

Reece, Claire

From: Adri Barkhuysen <adriba@telkomsa.net>
Sent: 23 March 2015 07:51 AM
To: Reece, Claire
Subject: FW: Roodeplaat Wind Energy

Hi Claire

I can't find my name on the I&AP list.

I am interested in the potential impacts of your WEF on the eagle populations therefore I would to have a look at the pre-construction avainfaura report, please?

Best wishes

Adri Barkhuysen

From: Justin Green [mailto:j.green@cesnet.co.za]
Sent: 01 July 2014 09:40 AM
To: 'Adri Barkhuysen'
Subject: Roodeplaat Wind Energy

Good morning Adri

The project is still a go. A few changes and additions have been made to the report and it will be going out for a second round of Public review for the DSR within the next 2 weeks.

A notification will be sent out to all IAPs of the new review period.

Please shout if you need further details.

Kind Regards

Justin Green



Justin Green
Environmental Consultant
EOH Coastal & Environmental Services

tel: +27 (46) 622 2364 | fax: +27 (46) 622 6564 | cell: +27 (73) 289 1163
justin.green@eoh.co.za | www.eoh.co.za | www.cesnet.co.za

Consulting | Technology | Outsourcing

From: Adri Barkhuysen [mailto:adriba@telkomsa.net]
Sent: 30 June 2014 02:41 PM
To: 'Roodeplaat Wind Energy'
Subject: RE: Roodeplaat Wind Energy

Hi Justin

What is happening with this WEF near Uitenhage?

Best wishes

Adri

From: Roodeplaat Wind Energy [mailto:info=cesnet.co.za@mail28.wdc03.rsgsv.net] **On Behalf Of** Roodeplaat Wind Energy
Sent: 14 October 2013 04:28 PM

To: Adri Barkhuysen
Subject: Roodeplaat Wind Energy

U

Coastal and Environmental Services



**67 African Street
Grahamstown
6139**

046 - 622 2364

14 October 2013

To all

Stakeholders and Interested and Affected Parties (IAPs)

**NOTIFICATION OF RELEASE OF DRAFT ENVIRONMENTAL SCOPING REPORT
(DSR) FOR THE PROPOSED DEVELOPMENT OF INYANDA - ROODEPLAAT WIND
ENERGY PROJECT**

(DEA EIA Reference number: 14/12/16/3/3/2/464):

In accordance with the requirements of section 54 (2) (b) (vi) of the Environmental Impact Assessment Regulations (2010) made in terms of section 24(5) of the National Environmental Management Act (Act No 107 of 1998) as amended, we are required to, “give written notice to any organ of state having jurisdiction in respect of any aspect of the activity”. In accordance with this requirement, please find here-with a letter of notification for an environmental impact assessment being carried out by Coastal and Environmental Services in respect of the above-mentioned project.

Inyanda Energy Projects (PTY) LTD (Inyanda Energy), a renewable energy company, plans to develop a wind energy facility between the towns of Patensie and Kirkwood, within the Sundays River Valley Municipality, Eastern Cape Province, South Africa. The proposed project will entail the construction and operation of approximately 35 wind turbines, with a maximum generating output of up to 140 MW. The proposed development will cover an area of 60 hectares.

All Interested and Affected Parties are hereby notified of the availability of the Draft Scoping Report for public review and comment. The review period is from 14 October

2013 to 24 November 2013. Copies of the Draft Environmental Scoping Report (DSR) are available for review and comment at the following locations:

- Ø Port Elizabeth Public Library (Market Square, Govan Mbeki Avenue, PE)
- Ø Uitenhage Public Library (Market St, Uitenhage Central, Uitenhage)
- Ø Kirkwood Public Library (Middelstraat, Kirkwood)
- Ø The CES website (www.cesnet.co.za) – click on the public documents link.

Public meetings will be held at the:

- **Port Elizabeth:** Feather Market Hall (Baakens Room) on Wednesday 23 October 2013 at 12:00. The Room is located at the Cnr. Baakens Street and Military Road, Central
- **Kirkwood:** Kroonenhoff Guesthouse on Wednesday 23 October 2013 at 18:00. The guesthouse is located at 1 Sonop Street, Kirkwood.

Yours sincerely,

Error! Filename not specified.

Justin Green

Environmental Consultant

Coastal & Environmental Services
info@cesnet.co.za

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· South Africa



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Reece, Claire

From: Bool Smuts <bool@landmarkfoundation.org.za>
Sent: 20 March 2015 03:17 PM
To: Reece, Claire; vchauke@environment.gov.za; Port Elizabeth
Cc: jeannine@landmarkfoundation.org.za
Subject: RE: Proposed Ingeprop Inyanda-Roodeplaat Wind Farm Project: Final Scoping Reprt

Dear Claire

This proposed site must be rejected as this run in the middle of a critically endanger leopard population that is genetically bottlenecking. This industrial development will without doubt be the death-knell of this population.

I will also formally place this matter before the authorities!

Regards
Dr Smuts
Landmark Foundation
083 324 3344

From: Reece, Claire [<mailto:CRreece@srk.co.za>]
Sent: 20 March 2015 02:02 PM
To: Undisclosed recipients:
Subject: Proposed Ingeprop Inyanda-Roodeplaat Wind Farm Project: Final Scoping Reprt

Dear Interested and Affected Parties / Stakeholders

Attached please find the Executive Summary of the Final Scoping Report (FSR) for the Proposed Ingeprop Inyanda-Roodeplaat Wind Farm Project near Uitenhage, Cacadu District Municipality, Eastern Cape, Eastern Cape.

The FSR provides a description of the development proposed by the proponent, as well as relevant environmental issues that will require further investigation and assessment in the Impact Assessment phase of the project, and includes a Plan of Study (POSE) for EIA. All comments received from IAPs on the proposed development thus far have been included in the FSR, and a summary of IAP comments and responses is included in the Executive Summary.

