African National Parks.

Kraaij T. 2004. *Alteration of the burning regime of Bontebok National Park*. Internal report, South African National Parks, 9 pp

Lombard AT., Wolf T. and Strauss T. 2004. *GIS Specialist Services, Gouritz Initiative (GI)*. Report to CapeNature.

Luyt E duC. 2005. *Models of bontebok (*Damaliscus pygargus pygargus*, Pallas 1766) Habitat preferences in the Bontebok National Park and sustainable stocking rates*. MSc. Thesis Stellenbosch University.

MacDonald DJ. 2000. Floral secrets of the Bontebok National Park. *Veld & Flora* 86:70-72.

MacDonald DJ and Cowling RM. 1995. Towards a profile of an endemic mountain fynbos flora: Implications for conservation. *Biological Conservation,* 72:1-12.

Novellie P. 1987. Interrelationship between fire, grazing and grass cover at the Bontebok National Park. *Koedoe*, 30: 1-17.

Russell IA. 2001. Freshwater fishes of the Bontebok National Park. *Koedoe* 44(2):71-77.

SANParks. 2008a. *Bontebok National Park: Park Management Plan*. SANParks: Appendix 5.

SANParks. 2008b. *Monitoring and surveillance of environmental indicators in Bontebok National Park*. Internal Report compiled by SANParks.

Vass PA. 2004. *Plant diversity and spatial discontinuities of the Albany Centre in the south-eastern Cape, South Africa*. Unpublished DPhil Thesis. University Of London.

10.7.e(i) Websites with related material

The SANParks website for the BNP is www.sanparks.org/parks/bontebok/ while CapeNature's website (www.capenature.co.za/reserves.htm) provides brochures and maps for the Boosmansbos Wilderness Area and the Marloth and Grootvadersbosch Nature Reserves.

The website for the Gouritz Initiative is www.gouritz.com/.

CHAPTER 11: GARDEN ROUTE COMPLEX

11.1 IDENTIFICATION OF THE PROPERTY

Garden Route Complex falls within the Western- and Eastern Cape Provinces. The conservation agencies to which management is currently delegated are SANParks, CapeNature and the Eastern Cape Parks and Tourism Agency.

11.1.a Country (and State Party if different)

South Africa.

11.1.b State, Province or Region

Western Cape Province, Eastern Cape Province, Cape Floral Region.

11.1.c Name of Property

Garden Route Complex.

This grouping of a National Park and Provincial Nature Reserves is proposed as an extension to the inscribed CFRPA (refer to Table 1; Tables 1.3.1 and 1.5.2; Section 1.2.a(i); and, Figure 1 and Figure 12).

11.1.d Geographical coordinates to the nearest second

Geographical co-ordinates of the Garden Route Complex are provided in Table 1.

11.1.e Maps and plans, showing the boundaries of the Garden Route Complex and buffers

A map of the Garden Route Complex in relation to the CFRPA and nominated extension properties is shown in Figure 1 and a detailed map of the Garden Route Complex is provided in Figure 12.

Topographical maps for the Garden Route Complex (Map 12) are provided in Appendix 2.

11.2 DESCRIPTION

The Garden Route Complex is located in the south of the Fynbos Biome, predominantly within the Western Cape but extending into the Eastern Cape Province of South Africa (Figure 1 and Figure 12). The Complex lies to the east of the Langeberg Complex (Chapter 10), south of the Swartberg Complex (Chapter 13) and west of the Baviaanskloof Complex (Chapter 14).

11.2.a Description of the Garden Route Complex

This chapter summarises the significant features of the properties, comprising the Garden Route Complex, which are proposed to extend the CFRPA.

The Garden Route Complex is supported by a wide network of adjacent or surrounding conserved areas ranging from Provincial Nature Reserves, Local Authority Nature Reserves, Private Nature Reserves and Stewardship sites to contractual public/private partnerships and Marine Protected Areas. The Garden Route Complex comprises a number of adjoining as well as several disjunct components, some of which are buffered by provincial nature reserves and stewardship sites under formal agreement (Figure 12) but most of which are linked by undeveloped land including private Mountain Catchment Areas and conservancies.

Located in the scenic southern Cape, the Garden Route Complex comprises a relatively new national park; the Garden Route National Park (GRNP), which is the single largest component; as

well as proclaimed Provincial Nature Reserves and State Forest Reserves in the Western- and Eastern Cape Provinces.

GRNP is described in the 2010 Draft Management Plan (Appendix 5) as a “complex of protected areas managed as a single entity”. The GRNP includes three sections namely:

- The Wilderness Section that includes the Wilderness National Park and former Farleigh Forest Estate, as well as the Outeniqua Mountain Catchments;
- The Knysna Section that includes the Knysna National Lake Area and the former Diepwalle Forest Estate; and,
- The Tsitsikamma Section that includes the Tsitsikamma National Park, the former Tsitsikamma Forest Estate, as well as the Tsitsikamma Mountain Catchments.

The Knysna National Lake Area is managed as a Protected Environment (with promulgated regulations).

Formosa Provincial Nature Reserve (and the Niekerksberg subsection of Formosa) are in the Eastern Cape Province and are presently managed within the Integrated Reserve Management Plan (IRMP) for what is termed the “Baviaanskloof Cluster” by the Eastern Cape Parks and Tourism Agency (refer to section 14.2.a and refer to Appendix 5 for a copy of the IRMP).

Both sections of Formosa Nature Reserve border on the most easterly section of the GRNP (the Tsitsikamma section). The Formosa sections are managed by ECPTA under a strategic management plan. Management of the greater area that in includes GRNP is done under an IMP for the entire area together with integrated fire management.

Outeniqua[77] Nature Reserve extends from Bergplaas, above the town of Wilderness, eastward to almost the Gouritz River in the west, over a distance of about 80 km of the total length of the Garden Route Complex (roughly 230 km). Covering a total area of 41 986.94 ha, the Outeniqua Nature Reserve includes three properties: Witfontein Nature Reserve (Witfontein State Forest), Doringrivier Wilderness Area and Ruitersbos Nature Reserve (Ruiterbos State Forest[78]).

Although each of these nature reserves within the Outeniqua Nature Reserve have unique abiotic and biotic characteristics, as well as their own threats and secondary management objectives, the reserve is managed as a single entity, in terms of island biogeographic theory. The reserve office is located at the Witfontein State Forest in George, just below the southern end of the Outeniqua and Montagu passes. The six components are clustered into three areas, namely Doringrivier, Witfontein and Ruitersbos and are included as components of the Garden Route Complex (Figure 12). The reserve lies between the high-rainfall coastal region and the dry Little Karoo. Vegetation in this montane reserve is diverse with moist southern slopes predominantly covered by mountain fynbos. Northern slopes are drier with sparser vegetation ecotonal with Karoo vegetation types. The Outeniqua Mountains host a variety of animal species. Mammals include the klipspringer, grey rhebuck and leopards.

The remote, montane EC Soetkraal Nature Reserve[79] lies directly south west of the Niekerksberg section of Formosa Nature Reserve, juxtaposed between two components of the Tsitsikamma section of the GRNP. This Provincial Nature Reserve (adjacent to the Soetkraal area within the GRNP) comprises a natural link along the Tsitsikamma mountain range.

The Outeniqua area lies within the Integrated Conservation Area Network (iCAN) domain of the Garden Route Initiative (section 1.5.g(x)). Located in the coastal strip between the Outeniqua and Tsitsikamma mountains and the sea, the iCAN area comprises the GRNP; the Outeniqua-, Keurbooms- and Goukamma Nature Reserves; the Brenton Blue Butterfly Special Nature Reserve

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[77] The name Outeniqua is thought to be derived from that of a Khoisan tribe once resident in the mountains and means "they who bear honey". Paintings formed an important part of the culture of these people, and their images of animals, hunters and honeycombs may be found on secluded rockfaces throughout the reserve.

[78] Ruitersbos is also occasionally spelled as “Ruiterbos” in certain texts.

[79] EC Soetkraal Nature Reserve is also known as the Klein Palmietrivier State Forest.

(managed by CapeNature); Formosa Nature Reserve; as well as three Marine Protected Area components, managed by CapeNature and SANParks.

Goukamma Nature Reserve is a narrow strip of coastal fynbos and dune thicket vegetation which provides a coastal corridor linkage between Knysna and Sedgefield.

Keurboomsrivier Nature Reserve contains a unique composite of montane, riparian and coastal fynbos along the lower reaches of the scenic Keurboomsrivier, near Plettenberg Bay.

Finally, Robberg Nature Reserve and National Monument, despite its small size, conserves exceptional biodiversity features and is a showcase for coastal fynbos, as well as housing 19 archaeologically important sites. These include Nelson's Bay Cave, an archaeological find which, still closed to the public, provides exciting evidence of the Strandloper communities which inhabited the area hundreds of years ago.

A summary of the components of the Garden Route Complex is provided in Table 11.2.1.

Table 11.2.1 Formally protected areas comprising the proposed Garden Route Complex extension to the CFRPA

Name	**Designation**	**Area (km^2)**	**Management authority**
Garden Route National Park	National Park	1058	SANParks
Formosa Provincial Nature Reserve	Provincial Nature Reserve	263	Eastern Cape Parks and Tourism Agency
Ruitersbos Nature Reserve	State Forest	181	CapeNature
Witfontein Nature Reserve	State Forest	144	CapeNature
Doringrivier Nature Reserve (Doringrivier Wilderness Area)	Provincial Nature Reserve Proclaimed Wilderness Area	95	CapeNature
EC Soetkraal Provincial Nature Reserve	Provincial Nature Reserve	39	Capenature
Formosa Nature Reserve (Niekerksberg sub-section)	Provincial Nature Reserve	23	Eastern Cape Parks and Tourism Agency
Goukamma Nature Reserve	Provincial Nature Reserve	23	CapeNature
Keurboomsrivier Nature Reserve	Provincial Nature Reserve	10	CapeNature
Robberg Nature Reserve	Provincial Nature Reserve	2	CapeNature

The Garden Route Complex supports ten fynbos vegetation types, seven of which are not protected elsewhere. These include tracts of Vulnerable Tsitsikamma Sandstone Fynbos, Endangered Knysna Sand Fynbos, Endangered Eastern Coastal Shale Band and Endangered Garden Route Granite Fynbos.

Species lists for the whole of the Garden Route Complex have not been rationalized to show the total number of species within the complex, however, species data for each component, or sub-component, show high floral species diversity, significant levels of endemism for flora and some invertebrate groups, and a relatively high number of threatened plant species.

The Garden Route Complex hosts 10 components (Table 11.2.1), each of which showcases fynbos vegetation and habitats of the southern Cape in its own unique manner. Together, these nature reserves and national parks provide an indispensable link between the Baviaanskloof Complex and the Swartberg Complex.

Most of the reserves support important habitats other than fynbos, such as estuaries, forests, rivers and marine environments. For example the Goukamma River provides habitat for a population of Eastern Cape Redfin (*Pseudobarbus afer*), one of only four known populations; and Cape Kurper (*Sandelia capensis*) (Vromans *et al.* 2010). Despite its relatively small land area, Goukamma Nature Reserve supports at least 168 plant species (Vass 2004). The Keurboomsrivier Estuary is considered to be one of the most important estuaries in South Africa and the southern Cape, supporting a number of threatened species including the most threatened seahorse in the world, the Endangered Knysna seahorse (*Hippocampus capensis*).

From the 2009/10 SA Yearbook: Department of Environmental Affairs (Appendix 9)

The new Garden Route National Park (GRNP) was gazetted in March 2009. The park will comprise some 121 000 ha, including the existing national parks of Wilderness and Tsitsikamma (68 000 ha) as well as about 52 500 ha of newly proclaimed land. The individual parks will retain their identity and become camps in the GRNP. The establishment of the GRNP is part of a long-term strategy to expand the protected areas in South Africa under formal protection from 6% to 8% of the total area of the country. The Garden Route is one of the most important conservation areas in South Africa. South African National Parks is the second-largest employer in the region and its total economic contribution to the region is estimated to be almost R95 million per year.

The primary reasons for inclusion of this complex into the extension nomination for the CFRPA are thus to improve representation of vegetation types within the CFRPA, as well as to increase and improve the overall size, connectivity and integrity of the CFRPA, thus ensuring protection of an increased land area within the World Heritage Site. The Garden Route Complex improves connectivity between the inscribed Swartberg Complex and Baviaanskloof elements of the inscribed Garden Route Complex, providing a mountain to coast conservation corridor, thereby increasing resilience in the face of global climate change and improving both biodiversity pattern and process of the inscribed CFRPA World Heritage Site.

Available species lists for the components of the Garden Route Complex include:

- Species databases assembled, regularly updated and maintained by SANParks, CapeNature and Eastern Cape Parks and Tourism Agency personnel, collated and stored at the relevant authorities' premises;
- Bird counts, species data and breeding information from the Animal Demography Unit's (ADU) "Birds in Reserves Project" (birp.adu.org.za/);
- Reptile species lists from the ADU's Southern African Reptile Conservation Assessment (SARCA) project's virtual museum at the full, half or quarter degree square (sarca.adu.org.za);
- Butterfly species lists from the ADU's Southern African Butterfly Conservation Assessment (SABCA) project's virtual museum at the full, half or quarter degree square (sabca.adu.org.za);
- Protea data from the Protea Atlas Project (proteaatlas.org.za/); and,
- Frog records for full degree square from the completed Southern African Frog Atlassing Project (also conducted by the ADU (adu.org.za/frog_atlas).

All of these databases, studies and projects (as well as many others by research institutes and academic institutions) contribute to the body of knowledge about the wide species diversity found in the Garden Route Complex.

11.2.b History and Development

Historical references for the broader Garden Route area are manifold, since the area has long been inhabited by people, due to its fertile soils and abundance of fresh water systems.

The history and development of the various components of the Garden Route National Park is well described in the recent State of Knowledge reports for the three management components of the park (the Tsitsikamma-, Wilderness Coastal- and Knysna Coastal sections (Appendix 7)) and this history will not be repeated here. Further information on the history of the area is contained in the Eden to Addo Corridor Initiative (section 1.5.g(xi)) documentation which is also provided in Appendix 7.

Much of the Garden Route Complex has been conserved and managed over the years under forestry and mountain catchment related legislation. For example, EC Soetkraal Nature Reserve was a State Forest (Klein Palmiet State Forest) and mountain catchment area. Langkloof (Formosa) forestry station was established in December 1964. The main tasks of Forestry at the time were firebreak creation and control of mountain fires. A number of fences were also erected. More intensive management has taken place since 1985 with an increased budget and the appointment of more staff for the area. Livestock transgressions were curbed by 1990 and the exotic plant problem was tackled with great success through the Working for Water programme (administered by the Gouritz Irrigation Board).

11.3 JUSTIFICATION FOR INSCRIPTION

Refer to section 1.1.3 for the overarching justification for extension of the inscribed CFRPA.

11.3.a Criteria under which inscription is proposed (and justification for inscription under these criteria)

The Garden Route Complex fulfills two of the criteria for inclusion in the World Heritage List as a natural property, namely:

Criterion (ix): Ongoing biological and ecological processes.

Criterion (x): Biological diversity and threatened species.

Refer to Section 1.3.a for detail regarding the whole CFRPA property.

11.3.b Proposed Statement of Outstanding Universal Value

Refer to Section 1.3.b.

11.3.c Comparative analysis (including state of conservation of similar properties)

Refer to Section 1.3.c.

11.3.d Integrity and/or Authenticity

All components of the Garden Route Complex are owned and managed by the State.

Refer to Section 1.3.d for information pertaining to the authenticity and integrity of the CFRPA as a whole.

11.4 STATE OF CONSERVATION AND FACTORS AFFECTING THE PROPERTY

11.4.a Present state of conservation

The Protected Areas Act requires that National Parks and Provincial Nature Reserves be managed exclusively for the purpose for which they were declared. However, the three conservation authorities recognise that the natural environment is interlinked with the socio-economic and political spheres and affected by societal values. All three management authorities take cognisance of the ever changing environment and diversity of influences, and plan accordingly. All Nature Reserve and National Park management plans are to be revised every five to six years in consultation with stakeholders.

The primary issues facing the Garden Route Complex are (in common with most regions of the CFR) invasive alien species; disturbance by wildfire and disruption of fire regimes; and, global climate change. Given its location in the scenic Garden Route, a popular tourist destination, certain parts of the Garden Route Complex experience extremely high visitor numbers. The various management plans (Appendix 5) and environmental management plan components address visitor management through zonation of the affected areas of the complex and appropriate management of different user groups.

Refer also to Section 1.1.4 for details of the State of Conservation of the inscribed CFRPA.

11.4.b Factors affecting the property

As a National Park, the newly proclaimed GRNP receives extremely high levels of protection in terms of the Protected Areas Act. All of the Provincial Nature Reserves too presently receive high level protection and inscription as a component of the CFRPA World Heritage Site would further

place the Garden Route Complex in a special category in terms of the Protected Areas Act (refer to section 1.5.b(ii)). The Garden Route Complex, once inscribed, will receive special attention from all three management authorities in terms of the newly established, and dedicated, management authority.

11.4.b(i) Development pressures

There are a variety of development pressures on the components of the Garden Route Complex, however, where necessary, facility and infrastructure developments are managed in terms of the existing Park and Nature Reserve Management Plans as well as in terms of the Protected Areas Act, Environmental Impact Assessment Regulations and other relevant national and provincial legislation (refer to the various sections within section 1.5.b as well as to the comprehensive legislation review provided in the original nomination (DEAT 2003: Appendix 1).

Development pressures on the borders of the Garden Route Complex are managed in consultation with the relevant Provincial and Local Authorities, in terms of regulations for the proper administration of special Nature Reserves, National Parks and World Heritage Sites (section 1.5.b(vii)); the Environmental Impact Assessment regulations (1.5.b(viii)); and, various rigorous municipal, provincial and national development controls.

11.4.b(ii) Environmental Pressures

Invasive species-, habitat rehabilitation- and restoration plans as well as fire environmental management plans are in varying stages of completion for the various components of the Garden Route Complex, but are fully operational in most of the component areas which are long-standing conservation areas.

Working for Water is responsible for clearing invasive alien plants in the Garden Route Complex in association with SANParks, Capenature and Eastern Cape Parks and Tourism Agency officials. The Gamtoos Irrigation Board is the implementing agent for the WfW programme in Formosa Nature Reserve, with high altitude work being undertaken in the Kouga and Formosa Mountains. All data are held by SANParks, CapeNature and the Eastern Cape Parks and Tourism Agency.

Please refer to section 1.4.b(ii) for more information on the CFR and the CFRPA.

11.4.b(iii) Natural disasters and risk preparedness

Natural disasters in this region include wildfire and occasional flooding. In order to reduce the incidence of wildfire in the Garden Route Complex various Fire Protection Associations (FPA) have been established, one of the largest of which is the Southern Cape FPA (scfpa.co.za/) established during 2007. Numerous smaller, more localised FPAs have also been established in the region over the past decade, including the Crags FPA and the Nature's Valley FPA. In terms of the National Veld and Forest Fire Act[80], SANParks, CapeNature and the Eastern Cape Parks and Tourism Agency are obliged to be members of the FPAs to gain full the legal benefit thereof as well as stakeholder support.

In partnership with the various FPAs as well as with the Working on Fire (WoF) Programme (refer to section 1.5.g(iv)), which provides access to the assistance of additional ground crew and equipment (e.g. helicopters) wildfire is actively prevented and fought in all components of the Garden Route Complex, by the three management authorities and other stakeholders.

Many private landowners (especially farmers) in this region are actively involved in fire prevention, detection and fire-fighting through their membership with the FPAs as well as through the Eden to Addo Corridor Initiative (section 1.5.g(xv)).

[80] Act 101 of 1998. This is described in some detail in the Nomination of the CFRPA (Appendix 1).

The Garden Route Initiative, in association with the Southern Cape FPA, has produced a "Fire-wise" guide for landowners, as well as a stand-alone "Floodwise" guide for residents of the region. These are included in Appendix 7 as part of the literature for the Eden to Addo Project.

Disaster management in this region, as for much of South Africa, is well coordinated and all relevant authorities work hand-in-hand to attend to the events as well as the consequences (such as landslides).

11.4.b(iv) Visitor / Tourism pressures

The approved GRNP Management Plan (Appendix 5) covers visitor and tourism pressures, facilities and requirements in detail. A variety of facilities, activities and opportunities are available for visitors to the Garden Route Complex, and most of these are located within the GRNP. Most of the tourism facilities are easily accessible and activities include mountain biking, hiking, boating, bird-watching and a broad spectrum of environmental education opportunities.

All of the Provincial Nature Reserves within the Garden Route Complex are also properly controlled, and where visitor pressures might cause damage, visitor numbers are limited through a permit system and some particularly sensitive areas are maintained as being "off limit" to the general public.

11.4.b(v) Number of inhabitants

The components of the Garden Route Complex are inhabited only by essential SANParks, CapeNature and Eastern Cape Parks and Tourism Agency personnel.

11.5 PROTECTION AND MANAGEMENT OF THE GARDEN ROUTE COMPLEX

Refer to section 1.5 for detailed information of the protection and management of the inscribed CFRPA and the Nomination Extension.

11.5.a Ownership

All land areas within the GRNP are owned by the State and have recently been proclaimed as the Garden Route National Park in terms of the Protected Areas Act (as amended: refer to sections 1.5.b(ii) and (iii)).

All other components of the Garden Route Complex are owned by the State. Designation of the components of the Garden Route Complex are provided in Table 11.2.1 (refer also to section 1.5.a).

11.5.b Protective designation

The GRNP is a declared National Park in terms of the National Environmental Management: Protected Areas Amendment Act (Act 31 of 2004), refer to section 1.5.b(iii)). The other components comprise Eastern-, and Western Cape Provincial Nature Reserves as well as State Forest Nature Reserves (refer to section1.5.a).

11.5.c Means of implementing protective measures

Refer to section 1.5.c.

11.5.d Existing plans related to municipality and region in which the Garden Route Complex is located

SANParks, CapeNature and the Eastern Cape Parks and Tourism Agency ensure their active engagement and input into plans including Bioregional, District and Local Authority Plans (e.g. Integrated Development Plans and Strategic Development Frameworks for the Eden District-,

Knysna, Kou-kamma, Bitou and Kouga Municipalities) especially where they relate to, or might impact upon, the Garden Route Complex.

Further, all three authorities are proactively and intrinsically involved in regional- and bioregional planning and/or conservation initiatives, including the Garden Route Initiative (GRI) – refer to section 1.5.g(x); Eden to Addo Project – section 1.5.g(xi); and, various fine-scale conservation plans for the region and municipalities which this vast span of areas. These include the Garden Route Biodiversity Sector Plans, which seek to support "land-use planning and decision-making in Critical Biodiversity Areas and Ecological Support Areas for sustainable development" (Vromans *et al.* 2010a, 2010b; Appendix 6).

The Garden Route Initiative and the Eden to Addo Initiative are, and have both been, instrumental in consolidating conservation efforts within this region.

Refer also to section 1.5.d for further information on plans relating to the CFRPA as a whole.

11.5.e Property management plan or other management system

The Protected Areas Act (Section 1.5.b(ii))) requires SANParks, CapeNature and Eastern Cape Parks and Tourism Agency to adopt a coherent spatial planning system in all National Parks and Provincial Nature Reserves.

All three sections of the GRNP have approved and operational Management Plans (Appendix 5), last revised in 2008, which incorporates and directs park management. The Management Plans were approved on condition of the review of certain aspects including the programme of implementation (and its costing); the expansion plan; and, the infrastructure development plan. SANParks has initiated a revision process to attend to the conditions and the plans will be reviewed within 5-6 years to address the shortcomings.

The GRNP Section Management Plans identify and document a hierarchy of objectives, which relate to the vital attributes, perceived threats and constraints, guiding principles and the overarching vision for the Park. Included in the management plans are a suite of Biodiversity-; Cultural Heritage-; and, Socio-Economic objectives. Amongst other, the Management Plans identify "park consolidation programmes", which seek to best conserve the remaining natural heritage in the Garden Route area within a National Park.

The GRNP Park Zoning and Conservation Development Framework identifies *inter alia* the use zones, which were classified through a process of iterative and consultative spatial development planning and, which guide and co-ordinate conservation, tourism and visitor experience initiatives. The zoning is based on analysis and mapping of the sensitivity and value of the GRNP's biophysical, heritage and scenic resources; an assessment of the regional context; and assessment of the park's current and planned infrastructure and tourist routes/products; all interpreted within the context of the GRNP objectives.

The GRNP Section Management Plans and SANPark's framework for development and implementation of National Park management plans are included in Appendix 5 (refer also to section 1.5.e).

In keeping with CapeNature's Policy Framework for Integrated Reserve Management Plans, the Outeniqua Reserve Management Plan (in preparation) sets Strategic Goals, Objectives and Key Measurable Objectives for the management of the six component properties (the Witfontein State Forest, the Langkloof State Forest, the Doringriver Wilderness Area, the Ruiterbos State Forest and the Attakwaskloof Nature Reserve) managing them as a single entity. The management plans for the other CapeNature-managed properties which comprise the Garden Route Complex, which are also presently in revision, also follow the CapeNature standardized format.

Formosa Nature Reserve is presently managed in terms of the Baviaanskloof Cluster Management Plan, which is included in Appendix 5 (refer also to sections 1.5.e and 14.5.e).

National Park and Provincial Nature Reserve managers take full responsibility for the implementation of, and reporting on, management plans, while the Regional Managers are directly responsible for strategic oversight of management plan implementation.

11.5.f Sources and levels of finance

In order to optimise capacity, funding limitations and opportunities, the Park Manager, Regional Manager and Scientific Services: Cape Region, together prioritise achievable activities, focusing on SANParks GRNP Management Plan's objectives, programmes and action projects.

CapeNature's Regional Manager, together with Reserve Management and Scientific Services, prioritises activities, focusing on the identified strategic goals, objectives and key measurable objectives during each five year management plan review cycle, according to the Integrated Reserve Management Policy Framework developed by CapeNature.

Eastern Cape Parks and Tourism Agency's Regional Manager, Reserve Management and Directorate of Scientific Services prioritise achievable activities, focusing on the Strategic Management Plan's "Key Result Area" objectives, in order to inform, and ensure compliance with, budgetary cycles.

Refer to section 1.5.f for information on the sources and levels of finance for the CFRPA.

11.5.g Sources of expertise and training in conservation and management techniques

SANParks' Scientific Services: Cape Region; the supporting Directorates, notably Scientific Services, Tourism and Finance from the Eastern Cape Parks and Tourism Agency; and, the various branches (e.g. Scientific Services, Fire Management and Law support Services) of Directorates (e.g. Biodiversity, Operations and Finance) from CapeNature all provide direct professional, technical and administrative support in the implementation of the operational Management Plans for each of the Garden Route Complex's component areas.

Refer to section 1.5.g for a summary of the various sources of expertise and training which are available from provincial and national authorities as well as other organizations and institutions.

11.5.h Visitor facilities and statistics

Most of the tourism facilities in the Garden Route Complex are easily accessible and activities include walking trails, boating, canoeing, picnicking, and overnight accommodation.

The facilities, activities and opportunities available for visitors to the Garden Route Complex vary from internationally renowned destinations such as the magnificent Storms River Mouth Rest Camp and the grueling but spectacular 5-day Otter Trail in the GRNP, to environmental education facilities at Robberg Nature Reserve and a selection of self-catering options within Goukamma Nature Reserve.

Please refer to Section 1.5.h for information on accessing current visitor statistics for SANParks, CapeNature and Eastern Cape Parks and Tourism Agency properties.

11.5.i Policies and programmes related to the presentation and promotion of the Garden Route Complex

The Garden Route Initiative (section 1.5.g(x)) and the Eden to Addo Corridor Initiative (section 1.5.g(xv)) have both brought an enormous amount of promotional material on the Garden Route region to light over the past several years. This has been complemented by the presentation of a variety of materials, press releases and publicity relating to the recent proclamation of the GRNP.

The World Heritage Site Interpretive Centre at Baviaanskloof (Chapter 14) does an excellent job of promoting particularly the Greater Baviaanskloof Mega-Reserve area of which Formosa Nature Reserve is a component.

Brochures produced by CapeNature for many of its more popular reserves may be viewed on the CapeNature website, and a selection of these is provided in Appendix 8.

Please refer to Section 1.5.i for information on policies and programmes related to the presentation and promotion of the property.

11.5.j Staffing levels (professional, technical, maintenance)

Permanent staff members are presently employed within all components of the Garden Route Complex.

Please refer to Section 1.5.j for information on staffing levels for the CFRPA.

11.6 MONITORING

SANParks, CapeNature and the Eastern Cape Parks and Tourism Agency personnel monitor a wide array of aspects relating to biophysical, heritage, administrative and socio-economic management of the various compenents of the Garden Route Complex.

In addition, a number of projects, programmes and institutions contribute to monitoring in the Garden Route Complex. These include (but are not limited to) the many projects noted in sections 1.2.a and 11.2.a which compile species lists and monitor a variety of aspects of plant and animal interactions. Amongst other, various units, programmes and departments based at the Nelson Mandela Metropolitan University (previously University of Port Elizabeth); University of Grahamstown (Rhodes); and the University of Fort Hare, as well as the South African National Biodiversity Institute (based at Kirstenbosch), all contribute richly to the wealth of information on biodiversity patterns and processes as well as sustainable use and conservation of natural resources within the Garden Route Complex.

Please refer to section 1.6 for further information on monitoring of the property.

11.6.a Key indicators for measuring state of conservation

Please refer to Section 1.6.a for a list of key indicators for measuring state of conservation by SANParks, CapeNature and the Eastern Cape Parks and Tourism Agency.

11.6.b Administrative arrangements for monitoring the Garden Route Complex

The Garden Route Complex is presently the full responsibility of SANParks, CapeNature and the Eastern Cape Parks and Tourism Agency.

Please refer to Section 1.6.b for relevant details pertaining to these three authorities.

11.6.c Results of previous reporting exercises

Although some components of the Garden Route Complex were historically conserved as Mountain Catchment or forestry areas, presently these conservation areas are managed primarily as reserves to preserve the floral and faunal diversity of this part of the Cape Floral Region.

All information gathered on this extensive area is used, amongst other, to manage terrestrial and aquatic habitats and the diverse vegetation types; address threats of invasion by alien plants and animals; and, to manage wildfire and other challenges to the environment. Knowledge gathered from previous reporting exercises, has contributed significantly to milestones such as the extension of Provincial Nature Reserves, the proclamation of the GRNP and has also aided in informing priorities for the Garden Route- and Eden to Addo Corridor Initiatives.

Refer to the Nomination (DEAT 2003: Appendix 1) and to section 1.6.c for information on the CFRPA as a whole.

11.7 DOCUMENTATION

11.7.a Photographs, slides, image inventory and authorization table and other audiovisual materials

Refer to section 1.7.a.

11.7.b Texts relating to protective designation, copies of property management plans or documented management systems and extracts of other plans relevant to the property

Please refer to section 1.7.b and Appendix 5 for information on property management plans. Refer to section 1.5 and Appendix 4 for information relating to protective designation.

11.7.c Form and date of most recent records or inventory of the Garden Route Complex

The 2008 revision of the sectional GRNP Park Management Plans and a 2010 revision of the single source GRNP Management Plan are the most recent version of the GRNP's management records. The Baviaanskloof Cluster Management Plan (Appendix 5) is the most recent version of management records for Formosa Nature Reserve and the Management Plans for all of the CapeNature Nature Reserves are presently in revision.

All management information, habitat and species inventories and plans are iteratively updated at regular intervals. Records of species of flora and fauna, invasive alien species management, fire management, results and records from monitoring and evaluation projects, etc. are readily available from SANParks, CapeNature and the Eastern Cape Parks and Tourism Agency.

11.7.d Address where inventory, records and archives are held

Please refer to section 1.7.d for addresses and contact details for SANParks.

11.7.e Reference list

Hanekom N, Randall RM, Bower D, Riley A and Kruger N. 2009. *Garden Route National Park: The Tsitsikamma Section – State of Knowledge*. South African National Parks.

Russell IA, Randall RM, Cole N, Kraaij T and Kruger N. 2010a. *Garden Route National Park, Wilderness Coastal Section, State of Knowledge*. South African National Parks.

Russell IA, Randall RM and Kruger N. 2010b. *Garden Route National Park, Knysna Coastal Section, State of Knowledge*. South African National Parks.