The FSR will be submitted to the Department of Environmental Affairs (DEA) for consideration. DEA will evaluate the FSR, including comments from IAPs, and either approve the POSE, or specify changes that need to be addressed in the EIR. After this, a Draft Environmental Impact Report (EIR) will be produced for further comment by IAPs.

Printed copies of this report are available for public review and a 14 day comment period at the Uitenhage and Kirkwood Public Libraries, and electronically for download via <http://www.srk.co.za/en/za-inyanda-roodeplaat-wef-eia>. SRK believes that the Final Scoping Report provides an accurate reflection of the public participation process and the issues identified. Comments on the Final Scoping Report should be submitted before 5pm on **7th April** to the DEA case officer:

Mr Vincent Chauke
Department of Environmental Affairs
Private Bag X447
PRETORIA
0001
vchauke@environment.gov.za

and copied to SRK:

Reece, Claire

From: Brian Reeves <Brian.Reeves@ecpta.co.za>
Sent: 24 March 2015 11:53 AM
To: Reece, Claire
Cc: Wayne Erlank; Bev Geach
Subject: RE: Proposed Ingeprop Inyanda-Roodeplaat Wind Farm Project: Final Scoping Reprt

Thanks for your response, Claire

We have requested that DEDEAT and DEA investigate the matter further.

Regards
Brian

Brian Reeves M.Sc. Pr.Sci.Nat.
Regional Ecologist: Western Region

Eastern Cape Parks & Tourism Agency
Tel: 041 364 2570
Cell: 071 605 5234
Fax: 041 364 2543 / 086 625 3320
Email: brian.reeves@ecpta.co.za



From: Reece, Claire [mailto:CReece@srk.co.za]
Sent: 24 March 2015 11:35
To: Brian Reeves
Subject: Proposed Ingeprop Inyanda-Roodeplaat Wind Farm Project: Final Scoping Reprt

Dear Brian,

SRK is aware of a road on the site that was constructed prior to us being appointed to complete the EIA process for the Wind Farm in October 2014. One of the internal access roads in the proposed site development plan does largely coincide with this existing road. However, SRK is not in a position to state whether this road was constructed for the purpose of the wind farm.

Regards

 **srk** consulting

SRK Consulting (South Africa) (Pty) Ltd.

Ground Floor, Bay Suites, 1a Humewood Rd, Humeral, Port Elizabeth, 6001
P O Box 21842, Port Elizabeth, 6000
Tel: +27-(0)41-509-4800
Fax: +27-(0)41-509-4850
Email: portelizabeth@srk.co.za

www.srk.co.za

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From: Brian Reeves [<mailto:Brian.Reeves@ecpta.co.za>]
Sent: 20 March 2015 02:08 PM
To: Reece, Claire
Subject: RE: Proposed Ingeprop Inyanda-Roodeplaat Wind Farm Project: Final Scoping Reprt

Hi Claire

Is it true that your client has already constructed the roads for this development?

Regards
Brian

From: Reece, Claire [<mailto:CReece@srk.co.za>]
Sent: 20 March 2015 14:02
Subject: Proposed Ingeprop Inyanda-Roodeplaat Wind Farm Project: Final Scoping Reprt

Dear Interested and Affected Parties / Stakeholders

Attached please find the Executive Summary of the Final Scoping Report (FSR) for the Proposed Ingeprop Inyanda-Roodeplaat Wind Farm Project near Uitenhage, Cacadu District Municipality, Eastern Cape, Eastern Cape.

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Printed copies of this report are available for public review and a 14 day comment period at the Uitenhage and Kirkwood Public Libraries, and electronically for download via <http://www.srk.co.za/en/za-inyanda-roodeplaat-wef-ia>. SRK believes that the Final Scoping Report provides an accurate reflection of the public participation process and the issues identified. Comments on the Final Scoping Report should be submitted before 5pm on **7th April** to the DEA case officer:

Reece, Claire

From: Nanna Gouws (SR) <GouwsJ@nra.co.za>
Sent: 20 March 2015 02:26 PM
To: Reece, Claire
Subject: RE: Proposed Ingeprop Inyanda-Roodeplaat Wind Farm Project: Final Scoping Reprt

Good afternoon Clair

Your Executive Summary of the final Scoping Report refers.

From the locality plan it is clear that the erection of the wind turbines will not have an effect on the national road R75 but the abnormal loads will have an effect on our roads and our comments will deal with this aspect and also future power line which should cross the R75.

- Abnormal loads have to be transported by road to the site and will need permits which is obtainable from the Provincial Government of the Eastern Cape.
- Access to the wind farms must be obtained from secondary roads where possible, if not achievable then an application to utilize the national road should be submitted to this office for consideration. To enable SANRAL to consider access from the national road a Traffic Impact Assessment will have to be submitted together with the application to utilize the national road to transport wind energy equipment to the site. Please take note that any upgrade of access roads to accommodate these abnormal loads will be at the cost of the developer and shall be constructed to SANRAL's standards and requirements.

When electrical power lines have to be installed/erected (overhead/parallel) to the national road the following conditions amongst others shall apply and application for such way leaves have to be submitted to SANRAL for consideration/approval:

- (a) When crossing the national road with an overhead power line - No tower, pole or stay shall be erected within a distance of sixty (60) metres, measured from the national road reserve boundary (132kV lines).
- (b) A vertical clearance of not less than 7.0 metres, measured from the crown of the national road to the lowest wire shall be observed.

Please contact this office should you require more information.

Kind regards

Nanna Gouws
Tel: +27 41 398 3226
Fax: +27 41 398 3222

SANRAL Southern Region Offices
Block C, Southern Life Gardens,
70 Second Avenue, Newton Park, Port Elizabeth P.O. Box 27230, Greenacres, 6057
www.nra.co.za
SANRAL Fraud Hotline: 0800204558

From: Reece, Claire [mailto:CRreece@srk.co.za]
Sent: 20 March 2015 02:02 PM
Subject: Proposed Ingeprop Inyanda-Roodeplaat Wind Farm Project: Final Scoping Reprt

Dear Interested and Affected Parties / Stakeholders

Attached please find the Executive Summary of the Final Scoping Report (FSR) for the Proposed Ingeprop Inyanda-Roodeplaat Wind Farm Project near Uitenhage, Cacadu District Municipality, Eastern Cape, Eastern Cape.

Reece, Claire

From: Reece, Claire
Sent: 25 March 2015 10:34 AM
To: 'Paul Martin'
Subject: RE: Proposed Ingeprop Inyanda-Roodeplaat Wind Farm Project: Final Scoping Reprt

Dear Dr Martin,

I acknowledge receipt of your correspondence and confirm that you are registered as an Interested & Affected Party (IAP) for the project. You will be kept up to date regarding the availability of reports and be provided with the opportunity to comment on their contents.

Your comments and concerns have also been noted and they will be included in, and addressed in the Environmental Impact Report (EIR).

Thank you for your interest and input.

Regards

Claire Reece



SRK Consulting (South Africa) (Pty) Ltd.

Ground Floor, Bay Suites, 1a Humewood Rd, Humeral, Port Elizabeth, 6001

P O Box 21842, Port Elizabeth, 6000


Tel: +27-(0)41-509-4800

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www.srk.co.za

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From: Paul Martin [<mailto:pmartin@axxess.co.za>]
Sent: 24 March 2015 05:06 PM
To: Reece, Claire
Subject: Re: Proposed Ingeprop Inyanda-Roodeplaat Wind Farm Project: Final Scoping Reprt

Claire,

As per our telcon today.

Please ensure that any risks that the Wind Farm may have on the KwaZunga River and its catchment are assessed during the EIA. There are currently no developments in the KwaZunga catchment, leading to excellent water quality entering the Groendal Dam that is a water supply for NMBM. The river also has healthy populations of endemic fish such as the Red Fin Minnow & perhaps other species. There could easily be siltation and seep interference from erosion / runoff from the wind farm roads.

Will the development require Water Licences (boreholes, development near wetlands / watercourses, etc)?

Cut and fill calculations will be required to see whether there will be excess spoil that needs to be taken somewhere (where?) or additional fill required from somewhere (if so where?).

The impact of this facility on a currently pristine mountain slope / ridge (Groot Winterhoekberg) and valley (KwaZunga) must not be under-estimated, especially as it is within a Protected Area Expansion Area.

Dr Paul Martin
PO Box 61029
Bluewater Bay 6212
Tel: 041 4665698
Cell: 0732524111
email: pmartin@axxess.co.za

On 2015/03/20 02:01 PM, Reece, Claire wrote:

Dear Interested and Affected Parties / Stakeholders

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Mr Vincent Chauke
Department of Environmental Affairs
Private Bag X447
PRETORIA
0001
vchauke@environment.gov.za

and copied to SRK:

Claire Reece at SRK Consulting
PO Box 21842, Port Elizabeth, 6000
Email: portelizabeth@srk.co.za
Fax: (041) 509 4850

Kind Regards

Reece, Claire

From: Adri Barkhuysen <adriba@telkomsa.net>
Sent: 01 April 2015 02:29 PM
To: vchauke@environment.gov.za
Cc: Reece, Claire
Subject: RE: Proposed Ingeprop Inyanda-Roodeplaat Wind Farm Project: Final Scoping Reprt

Dear Vincent

I have studied a Black eagle population (13 active territory pairs) on the northern slopes of the Groot Winterhoek mountain range for three years 2003-5, especially in terms of the population's breeding success. The nests stretch from the start of the mountain in the east (north of Uitenhage) to the Cockscomb peak in the west (total length 50km) and this proposed windfarm will be centred at Nest 7, therefore right in the middle of this Black eagle population. The Groot Winterhoek range is part of the Cape fold mountains, long ranges of east-west running mountains, where the south side is more in the shady and moist, therefore more forested vegetation, while the north side is more sunny and arid and therefore has more exposed rock and sparse vegetation. The top is very exposed to wind with mountain grasslands and fynbos vegetation on the down slopes. Deep gorges or kloofs drain the mountain of both sides.

One of the observations that I made was that these eagles appear to be active in adverse weather conditions, which appears to make them more successful in capturing Rock dassies. While during nest visits after a cold spell, 3-4 dassies can be found on a single nest, indicating a food cache during adverse weather conditions. When a cold front (cold, strong wind conditions) arrives in these mountains from the southwest, because of the change in air temperature, the mountain becomes covered in a cloud blanket within half an hour, even in the day and I have observed these eagles flying around in the mountain in these conditions. With the proposed wind turbines located on top of the mountain and then hidden in this cloud blanket, it will increase the likelihood of these eagles colliding with turbine blades in misty, windy conditions. Therefore, before this WEF project progresses any further, I would like to suggest a study to prove whether or not these eagles are more active in adverse weather conditions.

Other observations include that Black eagles are silent and therefore only use vertical dives above their nests (1km radius) as their territorial display. These occur regularly and normally on quiet, sunny days but such displays will trigger neighbouring males or pairs to follow suit. The aggression that an eagle displays to a neighbouring male is quite intense (their focus is only to display to their next-door opponent), and they tend to neglect any other vigilance. This could make them more vulnerable to collide with turbine blades during this state of behaviour.

Furthermore Black eagles use the north slopes of the mountain (and breed there) because there is more rock, that is where they are more successful in capturing the main prey, Rock dassie. While African Crowned eagles use (and breed on) the south side of the mountain because that area is more forested and that is where they capture their main prey, Rock dassie, with a tactic of perch hunting (their prey comes to them). In contrast Martial eagles hunt on open areas on top of the mountain although they breed in valleys on both sides (south and north) of the mountain. Interestingly, Martial eagles have extremely large territories, probably because of their habitat requirements for short vegetation, such as grasslands. Besides, Crowned eagles also use the small forested kloofs on the northern side of the mountain. Consequently all three of these large eagle species have their own specific hunting tactic in specific zones within the larger area and therefore they cross the mountain top on a regular basis. Furthermore there is invariable interaction between the three species, with territorial aggression, robbing each other's prey, etc. This behaviour and the use of the entire mountain top and sides by all three of these large eagles will increase their possibility to collide with turbine blades.