Vromans DC, Maree KS, Holness S, Job N and Brown AE. 2010. *The Garden Route Biodiversity Sector Plan for the George, Knysna and Bitou Municipalities. Supporting land-use planning and decision-making in Critical Biodiversity Areas and Ecological Support Areas for sustainable development.* Garden Route Initiative. South African National Parks. Knysna.

11.7.e(i) Websites with related material

The SANParks website for the GRNP is www.sanparks.org/parks/garden_route/all.php while CapeNature's website (www.capenature.co.za/reserves.htm) provides brochures and maps for Outeniqua, Keurbooms, Robberg and Goukamma Nature Reserves. Formosa Nature Reserve, as a component of the Baviaanskloof Mega-Reserve is described in the Baviaanskloof information section on the Eastern Cape Parks and Tourism Agency website (www.ecparks.co.za/parks-reserves/baviaanskloof/).

CHAPTER 12: ANYSBERG NATURE RESERVE

12.1 IDENTIFICATION OF THE PROPERTY

Anysberg Nature Reserve falls wholly within the Western Cape Province. The conservation agency to which management is currently delegated is CapeNature.

12.1.a Country (and State Party if different)

South Africa

12.1.b State, Province or Region

Western Cape Province, Cape Floral Region

12.1.c Name of Property

Anysberg Nature Reserve.

Anysberg Nature Reserve is proposed as an extension to the inscribed CFRPA (refer to Table 1.3.1; Section 1.2.a(i); and, Figure 1 and Figure 13).

12.1.d Geographical coordinates to the nearest second

Geographical co-ordinates of the Anysberg Nature Reserve are provided in Table 1.

12.1.e Maps and plans, showing the boundaries of Anysberg Nature Reserve and buffers

A map of Anysberg Nature Reserve in relation to the CFRPA and nominated extension properties is shown in Figure 1 and a detailed map of Anysberg Nature Reserve is provided in Figure 13.

Topographical maps for Anysberg Nature Reserve (Map 13) are provided in Appendix 2.

12.2 DESCRIPTION

This chapter summarises the significant features of the Anysberg Nature Reserve, which is nominated to extend the inscribed CFRPA, thereby increasing the total land area by almost 79 629.40 ha, and improving connectivity between the Swartberg-, Langeberg- and Hex River Complexes.

Anysberg Nature Reserve lies inland of the Langeberg Complex (Chapter 10); west of the Swartberg Complex (Chapter 13) and to the east of the Hex River Complex (Chapter 7), in the Western Cape Province of South Africa (Figures 1 and 13).

12.2.a Description of Anysberg Nature Reserve

This chapter summarises the significant features of the Anysberg Nature Reserve, which is nominated to extend the inscribed CFRPA with an area of 79629.40 ha (Table 1).

Anysberg Nature Reserve is supported by a network of adjacent or surrounding natural vegetation and conserved areas including relatively high diversity rangelands, private nature reserves and stewardship sites. The locality is particularly well supported in the region by the various programmes relating to the Gouritz Cluster Biosphere Reserve (refer to sections 1.5.g(v) and 13.2.a).

Primarily a montane reserve (Figure 13), Anysberg Nature Reserve and environs are located within the Gouritz River catchment area. Anysberg Mountain is known as a karoo inselberg (isolated mountain) and rises to 1,622 m above sea level.

Six fynbos vegetation types cover just over 50% of the Anysberg land area. The remainder comprises Succulent Karoo vegetation types. Three fynbos vegetation types, including Montagu Shale Renosterveld, are formally protected within the Anysberg Nature Reserve and nowhere else.

Two of the country's eight biomes are represented in the Anysberg Nature Reserve, both internationally recognised "Biodiversity Hot Spots", namely as the Cape Floral Region (Fynbos biome) and Succulent Karoo biome. Anysberg Nature Reserve is home to over 470 plant species (Vass 2004), of which at least ten are endemic to the Anysberg and include a newly described member of the family Rutaceae, Agathosma anysbergensis (Vlok *et al.* 2005).

Expanding the CFRPA to include Anysberg Nature Reserve will ensure conservation of endemic species and species of interest, but will most importantly also add three vegetation types presently not included in the inscribed CFRPA (Boshoff 2008; Bradshaw & Holness 2013).

The inland fynbos mountains (Klein Swartberg, Anysberg, etc.) run in an east-west direction, forming an important linkage for ecological processes by providing a migration corridor for seasonally migrating organisms such as nectarivores, invertebrates, leopards, large raptors, klipspringers and grysbok. Anysberg is thus a component of an important link between the typical western fynbos communities and those in the east.

Fynbos areas in the Anysberg are primarily found on the middle and upper slopes and share a number of fynbos endemic plant species, such as *Erica insignis*, with the Swartberg mountain range.

Available species lists for Anysberg Nature Reserve include:

- Reserve species databases assembled, regularly updated and maintained by reserve personnel and stored at CapeNature;
- Bird counts, species data and breeding information from the Animal Demography Unit's (ADU) "Birds in Reserves Project" (birp.adu.org.za/site_summary.php?site=33282037). To date, over 170 bird species have been identified within the Anysberg Nature Reserve, an Important Birding Area (IBA); and is home to a number of threatened bird species including the globally threatened blue crane (*Anthropoides paradiseus*), which is the South African national bird;
- Reptile species lists from the ADU's Southern African Reptile Conservation Assessment (SARCA) project's virtual museum at the full, half or quarter degree square (sarca.adu.org.za);
- Butterfly species lists from the ADU's Southern African Butterfly Conservation Assessment (SABCA) project's virtual museum at the full, half or quarter degree square (sabca.adu.org.za);
- Protea data from the Protea Atlas Project (proteaatlas.org.za/); and,
- Frog records for full degree square from the completed Southern African Frog Atlassing Project (also conducted by the ADU (adu.org.za/frog_atlas).

All of these databases, studies and projects (as well as others by research institutes and academic institutions) contribute to the body of knowledge about the diverse habitats and wide species diversity found in the Anysberg Nature Reserve.

12.2.b History and Development

Located in an area which is rich in archeological artefacts and cave-paintings (Rust 2008), Anysberg Nature Reserve was established in 1988, and proclaimed a Provincial Nature Reserve in 1990, in order to conserve local vegetation types and to eventually re-introduce game species which historically occurred in this region. Various properties were purchased by the Leslie Hill Succulent Karoo Trust, between 1996 and 2001, or donated to WWF-SA, to reach the present day size of just under 79 629.40 ha.

A Strategic Land Acquisition Policy for the Leslie Hill Succulent Karoo Trust (LHSKT)

"Both CapeNature and the Gouritz Initiative (GI) operate in the Little Karoo and the LHSKT's strategy should be aligned with the priorities identified by these initiatives. CapeNature has a number of reserve expansion plans, some of which coincide with LHSKT objectives (such as Springfontein and the Anysberg) whilst the GI

is focusing on creating landscape corridors primarily through conservancies on private land with the major corridor being located along the Gouritz River. The LHSKT should not actively pursue the acquisition of properties in the Little Karoo, but rather allow CapeNature and GI to run with this process and approach the LHSKT when opportunities arise in the focal areas."

From Desmet (2006).

12.3 JUSTIFICATION FOR INSCRIPTION

Refer to section 1.1.3 for the overarching justification for extension of the inscribed CFRPA.

12.3.a Criteria under which inscription is proposed (and justification for inscription under these criteria)

Anysberg Nature Reserve fulfills two of the criteria for inclusion in the World Heritage List as a natural property, namely:

Criterion (ix): Ongoing biological and ecological processes.

Criterion (x): Biological diversity and threatened species.

Refer to Section 1.3.a for detail regarding the whole CFRPA property.

12.3.b Proposed Statement of Outstanding Universal Value

Refer to Section 1.3.b.

12.3.c Comparative analysis (including state of conservation of similar properties)

Refer to Section 1.3.c.

12.3.d Integrity and/or Authenticity

The Anysberg Nature Reserve is owned by the State and WWF-SA and managed by CapeNature.

Refer to Section 1.3.d for information pertaining to the authenticity and integrity of the CFRPA as a whole.

12.4 STATE OF CONSERVATION AND FACTORS AFFECTING THE PROPERTY

12.4.a Present state of conservation

The primary issues facing the Anysberg Nature Reserve are (in common with most regions of the CFR) invasive alien species; disturbance by wildfire and disruption of fire regimes; and, global climate change.

Refer also to Section 1.1.4 for details of the State of conservation of the inscribed CFRPA.

12.4.b Factors affecting the property

World Heritage Site status will place Anysberg Nature Reserve in a special category in terms of the Protected Areas Act (refer to section 1.5.b(ii)). As such the area will receive special attention from all three management authorities in terms of the newly established and dedicated management authority.

12.4.b(i) Development pressures

There are currently no development pressures.

12.4.b(ii) Environmental Pressures

An invasive alien management strategy and a fire management plan have recently been completed for Anysberg Nature Reserve and are in operation. All data are held by CapeNature.

12.4.b(iii) Natural disasters and risk preparedness

Natural disasters include wildfire and flooding. Anysberg Nature Reserve is associated with the Witteberg- and Southern Cape Fire Protection Associations (scfpa.co.za/). The latter was established in 2007 in accordance with the Veld and Forest Fires Act[81]. Working on Fire (refer to section 1.5.g(iv)) provides assistance to Anysberg Nature Reserve and the Fire Protection Associations.

12.4.b(iv) Visitor / Tourism pressures

The Anysberg Nature Reserve Management Plan covers visitor and tourism pressures, facilities and requirements in detail.

12.4.b(v) Number of inhabitants

Anysberg Nature Reserve is inhabited only by essential reserve personnel.

12.5 PROTECTION AND MANAGEMENT OF THE PROPERTY

Refer to section 1.5 for detailed information of the protection and management of the inscribed CFRPA and the nomination extension.

12.5a Ownership

Anysberg Nature Reserve is owned by the State and WWF-SA. Refer to section 1.5a.

The designation of all components of the Anysberg Nature Reserve is as a Provincial Nature Reserve (refer to section 1.5a).

12.5b Protective designation

Anysberg Nature Reserve is a declared Provincial Nature Reserve in terms of the Cape Nature Conservation Ordinance, 19 of 1974.

12.5.c Means of implementing protective measures

Refer to section 1.5.c.

12.5.d Existing plans related to municipality and region in which the proposed property is located

CapeNature ensure their active engagement and input into plans (such as the Kannaland-, Laingsburg- and Cape Winelands District Municipalities) where they relate to, or might impact upon, Anysberg Nature Reserve.

12.5.e Property management plan or other management system

The Protected Areas Act (Section 1.5.b(ii)) requires CapeNature to adopt a coherent spatial planning system in all nature reserves, owned and/or managed by CapeNature.

Anysberg Nature Reserve is managed in terms of a CapeNature management plan, which is currently under review in terms of the Protected Areas Act. Draft Strategic Management Plans for all Western Cape Provincial Reserves focus on CapeNature's identified strategic goals, objectives

[81] Act 101 of 1998.

and key measurable objectives (section1.5.e) and are subject to the guidelines, principles and policies outlined in the Protected Areas Act (as amended).

The Reserve Manager takes full responsibility for implementation of, and reporting on, all aspects of the Management Plan, while the Area Manager is directly responsible for strategic oversight of its implementation.

Refer to section 1.5.e for information on integrated management plans and management systems for CapeNature and the CFRPA.

12.5.f Sources and levels of finance

In order to optimise capacity and funding limitations and opportunities, the Area manager, reserve manager and Directorate of Scientific Services together prioritise achievable activities, focusing on the Strategic Management Plan's "Key Result Area" objectives.

Refer to section 1.5.f for information on the sources and levels of finance for the CFRPA.

12.5.g Sources of expertise and training in conservation and management techniques

Branches (e.g. Scientific Services, Fire Management and Law support Services) of Directorates (e.g. Biodiversity, Operations and Finance) from CapeNature provide direct professional, technical and administrative support in the implementation of the Management Plans for Anysberg Nature Reserve under the strategic guidance of the reserve management and Area Manager.

Refer to section 1.5.g for a summary of various sources of expertise and training, which are available from the provincial and national authorities as well as other organisations and institutions.

12.5.h Visitor facilities and statistics

Anysberg Nature Reserve hosts five cottages, which accommodate a maximum of 20 persons, as well as a camping site near the office complex. Various hiking trails; a two-day horse trail; and mountain-biking on jeep tracks are just some of the facilities which visitors may explore and enjoy.

Please refer to Section 1.5.h for information on accessing visitor statistics for CapeNature.

12.5.i Policies and programmes related to the presentation and promotion of the property

Please refer to Section 1.5.i for information on policies and programmes related to the presentation and promotion of the property.

12.5.j Staffing levels (professional, technical, maintenance)

Please refer to Section 1.5.j for information on staffing levels for CapeNature.

12.6 MONITORING

Monitoring of the Anysberg Nature Reserve is under the full management of CapeNature. Please refer to Section 1.6.b for the details pertaining to CapeNature's administrative monitoring arrangements.

Various projects and programmes including the Birds in Reserves project (birp.adu.org.za/) – refer to section 12.2.a – contribute to monitoring in the Anysberg Nature Reserve.

Please refer to section 1.6 for further information on monitoring of the property.

12.6.a Key indicators for measuring state of conservation

Please refer to Section 1.6.a for a list of key indicators for measuring the state of conservation in CapeNature Nature Reserves.

12.6.b Administrative arrangements for monitoring property

Monitoring of Anysberg nature Reserve is under the full management of CapeNature. Please refer to Section 1.6.b for the details pertaining to CapeNature's administrative monitoring arrangements.

12.6.c Results of previous reporting exercises

All data on vegetation, invasive alien species- and fire management, mammal re-introductions, etc. are maintained by CapeNature. Areas are monitored and assessed regularly in order to inform and fine-tune adaptive management practices and processes.

For example, invasive alien plant-; vegetation restoration-; and fire record monitoring programs are maintained as decision-support tools for ongoing assessment and adaptive management of the biodiversity, heritage and general administration of Anysberg Nature Reserve.

Refer to section 1.6.c for information on the CFRPA as a whole.

12.7 DOCUMENTATION

12.7.a Photographs, slides, image inventory and authorization table and other audiovisual materials

Refer to section 1.7.a.

12.7.b Texts relating to protective designation, copies of property management plans or documented management systems and extracts of other plans relevant to the property

Please refer to section 1.7.b and Appendix 5 for information on property management plans. Refer to section 1.5 and Appendix 4 for information relating to protective designation.

12.7.c Form and date of most recent records or inventory of property

The 2010 draft revision of the Anysberg Strategic Management Plan is the most recent version of the Anysberg Nature Reserve's management records. This management plan is scheduled for finalization during the first half of 2012.

All management information, inventories and plans are iteratively updated and records of species of flora and fauna, alien management, fire management, etc. are readily available from CapeNature.

12.7.d Address where inventory, records and archives are held

Please refer to section 1.7.d for addresses and contact details for CapeNature.

12.7.e Reference list

Boshoff A. 2008. The Baviaanskloof Mega Reserve: From concept to implementation. Centre for African Conservation Ecology, Nelson Mandela Metropolitan University, Port Elizabeth. *ACE Report* No. 58.

Bradshaw, P. and Holness S. 2013. *Fynbos World Heritage Site Assessments*. Internal report compiled for comparative analysis of sites appropriate for the Extension Nomination of the Cape Floral Region Protected Areas World Heritage Site. Revised.

CHAPTER 13: SWARTBERG EXTENDED COMPLEX

13.1 IDENTIFICATION OF THE PROPERTY

Swartberg Complex falls wholly within the Western Cape Province. The conservation authority to which management is currently delegated is CapeNature.

13.1.a Country (and State Party if different)

South Africa

13.1.b State, Province or Region

Western Cape Province, Cape Floral Region

13.1.c Name of Property

Swartberg Complex.

Six Nature Reserves, namely Kammanassie Nature Reserve, Towerkop Nature Reserve, Rooiberg Nature Reserve, Gamkaberg Nature Reserve, Groenefontein Nature Reserve (Gamkaberg) and Paardenberg Nature Reserve are proposed as the extension to the inscribed CFRPA Swartberg Complex component (refer to Table 13.3.1; Section 1.2.a(i); and, Figure14).

13.1.d Geographical coordinates to the nearest second

Geographical co-ordinates of the Swartberg Complex are provided in Table 1.

13.1.e Maps and plans, showing the boundaries of the extended Swartberg Complex and buffers

A map of Swartberg Complex in relation to the CFRPA and nominated extension properties is shown in Figure 1 and a detailed map of Swartberg Complex is provided in Figure 14.

Topographical maps for the extended Swartberg Complex (Map 14) are provided in Appendix 2.

13.2 DESCRIPTION

The Swartberg Complex is situated on the east-west axis of the Cape Fold mountains along the border between the Cape Floral Region and the semi-arid Karoo in the Western Cape Province of South Africa (Figures 1 and 14). The Complex lies to the west of the Baviaanskloof (Chapter 14), to the north-east of the Langeberg Complex (Chapter 10), east of Anysberg Nature Reserve (Chapter 12) and inland of the Garden Route Complex.

13.2.a Description of the Swartberg Complex

This chapter summarises the significant features of the six nature reserves nominated to extend the inscribed Swartberg Complex to form the extended Swartberg Complex, thereby increasing the total land area of the inscribed Swartberg Complex to over 187 337.76 ha (Table 1).

Swartberg Complex is supported by a wide network of adjacent or surrounding conserved areas ranging from Provincial Nature Reserves to Private Nature Reserves, Stewardship sites and Mountain Catchment Areas. Swartberg Complex is also supported by the Gouritz Cluster Biosphere Reserve (refer to section 1.5.g(ix)).

The Gouritz Initiative

The main purpose of this Initiative was to create a corridor along the Gouritz River, where naturally occurring indigenous animals and plants could disperse freely from the conservation areas of the inland mountains (Anysberg-Swartberg and Gamkaberg-Rooiberg ranges) to those of the coastal mountains (Langeberg-Outeniqua ranges). The intent is also to create a conservation area along the Gouritz River from Herbertsdale to the sea to ensure that the inland section is directly linked to the coastal environment.

Objectives:

- To establish a series of conservation areas along the Gouritz River and its tributaries that will link all the major conservation areas of the region and which will ensure that all the critical components of the biodiversity of the region and their associated ecological processes are safeguarded.
- To develop a land use ethic within these conservation areas that will ensure that present and future human activities will not threaten the biodiversity of the region or the ecological processes that support the species richness of the terrestrial and aquatic systems of the area.
- To support programs that will restore severely transformed critical components of the biodiversity of the region and those that inhibit important ecological processes required to maintain the biodiversity patterns of the Gouritz River area.
- To empower civil society within the Gouritz -area to utilise and enjoy their environment optimally, without threatening the species richness of the area or ecological processes that sustain the biodiversity of the region.
- To empower civil society to ensure that all the authorities within the Gouritz area, practice the principles of sustainable development.

The Gouritz Cluster Biosphere Reserve website may be viewed at gouritz.com/.

The proposed CFRPA extension to the inscribed Swartberg Complex comprises six montane reserves, located to the west, south and south west of the Swartberg Complex (Figures 1 and 14) on the escarpment between the Great Karoo and the Little Karoo.

The Gamkaberg Conservation Area, made up largely of the Rooiberg, Groenefontein and Gamkaberg, is an isolated inselberg with unique floral assemblages when compared with the mountains to the north, south, east or west. It is one of seven mountainous reserves in the region all of which are unique in their own way, but all of which are covered almost entirely with Fynbos (Anysberg excluded – refer to Chapter 12) and all are important water catchment areas for the region, since the catchment areas of the Swartberg Mountains provide water to the Gouritz River Catchment, which is critical for economic and agricultural development in that part of the Western Cape.

Fourteen fynbos vegetation types are protected within the extended Swartberg Complex land area (Table 1.3.1) of which ten are protected nowhere else. Two vegetation types, namely North- and South Kammanassie Sandstone Fynbos, protected within Kammanassie Nature Reserve, are two new additions to the existing vegetation types which will be protected by the extended Swartberg Complex.

The Swartberg's exceptional floral diversity is testament to the great physical and climatic diversity in this area of transition between montane and lowland habitats, which are topographically, geologically and climatically remarkable. The inscribed (and extended) Swartberg Complex represents the internationally recognised "Biodiversity HotSpot" - the Cape Floral Region (fynbos) as well as Succulent Karoo.

The Kammanassie inselberg in the east and the Anysberg (refer to Chapter 12) in the west, as well as the Rooiberg complex in the center are all areas of importance for the maintenance of fauna such as flightless *Colophon* beetle species (described in DEAT 2003: Appendix 1) as well as herpetofauna.

The primary reasons for addition of these six Nature Reserves to the inscribed Swartberg Complex are thus to improve representation of vegetation types within the CFRPA, as well as to increase and improve the overall size, connectivity and integrity of the inscribed Swartberg Complex in the face of global climate change.

Available species lists for the extended Swartberg Complex include:

- Reserve species databases assembled, regularly updated and maintained by reserve- and scientific personnel and stored at CapeNature;
- Bird counts, species data and breeding information from the Animal Demography Unit's (ADU) "Birds in Reserves Project" (birp.adu.org.za/site_list.php?prov=WC) for the various components of the extended Swartberg Complex;
- Reptile species lists from the ADU's Southern African Reptile Conservation Assessment (SARCA) project's virtual museum at the full, half or quarter degree square (sarca.adu.org.za);
- Butterfly species lists from the ADU's Southern African Butterfly Conservation Assessment (SABCA) project's virtual museum at the full, half or quarter degree square (sabca.adu.org.za);
- Protea data from the Protea Atlas Project for the various components of the extended Swartberg Complex (proteaatlas.org.za/); and,
- Frog records for full degree square from the completed Southern African Frog Atlassing Project (also conducted by the ADU (adu.org.za/frog_atlas).

All of these databases, studies and projects (as well as others by research institutes and academic institutions) contribute to the body of knowledge about the wide species diversity found in the extended Swartberg Complex.

13.2.b History and Development

The history and development of the inscribed Swartberg Complex CFRPA is comprehensively described in the original Nomination (DEAT 2003: Appendix 1).

In 2004, Swartberg Complex was inscribed as a component of the CFRPA. The previous year saw the initiation of the Gouritz Initiative (GI) (section 1.5.g(ix)). The GI, one of several landscape-scale initiatives being undertaken in the Cape Floral Region (initiated as part of the C.A.P.E. programme), has resulted in the formation of the Gouritz Cluster Biosphere Reserve and will eventually result in the formation of a biodiversity corridor (a "protected area") over 400,000 ha in extent, and will include the whole of the Swartberg Complex.

13.3 JUSTIFICATION FOR INSCRIPTION

Refer to section 1.1.3 for the overarching justification for extension of the inscribed CFRPA.

13.3.a Criteria under which inscription is proposed (and justification for inscription under these criteria)

Swartberg Complex (extended) fulfills two of the criteria for inclusion in the World Heritage List as a natural property, namely:

Criterion (ix): Ongoing biological and ecological processes.

Criterion (x): Biological diversity and threatened species.

Refer to Section 1.3.a for detail regarding the whole CFRPA property.

13.3.b Proposed Statement of Outstanding Universal Value

Refer to Section 1.3.b.

13.3.c Comparative analysis (including state of conservation of similar properties)

Refer to Section 1.3.c.

13.3.d Integrity

Refer to Section 1.3.d for information pertaining to the integrity of the CFRPA as a whole.

13.4 STATE OF CONSERVATION AND FACTORS AFFECTING THE SWARTBERG COMPLEX

13.4.a Present state of conservation

The primary issues facing the Swartberg Complex are (in common with most of the CFR) invasive alien species; disturbance by wildfire and disruption of fire regimes; and, global climate change.

Refer also to Section 1.1.4 for details of the State of Conservation of the inscribed CFRPA.

13.4.b Factors affecting the Swartberg Complex

World Heritage Site status places the inscribed Swartberg Complex (and thus also the Extended Nomination) in a special category in terms of the Protected Areas Act (refer to section 1.5.b(ii)). As such the area receives special attention from all three management authorities in terms of the newly established and dedicated management authority.

13.4.b(i) Development pressures

There are currently no development pressures.

13.4.b(ii) Environmental Pressures

Property management plans, including invasive alien management and fire management plans are in the process of revision in terms of the Protected Areas Act (section 1.5.b(ii)). All data are held by CapeNature.

13.4.b(iii) Natural disasters and risk preparedness

Natural disasters in the Swartberg Complex relate mostly to wildfire, but also to occasional flooding. The Swartberg Complex is associated with the Southern Cape Fire Protection Association (scfpa.co.za/), which was established in 2007 in accordance with the Veld and Forest Fires Act[82].

A Working on Fire (WoF- refer to section 1.5.g(iv)) team is hosted at Uniondale, which is the base station for Kammanassie Nature Reserve. CapeNature has facilitated a working relationship with the Eden- and Uniondale Municipalities and this has contributed to the usefulness of the WoF team members who have done fire-awareness-raising at schools and assisted with fire suppression activities.

13.4.b(iv) Visitor / Tourism pressures

The various Swartberg nature reserves are not normally subject to very high visitor and tourism pressures, despite some of these areas being on well travelled routes, however some trails require periodic upgrading and rehabilitation, and at these times the trails are closed during maintenance. Visitor numbers are strictly controlled and, where necessary limited, for all trails and facilities where visitor pressures might be detrimental to the environment.

13.4.b(v) Number of inhabitants

The six nature reserves proposed to extend the inscribed Swartberg Complex are uninhabited except by essential management- and administrative personnel and their families.

13.5 PROTECTION AND MANAGEMENT OF THE PROPERTY

Refer to section 1.5 for detailed information of the protection and management of the inscribed CFRPA and the nomination extension.

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[82] Act 101 of 1998.

13.5.a Ownership

All six Nature Reserves (Figure 14) are managed by the State and all but Groenefontein (which is owned by WWF-SA and under lease agreement with CapeNature) are owned by the State (refer to section 1.5.a).

13.5.b Protective designation

Towerkop, Rooiberg, Kammanassie and Paardenberg Nature Reserves are presently designated State Forest land (refer to DEAT 2003: Appendix 1), proclaimed under the National Forests Act[83] and are managed by CapeNature, while Groenefontein and Gamkaberg are proclaimed Provincial Nature Reserves (refer to section 1.5.b) in terms of the Cape Nature Conservation Ordinance, 19 of 1974.

13.5.c Means of implementing protective measures

Please refer to section 1.5.c. for details regarding the implementation of protective measures.

13.5.d Existing plans related to municipality and region in which the Swartberg Complex is located

CapeNature ensure their active engagement and input into programmes (such as the Gouritz Initiative – refer to section 1.5.g(ix)) and plans for the Eden-, Oudtshoorn-, Prince Albert-, Laingsburg- and Kannaland District Municipalities, where they relate to, or might impact upon, the Swartland Complex.

13.5.e Property management plan or other management system

The Protected Areas Act[84] (refer to section 1.5.b(ii)) requires CapeNature to adopt a coherent spatial planning system in all Nature Reserves.

Gamkaberg, Rooiberg, Paardenberg and Groenefontein Nature Reserves are managed as components of the Gamkaberg Conservation Area management plan, while Towerkop and Kammanassie have stand alone management plans. All of these management plans are currently under review in terms of the Protected Areas Act. The draft Strategic Management Plans for all Western Cape Provincial Reserves focus on CapeNature's identified strategic goals, objectives and key measurable objectives (section1.5.e) and are subject to the guidelines, principles and policies outlined in the Protected Areas Act (as amended).

The Reserve Managers take full responsibility for implementation of, and reporting on, all aspects of the Management Plans, while the Area Managers are directly responsible for strategic oversight of the implementation of the management plans.

Refer to section 1.5.e for information on integrated management plans and management systems for CapeNature and the CFRPA.

13.5.f Sources and levels of finance

In order to optimise capacity and funding limitations and opportunities, the Area Manager, Reserve Management and Scientific Services together prioritise achievable activities, focusing on the identified strategic goals, objectives and key measurable objectives during each five year management plan review cycle.

Refer to section 1.5.f for information on the sources and levels of finance for the CFRPA.

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[83] National Forests Act (Act 84 of1998)

[84] Act 57 of 2003.

13.5.g Sources of expertise and training in conservation and management techniques

Branches (e.g. Scientific Services, Fire Management and Law support Services) of Directorates (e.g. Biodiversity, Operations and Finance) from CapeNature provide direct professional, technical and administrative support in the implementation of the Management Plans for the Swartberg Complex under the strategic guidance of the reserve management and Area Manager.

Refer to section 1.5.g for a summary of various sources of expertise and training, which are available from the provincial and national authorities as well as other organisations and institutions.

13.5.h Visitor facilities and statistics

The primary tourism draw cards for the Swartberg Complex are hiking and camping and permits are required for any activities within the various nature reserves.

Please refer to Section 1.5.h for information on accessing visitor statistics for CapeNature and to DEAT 2003: Appendix 1 for information on the inscribed Swartberg Complex.

13.5.i Policies and programmes related to the presentation and promotion of the property

Please refer to Section 1.5.i for information on policies and programmes related to the presentation and promotion of the CFRPA.

13.5.j Staffing levels (professional, technical, maintenance)

Please refer to Section 1.5.j for information on staffing levels for CapeNature.

13.6 MONITORING

A variety of projects and programmes contribute to baseline monitoring, evaluation and assessment undertaken by CapeNature within the Swartberg Complex. Refer to section 3.2.a for a list of selected projects and programmes which contribute to the monitoring of biodiversity within the six Nature Reserves and the Swartberg Complex as a whole.

Please refer to section 1.6 for further information on monitoring of the CFRPA.

13.6.a Key indicators for measuring state of conservation

Please refer to Section 1.6.a for a list of key indicators for measuring the state of conservation in CapeNature Nature Reserves.

13.6.b Administrative arrangements for monitoring property

Monitoring of the inscribed Swartberg Complex and the six nature reserve proposed as extensions to the Swartberg Complex are under the full management of CapeNature.

Please refer to Section 1.6.b for the details pertaining to CapeNature's administrative monitoring arrangements.

13.6.c Results of previous reporting exercises

All data relating to vegetation, invasive alien species management and fire management, etc. are maintained by CapeNature. Areas are monitored and assessed regularly in order to inform and fine-tune adaptive management practices and processes.

For example, invasive alien fish-; invasive alien plant-; vegetation restoration-; and fire record monitoring programs are maintained as decision-support tools for ongoing assessment, and

adaptive management of the biodiversity, heritage and general administration of the inscribed Swartberg Complex as well as the six nature reserves proposed to extend the Swartberg Complex.

Refer to section 1.6.c for information on the CFRPA as a whole.

13.7 DOCUMENTATION

13.7.a Photographs, slides, image inventory and authorisation table and other audiovisual materials

Refer to section 1.7.a.

13.7.b Texts relating to protective designation, copies of property management plans or documented management systems and extracts of other plans relevant to the property

Please refer to section 1.7.b and Appendix 5 for information on property management plans. Refer to section 1.5 and Appendix 4 for information relating to protective designation.

13.7.c Form and date of most recent records or inventory of property

The existing “Gamkaberg Conservation Area Management Plan” and management plans for Towerkop and Kammanassie Nature Reserves are the most recent Swartberg Complex management records. These management plans are under revision in terms of the Protected Areas Act (refer to sections 1.5.b(ii) and 1.5.e).

All management information, inventories and plans are, however, iteratively updated and records of flora and fauna species; invasive alien flora and fauna management; fire management, etc. are readily available from Scientific Services at CapeNature.

13.7.d Address where inventory, records and archives are held

Please refer to section 1.7.d for addresses and contact details for the CapeNature.

CHAPTER 14: BAVIAANSKLOOF EXTENDED COMPLEX

14.1 IDENTIFICATION OF THE PROPERTY

Baviaanskloof Complex falls wholly within the Eastern Cape Province. The conservation agency to which management is currently delegated is the Eastern Cape Parks and Tourism Agency.

14.1.a Country (and State Party if different)

South Africa

14.1.b State, Province or Region

Eastern Cape Province, Cape Floral Region

14.1.c Name of Property

Baviaanskloof Complex.

Groendal Nature Reserve and a portion of Baviaanskloof not originally included are proposed as the extension to the inscribed CFRPA Baviaanskloof component (refer to Table 1.3.1; Section 1.2.a(i); and, Figure 15).

14.1.d Geographical coordinates to the nearest second

Geographical co-ordinates of the Baviaanskloof Complex are provided in Table 1.

14.1.e Maps and plans, showing the boundaries of the Baviaanskloof Complex and buffers

A map of Baviaanskloof Complex in relation to the CFRPA and nominated extension properties is shown in Figure 1 and a detailed map of Baviaanskloof Complex is provided in Figure 15.