In addition I also monitored 14 other Black eagle nests/pairs in a more open area north of the mountain (Open population), where smaller hills occur and utilised by more extensive small stock farming, therefore an area more under grazing pressure. This probably also makes the birds more reliant on stock predation causing regular conflict with landowners. My data for the first two years in terms of breeding success for this Open population was very similar with the Mountain population (proposed WEF area) but in 2005 a very dry period followed and the breeding

success of the Open population dropped significantly, where only a small change occurred in the Mountain population. Hence this shows the resilience of the breeding success of the eagles in the Mountain population, thus any additional survival pressures such as turbine collisions and mortalities could be detrimental to the entire Black eagle population in this region.

Regards
Adri Barkhuysen
082 630 2448

From: Reece, Claire [<mailto:CReece@srk.co.za>]
Sent: 20 March 2015 02:02 PM
To: Undisclosed recipients:
Subject: Proposed Ingeprop Inyanda-Roodeplaat Wind Farm Project: Final Scoping Reprt

Dear Interested and Affected Parties / Stakeholders

Attached please find the Executive Summary of the Final Scoping Report (FSR) for the Proposed Ingeprop Inyanda-Roodeplaat Wind Farm Project near Uitenhage, Cacadu District Municipality, Eastern Cape, Eastern Cape.

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Mr Vincent Chauke
Department of Environmental Affairs
Private Bag X447
PRETORIA
0001
vchauke@environment.gov.za

and copied to SRK:

Claire Reece at SRK Consulting
PO Box 21842, Port Elizabeth, 6000
Email: portelizabeth@srk.co.za
Fax: (041) 509 4850

Kind Regards

 **srk** consulting

Reece, Claire

From: Gavin McLachlan <gavinmcl@gmail.com>
Sent: 01 April 2015 12:32 PM
To: Port Elizabeth
Subject: WIND FARM ON THE GROOT WINTERHOEK MOUNTAINS

Dear Claire,

I wish to register as an Interested and Affected Party with reference to the above proposed project of Ronnie Watson.

Kind regards,
Gavin McLachlan.

Reece, Claire

From: Tertius Coetzee <ctj@telkomsa.net>
Sent: 01 April 2015 01:05 PM
To: Port Elizabeth
Subject: Roodeplaat Windfarm Project : Groot Winterhoek Mts Eastern Cape

Dear Clare,

Please register me as an interested party for the EIA process relating to the above wind farm.

Your confirmation of my registration will be appreciated.

Yours faithfully

Tertius Coetzee

Reece, Claire

From: Tish Archer <tish.archer@yahoo.com>
Sent: 01 April 2015 01:17 PM
To: Port Elizabeth
Subject: Wind farm Groot Winterhoek Mountains

Hi Claire
Please register me

Thanks
Tish Archer

Reece, Claire

From: Arthur Rump <arump@officenational.co.za>
Sent: 01 April 2015 03:19 PM
To: Port Elizabeth
Subject: Inyanda Windfarm EIA

I wish to register as an I&AP for this project.

Regards

Arthur Rump
Hon. Secretary
Zwartkops Conservancy
NPO No.: 102-935 NPO
082 5770832



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www.avast.com

Reece, Claire

From: Greg Hofmeyr <greghofmeyr@gmail.com>
Sent: 01 April 2015 02:24 PM
To: Port Elizabeth
Subject: IAP registration - proposed Groot Winterhoek windfarm

Dear Ms. Reese

Please register me as an interested and affected party for the EIA of the proposed Groot Winterhoek windfarm.

Many thanks
Greg

Greg Hofmeyr PhD (Curator: Marine Mammals)

Port Elizabeth Museum at Bayworld

P.O.Box 13147, Humewood 6013, Port Elizabeth, South Africa

Tel: +27 (0)41 584 0650, Fax: +27 (0)41 584 0661 <http://www.bayworld.co.za>

<https://www.facebook.com/portelizabethmuseummarinemammals>

Stranding response number for whales, dolphins & seals ashore 07 17 24 21 22

Reece, Claire

From: Brian and Dot Hall <smokeyhall@telkomsa.net>
Sent: 01 April 2015 02:00 PM
To: Port Elizabeth
Subject: Register as IAP for Groot Winterhoek Mountains

Dear Claire

Please will you register me as an IAP for the proposed wind farm in the Groot Winterhoek Mountains.

Many thanks.

Yours sincerely

Dot Hall

Brian and Dot Hall
PO Box 32127, Summerstrand, 6019
smokeyhall@telkomsa.net
Phone: 0415834077
Brian Cell: 0832690553
Dot Cell: 0729479753

This email has been checked for viruses by Avast antivirus software.

<http://www.avast.com>

Reece, Claire

From: Charl Lotter <charllotter@vodamail.co.za>
Sent: 01 April 2015 02:22 PM
To: Port Elizabeth
Subject: Registration

Hi Claire,

Please register my wife and I as ISPs. We do not approve of the proposed windfarm which Ronney Watson wants to develop on the Groot Winterhook mountains.

I am:
Charl Lötter
ID: 7705315044088
Cell: 0827074188

My wife:
Charmaine Lötter
ID: 8005130273080
Cell: 0829347813

Kind regards,
Charl

Marais, Wanda

From: Llise Dodd <llisedodd68@gmail.com>
Sent: 09 April 2015 04:41 PM
To: vchauke@environment.gov.za
Cc: Port Elizabeth; Reece, Claire
Subject: Fwd: Comments on the Inyanda Final Scoping Report Ref: 14/12/16/3/3/2/464
Attachments: Comments Inyanda Roodeplaat Draft Scoping Report.pdf; recreational and tourism in the Elands River Valley.pdf; birds.xls; mammals.xls; tree list.xls

Sir,

Attached please find the comments as was raised by the Elands River Conservancy on the Draft Scoping Report (DSR) of the project.

After reading the Exucutive Summary of the Final Scoping Report (FSR) we realized that our comments are still relevant to the FSR and will be of help to the study specialists.

We reported the illegal "road making" linked to the project during the first week of December 2013 and was impressed that the issue was resolved. We thus trust that the project will further be handled in an appropriate way, avoiding fatal flaws.

All of the best.

Yours in conservation

Llise Dodd

(Secretary Elands River Conservancy)

PS I apologize for the late comment. I received a failed delivery report on the 7th of April 2015.

Comment of the Elands River Conservancy (ERC) on the Draft Environmental Scoping Report (DESR) of the proposed Inyanda - Roodeplaas Wind Energy Project, Sundays River Municipality, Cacadu District, Eastern Cape Province of South Africa
DEA Reference Number: 14/12/16/3/3/2/464. (23 November 2013)

The ERC consists of 33 landowners and covers 11,600 HA.
The ERC borders the proposed wind farm on the Eastern, South- Eastern and South- Western side.

At the meeting mentioned below the ERC was granted a 2(two) week extension period to comment on the abovementioned scoping report due to failed communication from Coastal and Environmental Services.

The ERC, although being registered as an interested and affected party, did not have the opportunity to comment on the proposed development therefore its comments are not included in the Draft Environmental Scoping Report that was made available at a meeting called by Coastal and Environmental Services, held in the Feather market Hall on the 23rd of October 2013 for interested and affected parties of the proposed project (the ERC was at a very late stage informed of this meeting by a member of the public).

Renewable energy

The ERC strongly supports the development and use of environment friendly renewable energy sources, however these developments still need to be handled responsibly and with the least possible detrimental effect to the environment - in particular the location of sites.

VISUAL IMPACT

About 40 years ago the Elands River was one of the Eastern Cape's largest wheat producers.

* Due to a change from a predominantly winter rainfall to rain throughout the year with no consistent pattern, farmers were forced to look for alternative methods of generating an income.

* For many residents, both established and new, tourism became an income-generating opportunity as the Elands River Valley is a **gateway to the Baviaanskloof Wilderness Area and borders on the Groendal Wilderness Reserve.**

* During the past 10 years, residents have developed eco-tourism related ventures and it is also one of the aims of the Elands River Conservancy to develop this further.

* Eco-tourism relies heavily on visual aesthetics and biodiversity.

Annexure A includes some of the activities offered commercially in the valley.

GEOGRAPHICAL INFO

The Elands River Valley's geographical structure consists of undulating hills, extensive deep kloofs with dense undisturbed, indigenous vegetation.

* This geomorphology complicates the erection of any large structures over extended distances and makes access to the same for maintenance cumbersome and costly. Due to the geographical structure, building large structures on the proposed farm will have a much larger surface impact since the true distance is considerably bigger, resulting in disturbance of many more plant and animal species than would be the case on flat land.

* The steep slopes in the valley raise the risk of soil erosion on any disturbed areas considerably.

AVIFAUNA IMPACTS

Included in Annexure B is a list of birds positively identified in the Elands River Conservancy. The list was compiled with the help of BirdLife Eastern Cape which uses the farm Hillingdon as a bird watching venue.

* Of the total number of 135 species identified at this location, 25 species are endemic, which means that they do not occur naturally anywhere else in the world.

* According to studies done by Heroldt (1988); Johnsgard (1991) and Allan (1997), the collision of large terrestrial birds with the wires of utility structures, and especially power lines, has been determined to be one of the most important mortality factors for this group of birds in South Africa.

* Certain groups are more susceptible to collisions, namely the species which are slow fliers and which have limited maneuverability as a result of high wing loading (Bevanger 1994). Birds that regularly fly between roosting and feeding grounds, undertake regular migratory or nomadic movements, fly in flocks or fly during low-light conditions are therefore also particularly vulnerable (Anderson 1978; APLIC 1994).

As shown in Annexure B, the Elands River Valley hosts many species that will be endangered by the erection of huge structures:

* Of significance are various species of ducks, wild geese, raptors and owls.

The White Stork, Stanley's Bustard and the Blue Crane are some of the species that have been identified as vulnerable to collisions.

* The latter is listed in The Eskom Red Data Book of Birds of South Africa, Lesotho and Swaziland (Barnes 2000) as *vulnerable*. The National Environmental

Management Act 2204 (act 10 of 2004), however, lists the Blue Crane as an *endangered species*.

During the erection of wind farms

* Habitat destruction and alteration inevitably takes place.

* Many birds are highly susceptible to disturbance

and should this disturbance take place during or just prior to the chick fledging period, it could lead to temporary or permanent abandonment of the nest by the adult birds, or premature fledging with fatal results for the chick.

Neil Evans, a member of the ERC has reported two breeding pairs of **Black Eagles** in the vicinity of his farm bordering the proposed wind farm.

* Such a sequence of events can have far-reaching implications for certain large, rare species that only breed once a year or once every two years.

* As the Elands River Valley has prolific bird life, the Elands River Conservancy actively protects bird breeding sites.

* It should also be noted that although certain species might not be protected or endangered, only a handful of them (in some instances only one pair) are resident in the Valley. If any one of these birds are "lost" it could mean their **extinction** in the valley.

FAUNA

Annexure C contains a list of mammals found in our area, but this list shows only a fraction of the wildlife in the area since reptiles and invertebrates are not included.

***Of the less common mammals that roam the Elands River Valley are: Klipspringer, Blue Duiker, Grysbok, Cape Mountain Leopard, Mountain Reedbuck, Aardvark, Bushbuck, Honey Badger, Snake mongoose, Aardwolf and Elephant Shrew.**

* The Mountain Reedbuck's habitat is restricted to bushy, mountainous areas, thus having an ideal habitat in the Elands River Valley and neighboring Baviaanskloof Wilderness Area and Groendal Nature Reserve. The Reedbuck is a protected species.

* The Klipspringer, Grysbok and Bushbuck ewe are also protected.

* The Blue Duiker is an endangered species. It is the smallest of all buck species in South Africa and is also endemic. It is extremely sensitive to any disturbance of its habitat.