Topographical maps for Baviaanskloof Complex (Map 15) are provided in Appendix 2.

14.2 DESCRIPTION

Baviaanskloof Complex is situated on the southwestern tip of Africa in the Eastern Cape Province of South Africa. The CFRPA Extension Nomination is represented in the Eastern Cape Province by the Baviaanskloof Complex.

14.2.a Description of the Baviaanskloof Complex

This chapter summarises the significant features of the Groendal Nature Reserve and the previously excluded portion of Baviaanskloof, which is nominated to extend the inscribed Baviaanskloof to form the extended Baviaanskloof Complex, thereby increasing the total land area of the inscribed Baviaanskloof from 176 331.80 ha to over 249 399.94ha (Table 1).

Baviaanskloof Complex is supported by a wide network of adjacent or surrounding conserved areas ranging from Provincial Nature Reserves to Private Nature Reserves, Stewardship sites and Mountain Catchment Areas. Baviaanskloof Complex comprises two large protected areas, which are surrounded by a number of nature reserves and conservancies including other components of the Baviaanskloof Cluster which is supported by the Baviaanskloof Mega-Reserve Project (see box below).

Baviaanskloof Mega-reserve Project

The Baviaanskloof mega-reserve will comprise both formal protected areas and privately owned land – the key elements of a mega-conservancy network.

The area envisaged for a mega-reserve includes the Baviaanskloof Nature Reserve, comprising the Baviaanskloof and Welbedacht sections, the Groendal Nature Reserve, comprising the Kwa-Zunga, Mierhoopplaat and Stinkhoutberg sections, and the Formosa Nature Reserve (refer to Chapter 11), comprising the Formosa and Niekerksberg sections. These five individual reserves, collectively known as the "Baviaanskloof Reserve Cluster", form the 268,848 ha protected area core of the mega-reserve.

A critical component of the mega-reserve is the link between this inland sector and the coast, to create a reserve that includes both east-west and north-south gradients, as well as a marked altitudinal gradient (Boshoff 2008).

The CFRPA extension to the inscribed Baviaanskloof is a primarily montane reserve named Groendal Nature Reserve, which comprises two sections; namely the main Kwa-Zunga Section in the Grootwinterhoek Mountains and the separate Stinkhoutberg Section situated north of Patensie. The Kwa-Zunga Section includes a small separate sub-section, Mierhoopplaat (Figure 15).

Groendal Nature Reserve and environs provides a significant part of the catchment of the Groendal Dam, which is fed by the Kwazunga River and is a critical source of water for the Nelson Mandela Metropole (Boshoff 2008).

Three fynbos vegetation types (Kouga Grassy Sandstone Fynbos, Kouga Sandstone Fynbos and Loerie Conglomerate Fynbos) cover over 85% of the Groendal land area. The latter is conserved within Groendal and nowhere else. The remaining vegetation types within Groendal comprise mainly thicket, sub-tropical forest and alluvial (e.g. riparian) vegetation types.

No fewer than seven of the country's eight biomes are represented in the broader Baviaanskloof area. These are the Fynbos, Subtropical Thicket, Nama-Karoo, Succulent Karoo, Grassland, Savanna and Forest biomes. This exceptional diversity is testament to the great physical and climatic diversity in this area of transition. The greater Baviaanskloof Cluster includes two internationally recognised "Biodiversity HotSpots" namely Cape Floral Region (fynbos) and Maputaland-Pondoland Region (subtropical thicket). The Baviaanskloof Nature Reserve alone houses over 1,100 plant species, at least 20 of which are endemic. Over 50 plant species are categorised as threatened species or species of interest. Expanding the inscribed Baviaanskloof component to include the three sections of Groendal Nature Reserve will add a number of other endemic species and species of interest, but will most importantly also add one vegetation type presently not included in the inscribed CFRPA (Boshoff 2008; Bradshaw & Holness 2013), as well as significantly increasing the size and eastward extent.

Available species lists for Groendal Nature Reserve and Baviaanskloof include:

- Reserve species databases assembled, regularly updated and maintained by reserve personnel and stored at the Eastern Cape Parks and Tourism Agency;
- Bird counts, species data and breeding information from the Animal Demography Unit's (ADU) "Birds in Reserves Project" (birp.adu.org.za/site_summary.php?site=33432518). To date, well over 170 bird species have been identified within Groendal;
- Reptile species lists from the ADU's Southern African Reptile Conservation Assessment (SARCA) project's virtual museum at the full, half or quarter degree square (sarca.adu.org.za);
- Butterfly species lists from the ADU's Southern African Butterfly Conservation Assessment (SABCA) project's virtual museum at the full, half or quarter degree square (sabca.adu.org.za);
- Protea data from the Protea Atlas Project (proteaatlas.org.za/); and,
- Frog records for full degree square from the completed Southern African Frog Atlassing Project (also conducted by the ADU adu.org.za/frog_atlas).

All of these databases, studies and projects (as well as others by research institutes and academic institutions) contribute to the body of knowledge about the wide species diversity found in the Groendal Nature Reserve and the Baviaanskloof Complex as a whole.

14.2.b History and Development

The history and development of the inscribed Baviaanskloof CFRPA is comprehensively described in the original Nomination (Appendix 1).

Groendal Nature Reserve (Figure 15) was proclaimed in 1976. On 1 April 1987 the management of the area was transferred from Environment Affairs (Department of Forestry) to Cape Nature Conservation (presently CapeNature) as part of the devolution policy of the government. The area has been managed according to the principles of a wilderness area since the early 1980's, even though it was not declared as such.

The area was transferred to Eastern Cape Province (Department of Economic Development and Environmental Affairs – DEDEA) for management during 1994. In 2002 the Baviaanskloof Mega-Reserve project was initiated and in 2004, Baviaanskloof was inscribed as a component of the CFRPA.

14.3 JUSTIFICATION FOR INSCRIPTION

Refer to section 1.1.3 for the overarching justification for extension of the inscribed CFRPA.

14.3.a Criteria under which inscription is proposed (and justification for inscription under these criteria)

Baviaanskloof Complex (extended) fulfills two of the criteria for inclusion in the World Heritage List as a natural property, namely:

Criterion (ix): Ongoing biological and ecological processes.

Criterion (x): Biological diversity and threatened species.

Refer to Section 1.3.a for detail regarding the whole CFRPA property.

14.3.b Proposed Statement of Outstanding Universal Value

Refer to Section 1.3.b.

14.3.c Comparative analysis (including state of conservation of similar properties)

Refer to Section 1.3.c.

14.3.d Integrity and/or Authenticity

The Baviaanskloof Complex is owned and managed by the State.

Refer to Section 1.3.d for information pertaining to the authenticity and integrity of the CFRPA as a whole.

14.4 STATE OF CONSERVATION AND FACTORS AFFECTING THE PROPERTY

14.4.a Present state of conservation

The primary issues facing the Baviaanskloof Complex are (in common with most regions of the CFR) invasive alien species; disturbance by wildfire and disruption of fire regimes; and, global climate change.

Refer also to Section 1.1.4 for details of the State of conservation of the inscribed CFRPA.

14.4.b Factors affecting the property

World Heritage Site status places the inscribed Baviaanskloof (and thus also the extended nomination) in a special category in terms of the Protected Areas Act (refer to section 1.5.b(ii)). As such the area receives special attention from all three management authorities in terms of a newly established and dedicated management authority.

14.4.b(i) Development pressures

There are currently no development pressures.

14.4.b(ii) Environmental Pressures

An invasive alien management strategy and a fire management plan have recently been completed for Groendal Nature Reserve and are in operation. A comprehensive fire management plan is being implemented for the Baviaanskloof complex together with an invasive alien clearing programme that is being implemented by Gamtoos Irrigation Board under the auspices of the National Department of Water Affairs. All data are held by the Eastern Cape Parks and Tourism Agency.

14.4.b(iii) Natural disasters and risk preparedness

Natural disasters include flooding and wildfire. In order to reduce the incidence of wildfire in the Groendal area, a Fire Protection Association has been established. A formal Memorandum of Agreement is in place with Working on Fire (refer to section 1.5.g(iv)) to provide assistance to Groendal Nature Reserve and the Fire Protection Association.

14.4.b(iv) Visitor / Tourism pressures

The Groendal Nature Reserve Strategic Management Plan (Appendix 5) covers visitor and tourism pressures, facilities and requirements in detail. One of the objectives of the Strategic Management Plan is to "*manage visitor and user activities to reduce the environmental impacts of such activities*".

14.4.b(v) Number of inhabitants

Groendal Nature Reserve is inhabited only by reserve staff.

14.5 PROTECTION AND MANAGEMENT OF THE BAVIAANSKLOOF COMPLEX

Refer to section 1.5 for detailed information of the protection and management of the inscribed CFRPA and the nomination extension.

14.5.a Ownership

Baviaanskloof Complex (extended) is wholly owned by the State. Refer to section 1.5a.

The designation of all components of the Groendal Nature Reserve is as a Provincial Nature Reserve (refer to section 1.5a).

14.5.b Protective designation

Groendal Nature Reserve is a declared Provincial Nature Reserve in terms of the Cape Nature Conservation Ordinance, 19 of 1974.

14.5.c Means of implementing protective measures

Refer to section 1.5.c.

14.5.d Existing plans related to municipality and region in which the Baviaanskloof Complex is located

Eastern Cape Parks and Tourism Agency ensure their active engagement and input into plans (such as the Integrated Development Plans and Strategic Development Frameworks) for the Nelson Mandela Bay Metro and Cacadu District Municipality where they relate to, or might impact upon, the Baviaanskloof Complex.

14.5.e Property management plan or other management system

The Protected Areas Act (Section 1.5.b(ii)) requires the Eastern Cape Parks and Tourism Agency to adopt a coherent spatial planning system in all Provincial Nature Reserves.

Baviaanskloof and Groendal Nature Reserve have a completed Strategic Management Plan for the Baviaanskloof Cluster (revised 2009).

The Strategic Management Plan for the Baviaanskloof Cluster (Appendix 5), which incorporates and directs the management of the entire Baviaanskloof Complex (extended), includes eight Key Result Areas (KRA), with associated management goals and objectives. These KRAs are:

KRA 1: RESERVE PLANNING AND EXPANSION
Goal: To ensure that the planning and expansion of the Cluster maintains and enhances the integrity of its ecological, cultural and scenic resources; promotes its financial sustainability; and is integrated and coordinated with the development and planning of the surrounding areas.

KRA 2: BIODIVERSITY AND HERITAGE RESOURCES
Goal: To promote the long-term conservation, rehabilitation and restoration of the biodiversity, scenic, and heritage features of the Cluster, and to minimize operational impacts on the environment.

KRA 3: STAKEHOLDER INVOLVEMENT
Goal: To establish and nurture co-operative, collaborative and mutually beneficial relationships with stakeholders to ensure the long-term sustainability of the Cluster.

KRA 4: INFRASTRUCTURE AND EQUIPMENT
Goal: To ensure the provision, installation, development, and maintenance of adequate and appropriate infrastructure and equipment that supports effective conservation management and the provision of visitor facilities and services in the Cluster.

KRA 5: VISITOR SERVICES AND FACILITIES
Goal: To effectively market, provide, and maintain a unique experience and good service and facilities to all users of, and visitors to, the Cluster.

KRA 6: RESERVE ADMINISTRATION
Goal: To develop the administrative capacity, human resources, and financial resources to support the implementation of the Cluster's strategic management plan and to meet the required legal responsibilities.

KRA 7: KNOWLEDGE MANAGEMENT
Goal: To ensure that relevant scientific research and monitoring guides the improving management of the Cluster, and results in information that is readily accessible to managers and relevant stakeholders.

KRA 8: EDUCATION, INTERPRETATION AND AWARENESS
Goal: To develop education, interpretation and awareness programs, facilities and services to improve reserve visitors, users and staff awareness about the ECPB, the Reserve and conservation in general.

This Strategic Management Plan documents and tabulates goals, objectives, budgets, performance areas and performance measures as well as indicators for each activity for each KRA including invasive alien species management; human activities; and the integrity of its ecological, cultural and scenic resources.

Reserve managers of each reserve take full responsibility for the implementation of, and reporting on, the Strategic Management Plan, while the Regional Manager is directly responsible for strategic oversight of its implementation.

A copy of the Baviaanskloof Cluster Strategic Management Plan is included in Appendix 5.

14.5.f Sources and levels of finance

In order to optimise capacity and funding limitations and opportunities, the Regional Manager, Reserve Management and Directorate of Scientific Services together prioritise achievable activities, focusing on the Strategic Management Plan's "Key Result Area" objectives. The Baviaanskloof budget for the current financial year is ZAR 7,500,000 (including Human Resources costs) and the operational budget is ZAR 1.1 Million.

Refer to section 1.5.f for information on the sources and levels of finance for the CFRPA.

14.5.g Sources of expertise and training in conservation and management techniques

Supporting Directorates, notably Scientific Services, Tourism and Finance from the Eastern Cape Parks and Tourism Agency provide direct professional, technical and administrative support in the implementation of the Strategic Management Plan under the strategic guidance of the reserve managers and regional manager.

Refer to section 1.5.g for a summary of the various sources of expertise and training which are available from provincial and national authorities as well as other organizations and institutions.

14.5.h Visitor facilities and statistics

A World Heritage Site Interpretive Centre (funded by the Department of Environmental Affairs and Tourism) was launched in Baviaanskloof in December 2007. The centre, which overlooks the Cambria Valley, forms part of the Baviaanskloof Mega Reserve and was built to showcase the natural and cultural history and diversity of the Baviaanskloof.

Groendal hosts six campsites, with a maximum of six persons allowed per campsite. There are also overnight hikes which include the Upper and Lower Blindekloof Trails (3-2 and 16 km respectively) both limited to a maximum of 12 persons daily. Figure 14.5.1 shows the location of all accommodation available to visitors within Baviaanskloof.

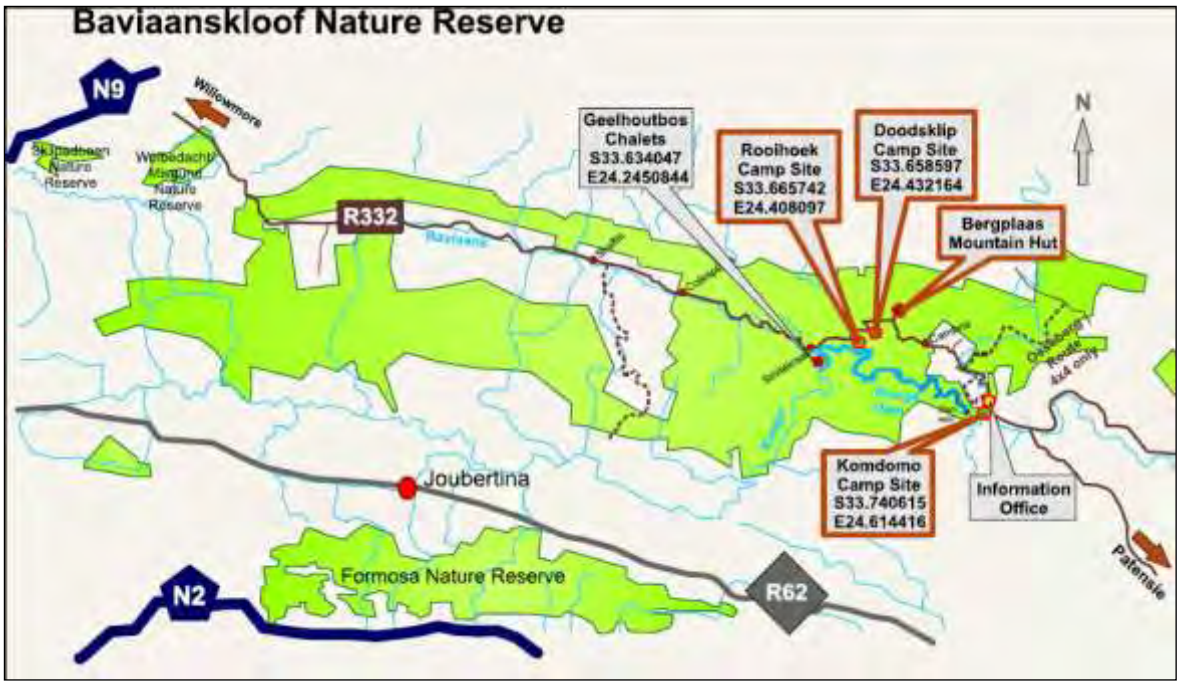

Figure 14.5.1 Accommodation available in the Baviaanskloof .ecparks.co.za/parks-reserves/baviaanskloof/map-baviaanskloof

Please refer to Section 1.5.h for information on accessing visitor statistics for the Eastern Cape Parks and Tourism Agency and to Appendix 1 for information on the inscribed Baviaanskloof CFRPA component.

14.5.i Policies and programmes related to the presentation and promotion of the property

The World Heritage Site Interpretive Centre (refer to section 14.5.h) and the Baviaanskloof Mega-Reserve Project have done a great deal to promote the Baviaanskloof Complex in particular and the CFRPA in general.

Please refer to Section 1.5.i for further information on policies and programmes related to the presentation and promotion of the property.

14.5.j Staffing levels (professional, technical, maintenance)

Baviaanskloof Complex presently employs 78 staff and 475 support staff.

Please refer to Section 1.5.j for information on staffing levels for the Eastern Cape Parks and Tourism Agency.

14.6 MONITORING

The Birds in Reserves project (birp.adu.org.za/) contributes to monitoring in the Groendal Nature Reserve.

Please refer to section 1.1.6 for further information on monitoring of the property.

14.6.a Key indicators for measuring state of conservation

Please refer to Section 1.1.6.a for a list of key indicators for measuring the state of conservation in Eastern Cape Parks and Tourism Agency reserves.

14.6.b Administrative arrangements for monitoring property

The inscribed Baviaanskloof and Groendal Nature Reserve are presently the full responsibility of the Eastern Cape Parks and Tourism Agency.

Please refer to Section 1.6.b for the details pertaining to the relevant authority.

14.6.c Results of previous reporting exercises

One of the objectives of the Groendal Nature Reserve's Strategic Management Plan Key Result Areas (KRA) is to "*develop and maintain targeted collection of baseline data and focussed monitoring of components of Groendal Nature Reserve's biodiversity*". All data relating to vegetation and wildlife management, fire management, etc. are thus maintained by the Eastern Cape Parks and Tourism Agency and monitored regularly in order to inform adaptive management practices and processes.

For example, vegetation monitoring programs are maintained as a decision-support tool for the ongoing assessment of the biodiversity status of Groendal Nature Reserve and Baviaanskloof.

Refer to section 1.6.c for information on the CFRPA as a whole.

14.7 DOCUMENTATION

14.7.a Photographs, slides, image inventory and authorization table and other audiovisual materials

Refer to section 1.7.a.

14.7.b Texts relating to protective designation, copies of property management plans or documented management systems and extracts of other plans relevant to the property

Please refer to section 1.7.b and Appendix 5 for information on property management plans. Refer to section 1.5 and Appendix 4 for information relating to protective designation.

14.7.c Form and date of most recent records or inventory of property

The 2009 revision of the Strategic Management Plan is the most recent version of the Groendal Nature Reserves management records.

All management information, inventories and plans are iteratively updated and records of species of flora and fauna, alien management, fire management, etc. are readily available from the Eastern Cape Parks and Tourism Agency.

14.7.d Address where inventory, records and archives are held

Please refer to section 1.7.d for addresses and contact details for the relevant Eastern Cape authorities.

14.7.e Reference list

Boshoff A. 2008. The Baviaanskloof Mega Reserve: From concept to implementation. Centre for African Conservation Ecology, Nelson Mandela Metropolitan University, Port Elizabeth. *ACE Report* No. 58.

Bradshaw, P. and Holness S. 2013. *Fynbos World Heritage Site Assessments*. Internal report compiled for comparative analysis of sites appropriate for the Extension Nomination of the Cape Floral Region Protected Areas World Heritage Site. Revised.

CHAPTER 15: DE HOOP NATURE RESERVE

15.1 IDENTIFICATION OF THE PROPERTY

De Hoop Nature Reserve falls wholly within the Western Cape Province. The conservation agency to which management is currently delegated, is CapeNature.

Since no changes are proposed for this component, the information pertinent to the De Hoop Nature Reserve may all be found in Chapter 1 and in the Nomination (DEAT 2003: Appendix 1).

15.1.a Country (and State Party if different)

South Africa.

15.1.b State, Province or Region

Western Cape Province, Cape Floral Region.

15.1.c Name of Property

De Hoop Nature Reserve.

De Hoop Nature Reserve is one of the eight inscribed components of the CFRPA (refer to Table 1.3.1; Section 1.2.a(i); and, Figure 10)).

15.1.d Geographical coordinates to the nearest second

Geographical co-ordinates of De Hoop Nature Reserve are provided in Table 1.

15.7.e Reference list

Haddad CR and Dippenaar-Schoeman AS. 2009. A checklist of the non-acarine arachnids (Chelicerata: Arachnida) of the De Hoop Nature Reserve, Western Cape Province, South Africa. *Koedoe* 51(1).

Appendices (refer to accompanying DVD)

Appendix 1 CFRPA Nomination 2003

Appendix 2 Topographical maps

Appendix 3 CFRPA State of Conservation reports

Appendix 4 Legislation and policy

Appendix 5 Management Plans and programmes

Appendix 6 Plans strategies and programmes

Appendix 7 Selected references

Appendix 8 Promotional material

Appendix 9 Annual and Financial Reports

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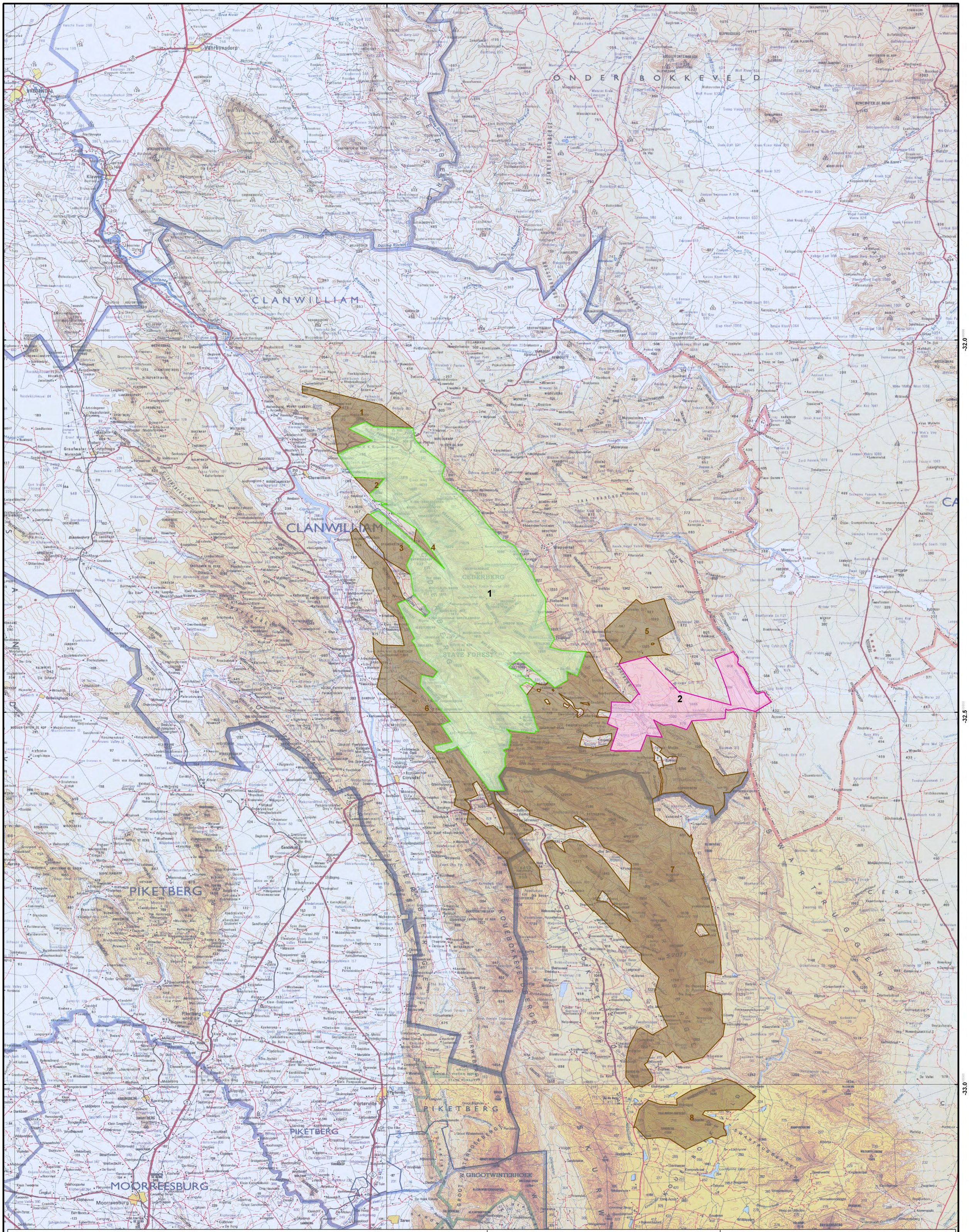

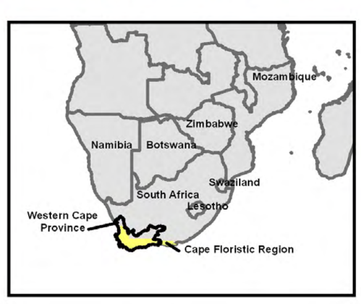

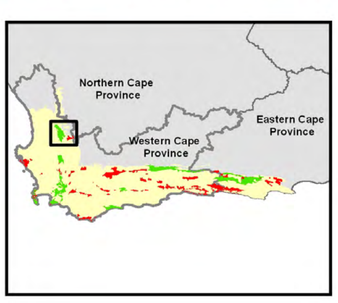

Legend

- Inscribed Property
- Proposed Extension
- Buffer Zone

N

0 3 6 12 18 Kilometers

Coordinate grid indicated in decimal degrees.

SOUTH AFRICA 1:250 000 TOPOGRAPHICAL MAPS

3118
3218 3220
3318 3319 3320 3322 3324 3326
3420

Published by the Chief Director of Surveys and Mapping

Map 2 Cederberg Complex

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South Africa
Tel: +27 21 866 8000

Project: CNC2009_606

19.00 19.50

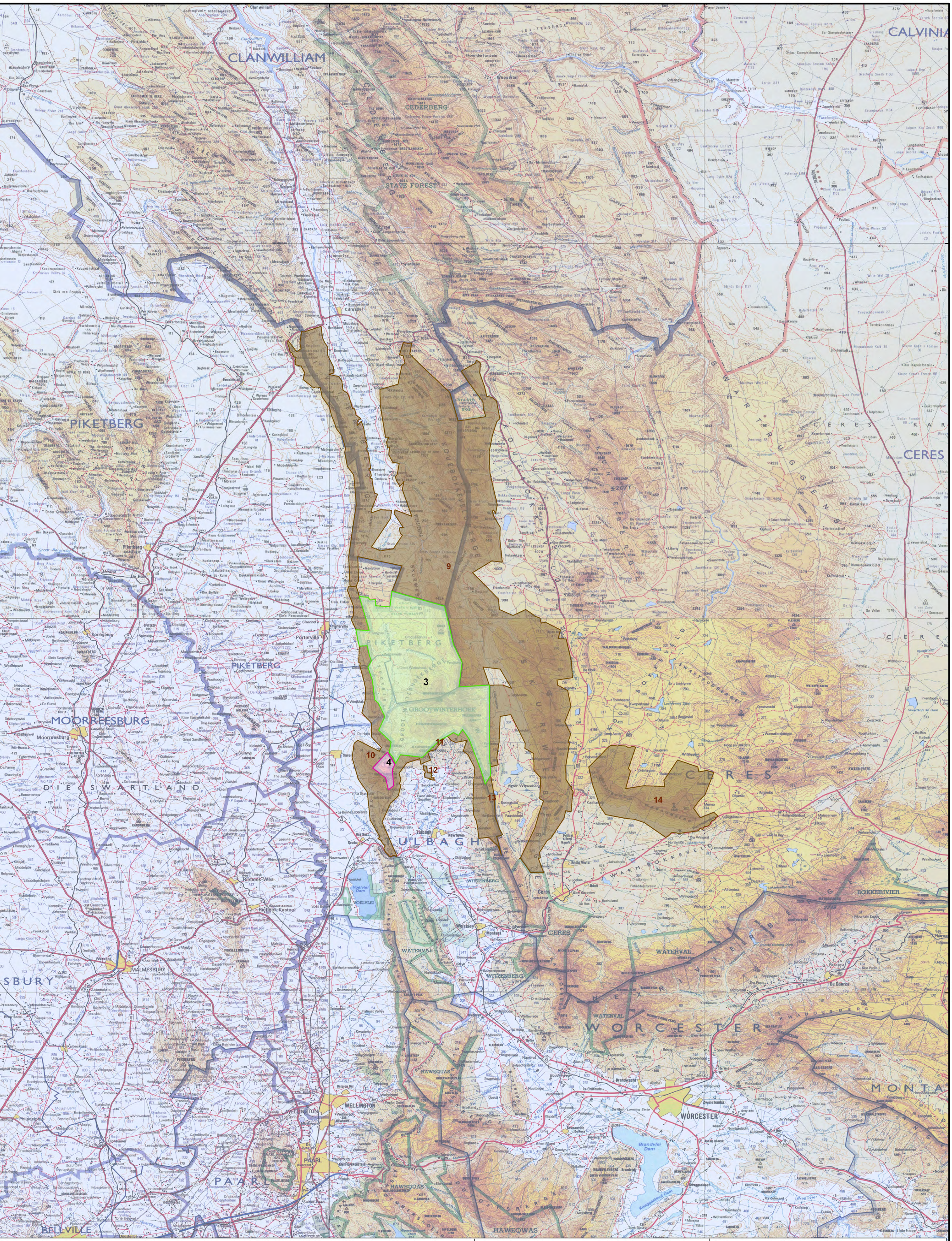
-32.5 -32.5

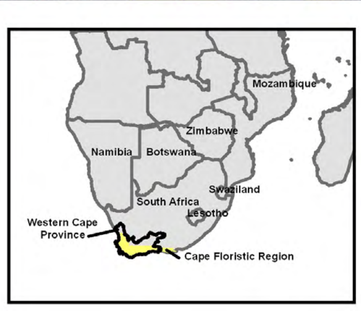
-33.0 -33.0

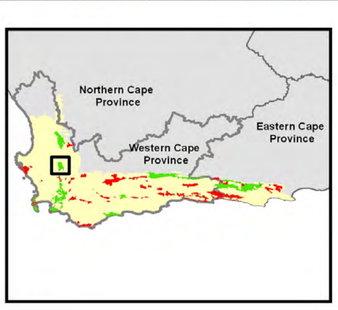
-33.5 -33.5

-34.0 -34.0

19.00 19.50







Legend

- Inscribed Property
- Proposed Extension
- Buffer Zone

N

0 3 6 12 18 Kilometers

Coordinate grid indicated in decimal degrees.