* For the first time in many years, the Elands River Valley has Kudus and we attribute this to the mutual effort of our residents to conserve and hunt responsibly.

* The Cape Mountain Leopard is a vulnerable species, and the Elands River Valley has a Leopard committee working with Nature Conservation officials to look at ways of protecting farm stock as well as the leopard.

* Due to the fact that the Valley has an erratic pattern of all-year rainfall, many

interesting invertebrates are found here. They form an integral part of the biotic co-habitation which is of the utmost importance to our ecosystem. Some of the protected species encountered in the valley are ***Opisthacanthus spp* (Creeping Scorpions) and *Harpactira spp* (Common Baboon Spider)**. Researchers are currently emphasizing the importance of the **Cape Mountain Cockroach** in the eco-system. This insect is found in the mountains of the Elands River Valley.

* A diversity of reptiles are seen in the area, including tree snakes and different kinds of adders. Although ordinary, they play a vital role in rodent control in the ecosystem.

* Of great importance is the **Smith's Dwarf Chameleon** that is a protected species. This species is currently under a lot of pressure.

FLORA

* Included in Annexure D is a list of trees positively identified in the Elands River Valley. A list of special trees, rare and endemic to a corner of the Eastern Cape is also attached.

These lists were compiled by Jenny Eldridge, an arborist and member of the Elands River Conservancy.

* The cycad species *Encephalartos longifolius*, which is found at several locations in the valley, is a protected species and a small clump of *Sterculia alexandrii* has been found on the slopes of Moordenaarskop in the Elands River Valley.

* The Elands River Valley boasts many species of Aloes as well as Proteas, Leucadendrons, Leucospermums, Ericas and other Fynbos species. The Botanical Society of Port Elizabeth, after visiting only the farm Hillingdon, advised that a specialist should draw up a comprehensive list of the fynbos in the Elands River Valley in order to identify all the species.

Logistics

The Elands River Road is a gravel road used by tourists to and residents from the Elands River Valley. The road is not properly or regularly maintained, therefore any increased and especially heavy traffic will greatly deteriorate the condition of the road. In addition the road can at many places only accommodate a single lane of traffic making access problematic.

CONCLUSION

The proposed wind farm will hold no advantages to the residents of the Elands River Valley. A community 80km further will reap the benefits as stated in the DESR.

Local labour cannot be used for external contractors since the Elands River community has a limited workforce for existing employment. This means that contractors will have to employ strangers in the area who could notice our daily routines, observe our area and we may become a target of criminals. On the 7th of November 2013 a farm attack occurred in the area due to a farmer using labour from outside the valley. The Elands River community actively strives to avoid situations that pose a security threat to residents.

* We accept the fact that there is a need for additional electricity (whether for local use or export).

* The supply of additional electricity can however not be achieved at the expense of the environment and enrichment of a single landowner. All our natural resources, including plant-, bird-, and wildlife, are under constant pressure of so-called infrastructure development.

* This generation has the responsibility to protect and conserve what is left of our environment. If we allow the wrong decisions to be made now, this ecological heritage close to the metropolitan area of the NMMM will be lost forever.

* The Conservancy foresees that it will become part of the linking corridors for the planned Mega Reserve including the Addo Park and the Baviaanskloof Wilderness Area. Constructing a wind farm of the proposed scale will have a negative impact on this vision.

* The Elands River Conservancy will do everything in its mandate to protect our environment and it is therefore its proposal that other more suitable sites be investigated.

List of references used:

Barnes, K.N.(ed) 2000. *The Eskom Red Data Book of Birds of South Africa, Lesotho and Swaziland*. BirdLife South Africa, Johannesburg.

Environmental Impact Management Services (Pty) Ltd.2003. Environmental Scoping Report Proposed Eskom Duvha-Janus 400kv Powerline. Cape Town.

FitzSimons, V.F.M. 1970. *A Field Guide To The Snakes Of Southern Africa*. Cape Town, Cape and Transvaal Printers.

Monnig, H.O. 1954. *Handboek oor Veiesiektes*. Kaapstad, Tafelberg-Uitgewers.

National Environmental Management: Biodiversity Act, 2004(act 10 of 2004):
Publication of Lists of Critically Endangered, Endangered, Vulnerable and Protected Species.

Sinclair, I. 1993. *Birds of Southern Africa*. Cape Town, Struik.

Van Wyk, B. 1997. *Field Guide to Trees of Southern Africa*. Cape Town, Struik.

RECREATIONAL ACTIVITIES AND TOURISM VENTURES: ELANDS RIVER VALLEY.

- 1 Landela Christian Camp: Accommodation and recreational activities.
- 2 Offcamber Adventures: Accommodation and recreational activities.
- 3 Monte Vista: Accommodation and entertaining area.
- 4 Llise Dodd Art Studio: Art sales and art workshops
- 5 Afdak: Conference Centre and game farm
- 6 Burrows: Accommodation and recreational activities
- 7 Mountain View: Accommodation and recreational activities.
- 8 Tangle Woods: Accommodation and holiday farm
- 9 Otter's Creek: Accommodation
- 10 Sand River Getaway: Accommodation and recreational activities.
- 11 Golden Grove Guest House: Accommodation
- 12 The Meadows: Accommodation, 4x4 route, event organizing
- 13 Wistaria: Organic Farm
- 14 Mount Ingwe: Boer war museum, accommodation, recreational activities.
- 15 Melkhoutboom: Rozelle Handmade Cheese and Padstal

BIRDS - CHECKLIST

DATE.....