SOUTH AFRICA 1:250 000 TOPOGRAPHICAL MAPS

3118 | 3218 | 3220 | 3318 | 3319 | 3320 | 3322 | 3324 | 3326 | 3420

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Map 3 Groot Winterhoek Complex

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Map 5 Table Mountain National Park

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Project: CNC2009_606

Map 5.3A

Table Mountain National Park

Component map

Legend

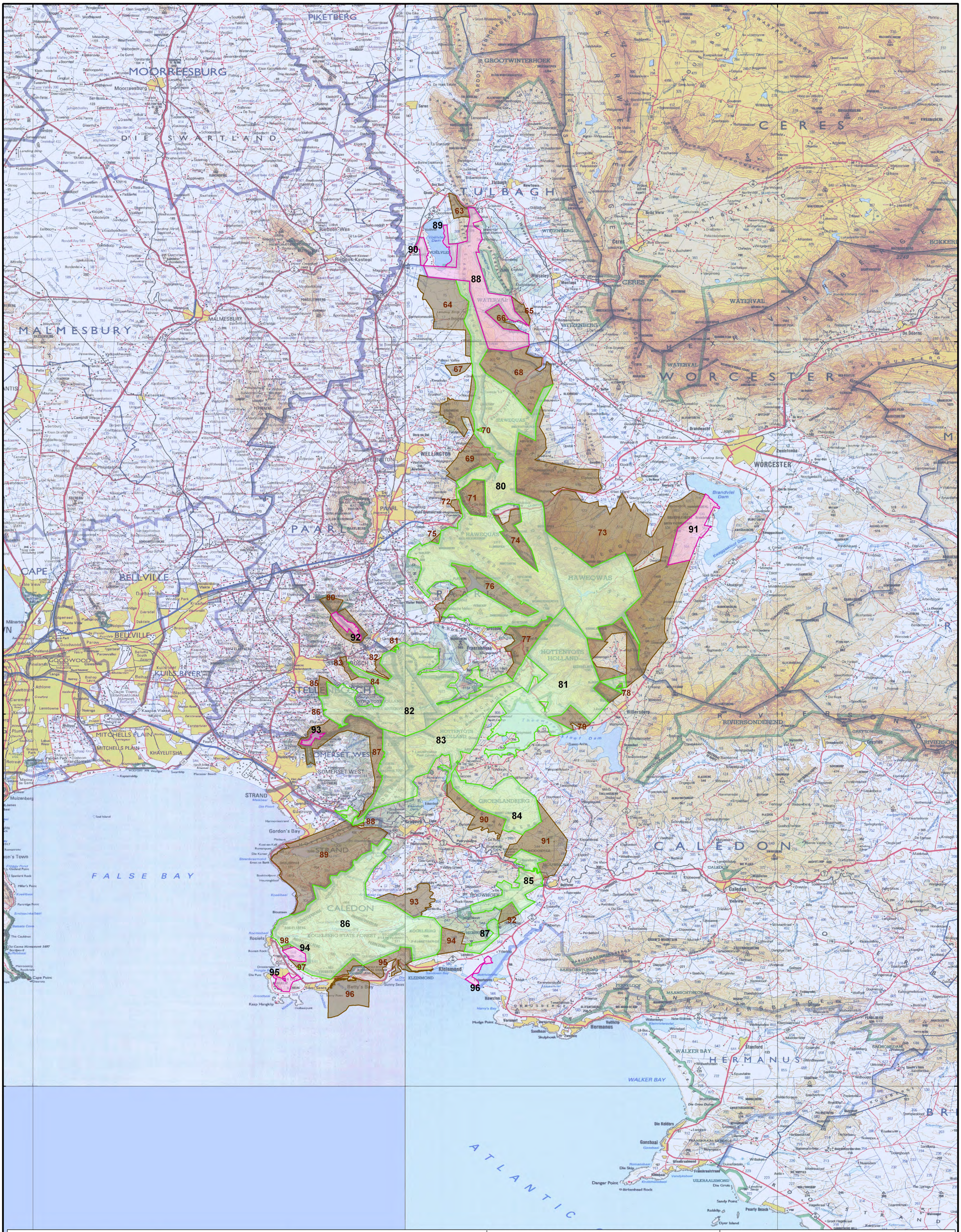
- Cadastral Boundaries
- Inscribed Property
- Proposed Extension
- Buffer Zone

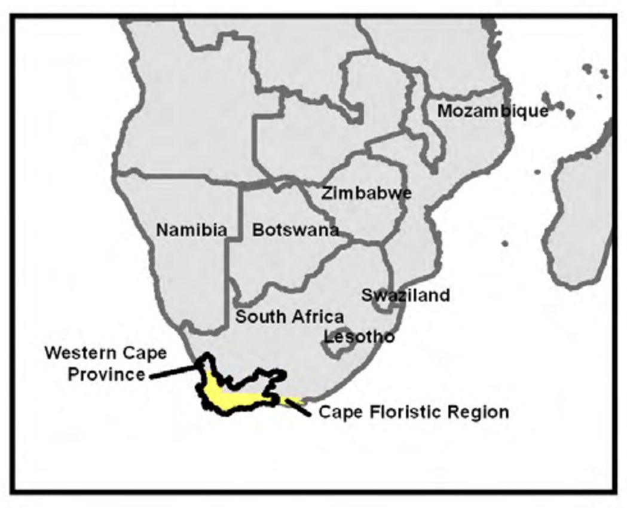
Backdrop - GoogleEarth image dated 11/02/2014, extracted from GoogleEarth and georeferenced.

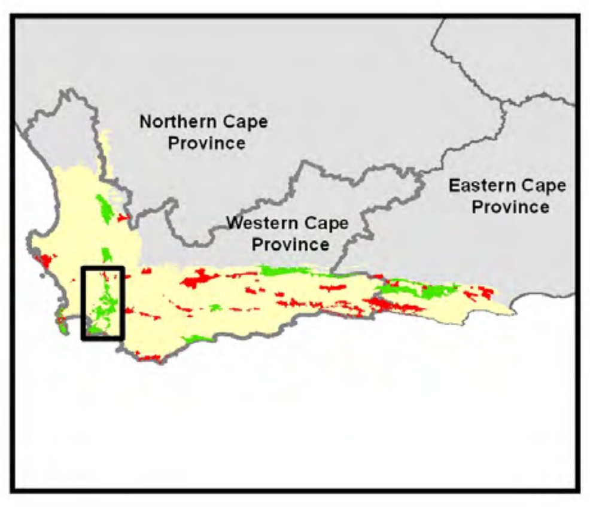
N
W E
S

0 155 310 620 930 1,240
Meters

34°2'0"S
34°3'0"S
34°4'0"S
34°5'0"S
18°23'0"E
18°24'0"E
18°25'0"E
18°26'0"E
18°27'0"E







Legend

- Inscribed Property
- Proposed Extension
- Buffer Zone

N

0 3 6 12 18 Kilometers

Coordinate grid indicated in decimal degrees.

SOUTH AFRICA 1:250 000 TOPOGRAPHICAL MAPS

3118
3218 3220
3318 3319 3320 3322 3324 3326
3420

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Map 6 Boland Mountain Complex

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South Africa
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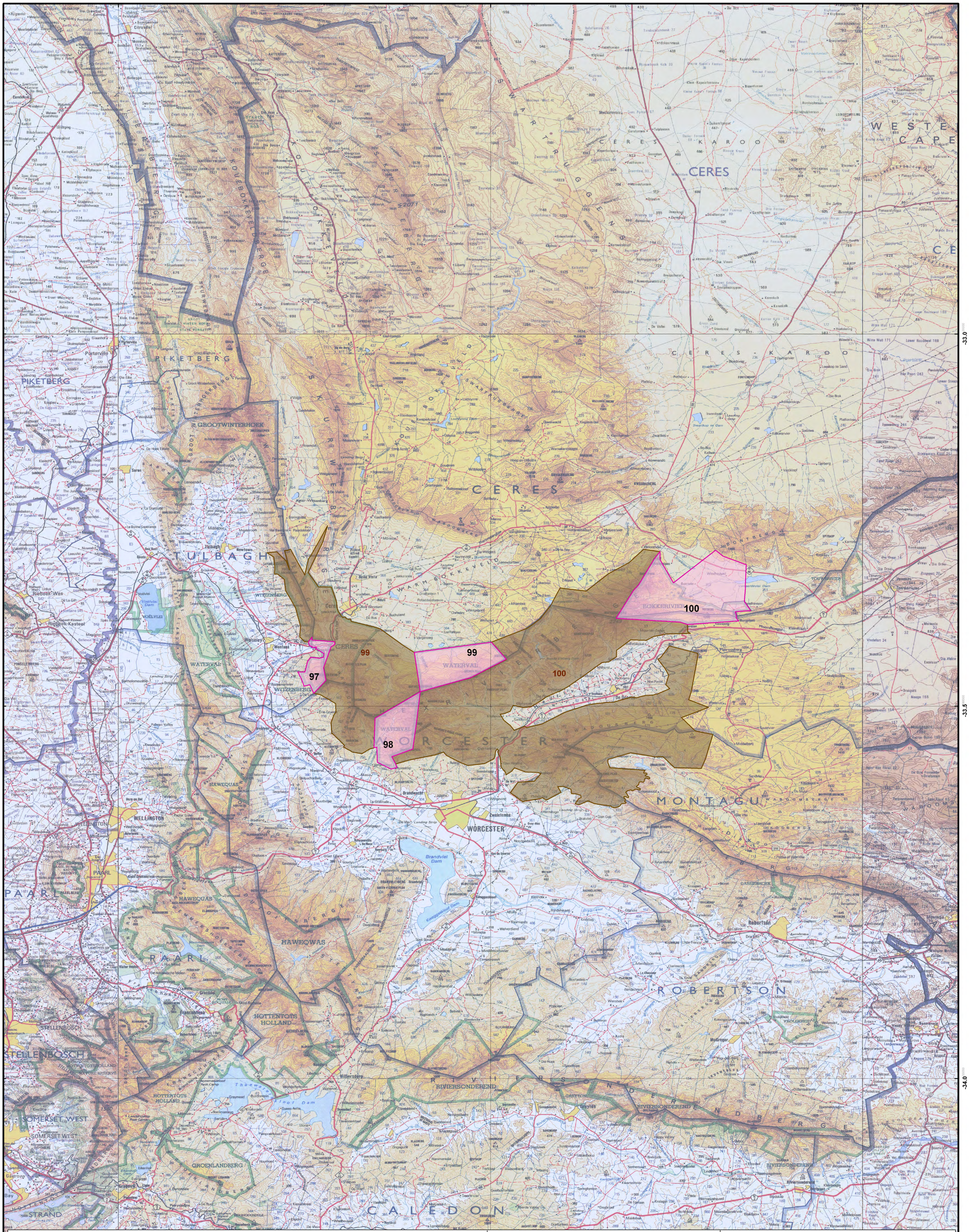
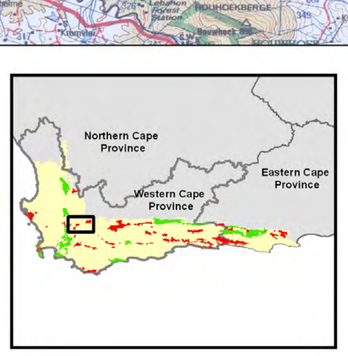
Project: CNC2009_606

19.00 | 19.50 | 20.00

-33.0 | -33.5 | -34.0





Legend

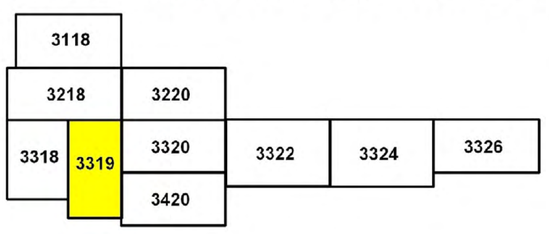
- Proposed Extension
- Buffer Zone

N

0 3 6 12 18 Kilometers

Coordinate grid indicated in decimal degrees.

SOUTH AFRICA 1:250 000 TOPOGRAPHICAL MAPS



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Map 7 Hexrivier Complex

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South Africa
Tel: +27 21 866 8000

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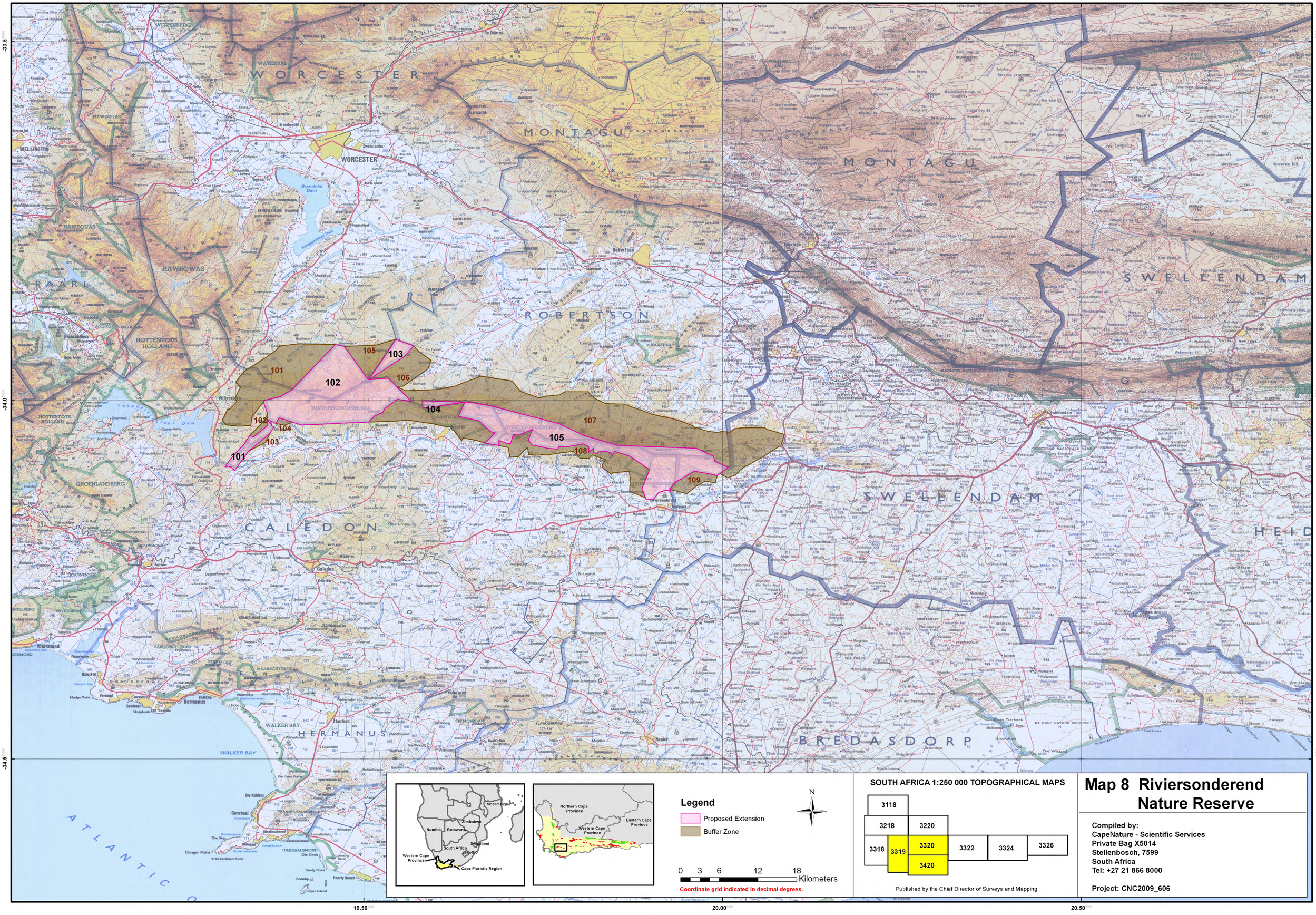
19.50 20.00 20.50

-33.5 -34.0 -34.5



Legend

- Proposed Extension
- Buffer Zone

N

0 3 6 12 18 Kilometers

Coordinate grid indicated in decimal degrees.

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Map 8 Riviersonderend Nature Reserve

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South Africa
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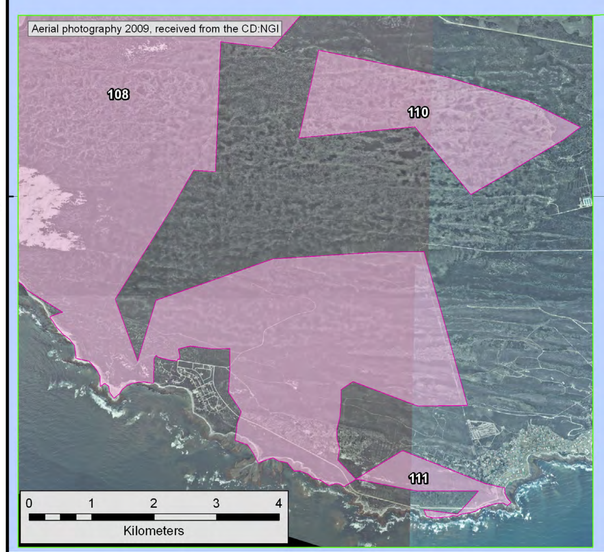
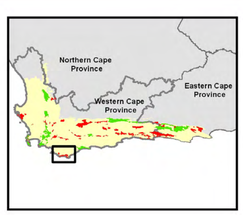
Project: CNC2009_606

19.50 20.00 20.50

-34.5 -34.5

-35.0 -35.0





Legend

Proposed Extension

No Buffer Zone

N

0 3 6 12 18
Kilometers

Coordinate grid indicated in decimal degrees.

SOUTH AFRICA 1:250 000 TOPOGRAPHICAL MAPS

3118					
3218	3220				
3318	3319	3320	3322	3324	3326
		3420			

Published by the Chief Director of Surveys and Mapping

Map 9 Agulhas Complex

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20.00 20.50 21.00 21.50

-34.5 -35.0

113

110

Legend

Inscribed Property

Buffer Zone

N

0 3 6 12 18 Kilometers

Coordinate grid indicated in decimal degrees.

SOUTH AFRICA 1:250 000 TOPOGRAPHICAL MAPS

3118
3218 3220
3318 3319 3320 3322 3324 3326
3420

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Map 10 De Hoop Nature Reserve

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Map 11 Langeberg Complex

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Aerial photography 2009, received from the CD:NGI

Aerial photography 2009, received from the CD:NGI

Aerial photography 2009, received from the CD:NGI

Aerial photography 2009, received from the CD:NGI

Kilometers

Legend

- Inscribed Property
- Proposed Extension
- Buffer Zone

Coordinate grid indicated in decimal degrees.

SOUTH AFRICA 1:250 000 TOPOGRAPHICAL MAPS

3118 | 3218 | 3220 | 3318 | 3319 | 3320 | 3322 | 3324 | 3326 | 3420

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Map 11.1

Langeberg Complex

Component map

Legend

- Cadastral Boundaries
- Inscribed Property
- Proposed Extension
- Buffer Zone

118

34°2'0"S
34°4'0"S
34°6'0"S
20°26'0"E
20°28'0"E
20°30'0"E

Backdrop - Aerial photography 2009, received from the CD:NGI

N
W E
S

0 225 450 900 1,350 1,800
Meters

Map 11.2

Langeberg Complex

Component map

Legend

- Cadastral Boundaries
- Inscribed Property
- Proposed Extension
- Buffer Zone

Backdrop - Aerial photography 2009, received from the CD:NGI

114

120

113

33°59'0"S

34°0'0"S

20°48'0"E

20°49'0"E

20°50'0"E

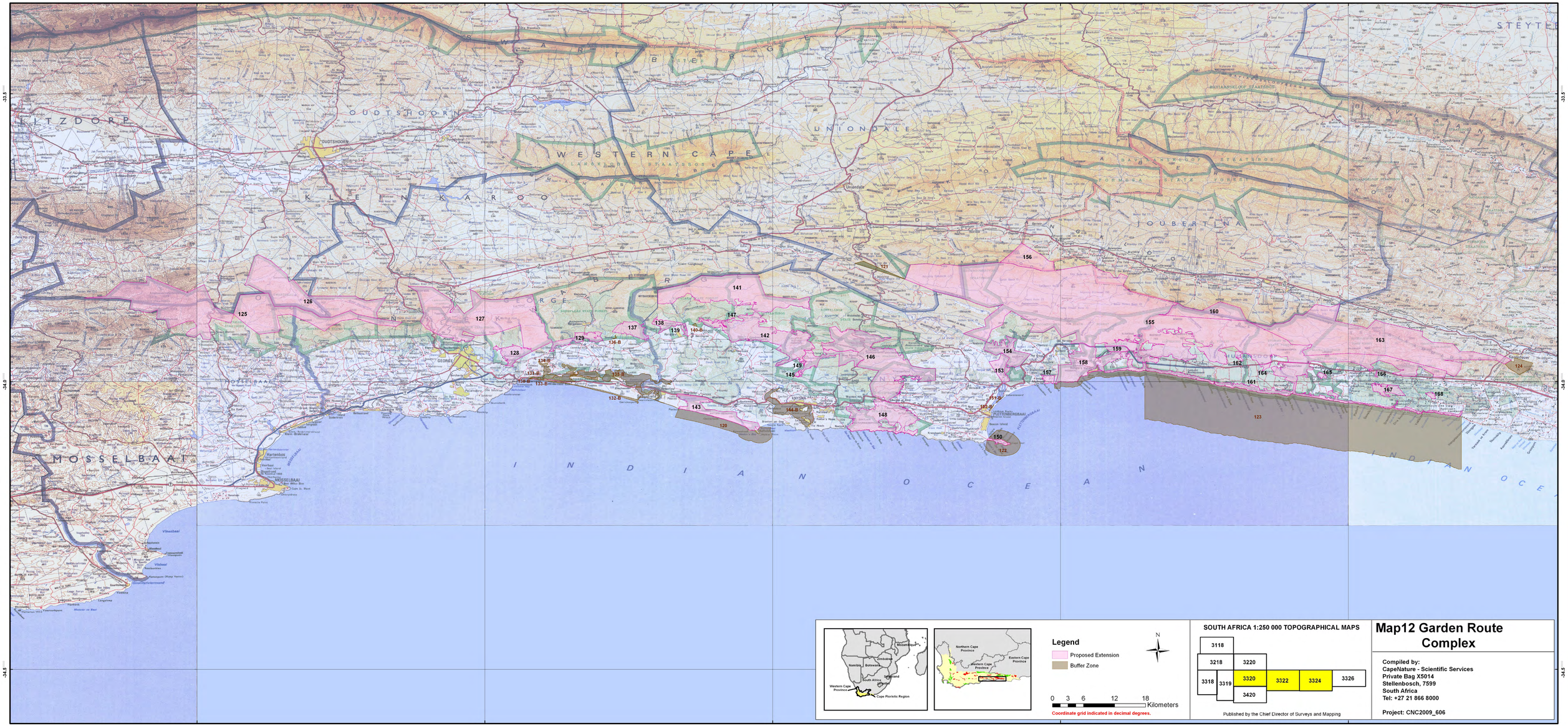
N

W E

S

0 95 190 380 570 760

Meters



Map12 Garden Route Complex

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South Africa
Tel: +27 21 866 8000

Project: CNC2009_606

20.50 21.00

-33.0 -33.5 -34.0 -34.5

CAPE

CERES

LAINGSBURG

MONTAGU

SWELLENDAM

HEIDELBERG

LADISMITH

169

125

Legend

Proposed Extension

Buffer Zone

Buffer Zone area formally listed as part of Swartberg Complex

N

0 2.5 5 10 15 Kilometers

Coordinate grid indicated in decimal degrees.

SOUTH AFRICA 1:250 000 TOPOGRAPHICAL MAPS

3118					
3218		3220			
3318	3319	3320	3322	3324	3326
		3420			

Published by the Chief Director of Surveys and Mapping

Map 13 Anysberg Nature Reserve

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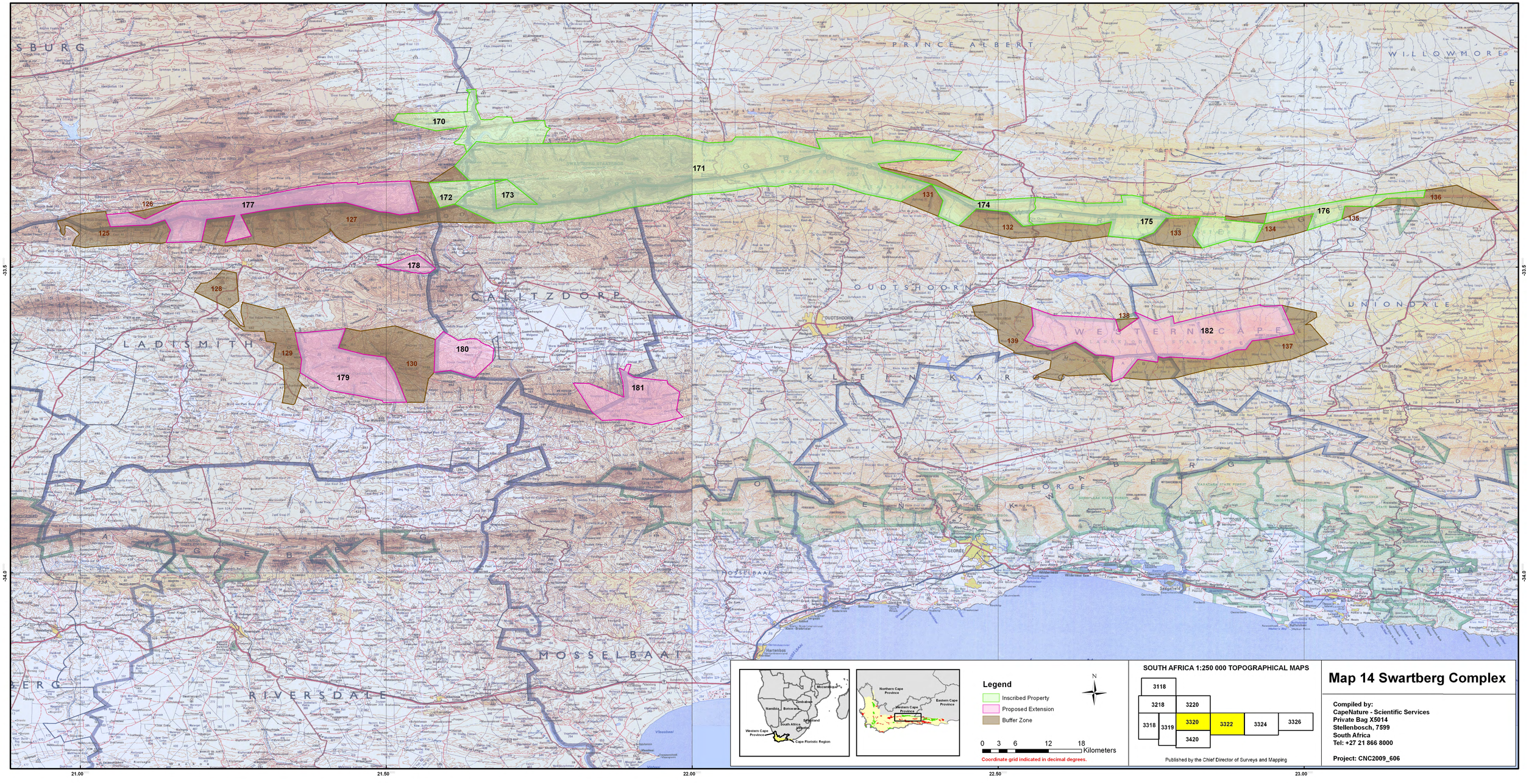

Map 14 Swartberg Complex

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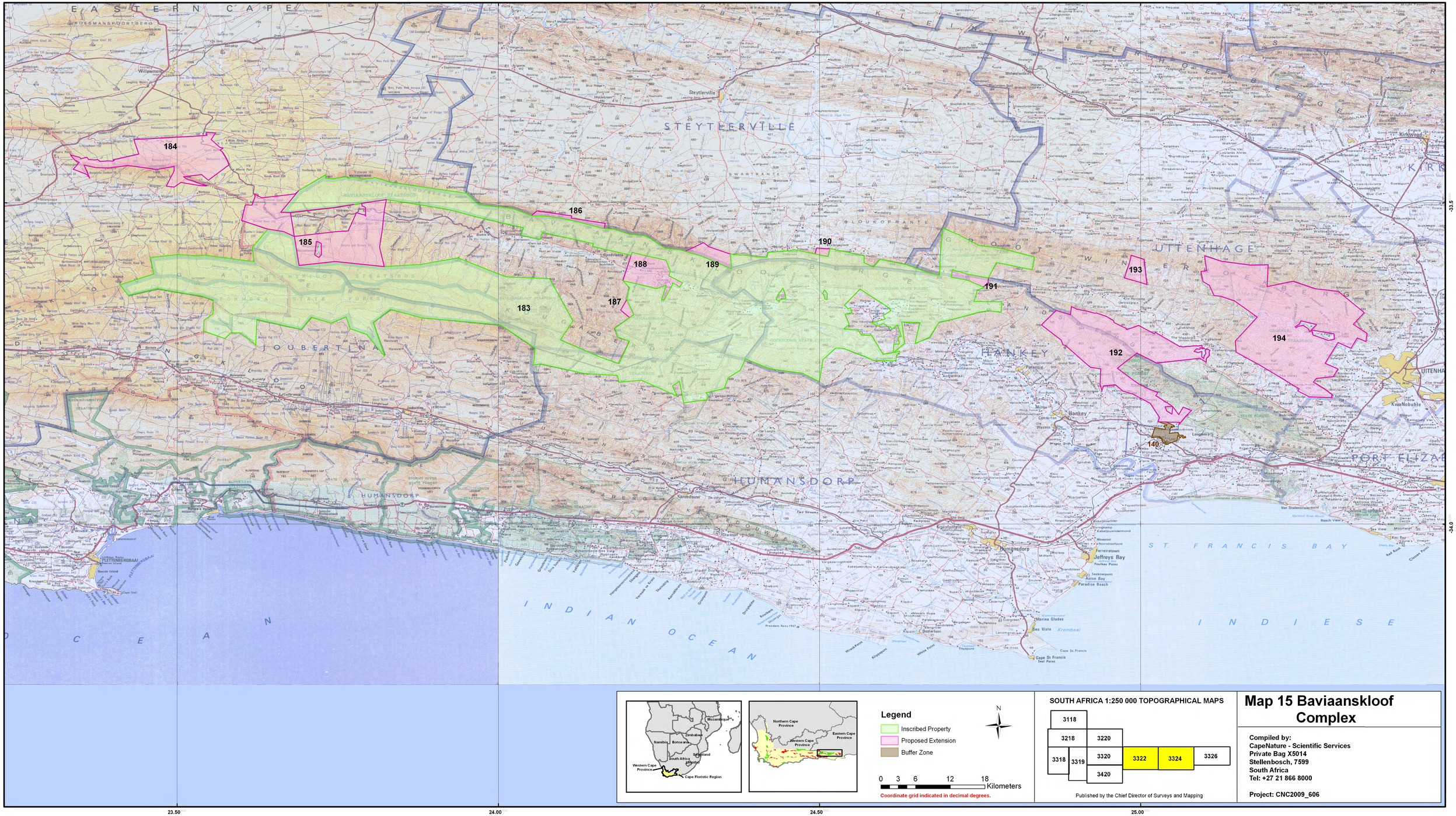
South Africa
Tel: +27 21 866 8000

Project: CNC2009_606



Legend

- Inscribed Property
- Proposed Extension
- Buffer Zone

SOUTH AFRICA 1:250 000 TOPOGRAPHICAL MAPS

3118 | 3218 | 3220 | 3318 | 3319 | 3320 | 3322 | 3324 | 3326 | 3420

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Map 15 Baviaanskloof Complex

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South Africa
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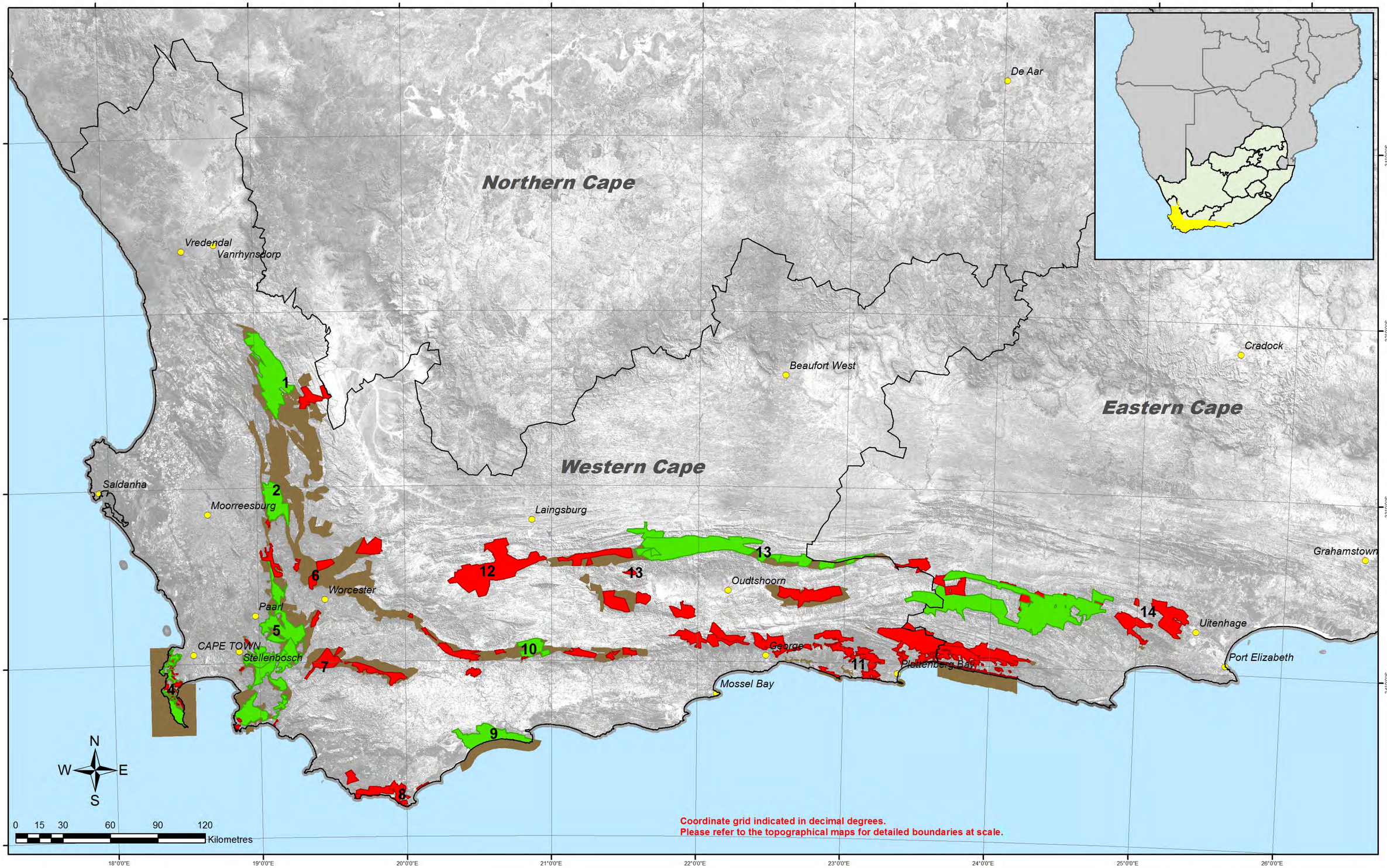
Figure 1 World Heritage Sites - Inscribed and Extension Nomination



Legend

- Major Towns
- Buffer Zone

WHS Status

- Inscribed Property
- Proposed Extension

1 Cederberg Complex
2 Groot Winterhoek Complex
4 Table Mountain National Park
5 Boland Mountain Complex
6 Hexrivier Complex
7 Riviersonderend Nature Reserve
8 Agulhas Complex
9 De Hoop Nature Reserve
10 Langeberg Complex
11 Garden Route Complex
12 Anysberg Nature Reserve
13 Swartberg Complex
14 Baviaanskloof Complex

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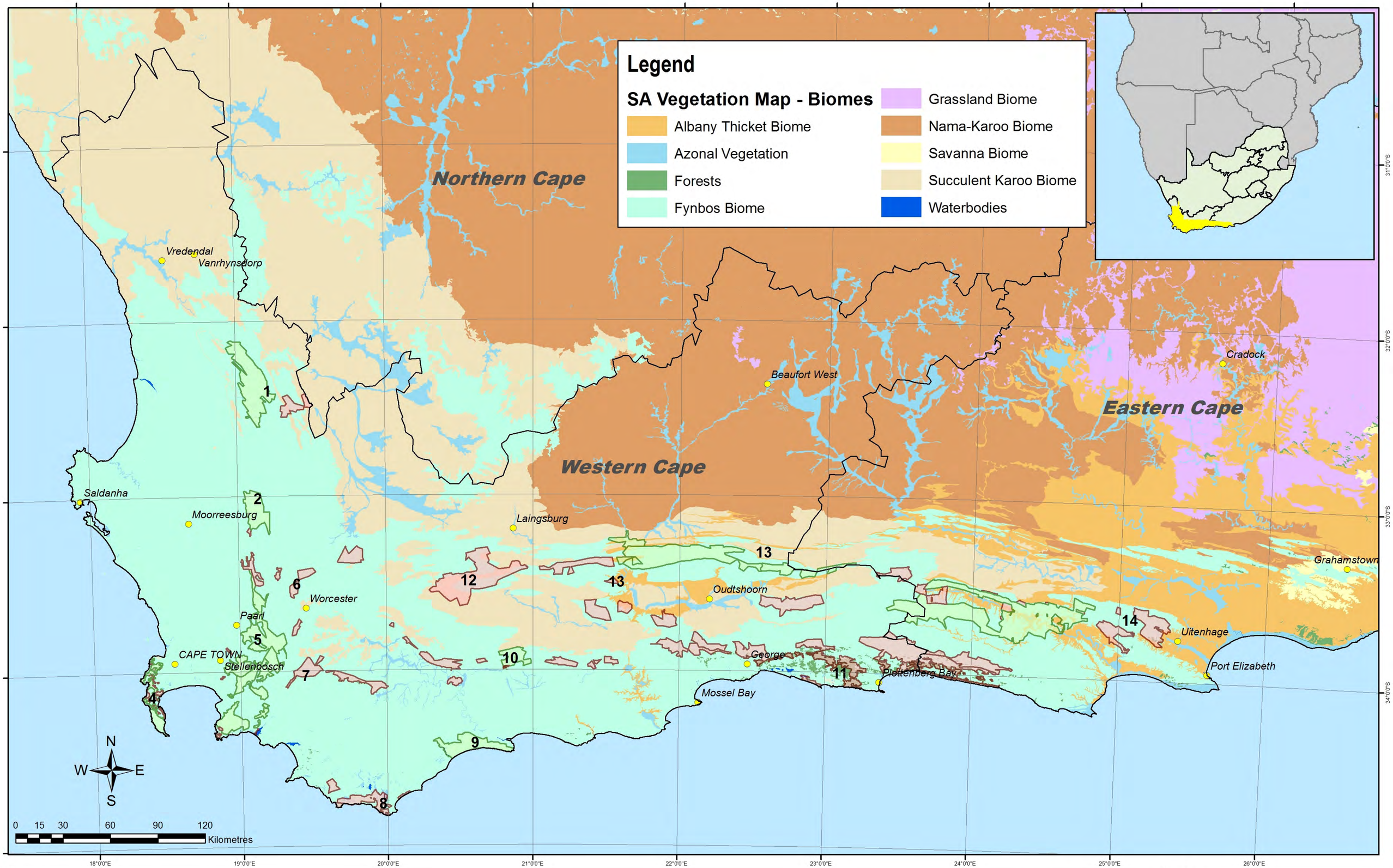
South Africa
Tel: +27 21 866 8000

Project: CNC2009_606

Figure 1.2.1 Biomes of South Africa



Legend

- Inscribed Property
- Proposed Extension
- Major Towns

1 Cederberg Complex
2 Groot Winterhoek Complex
4 Table Mountain National Park
5 Boland Mountain Complex
6 Hexrivier Complex
7 Riviersonderend Nature Reserve
8 Agulhas Complex
9 De Hoop Nature Reserve
10 Langeberg Complex
11 Garden Route Complex
12 Anysberg Nature Reserve
13 Swartberg Complex
14 Baviaanskloof Complex

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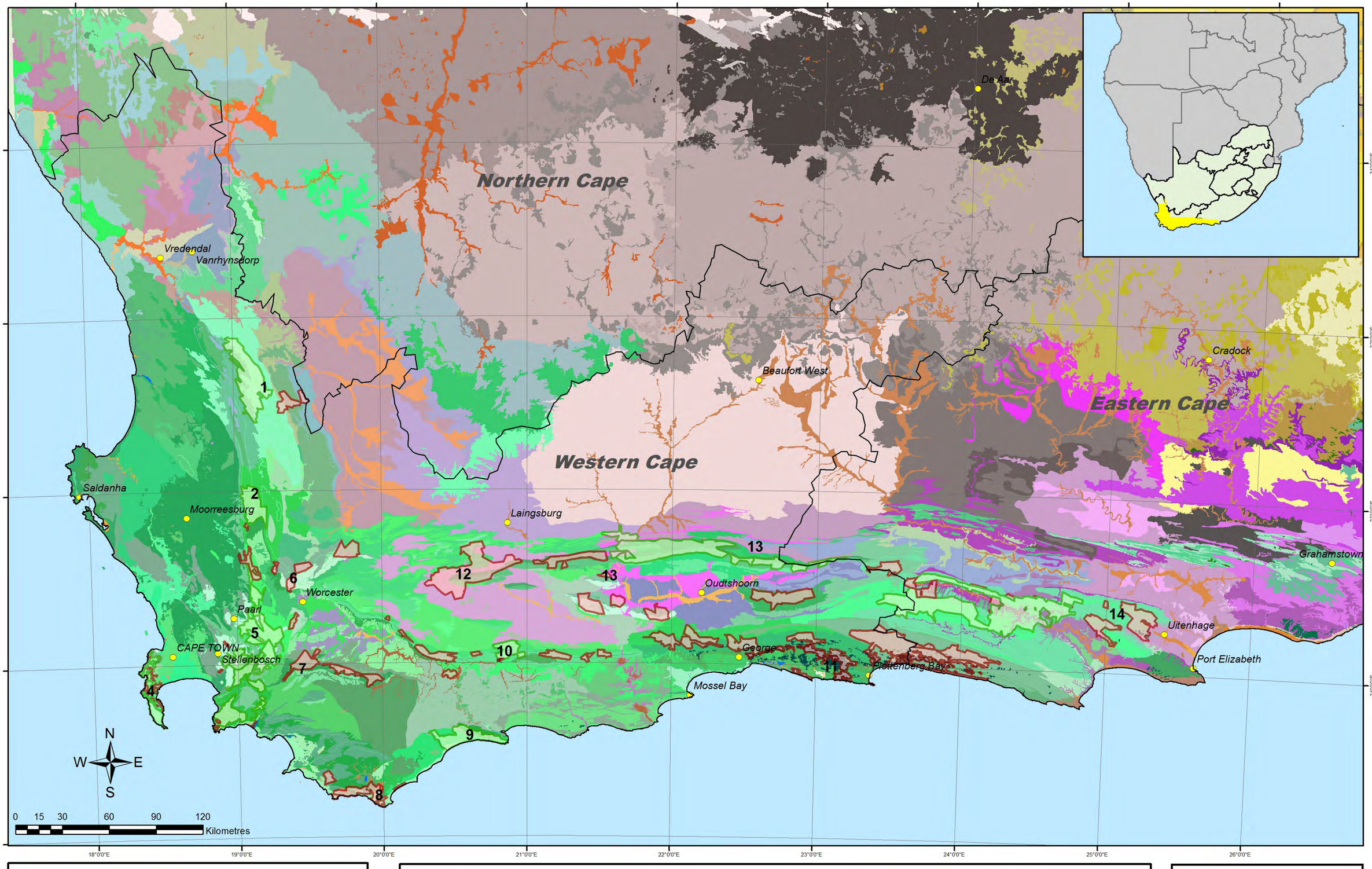
Figure 1.2.2a Vegetation of South Africa



Legend

- Inscribed Property
- Proposed Extension
- Major Towns

1 Cederberg Complex
2 Groot Winterhoek Complex
4 Table Mountain National Park
5 Boland Mountain Complex
6 Hexrivier Complex
7 Riviersonderend Nature Reserve
8 Agulhas Complex
9 De Hoop Nature Reserve
10 Langeberg Complex
11 Garden Route Complex
12 Anysberg Nature Reserve
13 Swartberg Complex
14 Baviaanskloof Complex

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South Africa
Tel: +27 21 866 8000

Project: CNC2009_606

1.2.2b Vegetation of South Africa - Legend

Legend

- Albany Thicket Biome - Albany Coastal Belt
- Albany Thicket Biome - Camdebo Escarpment Thicket
- Albany Thicket Biome - Coega Bontveld
- Albany Thicket Biome - Eastern Cape Escarpment Thicket
- Albany Thicket Biome - Gamka Thicket
- Albany Thicket Biome - Gamtoos Thicket
- Albany Thicket Biome - Great Fish Noorsveld
- Albany Thicket Biome - Great Fish Thicket
- Albany Thicket Biome - Groot Thicket
- Albany Thicket Biome - Kowie Thicket
- Albany Thicket Biome - Southern Cape Valley Thicket
- Albany Thicket Biome - Sundays Noorsveld
- Albany Thicket Biome - Sundays Thicket
- Azonal Vegetation - Albany Alluvial Vegetation
- Azonal Vegetation - Albany Dune Strandveld
- Azonal Vegetation - Algoa Dune Strandveld
- Azonal Vegetation - Arid Estuarine Salt Marshes
- Azonal Vegetation - Bushmanland Vloere
- Azonal Vegetation - Cape Estuarine Salt Marshes
- Azonal Vegetation - Cape Inland Salt Pans
- Azonal Vegetation - Cape Lowland Alluvial Vegetation
- Azonal Vegetation - Cape Lowland Freshwater Wetlands
- Azonal Vegetation - Cape Seashore Vegetation
- Azonal Vegetation - Cape Vernal Pools
- Azonal Vegetation - Eastern Temperate Freshwater Wetlands
- Azonal Vegetation - Fynbos Riparian Vegetation
- Azonal Vegetation - Highveld Salt Pans
- Azonal Vegetation - Muscadel Riviere
- Azonal Vegetation - Namaqualand Riviere
- Azonal Vegetation - Namaqualand Salt Pans
- Azonal Vegetation - Namaqualand Seashore Vegetation
- Azonal Vegetation - Southern Karoo Riviere
- Azonal Vegetation - Tanqua Wash Riviere
- Azonal Vegetation - Upper Gariep Alluvial Vegetation
- Forests - Southern Afrotemperate Forest
- Forests - Southern Coastal Forest
- Forests - Southern Mistbelt Forest
- Fynbos Biome - Agulhas Limestone Fynbos
- Fynbos Biome - Agulhas Sand Fynbos
- Fynbos Biome - Albertinia Sand Fynbos
- Fynbos Biome - Algoa Sandstone Fynbos
- Fynbos Biome - Atlantis Sand Fynbos
- Fynbos Biome - Baviaanskloof Shale Renosterveld
- Fynbos Biome - Blombos Strandveld
- Fynbos Biome - Bokkeveld Sandstone Fynbos
- Fynbos Biome - Boland Granite Fynbos
- Fynbos Biome - Breede Alluvium Fynbos
- Fynbos Biome - Breede Alluvium Renosterveld
- Fynbos Biome - Breede Quartzite Fynbos
- Fynbos Biome - Breede Sand Fynbos
- Fynbos Biome - Breede Shale Fynbos
- Fynbos Biome - Breede Shale Renosterveld
- Fynbos Biome - Canca Limestone Fynbos
- Fynbos Biome - Cape Flats Dune Strandveld
- Fynbos Biome - Cape Flats Sand Fynbos
- Fynbos Biome - Cape Winelands Shale Fynbos
- Fynbos Biome - Cederberg Sandstone Fynbos
- Fynbos Biome - Central Coastal Shale Band Vegetation
- Fynbos Biome - Central Inland Shale Band Vegetation
- Fynbos Biome - Central Mountain Shale Renosterveld
- Fynbos Biome - Central Rûens Shale Renosterveld
- Fynbos Biome - Ceres Shale Renosterveld
- Fynbos Biome - De Hoop Limestone Fynbos
- Fynbos Biome - Eastern Coastal Shale Band Vegetation
- Fynbos Biome - Eastern Inland Shale Band Vegetation
- Fynbos Biome - Eastern Rûens Shale Renosterveld
- Fynbos Biome - Elgin Shale Fynbos
- Fynbos Biome - Elim Ferricrete Fynbos
- Fynbos Biome - Garden Route Granite Fynbos
- Fynbos Biome - Garden Route Shale Fynbos
- Fynbos Biome - Graafwater Sandstone Fynbos
- Fynbos Biome - Greyton Shale Fynbos
- Fynbos Biome - Groot Brak Dune Strandveld
- Fynbos Biome - Grootrivier Quartzite Fynbos
- Fynbos Biome - Hangklip Sand Fynbos
- Fynbos Biome - Hantam Plateau Dolerite Renosterveld
- Fynbos Biome - Hawequas Sandstone Fynbos
- Fynbos Biome - Hopefield Sand Fynbos
- Fynbos Biome - Humansdorp Shale Renosterveld
- Fynbos Biome - Kamiesberg Granite Fynbos
- Fynbos Biome - Kango Conglomerate Fynbos
- Fynbos Biome - Kango Limestone Renosterveld
- Fynbos Biome - Knysna Sand Fynbos
- Fynbos Biome - Kogelberg Sandstone Fynbos
- Fynbos Biome - Kouebokkeveld Alluvium Fynbos
- Fynbos Biome - Kouebokkeveld Shale Fynbos
- Fynbos Biome - Kouga Grassy Sandstone Fynbos
- Fynbos Biome - Kouga Sandstone Fynbos
- Fynbos Biome - Lambert's Bay Strandveld
- Fynbos Biome - Langebaan Dune Strandveld
- Fynbos Biome - Langkloof Shale Renosterveld
- Fynbos Biome - Leipoldtville Sand Fynbos
- Fynbos Biome - Loerie Conglomerate Fynbos
- Fynbos Biome - Lourensford Alluvium Fynbos
- Fynbos Biome - Matjiesfontein Quartzite Fynbos
- Fynbos Biome - Matjiesfontein Shale Fynbos
- Fynbos Biome - Matjiesfontein Shale Renosterveld
- Fynbos Biome - Montagu Shale Fynbos
- Fynbos Biome - Montagu Shale Renosterveld
- Fynbos Biome - Mossel Bay Shale Renosterveld
- Fynbos Biome - Namaqualand Granite Renosterveld
- Fynbos Biome - Namaqualand Sand Fynbos
- Fynbos Biome - Nieuwoudtville Shale Renosterveld
- Fynbos Biome - Nieuwoudtville-Roggeveld Dolerite Renosterveld
- Fynbos Biome - North Hex Sandstone Fynbos
- Fynbos Biome - North Kammanassie Sandstone Fynbos
- Fynbos Biome - North Langeberg Sandstone Fynbos
- Fynbos Biome - North Outeniqua Sandstone Fynbos
- Fynbos Biome - North Rooiberg Sandstone Fynbos
- Fynbos Biome - North Sonderend Sandstone Fynbos
- Fynbos Biome - North Swartberg Sandstone Fynbos
- Fynbos Biome - Northern Inland Shale Band Vegetation
- Fynbos Biome - Olifants Sandstone Fynbos
- Fynbos Biome - Overberg Dune Strandveld
- Fynbos Biome - Overberg Sandstone Fynbos
- Fynbos Biome - Peninsula Granite Fynbos
- Fynbos Biome - Peninsula Sandstone Fynbos
- Fynbos Biome - Peninsula Shale Renosterveld
- Fynbos Biome - Piketberg Sandstone Fynbos
- Fynbos Biome - Potberg Ferricrete Fynbos
- Fynbos Biome - Potberg Sandstone Fynbos
- Fynbos Biome - Robertson Granite Fynbos
- Fynbos Biome - Robertson Granite Renosterveld
- Fynbos Biome - Roggeveld Shale Renosterveld
- Fynbos Biome - Rûens Silcrete Renosterveld
- Fynbos Biome - Saldanha Flats Strandveld
- Fynbos Biome - Saldanha Granite Strandveld
- Fynbos Biome - Saldanha Limestone Strandveld
- Fynbos Biome - South Hex Sandstone Fynbos
- Fynbos Biome - South Kammanassie Sandstone Fynbos
- Fynbos Biome - South Langeberg Sandstone Fynbos
- Fynbos Biome - South Outeniqua Sandstone Fynbos
- Fynbos Biome - South Rooiberg Sandstone Fynbos
- Fynbos Biome - South Sonderend Sandstone Fynbos
- Fynbos Biome - South Swartberg Sandstone Fynbos
- Fynbos Biome - Southern Cape Dune Fynbos
- Fynbos Biome - Suurberg Quartzite Fynbos
- Fynbos Biome - Suurberg Shale Fynbos
- Fynbos Biome - Swartberg Altimontane Sandstone Fynbos
- Fynbos Biome - Swartberg Shale Fynbos
- Fynbos Biome - Swartberg Shale Renosterveld
- Fynbos Biome - Swartland Alluvium Fynbos
- Fynbos Biome - Swartland Alluvium Renosterveld
- Fynbos Biome - Swartland Granite Renosterveld
- Fynbos Biome - Swartland Shale Renosterveld
- Fynbos Biome - Swartland Silcrete Renosterveld
- Fynbos Biome - Swartruggens Quartzite Fynbos
- Fynbos Biome - Swellendam Silcrete Fynbos
- Fynbos Biome - Tsitsikamma Sandstone Fynbos
- Fynbos Biome - Uniondale Shale Renosterveld
- Fynbos Biome - Vanrhynsdorp Shale Renosterveld
- Fynbos Biome - Western Altimontane Sandstone Fynbos
- Fynbos Biome - Western Coastal Shale Band Vegetation
- Fynbos Biome - Western Rûens Shale Renosterveld
- Fynbos Biome - Winterhoek Sandstone Fynbos
- Grassland Biome - Aliwal North Dry Grassland
- Grassland Biome - Amathole Mistbelt Grassland
- Grassland Biome - Amathole Montane Grassland
- Grassland Biome - Bedford Dry Grassland
- Grassland Biome - Besemkaree Koppies Shrubland
- Grassland Biome - Karoo Escarpment Grassland
- Grassland Biome - Queenstown Thornveld
- Grassland Biome - Southern Drakensberg Highland Grassland
- Grassland Biome - Stormberg Plateau Grassland
- Grassland Biome - Tarkastad Montane Shrubland
- Grassland Biome - Tsomo Grassland
- Grassland Biome - Xhariep Karroid Grassland
- Nama-Karoo Biome - Albany Broken Veld
- Nama-Karoo Biome - Bushmanland Arid Grassland
- Nama-Karoo Biome - Bushmanland Basin Shrubland
- Nama-Karoo Biome - Bushmanland Sandy Grassland
- Nama-Karoo Biome - Eastern Lower Karoo
- Nama-Karoo Biome - Eastern Upper Karoo
- Nama-Karoo Biome - Gamka Karoo
- Nama-Karoo Biome - Lower Karoo Gwarrieveld
- Nama-Karoo Biome - Northern Upper Karoo
- Nama-Karoo Biome - Upper Karoo Hardeveld
- Nama-Karoo Biome - Western Upper Karoo
- Savanna Biome - Bhisho Thornveld
- Succulent Karoo Biome - Agter-Sederberg Shrubland
- Succulent Karoo Biome - Central Knersvlakte Vygieveld
- Succulent Karoo Biome - Citrusdal Vygieveld
- Succulent Karoo Biome - Doringrivier Quartzite Karoo
- Succulent Karoo Biome - Eastern Little Karoo
- Succulent Karoo Biome - Hantam Karoo
- Succulent Karoo Biome - Kamiesberg Mountains Shrubland
- Succulent Karoo Biome - Klawer Sandy Shrubland
- Succulent Karoo Biome - Knersvlakte Dolomite Vygieveld
- Succulent Karoo Biome - Knersvlakte Quartz Vygieveld
- Succulent Karoo Biome - Knersvlakte Shale Vygieveld
- Succulent Karoo Biome - Koedoesberge-Moordenaars Karoo
- Succulent Karoo Biome - Little Karoo Quartz Vygieveld
- Succulent Karoo Biome - Namaqualand Arid Grassland
- Succulent Karoo Biome - Namaqualand Blomveld
- Succulent Karoo Biome - Namaqualand Coastal Duneveld
- Succulent Karoo Biome - Namaqualand Heuweltjieveld
- Succulent Karoo Biome - Namaqualand Inland Duneveld
- Succulent Karoo Biome - Namaqualand Klipkoppe Shrubland
- Succulent Karoo Biome - Namaqualand Spinescent Grassland
- Succulent Karoo Biome - Namaqualand Strandveld
- Succulent Karoo Biome - Northern Knersvlakte Vygieveld
- Succulent Karoo Biome - Piketberg Quartz Succulent Shrubland
- Succulent Karoo Biome - Platbakkies Succulent Shrubland
- Succulent Karoo Biome - Prince Albert Succulent Karoo
- Succulent Karoo Biome - Robertson Karoo
- Succulent Karoo Biome - Roggeveld Karoo
- Succulent Karoo Biome - Steytlerville Karoo
- Succulent Karoo Biome - Swartruggens Quartzite Karoo
- Succulent Karoo Biome - Tanqua Escarpment Shrubland
- Succulent Karoo Biome - Tanqua Karoo
- Succulent Karoo Biome - Vanrhynsdorp Gannabosveld
- Succulent Karoo Biome - Western Bushmanland Klipveld
- Succulent Karoo Biome - Western Gwarrieveld
- Succulent Karoo Biome - Western Little Karoo
- Succulent Karoo Biome - Willowmore Gwarrieveld
- Waterbodies - Cape Coastal Lagoons
- Waterbodies - Freshwater Lakes

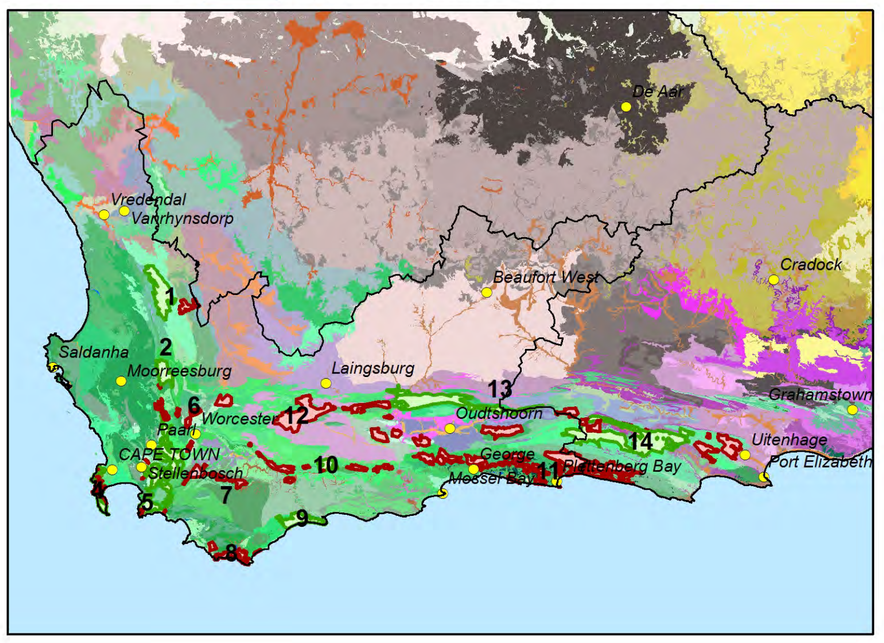
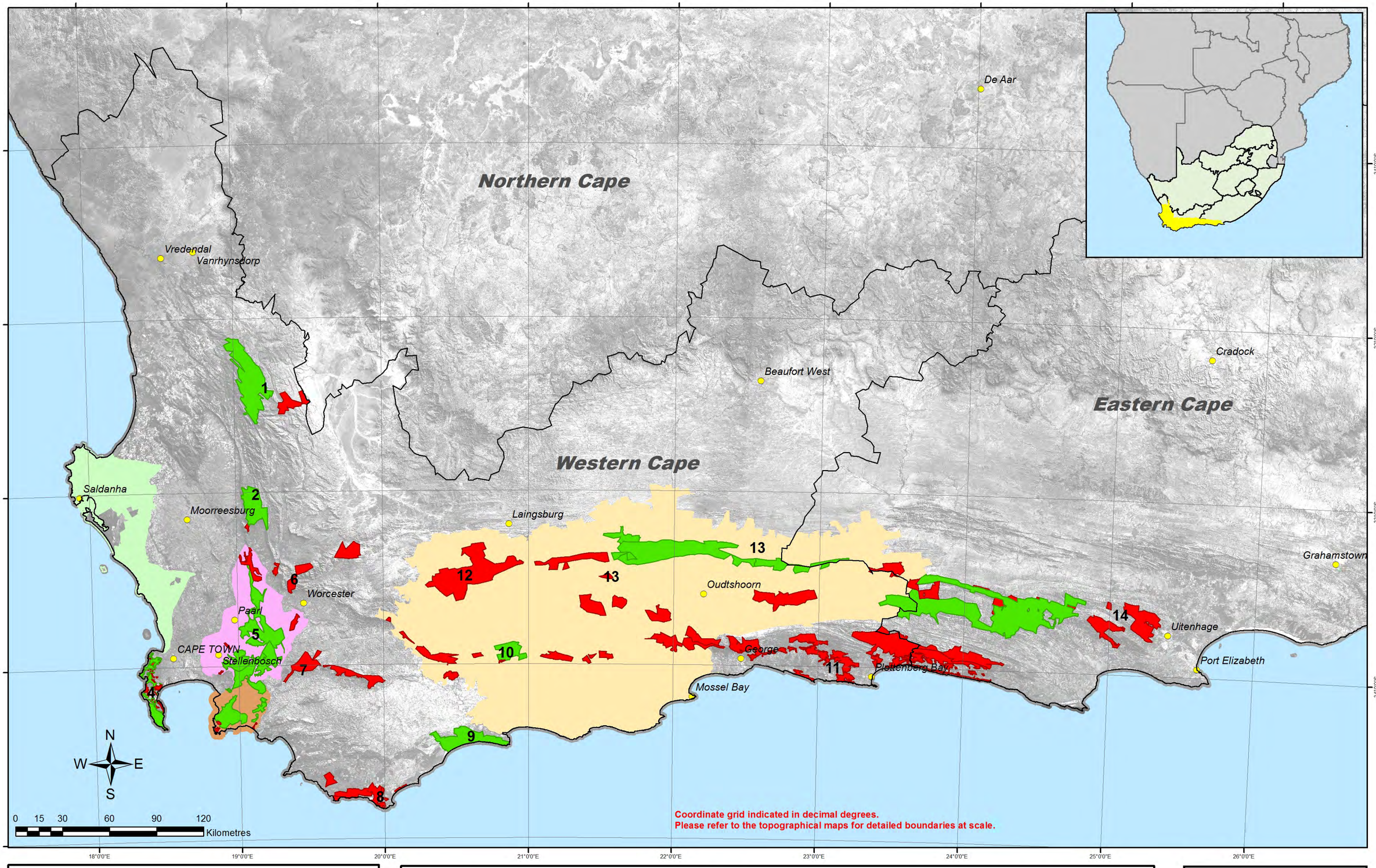


Figure 1.2.3 UNESCO Biosphere Reserves



Legend

- Major Towns

WHS Status
- Inscribed Property
- Proposed Extension

UNESCO Biosphere Reserves
- Kogelberg
- Cape West Coast
- Cape Winelands
- Gouritz Cluster

1 Cederberg Complex
2 Groot Winterhoek Complex
4 Table Mountain National Park
5 Boland Mountain Complex
6 Hexrivier Complex
7 Riviersonderend Nature Reserve
8 Agulhas Complex
9 De Hoop Nature Reserve
10 Langeberg Complex
11 Garden Route Complex
12 Anysberg Nature Reserve
13 Swartberg Complex
14 Baviaanskloof Complex