ENGLISH

AFRIKAANS

8	Dabchick	Kleindobbertjie	
55	Whitebreasted (Great) Cormorant	Witborsduiker	
58	Reed Cormorant	Rietduiker	
62	Grey Heron	Bloureier	
71	Cattle Egret	Bosluisvoel	
81	Hamerkop	Hamerkop	
83	White Stork	Witooievaar	
94	Hadeda Ibis	Hadeda	
102	Egyptian Goose	Kolqans	
104	Yellowbilled Duck	Geelbekteend	
105	African Black Duck	Swarteend	
116	Spurwinged Goose	Wildemakou	
118	Secretarybird	Sekretarisvoel	
122	Cape Vulture	Kransaasvoel	*
127	Blackshouldered Kite	Blouvalk	
136	Booted Eagle	Dwergarend	
140	Martial Eagle	Breëkoparend	
148	African Fish Eagle	Visarend	
149	Steppe Buzzard	Bruinjakalsvoel	
150	Forest Buzzard	Bergjakkalsvoel	*
152	Jackal Buzzard	Rooiborsjakkalsvoel	*
158	Black Sparrowhawk	Swartspewer	
169	Gymnogone	Kaalwangvalk	
172	Lanner Falcon	Edelvalk	
181	Rock (Common) Kestrel	Kransvalk	
195	Cape Francolin	Kaapse Fisant	*
200	Common Quail	Afrikaanse Kwartel	
203	Helmeted Guineafowl	Gewone Tarentaal	
208	Blue Crane	Bloukraanvoel	*
231	Stanley's Bustard	Veldpou	
255	Crowned Plover	Kroonkiewiet	
297	Spotted Dikkop	Dikkop	
349	Rock Pigeon	Kransduif	
350	Rameron Pigeon	Geelbekbosduif	
352	Redeyed Dove	Grootringduif	
354	Cape Turtle Dove	Gewone Tortelduif	
358	Greenspotted Dove	Groenvlekduifie	
359	Tambourine Dove	Witborsduifie	
370a	Knysna Lourie	Knysnaloeerie	*
377	Black Cuckoo	Swartkoekoek	
378	Redchested Cuckoo	Piet-my-vrou	
386	Diederik Cuckoo	Diederikkie	
391a	Burchell's Coucal	Gewone Vleiloerie	*
392	Barn Owl	Nonnetjie-uil	
394	Wood Owl	Bosuul	
400	Cape Eagle Owl	Kaapse Ooruil	
401	Spotted Eagle Owl	Gevlekte Ooruil	
405	Fierynecked Nightjar	Afrikaanse Naguil	
415	Whiterumped Swift	Witkruiswindswael	
418	Alpine Swift	Witpenswindswael	
424	Speckled Mousebird	Gevlekte Muisvoel	
426	Redfaced Mousebird	Rooiwangmuisvoel	
427	Narina Trogon	Bosloerie	
428	Pied Kingfisher	Bontvisvanger	
429	Giant Kingfisher	Reuse Visvanger	
432	African Pigmy Kingfisher	Dwergvisvanger	
435	Brownhooded Kingfisher	Bruinkopvisvanger	
446	European Roller	Europese Troupant	
451	African Hoopoe	Afrikaanse Hoepoep	
452	Redbilled Woddhoepoe	Gewone Kakelaar	
460	Crowned Hornbill	Gekroonde Neushoringvoel	
464	Blackcollared Barbet	Rooikophoutkapper	
476	Lesser Honeyguide	Kleinheuningwyser	
486	Cardinal Woodpecker	Kardinaalspeg	
488	Olive Woodpecker	Gryskopspeg	
518	European (Barn) Swallow	Europese Swael	
520	Whitethroated Swallow	Witkeelswael	
526	Greater Striped Swallow	Grootstreepswael	
527	Lesser Striped Swallow	Kleinstreepswael	
529	Rock Martin	Kransswael	
536	Black Saw-wing Swallow	Swartsaagvierkswael	
538	Black Cuckooshrike	Swartkatakoeroe	
540	Grey Cuckooshrike	Bloukatakoeroe	
541	Forktailed Drongo	Mikstertbyvanger	
543	European Golden Oriole	Europese Wielewaal	
545	Eastern Blackheaded Oriole	Oostelike Swartkopwielewaal	
547	Black Crow	Swartkraai	
548	Pied Crow	Witborskraai	
550	Whitenecked Raven	Withalskraai	
566	Cape Bulbul	Kaapse Tiptol	*
569	Terrestrila Bulbul	Boskrapper	
572	Sombre Bulbul	Gewone Willie	
577	Olive Thrush	Olyflyster	
581	Cape Rock Thrush	Kaapse Kliplyster	*
601	Cape Robin	Gewone Janfrederik	

Mammals

D

Black Backed Jackal
Cape Mountain Leopard
Lynx
Bushbuck
Blue Duiker
Elephant Shrew
Cape Fruit Bat
Vervet Monkey
Chacma Baboon
Snake Mongoose
Honey Badger
Cape Clawless Otter
Cape Grey Mongoose
Small Spotted Genet
White-Tailed Mongoose
Antbear
Rock Dassie
Bush Pig
Grey Duiker
Grysbok
Klipspringer
Grey Rhebuck
Mountain Reedbuck
Kudu
Cape Hare
Red Hare
Common Mole-Rat
Cape Porcupine
Striped Field Mouse
Aardvark