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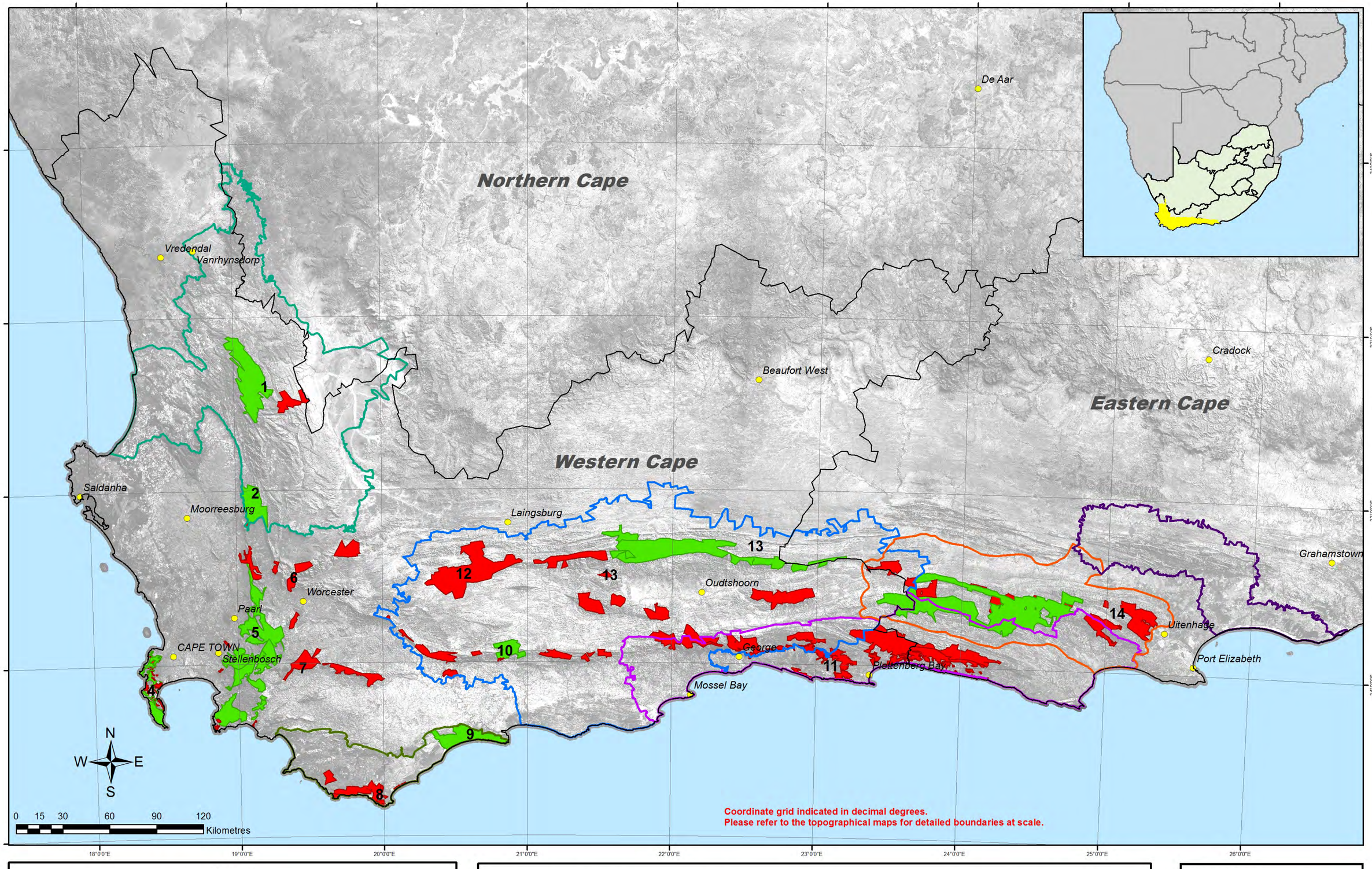
Figure 1.2.4 Landscape Initiatives



Legend

- Major Towns
- Agulhas Biodiversity Initiative
- Baviaanskloof Mega Reserve
- Garden Route Initiative
- Gouritz Initiative
- Greater Addo Planning
- Greater Cederberg Bio. Corridor

WHS Status

- Inscribed Property
- Proposed Extension

1 Cederberg Complex
2 Groot Winterhoek Complex
4 Table Mountain National Park
5 Boland Mountain Complex
6 Hexrivier Complex
7 Riviersonderend Nature Reserve
8 Agulhas Complex
9 De Hoop Nature Reserve
10 Langeberg Complex
11 Garden Route Complex
12 Anysberg Nature Reserve
13 Swartberg Complex
14 Baviaanskloof Complex

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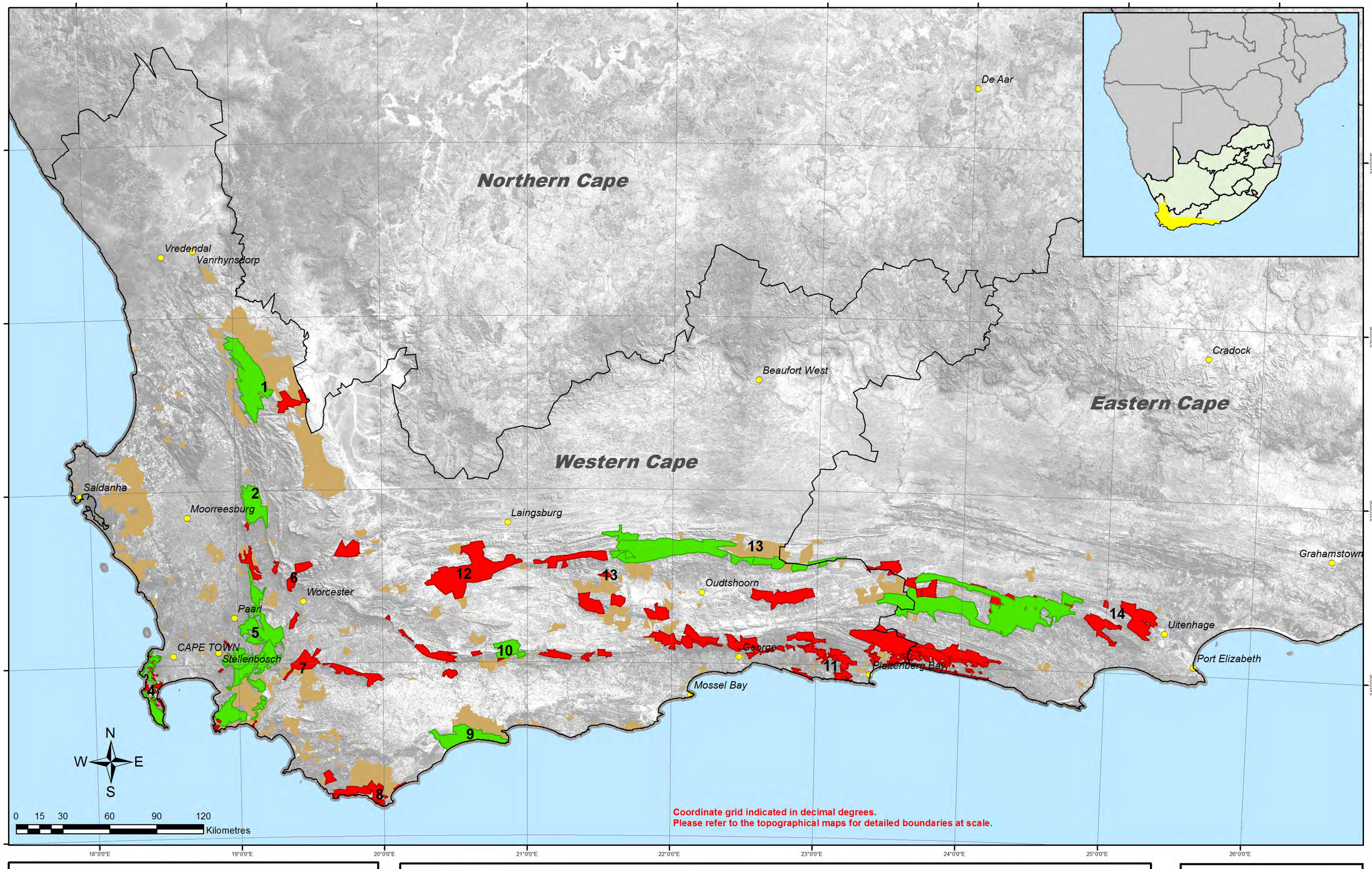
Figure 1.2.5 Areas under Stewardship Agreements



Legend

- Major Towns
- Stewardship Agreements

WHS Status

- Inscribed Property
- Proposed Extension

1 Cederberg Complex
2 Groot Winterhoek Complex
4 Table Mountain National Park
5 Boland Mountain Complex
6 Hexrivier Complex
7 Riviersonderend Nature Reserve
8 Agulhas Complex
9 De Hoop Nature Reserve
10 Langeberg Complex
11 Garden Route Complex
12 Anysberg Nature Reserve
13 Swartberg Complex
14 Baviaanskloof Complex

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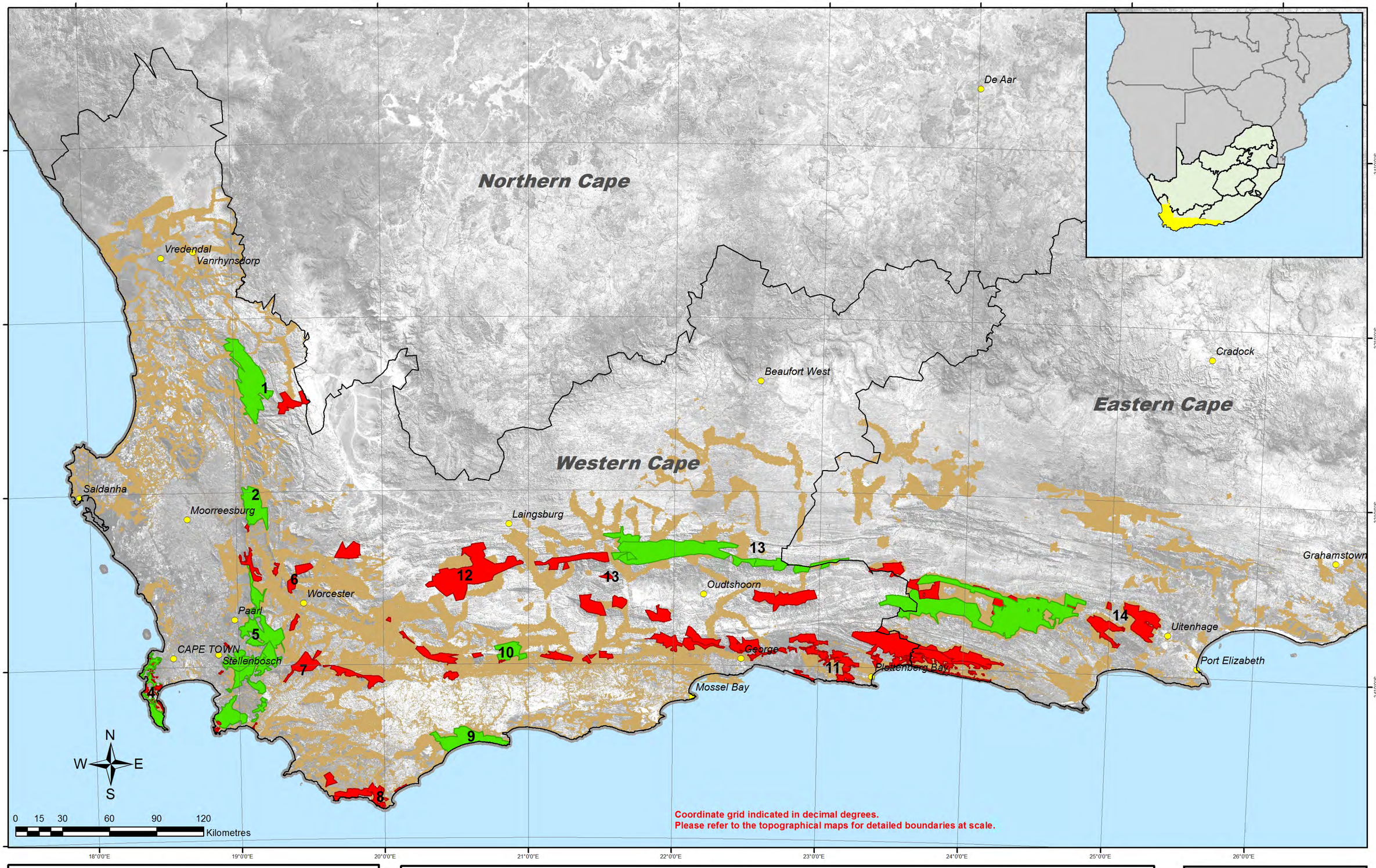
Figure 1.2.6 Critical Biodiversity Areas



Legend

- Major Towns
- Critical Biodiversity Areas

WHS Status

- Inscribed Property
- Proposed Extension

1 Cederberg Complex	6 Hexrivier Complex	11 Garden Route Complex
2 Groot Winterhoek Complex	7 Riviersonderend Nature Reserve	12 Anysberg Nature Reserve
	8 Agulhas Complex	13 Swartberg Complex
4 Table Mountain National Park	9 De Hoop Nature Reserve	14 Baviaanskloof Complex
5 Boland Mountain Complex	10 Langeberg Complex	

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Figure 2 Cederberg Complex

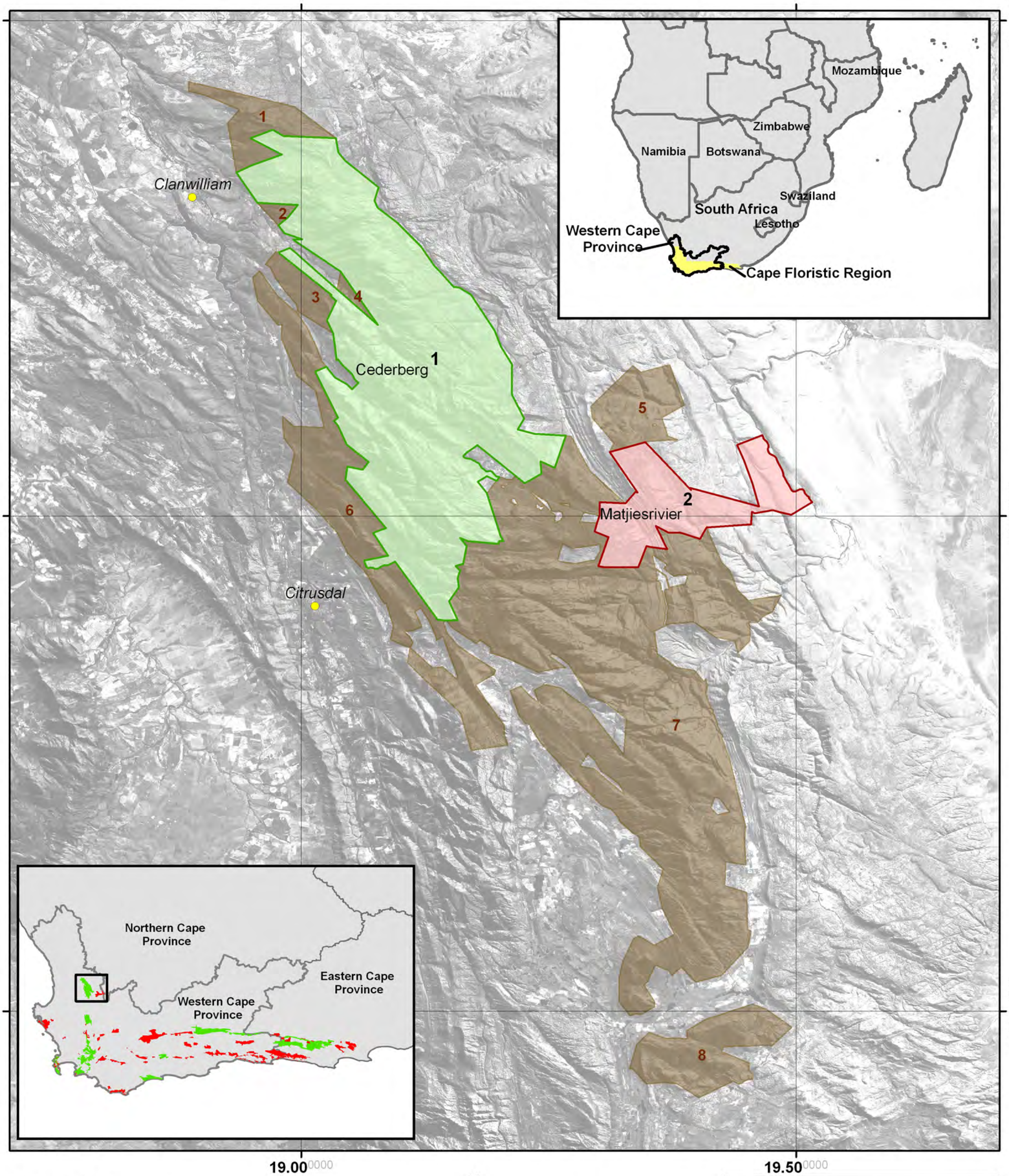
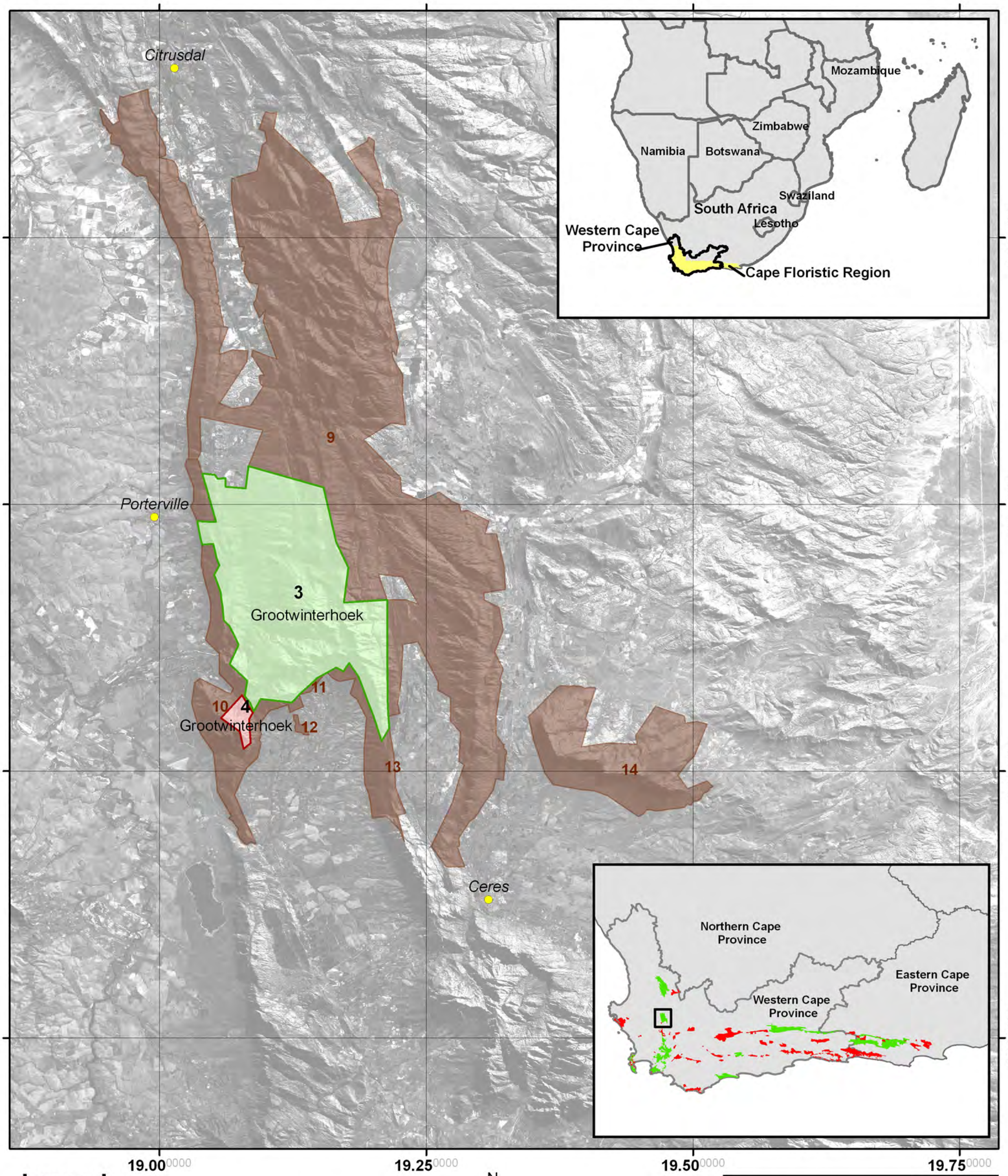


Figure 3 Groot Winterhoek Complex



Legend

- Inscribed Property
- Proposed Extension
- Buffer Zone

N
W E
S

0 4.5 9 18 27
Kilometres

Coordinate grid indicated in decimal degrees. Please refer to the topographical maps for detailed boundaries at scale.

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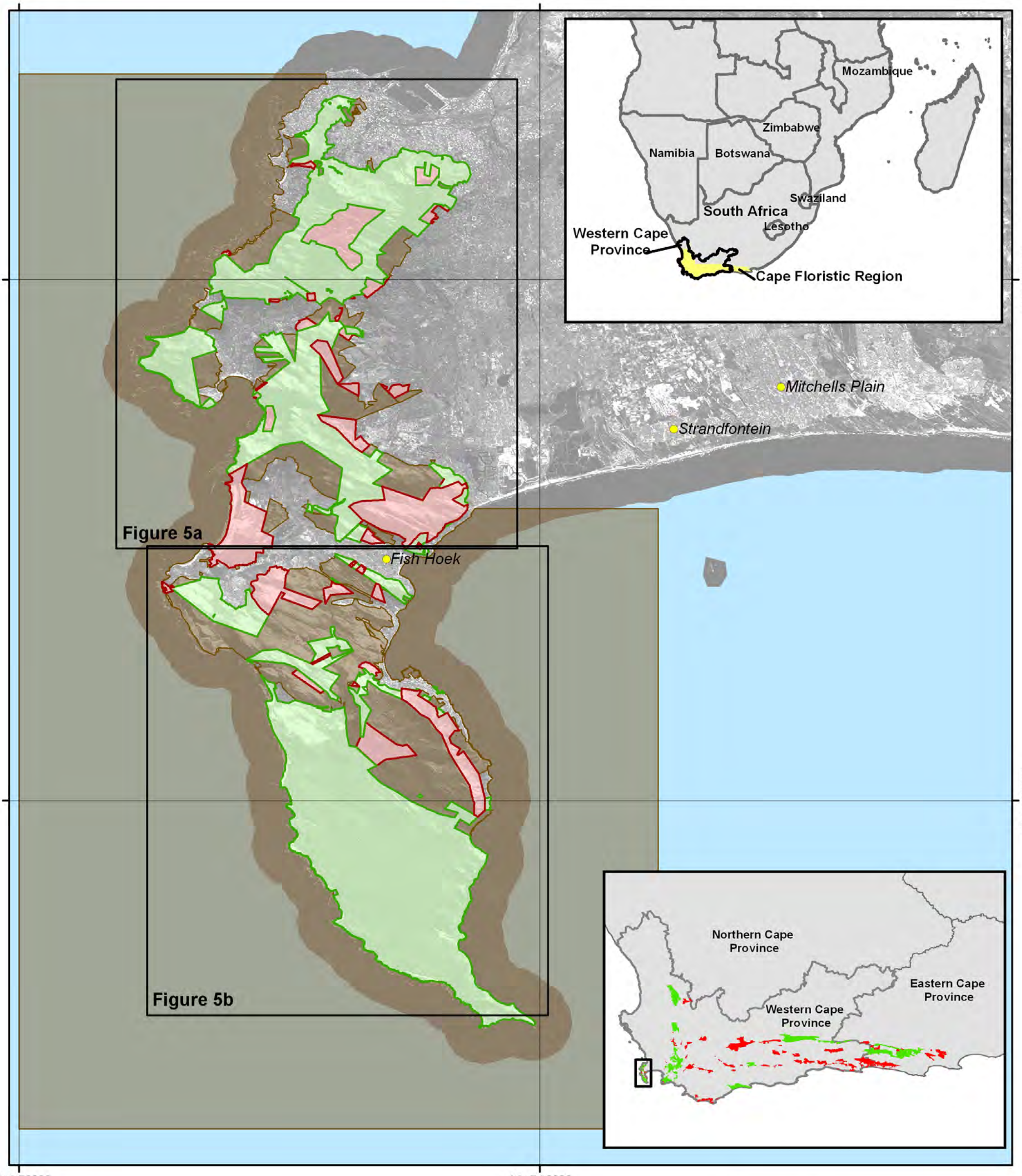
Figure 5 Table Mountain National Park



Legend

- Inscribed Property
- Proposed Extension
- Buffer Zone

N
W E
S

0 2.5 5 10 15 Kilometres

Coordinate grid indicated in decimal degrees.
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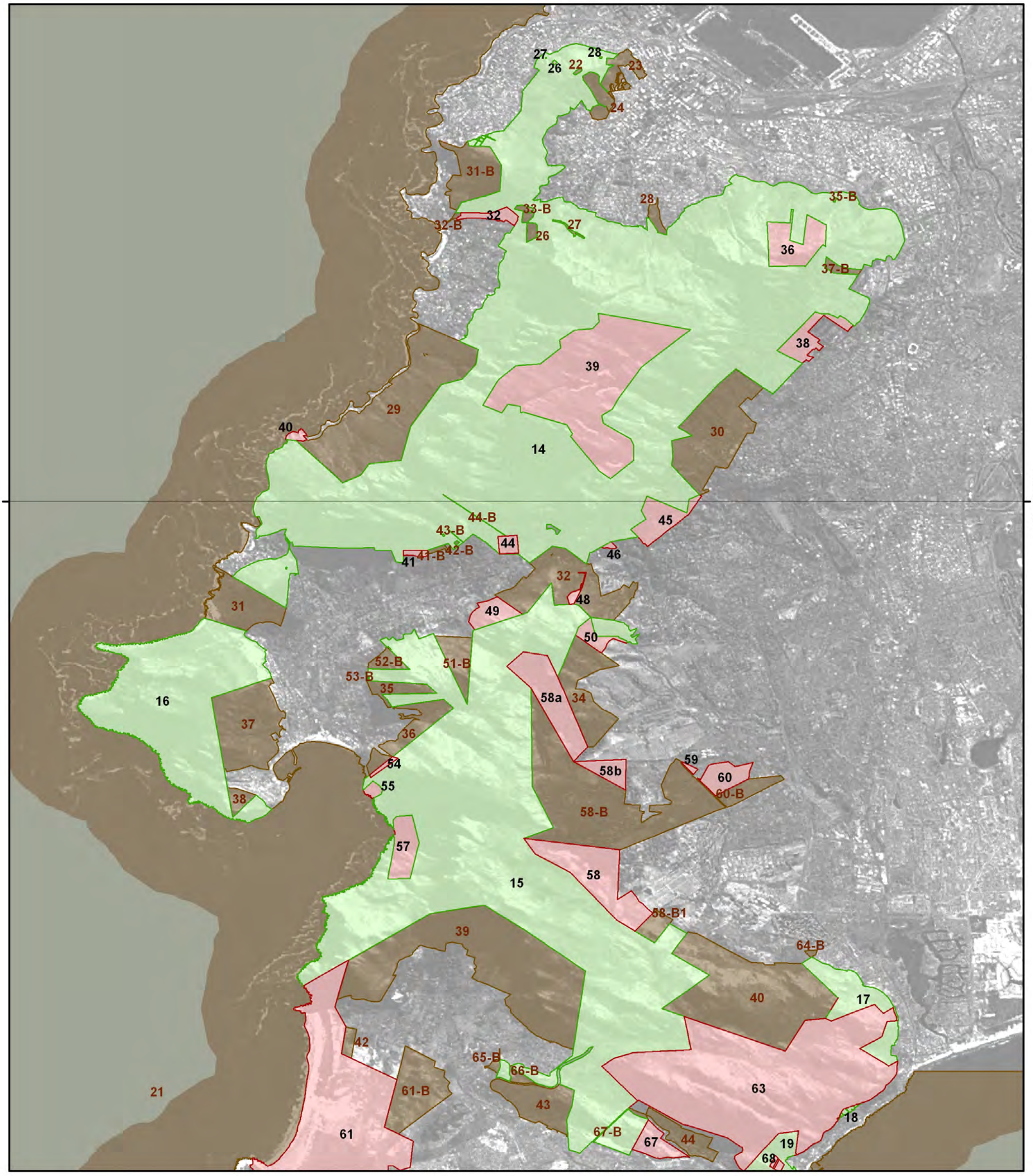
Figure 5a Table Mountain National Park



Legend

- Inscribed Property
- Proposed Extension
- Buffer Zone

N
W E
S

0 1 2 4 6 Kilometres

Coordinate grid indicated in decimal degrees. Please refer to the topographical maps for detailed boundaries at scale.

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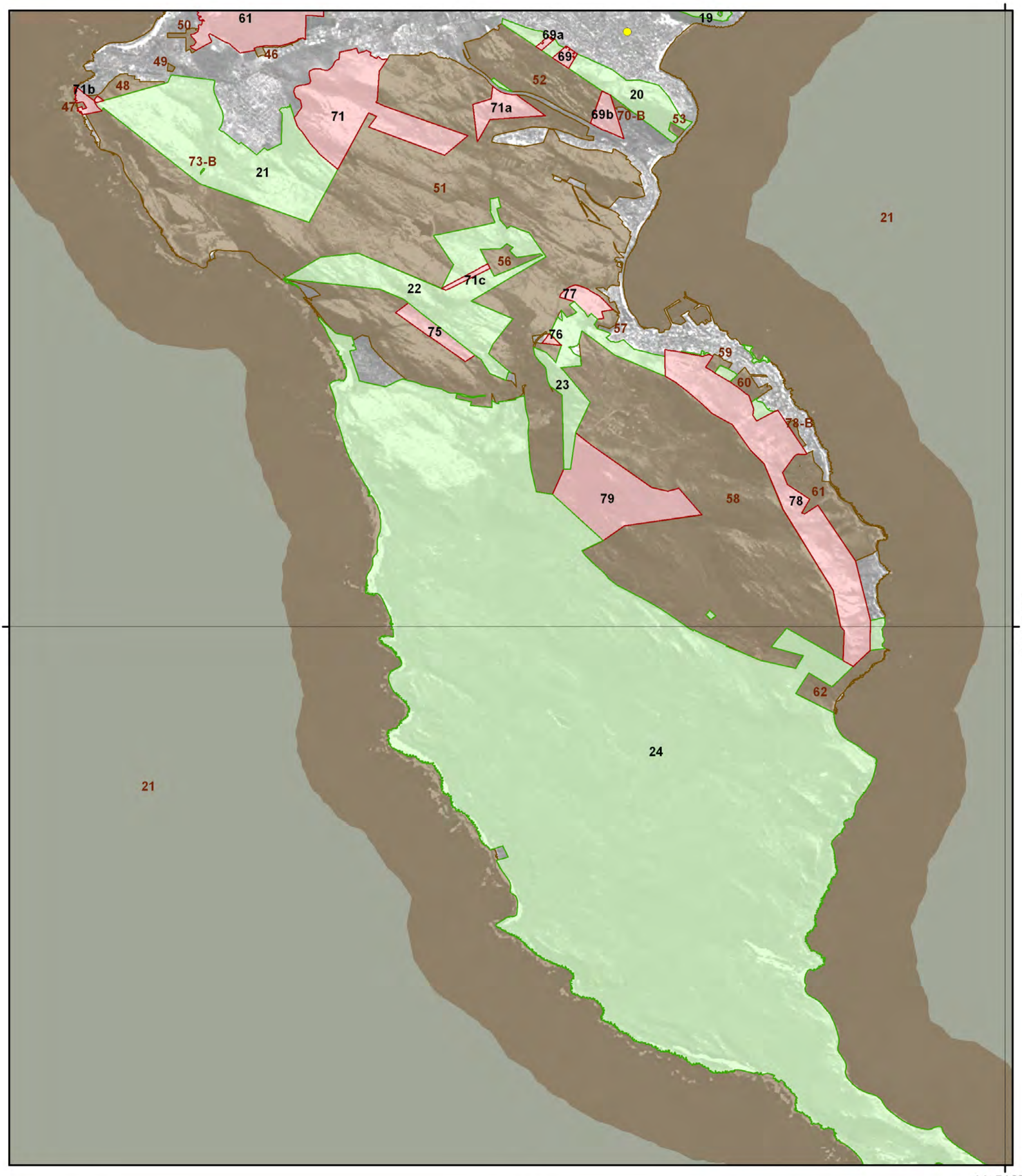
Figure 5b Table Mountain National Park



Legend

- Inscribed Property
- Proposed Extension
- Buffer Zone

N
W E
S

0 1 2 4 6
Kilometres

Coordinate grid indicated in decimal degrees.
Please refer to the topographical maps for detailed boundaries at scale.

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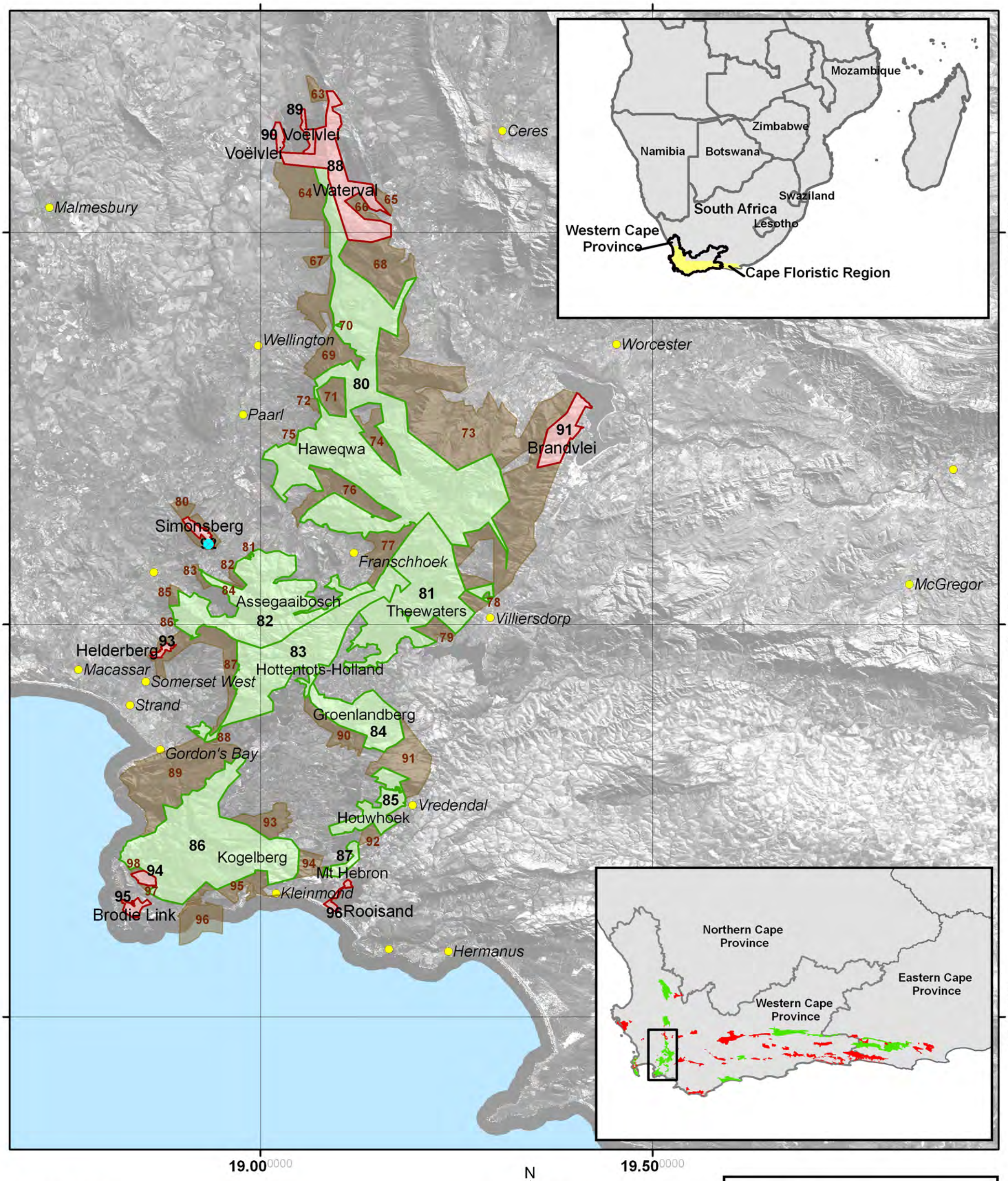
Figure 6 Boland Mountain Complex



Legend

- Inscribed Property
- Proposed Extension
- Buffer Zone

N
W E
S

0 4 8 16 24
Kilometres

Coordinate grid indicated in decimal degrees.
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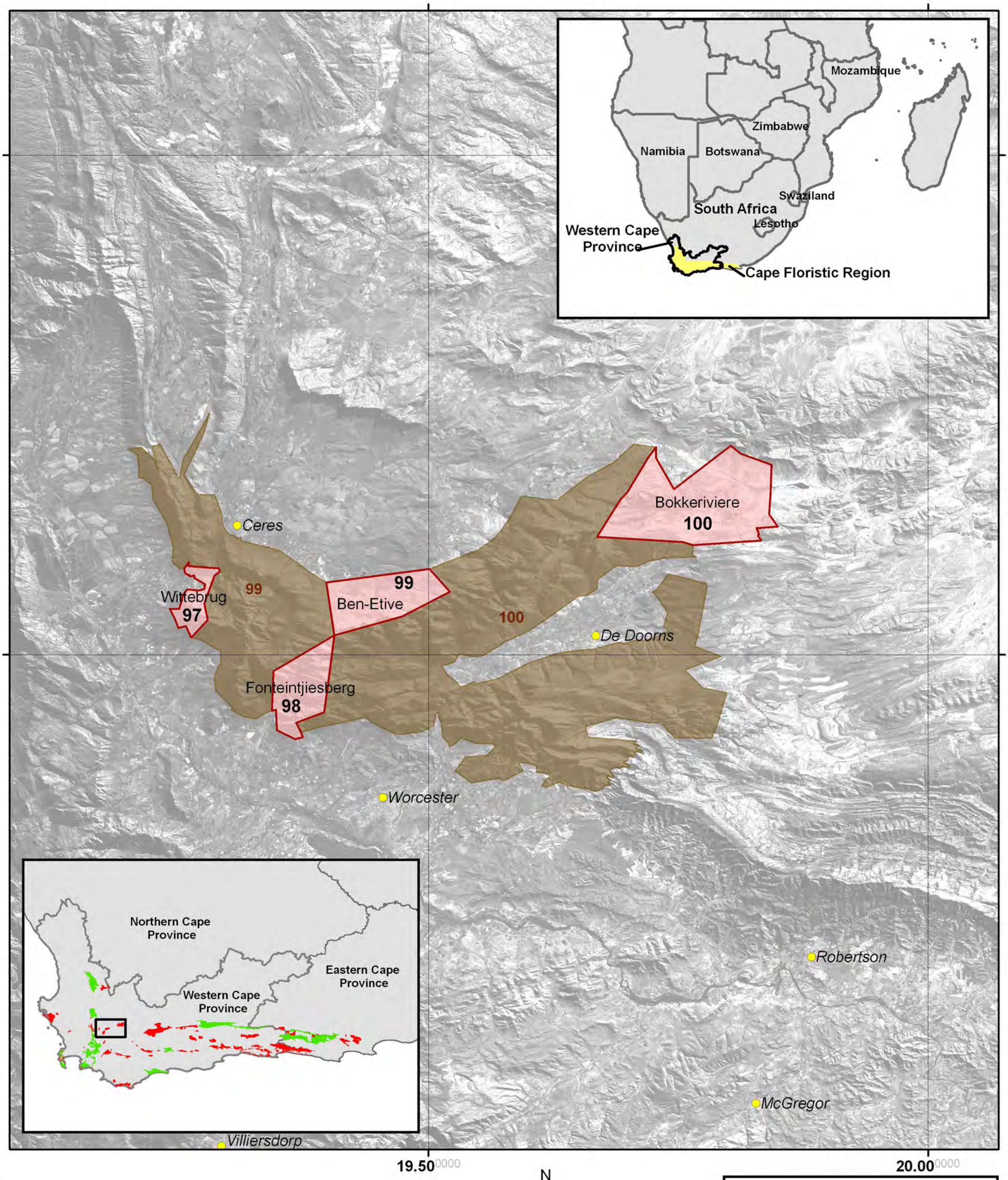
Figure 7 Hexrivier Complex



Legend

- Proposed Extension
- Buffer Zone

Coordinate grid indicated in decimal degrees.
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Figure 8 Riviersonderend Nature Reserve

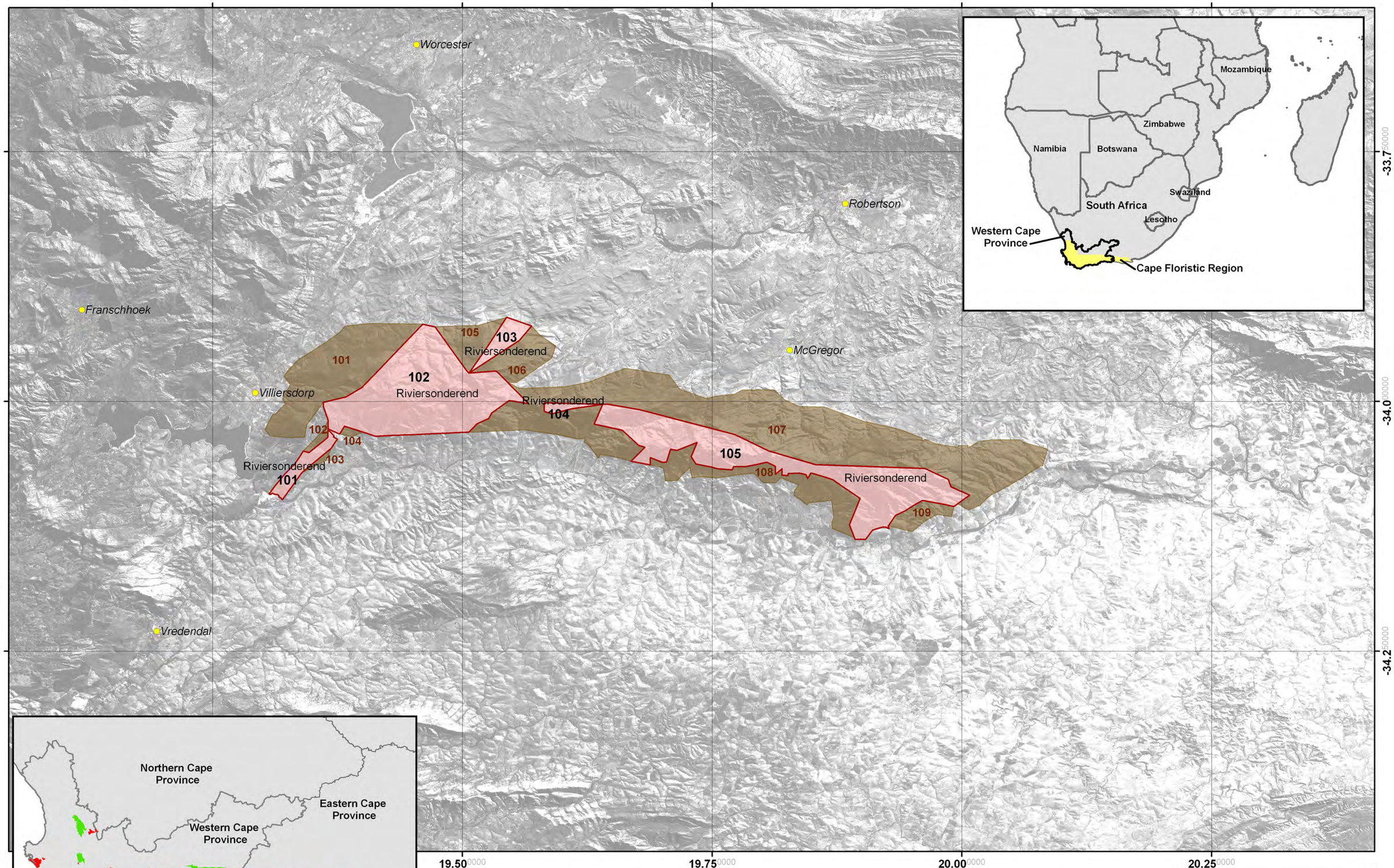

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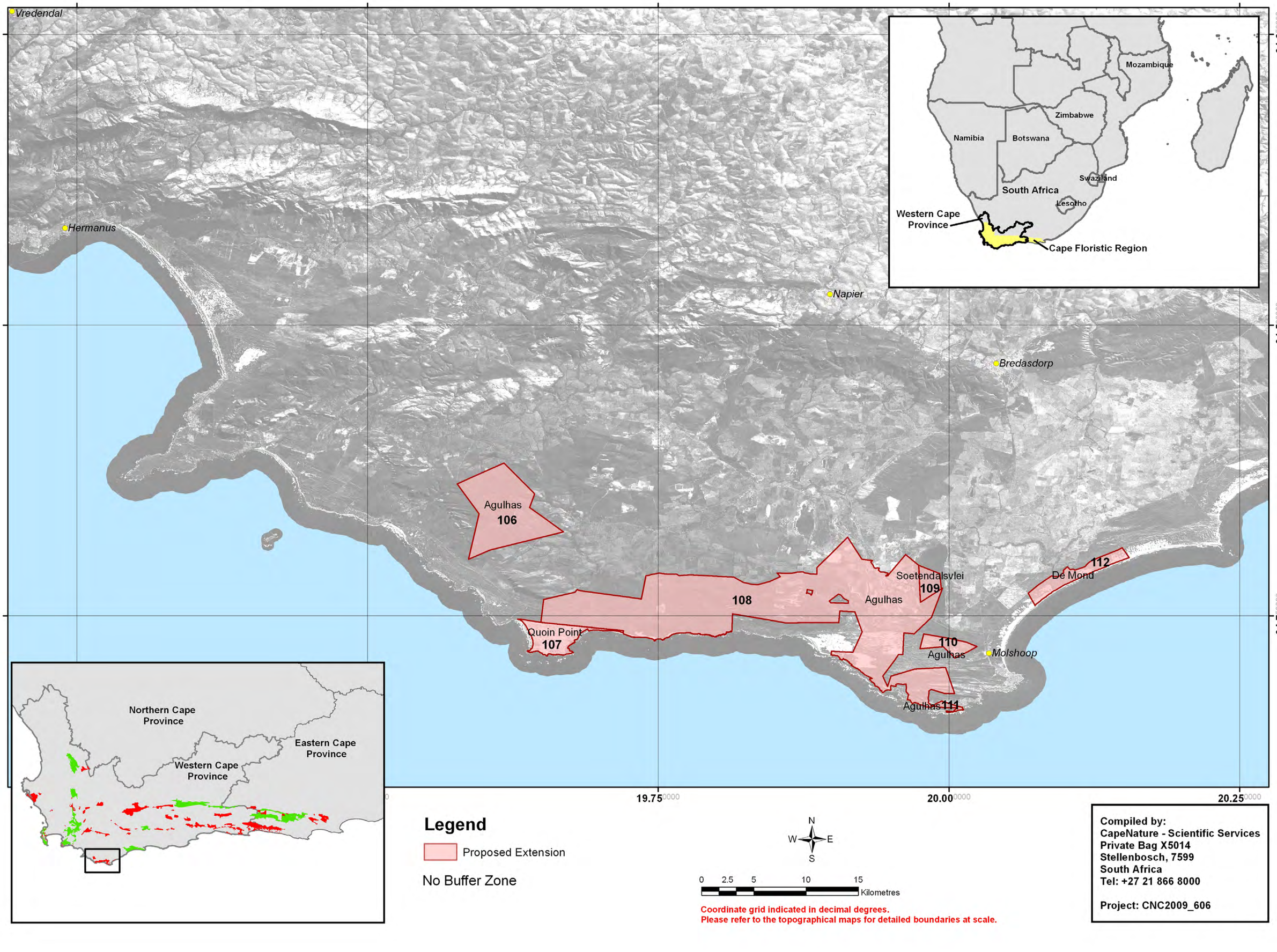
Figure 9 Agulhas Complex



Legend

Proposed Extension

No Buffer Zone

N
W E
S

0 2.5 5 10 15
Kilometres

Coordinate grid indicated in decimal degrees.
Please refer to the topographical maps for detailed boundaries at scale.

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Figure 10 De Hoop Nature Reserve

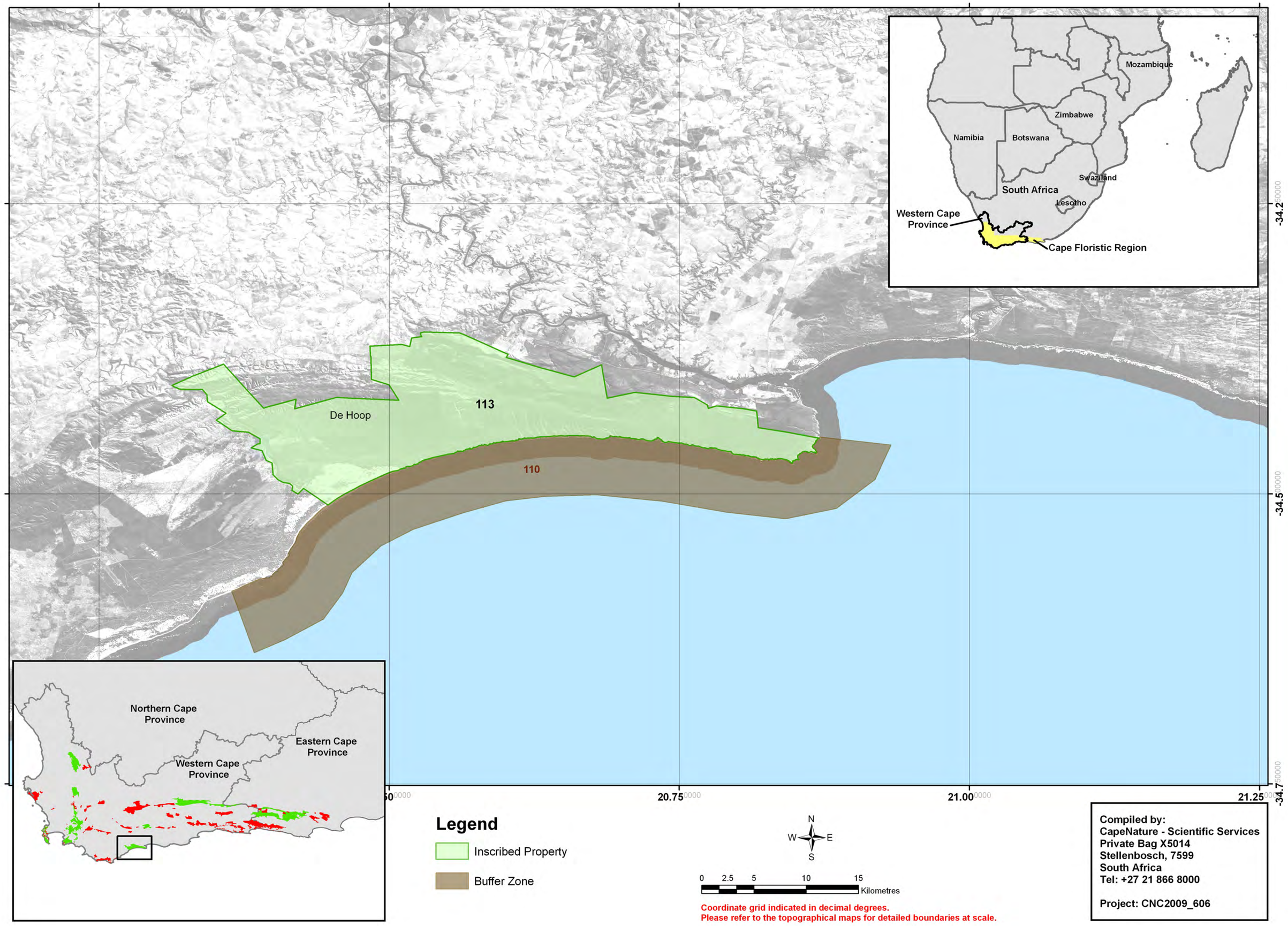

Figure 11 Langeberg Complex

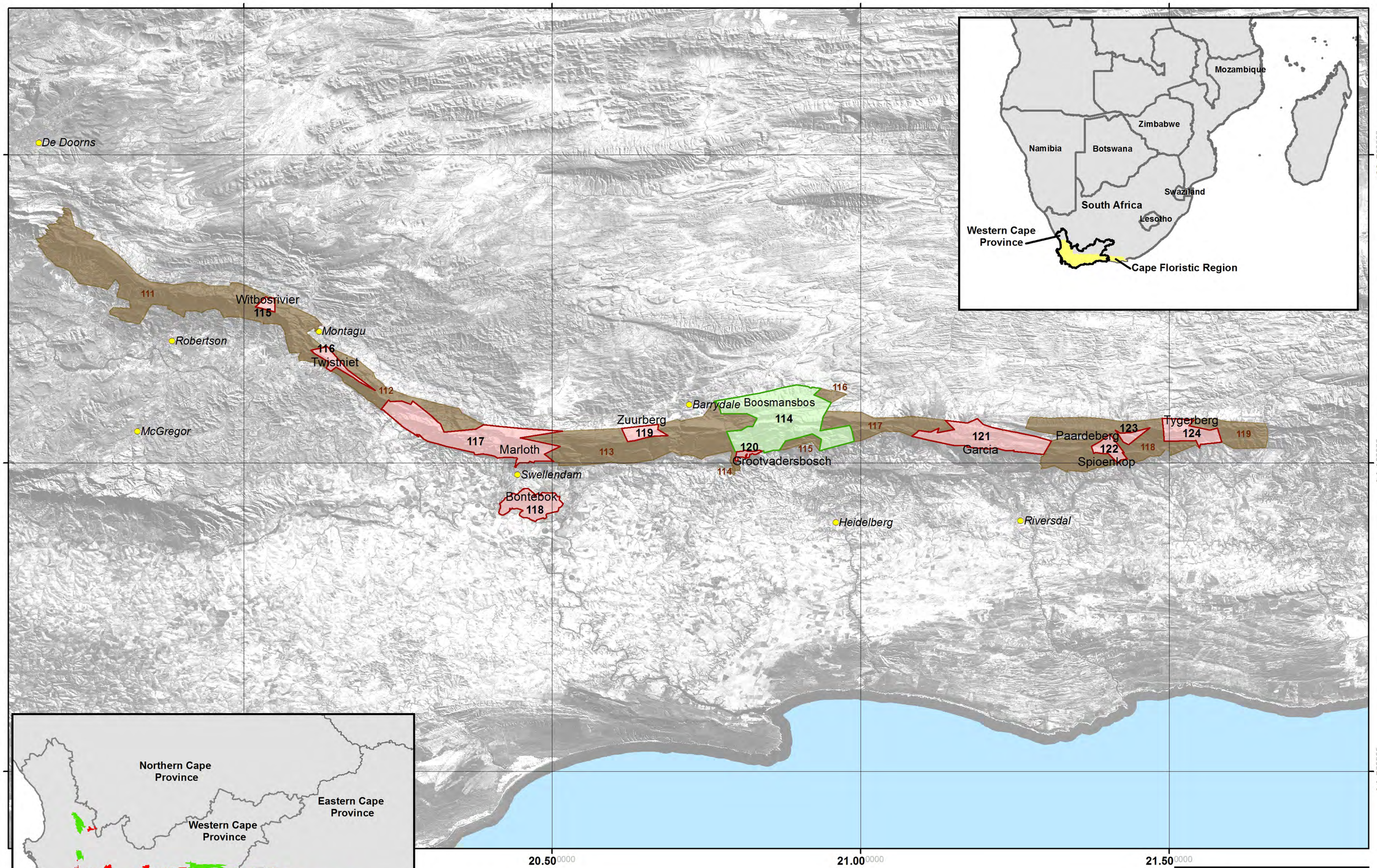

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Figure 12 Garden Route Complex

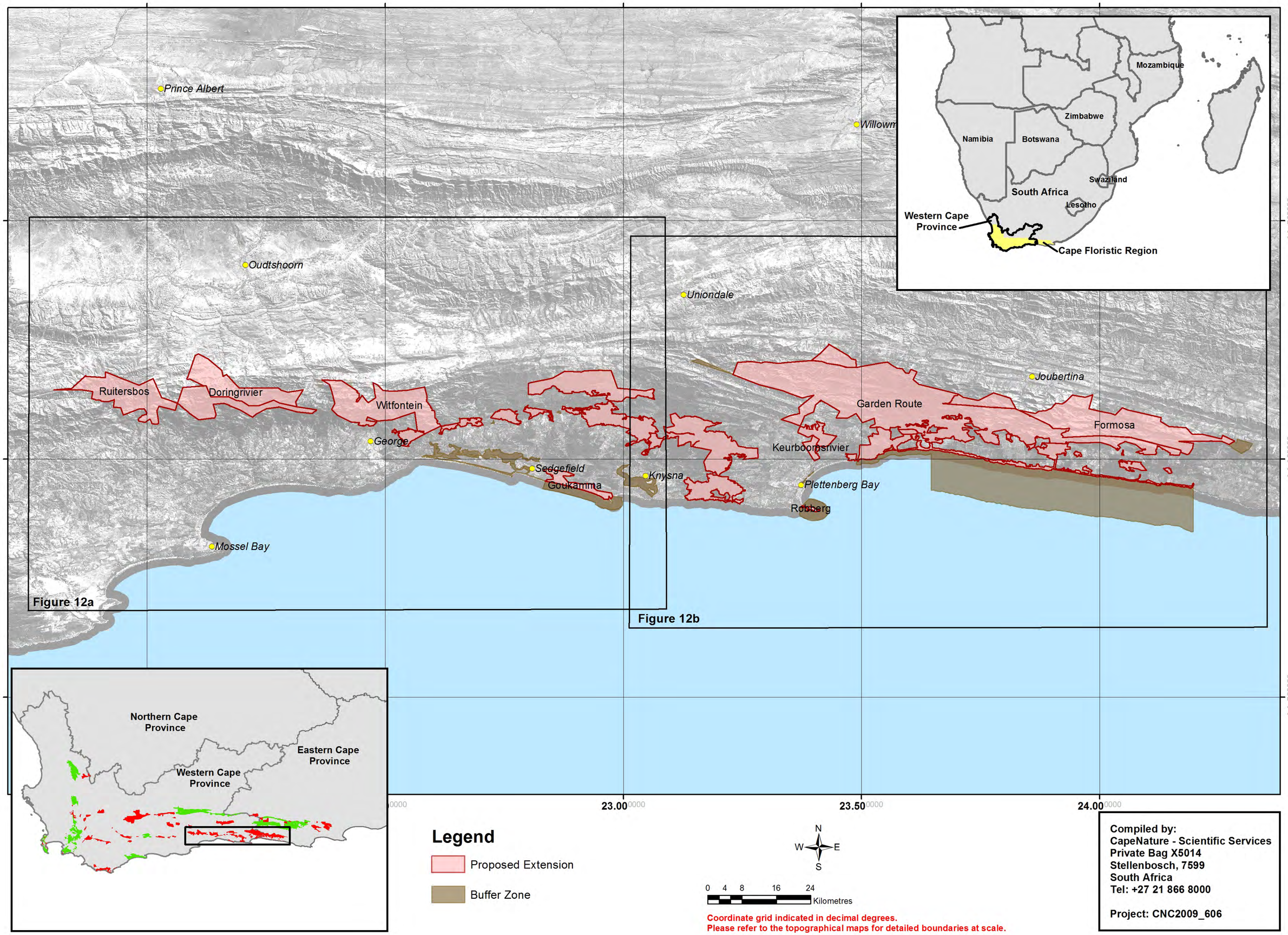
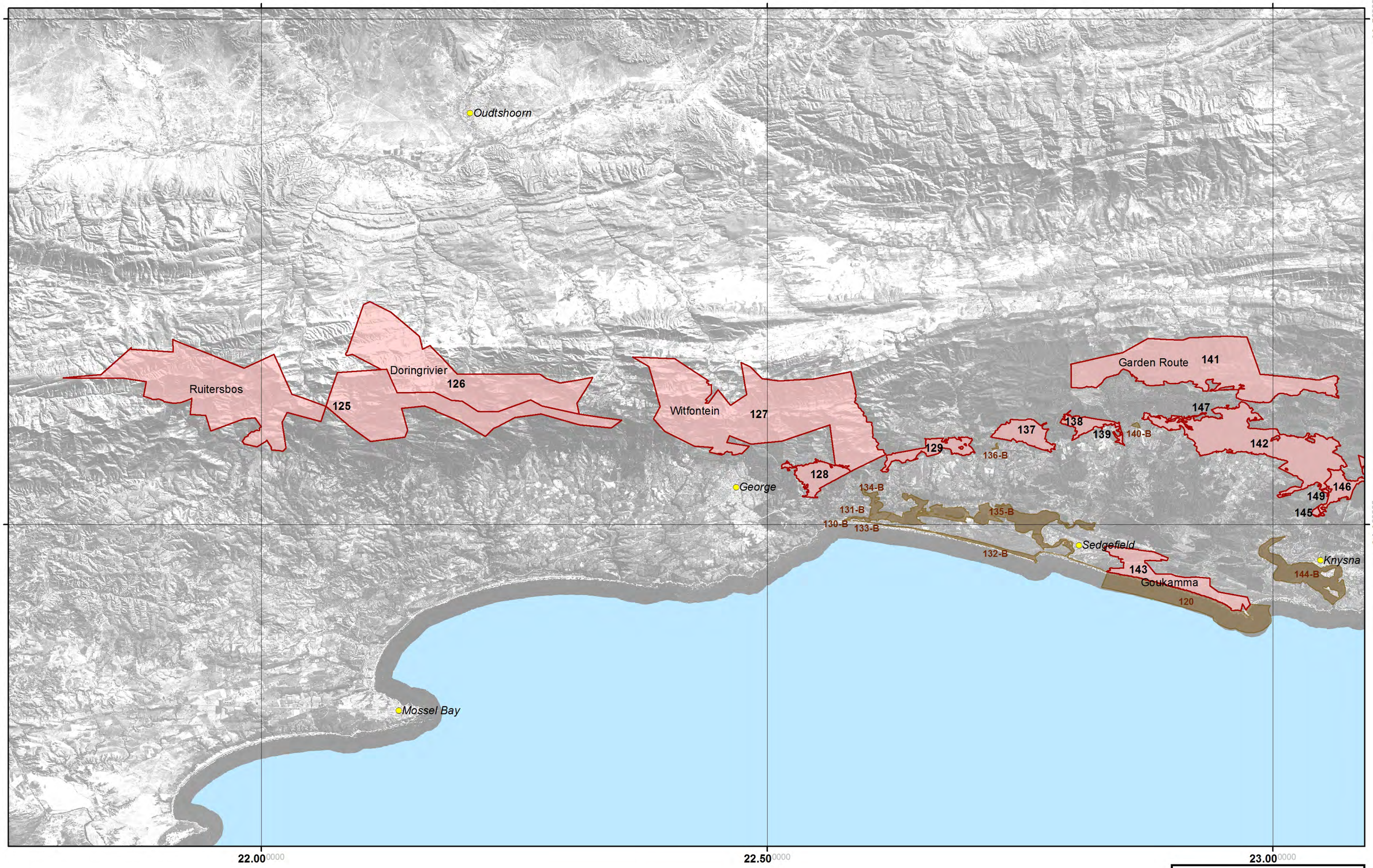


Figure 12a Garden Route Complex



Legend

- Proposed Extension
- Buffer Zone

N
W E
S

0 2 4 8 12
Kilometres

Coordinate grid indicated in decimal degrees.
Please refer to the topographical maps for detailed boundaries at scale.

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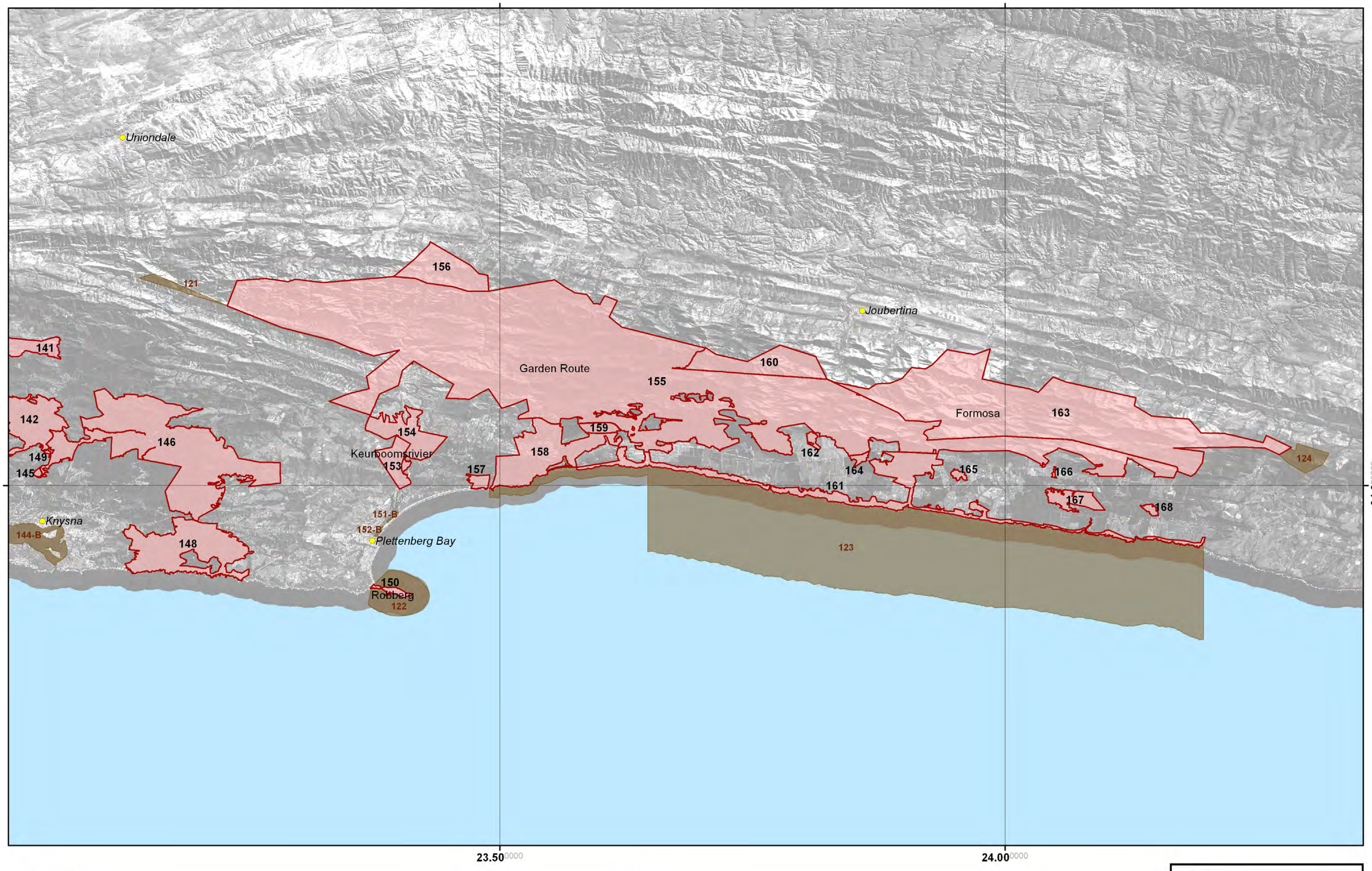
Figure 12b Garden Route Complex



Legend

- Proposed Extension
- Buffer Zone

N
W E
S

0 2 4 8 12
Kilometres

Coordinate grid indicated in decimal degrees.
Please refer to the topographical maps for detailed boundaries at scale.

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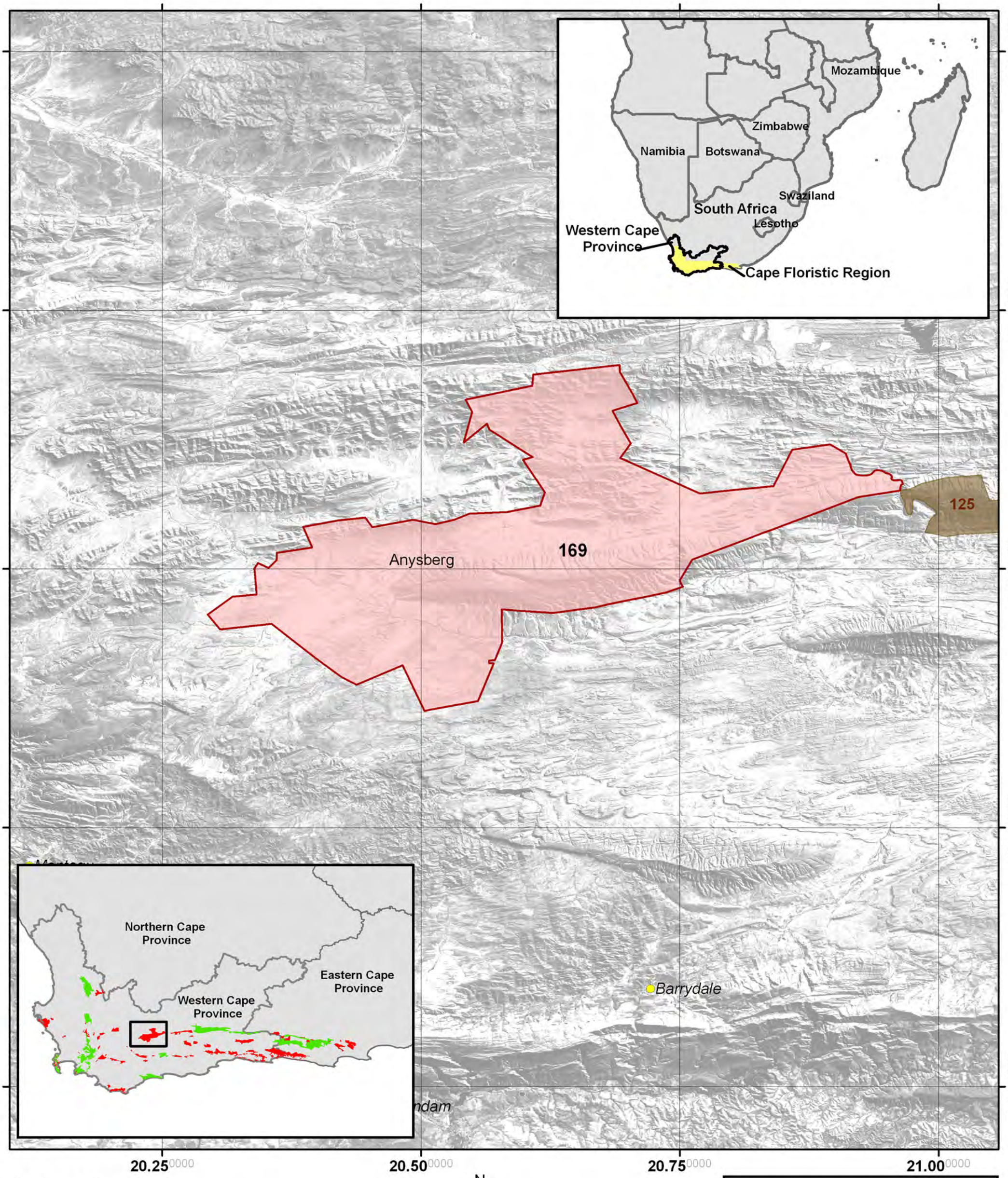
Figure 13 Anysberg Nature Reserve



Legend

- Proposed Extension
- Buffer Zone

Buffer Zone area formally listed as part of Swartberg Complex

N
W E
S

0 5 10 20 30
Kilometres

Coordinate grid indicated in decimal degrees. Please refer to the topographical maps for detailed boundaries at scale.

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Figure 14 Swartberg Complex

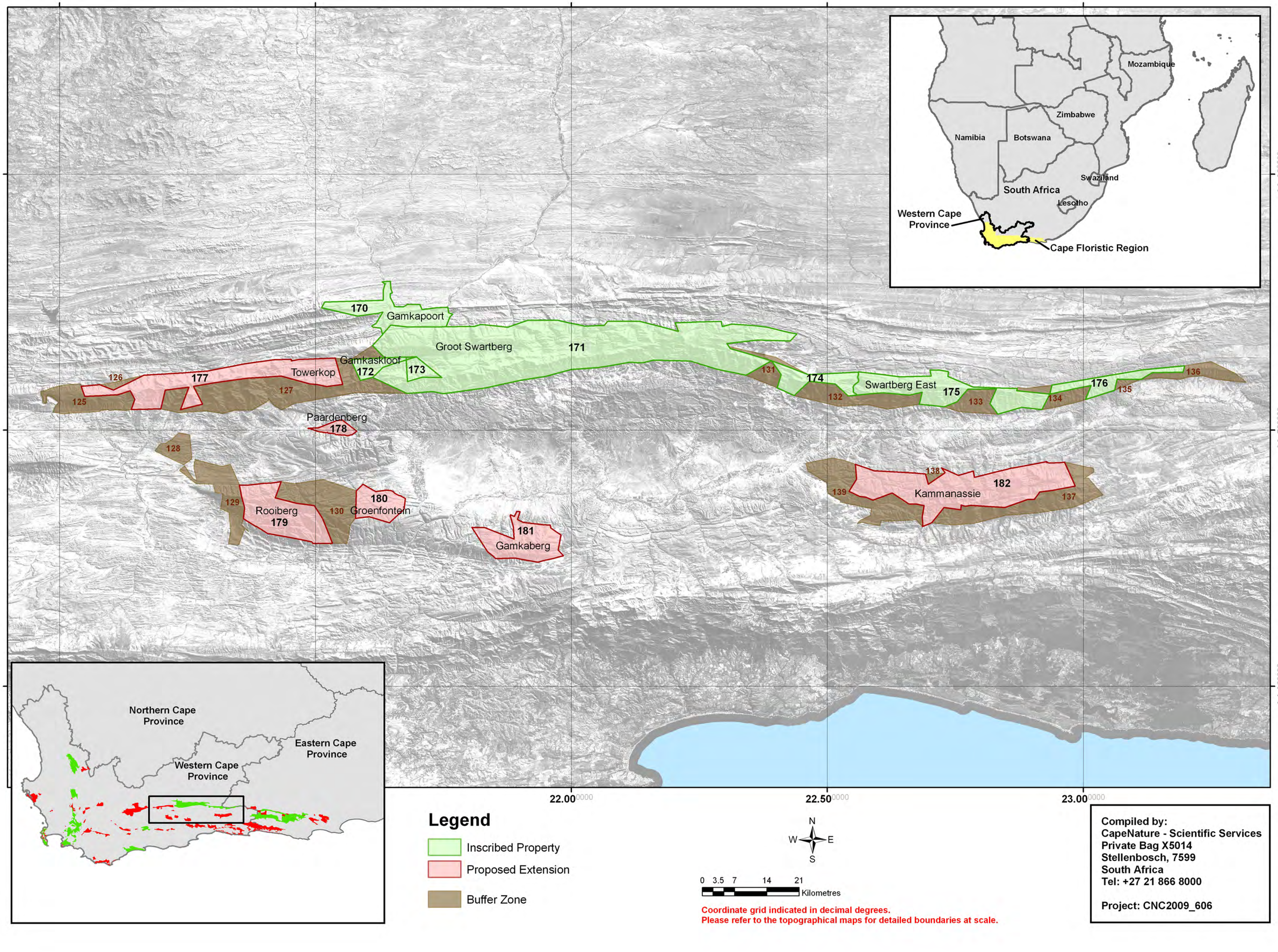
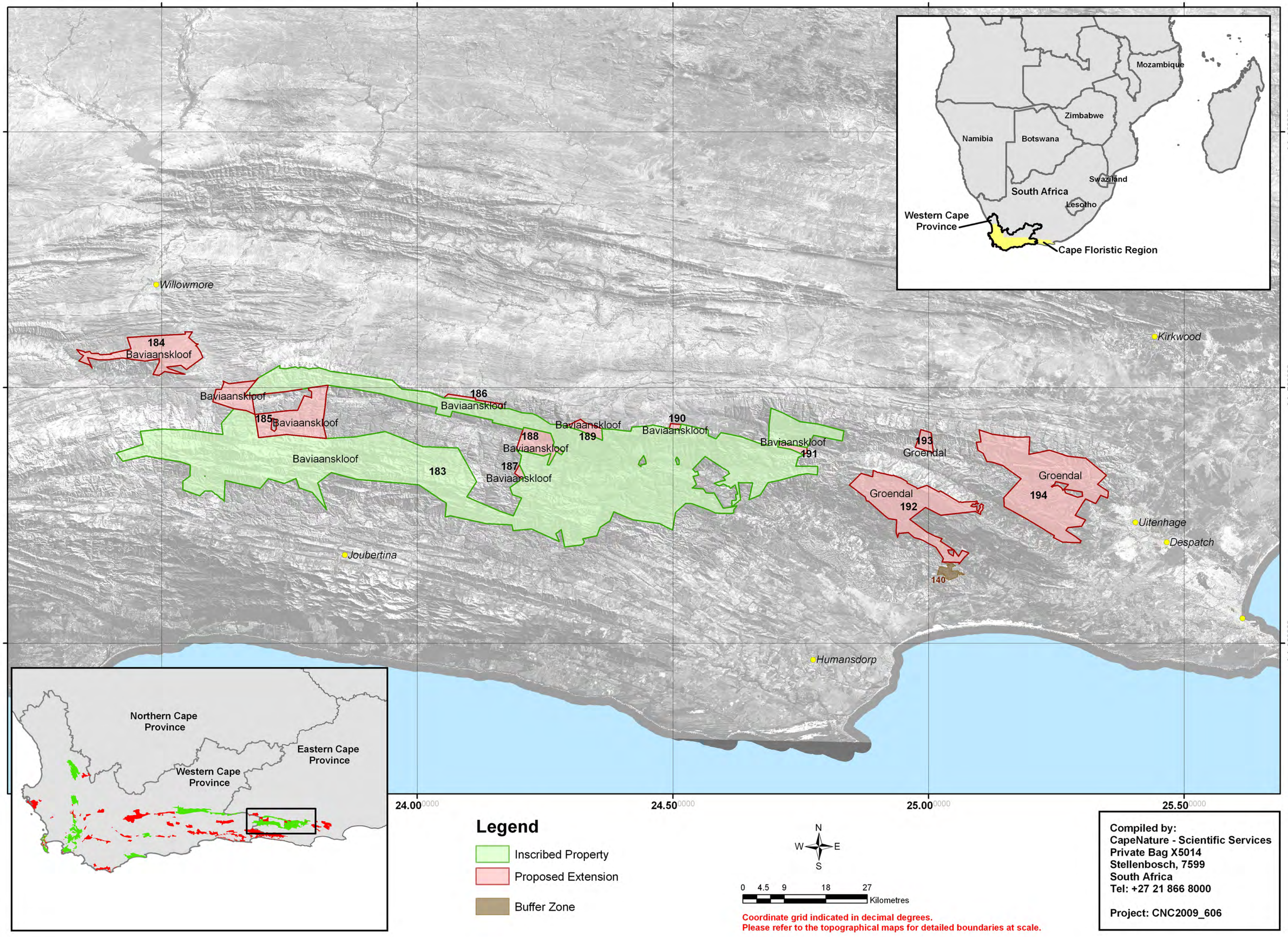


Figure 15 Baviaanskloof Complex



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75343 Paris Cedex 07

19 December 2014

IUCN Evaluation of Cape Floral Region Protected Areas (CFRPA) - extension of the property «Cape Floral Region Protected Areas» – Request for Supplementary Information

Dear Ambassador,

The IUCN World Heritage technical evaluation mission to the extension of Cape Floral Region Protected Areas was undertaken by Mr Bastian Bertzky from 1 to 5 October 2014. The evaluator greatly appreciated the excellent support and co-operation provided by your colleagues in the preparation and implementation of the mission, and the kind welcome of the State Party throughout the mission. Please convey our sincere thanks to all of the officials, scientists and contributors that assisted the mission.

The IUCN World Heritage Panel is in the course of examining World Heritage nominations for natural and mixed properties, and cultural landscapes. This process will conclude in March 2015. At its first meeting last week, the IUCN Panel examined in detail each nomination dossier, reports and desktop reviews of field evaluators and external reviewers, as well as other references regarding the nominated properties.

As noted in previous correspondence, IUCN seeks to develop and maintain a dialogue with States Parties during the evaluation process. The Panel greatly appreciated the quality of the nomination that has been prepared, but also noted some points where additional information is required, and we would be grateful for the State Party's response on the following points:

1) Boundaries of the property and its buffer zone

Following a thorough review of all the available information, the IUCN Panel noted that the large part of the proposed extension does significantly increase the integrity of the current property. However the Panel was concerned that some of the nominated extension areas do not appear to fully meet the conditions of integrity required by the Operational Guidelines of the Convention (OG) (OGs paragraphs 87-95), and/or may not add substantially to the values or integrity of the serial property (OGs paragraph 137). We consider that some such areas should be considered for removal from the current nomination; where appropriate; they could however be included in the proposed buffer zone. In contrast, some small areas that were recently added to the Protected Area network in the CFR appear to have the potential to improve the integrity of parts of the proposed extended property and could be considered for inclusion in the current nomination.

IUCN therefore requests the State Party to consider the following specific suggestions with regard to the possible amendment of boundaries of the nominated extension areas, and provide a formal response on if these amendments could be adopted in the nomination. In situations where the State Party would not wish to agree with the proposal, we would be grateful for a brief statement of reasons in each case:

West Coast Complex
The possibility to either exclude this complex completely from the current nomination, or to modify its boundaries as follows:

a) Exclude areas 5, 6, 7 and 8 (small islands with integrity issues and which do not appear to add significantly to outstanding universal value)
b) Exclude any villages / private properties in area 9 (e.g. Churchhaven and Postberg)
c) Exclude area 11 (small, currently isolated area that is still in the process of restoration)
d) Exclude areas 12 and 13 (small, currently isolated areas that are still in the process of restoration and are expected to become part of a bigger Dassenberg conservation area in the future)

Table Mountain National Park
The possibility to modify the boundaries of this complex as follows:

a) Exclude area 29 (small area dominated by houses and roads)
b) Exclude areas 45, 58, 59 and 60 (areas dominated by plantations)
c) Exclude any other such areas that do not meet the conditions of integrity at present (check for example areas 38, 46, 72 and 76)
d) Also exclude any private properties that we understand were inadvertently included in the nomination (as discussed during the mission)
e) Retain area 39 (top of Table Mountain with dams) included in the nomination as originally proposed, to close the existing gap in the property

Agulhas Complex
IUCN understands that some small areas have recently been added to Agulhas National Park which could be considered for inclusion in the current nomination to the integrity and connectivity of this complex. This applies specifically to the area linking areas 108 and 111. The State Party is requested to advise if this area and any other such areas meet the conditions of integrity, protection and management, and could thus be included in the current nomination.

Langeberg Complex
IUCN would be grateful to receive clarification on the following two areas:

a) Area 118 (Bontebok National Park): Provide information on the added value and integrity of the area, and provide a detailed map for this area and its surroundings on an aerial image.
b) Area 120 (Grootvadersbosch Nature Reserve): Provide information on the added value and integrity of this area, including any existing infrastructure and buildings.

Garden Route Complex
The possibility to modify the boundaries of this complex as follows:

a) Exclude areas 130 to 135 (very fragmented and/or isolated areas, including large water bodies and a narrow coastal strip, for which it is not clear how they contribute substantially to the core values of the Cape Floral Region WH site)
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In the event that the State Party would look favourably on the above suggestions, we would also be grateful if the State Party could submit revised maps (in print and digital formats) for all the areas and/or complexes concerned, and any amended information on the area of land to be included in the nomination.

2) <u>Co-ordinated management of the serial property (OGs paragraph 114)</u>

Please would the State Party provide an update on any progress made by February 2015 with the tender for the development of the Environmental Management Framework which would function as an Integrated Management Plan for the whole property. We would be grateful if the update would specifically note if the work has commenced, who has been contracted for this work, and when the work is intended to be completed.

3) State of conservation and factors affecting the property (OGs paragraph 132)

Provide an update on the status, as of February 2015, of the phosphate mining proposal on the border of West Coast National Park.

We would appreciate your response to the above points as soon as possible, in order to facilitate the evaluation process, but **no later than the 28 February 2015**, as per paragraph 148 of the Operational Guidelines. Please note that any information submitted after this date will not be considered by IUCN in its evaluation for the World Heritage Committee. It should be noted, however, that while IUCN will carefully consider any supplementary information submitted, it cannot properly evaluate a completely revised nomination or large amounts of new information submitted at the last minute. So we request to keep your response concise and respond only to the above requests.

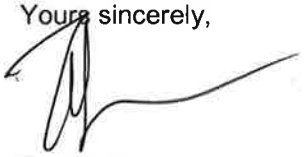
Supplementary information should be submitted officially in three copies to the UNESCO World Heritage Centre in order for it to be registered as part of the nomination. An electronic copy of any supplementary information to both the UNESCO World Heritage Centre (a.balsamo@unesco.org) and IUCN Headquarters (christelle.perruchoud@iucn.org) would also be helpful.

Taking into account your response, IUCN will formulate its final recommendation to the World Heritage Committee which will meet from 28 June to 8 July 2015 in Bonn, Germany.

Please do not hesitate to contact Ms Christelle Perruchoud, World Heritage Programme Assistant (Tel: +41 22 999 0358; Fax: +41 22 999 0002; email: christelle.perruchoud@iucn.org) if you have any questions, or if you would wish to arrange a meeting or phone call to discuss this request.

Please allow me to reiterate our thanks for your support of the World Heritage Convention and for the conduct of IUCN's recent mission. We look forward to your kind cooperation in furnishing responses to the abovementioned points.

Yours sincerely,



Tim Badman
Director - World Heritage Programme

cc. South Africa National Commission for UNESCO, Mr Carlton Mukwevho, Secretary-General
UNESCO World Heritage Centre, Ms Karalyn Monteil and Mr. Alessandro Balsamo
IUCN Regional Office for Eastern and Southern Africa, Leo Niskanen

CapeNature

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reference	
date	**10 February 2015**

Dear Tim,

Please find attached the written response to the queries as set out in your letter of the 19th December 2014. We have, as requested, kept the responses as brief and to the point as possible.

During the course of this morning we will be sending an electronic version of the revised maps, text and tables to UNESCO, IUCN and DEA.

We will also be sending a complete revised version of the nomination dossier to the relevant parties via "Dropbox".

Three hard copies of the relevant maps, text and tables will be delivered by hand to DEA tomorrow for submission to UNESCO via the official channels, hopefully to reach their destination well before the 28th February.

I trust that this is order?

Yours sincerely,

GUY PALMER
Scientific Manager: Biodiversity

Response to queries/suggestions as per Letter 3 from IUCN relating to the CFRPA WHS Extension.
(Comments in blue)

West Coast Complex:

The possibility to either exclude this complex completely from the current nomination, or to modify its boundaries as follows:

(a) Exclude areas 5, 6, 7 and 8 (small islands with integrity issues and which do not appear to add significantly to outstanding universal value).

(b) Exclude any villages/private properties in area 9 (e.g. Churchhaven and Postberg).

(c) Exclude area 11 (small, currently isolated area that is still in the process of restoration).

(d) Exclude areas 12 and 13 (small, currently isolated areas that are still in the process of restoration and are expected to become part of a bigger Dassenberg conservation area in the future).

This complex has been excluded. Its' inclusion will be evaluated as part of the invisaged future extension once the various initiatives and developments have been "finalised".

Table Mountain National Park:

The possibility to modify the boundaries of this complex as follows:

(a) Exclude area 29 (small area dominated by houses and roads).

(b) Exclude areas 45, 58, 59 and 60 (areas dominated by plantations).

(c) Exclude any other such areas that do not meet the conditions of integrity at present (check for example areas 38, 46, 72 and 76).

(d) Also exclude any private properties that we understand were inadvertently included in the nomination (as discussed during the mission).

(e) Retain area 39 (top of Table Mountain with dams) included in the nomination as originally proposed, to close the existing gap in the property.

29 (Bo-Kaap): Agreed – excluded - urban

45 (Cecilia): Agreed – excluded - plantation

58 (Upper Tokai): Should be modified into portions (as indicated on map)

59 (lower Tokai): See motivation for 60 below.

60 (lower Tokai): Should modify boundary as per attached aerial image. The proposed core area comprises the restored critically endangered Cape Flats Sand Fynbos (less than 1% formally protected) in which there are 9 critically endangered plant species. It meets the criteria of unique

fynbos and ecological processes. This lowland fynbos is being linked through the establishment of an ecological corridor currently designated as WHS buffer. WHS core designation will secure the areas conservation status and stakeholder attitudes

38 (Newlands): recommended to remain in the extension as the area is indigenous forest and fynbos with an important ecotonal area and contiguous to the 'Core' above

46 (Cecilia): recommended to remain in the extension as the area has been cleared of pines, and has been restored to functional fynbos and is contiguous to the 'Core' above

72 (Welcome Glen): Agreed – should be excluded as it is an isolated area surrounded by buffer

76 (Red Hill): Agreed – should be excluded as it is Provincial land with a land claim issue

We are in agreement with all the 'removed' properties

Agulhas Complex:

IUCN understands that some small areas have recently been added to Agulhas National Park which could be considered for inclusion in the current nomination to the integrity and connectivity of this complex. This applies specifically to the area linking areas 108 and 111. The State Party is requested to advise if this area and any other such areas meet the conditions of integrity, protection and management, and could thus be included in the current nomination.

Motivation for the inclusion of additional areas in the Agulhas NP Fynbos WHS application

In 2014, two properties were included in Agulhas National Park. This included Farm Paapekuil Fontein 281 portion 61 (a portion of portion 12) of 415.0045 ha, and Farm Paapekuil Fontein 281 portion 14, of 359.5727 ha. Combined, this added 774.5772 ha of Overberg Dune Strandveld to the protected area network. Although Overberg Dune Strandveld has a conservation status of Least Threatened, and a protection status of Well Protected, the land added appears to be in very good condition, with little evidence of transformation, and importantly, helps to consolidate disjunct sections of Agulhas NP.

Langeberg Complex:

IUCN would be grateful to receive clarification on the following two areas:

(a) Area 118 (Bontebok National Park): Provide information on the added value and integrity of the area, and provide a detailed map for this area and its surroundings on an aerial image.

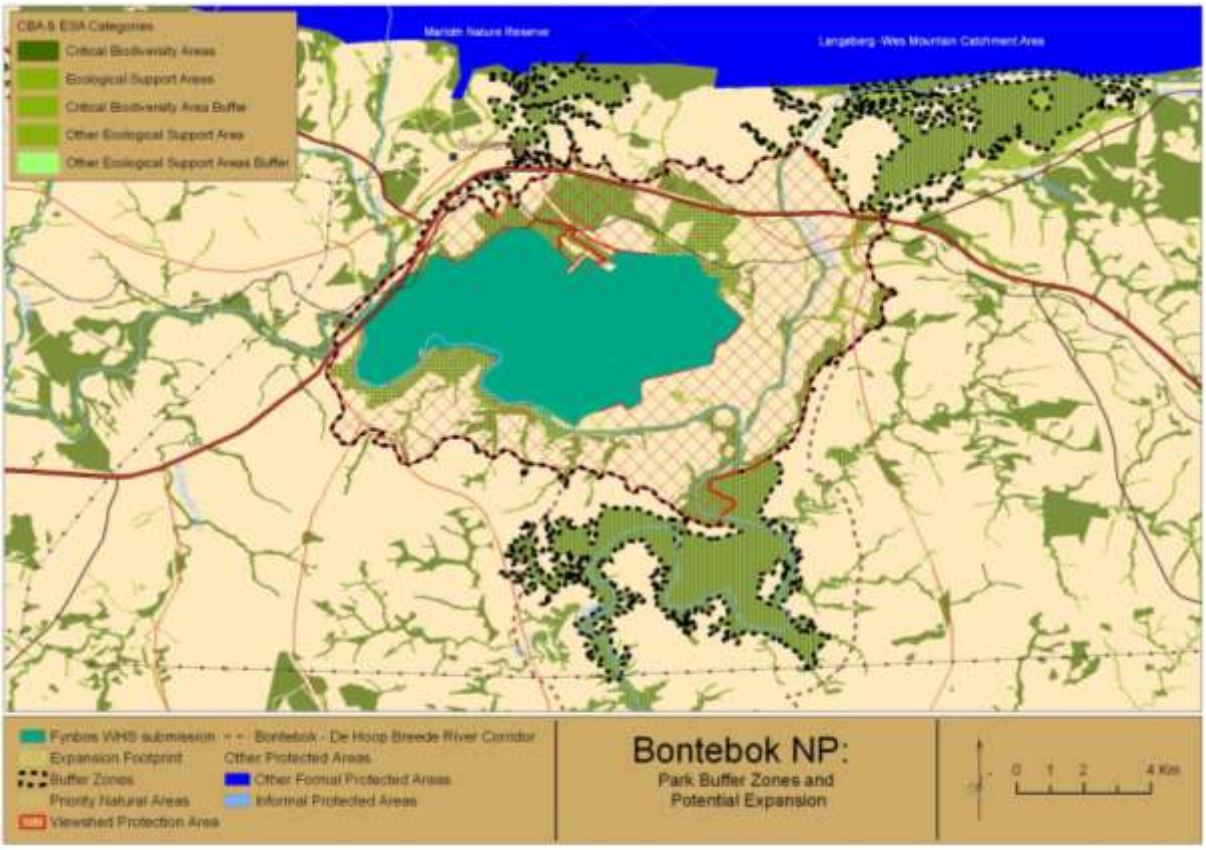
Motivation for the inclusion of Bontebok National Park as a Fynbos World Heritage Site

Although small, at about 3 380 ha, and slightly isolated by around 4.5 km from the closest neighbouring formal protected area (Figure 1), the Marloth Nature Reserve, the Bontebok National Park makes an important contribution to the conservation of fynbos, being the principal formal protected area that conserves Swellendam Silcrete Fynbos, with 83% represented there. Swellendam Silcrete Fynbos is listed as Endangered, with roughly 57.6% remaining, but is Poorly Protected, with only 4.4% in statutory protected areas. Mucina and Rutherford (2006) note that Swellendam Silcrete Fynbos has both fynbos and renosterveld floristic components. While this may simply indicate an area of overlap, one could speculate that its strategic position between lowland and highland Fynbos Biome components might play an important transitional role in past evolutionary processes linking upland and lowland areas, and further, that it might be important in the future as a potential linkage between upland and lowland areas for climate change.

The following species of special concern have been recorded in Bontebok NP: *Acmadenia laxa* (EN), *Acrodon subulatus* (EN), *Aspalathus burchelliana* (EN), *Aspalathus grobleri* (EN), *Babiana patula* (Declining), *Cyrtanthus leptosiphon* (CR), *Diosma fallax* (EN), *Erica filamentosa* (VU), *Gladiolus engysiphon* (VU), *Haworthia heidelbergensis* (VU), *Haworthia marginata* (VU), *Haworthia venosa ssp. venosa* (VU), *Leucadendron linifolium* (VU), *Phylica velutina* (NT), *Protea decurrens* (EN), *Stoebe rugulosa* (EN)

Additionally, Mucina and Rutherford (2006) list the following endemics in the wider Swellendam Silcrete Fynbos vegetation unit: *Psolalea filifolia, Acmedenia laxa, Chrysocoma flava, Erica burchelliana, E. filamentosa, E. physantha, Gnidia strigillosa, Wahlenbergia effuse, Ruschia cymbifolia, Cyrtanthus leptosiphon, Geissorhiza foliosa, Gladiolus bilineatus, G. engysiphon, Isolepis brevicaulis*.

In conclusion, the importance of Bontebok NP for the conservation of the Poorly Protected Swellendam Silcrete Fynbos, together with its abundance of species of special concern and endemic species, and its potential importance as a link between upland and lowland fynbos biome areas provide a compelling case for it to be considered for inclusion in the CFRPA WHS extension.



(b) Area 120 (Grootvadersbosch Nature Reserve): Provide information on the added value and integrity of this area, including any existing infrastructure and buildings.

Grootvadersbosch Nature Reserve, GVB, is adjacent to the Boosmansbos Wilderness Area, one of the 8 protected areas of the CFRPA WHS. GVB contains the most westerly significant portion of Afromontane Forest. What is of particular relevance is the extensive ecotone. This dynamic interface is of great relevance with regard to the ongoing ecological processes and interactions between the fynbos, forest and fire. This area becomes even more relevant with increasing indications and implications of Global Climate Change, GCC. It also increases the area at lower altitudes which is also significant for GCC mitigation. The limited infrastructure is found on small peripheral cadastres which have now been excluded.

Garden Route Complex:

The possibility to modify the boundaries of this complex as follows:

(a) Exclude areas 130 and 135 (very fragmented and/or isolated areas, including large water bodies and a narrow coastal strip, for which it is not clear how they contribute substantially to the core values of the Cape Floral Region WH site).

Excluded.

(b) Exclude area 140 (small area dominated by houses).

Excluded.

(c) Exclude area 144 (Knysna estuary: it is not clear how this isolated, water dominated area contributes substantially to the core values of the Cape Floral Region WH site).

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(d) Exclude areas 151 and 152 (Keurboomsrivier river mouth: it is not clear how these isolated areas contribute substantially to the core values of the Cape Floral Region WH site).

Excluded.

In the event that the State Party would look favourably on the above suggestions, we would also be grateful if the State Party could submit revised maps (in print and digital formats) for all the areas and/or complexes concerned, and any amended information on the area of land to be included in the nomination.

This has been done and revised maps and tables can be found in the revised nomination dossier and 3 hard copies of maps, tables and relevant pages are being sent.

2. **Co-ordinated management of the serial property (OGs paragraph 114):**

Please would the State Party provide an update on any progress made by February 2015 with the tender for the development of the Environmental Management Framework which would function as an Integrated Management Plan for the whole property. We would be grateful if the update would specifically note if the work has commenced, who has been contracted for this work, and when the work is intended to be completed.

A Service Provider has as yet not been appointed to produce the EMF. This is due to the fact that several EMFs already exist for portions of the CFR and the terms of reference have to be adjusted to accommodate this as well as the integration of existing documents. The internal tender and approval process are in progress and work will start in earnest during the course of 2015.