Tree List

16	PODOCARPUS FALCATUS	OUTENIQUA YELLOWOOD
20	WIDDINGTONIA NODIFLORA	MOUNTAIN CYPRES
39	CELTIS AFRICANA	WHITE STINKWOOD
139	PITTOSPORUM VIRIDIFLORA	CHEESEWOOD
143	TRICHOCLADUS ELLIPTICUS	WHITE WITCH-HAZEL
201	SCOTIA AFRICANA	KAROO BOERBOON
204	SCOTIA LATIFOLIA	BUSH BOERBOON
253	ZANTHOXYLUM CAPENSE	SMALL KNOBWOOD
256	CALODENDRUM CAPENSE	CAPE CHESTNUT
261	VEPRIS LANCEOLATA	WHITE IRONWOOD
292	PTAEROXYLUM OBLIQUUM	SNEEZE WOOD
298	ELKERBERGIA CAPENSE	ESSENHOUT / ASHWOOD
307	LACHNOSTYLIS HIRTA	COALWOOD
365	LOXOSTYLIS ALATA	TARWOOD / TEERHOUT
380	RHUS CHIRENDENSIS	RED CURRANT
398	MAYTENUS ACCUMINATA	SILKY BARK
403	MAYTENUS UNDATA	KOKO TREE
409	PTEROCELASTRUS TRICUSPIDATUS	CANDLEWOOD
410	MYSTROXYLON AETHIOPICUM	KOOBOO BERRY
413	ROBSONODENDRON EUCLEIFORME	WHITE SILKY BARK
414	CASSINE PERAGUA	FOREST SPOONWOOD
415	ELAEODENDRON CROCEUM	FOREST SAFFRON
422	APODYTES DIMIDIATA	WHITE PEAR
431	SMELOPHYLLUM CAPENSE	BEND-ME-NOT / BUIG MY NIE
438	HIPPOBROMUS PAUSIFLORUS	FALSE HORSEWOOD / BASTER PERDEPIS
452	RHAMNUS PRINOIDES	SHINY LEAF / BLINKBLAAR
463	GREWIA OCCIDENTALIS	CROSS BERRY / KRUISBESSIE
479	OCHNA ARBOREA	CAPE PLANE
497.1	OCHNA SERRULATA	SMALL LEAVED PLANE
494	KIGGELARIA AFRICANA	WILD PEACH
498	SCHOLOPIA ZEYHERI	THORN PEAR
504	TRIMERIA TRINERVI	SMALL LEAVED MULBERRY
553	EUGENIA ZEYHERI	EASTERN CAPE MYRTLE
564	CUSSONIA SPICATA	COMMON CABBAGE TREE
570	CURTISIA DENTATA	ASSEGAI
577	MYRSINE AFRICANA	CAPE MYRTLE
578	RAPANEA MELANOPHLOEOS	CAPE BEECH / BOEKEN HOUT
579	SIDEROXYLON INERMA	WHITE MILKWOOD
600	EUCLEA SHIMPERI	GLOSSY GUARRI
601	EUCLEA UNDULATA	COMMON GUARRI
611	DIOSPYRUS WHYTAENA	BLADDER NUT
615	CHIONANTHUS FOVEOLATUS	POCK IRONWOOD
617	OLEA EUROPEA s.p. AFRICANA	WILD OLIVE
618.2	OLEA CAPENSIS s.p. MACROCARPA	IRONWOOD
634	NUXIA FLORIBUNDA	FOREST ELDER / BOSFLIER
637	BUDLEJA SALVIIFOLIA	SAGEWOOD
639	ACOKANTHERA OPPISITIFOLIA	BUSHMAN'S POISON BUSH
688	BRUCHELLIA BABALINA	WILD POMEGRANATE
641	GONIOMA KAMASSIE	KAMASSIE
692	GARDENIA THUMBERGIA	FOREST GARDENIA
693	ROTHMANIA CAPENSIS	WILD GARDENIA
708	CANTHIUM INERMA	TURKEY BERRY
710	CANTHIUM MUNDIANUM	ROCK ALDER / KLIPES
711	PSYDRAX OBOVATA	QUAR
726	BRACHYLAEANA GLABRA	MALABAR
733	TARCHONANTHUS CAMPHORATUS	CAMPHOR BUSH
736	CHRYSANTHEMOIDES MONILIFERA	TICK BERRY

SPECIAL TREES RARE AND ENDEMIC TO A CORNER OF THE EASTERN CAPE

STERCULIA ALEXANDRII	STAR CHESTNUT
SMELLOPHYLLUM CAPENSE	BUIG-MY-NIE
LOXOSTYLUS ALATA	TARWOOD
WIDDINGTONIA NODIFLORA	MOUNTAIN CYPRUS
ENCEPHALARTOS ALTENSTEINII	EASTERN CAPE CYCAD

FAX: NO 041-5094850

①

P.O. Box 1365
UITENHAGE 6230

"SONNECK FARM"

20/04/2015.

FAX/TEL 041-9555901

CEL 073 514 7821

ATTENTION: CLAIRE REECE
SRK CONSULTING.

DEAR MADAM.

RE: HIND ENERGY FACILITY.FURTHER TO OUR TELEPHONIC CONVERSATION
LAST WEEK I WISH TO ADVISE AS FOLLOWS:-

WE ARE PENSIONERS FARMING ON PROPERTY:

1. PORTION 22 PART OF PORTION 12 "SONNECK"
OF THE FARM BOSCHFONTEIN NO 390 AND.
2. PORTION 21 PART OF PORTION 12 OF THE FARM
BOSCHFONTEIN NO 390 ("AIZPAH")

A TOTAL OF 48,74 HECTARE

WE FARM WITH CATTLE PIGS GOATS AND
CHICKENS.WE ARE FINDING THAT WITH AGE WE ARE
HAVING DIFFICULTY IN KEEPING UP WITH THE
WORK. AND THE THOUGHT ENTERED OUR
MINDS THAT IT WAS AN IDEAL AREA
FOR A WINDY ENERGY FACILITY.THE BLOZA LOCATION IS SITUATED 3 KM
FROM US AND ALSO CONSUME ELECTRICITY.

CONT:

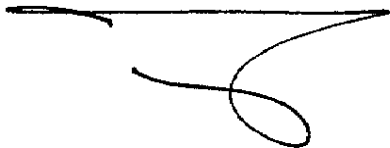
(2)

IT WOULD BE VERY NICE IF YOUR
SRK CONSULTING COMPANY COULD
POSSIBLY LOOK INTO THE MATTER.

LOOKING FORWARD TO HEARING
FROM YOU.

REGARDS.

BEB KRUGER. (YOUNG)



FAX NO 041-9555901
ELAHOS RIVIER

Reece, Claire

From: Helene Gabriel <helenegabriel5@gmail.com>
Sent: 20 April 2015 10:00 AM
To: Port Elizabeth
Subject: Regarding wind farm East of Cockscomb

Hi Claire,

I am a member of the Mountain Club. I would like to be registered as an interested party that will be affected by Ronnie Watson's proposal of a Wind Farm.

My name is Helene Gabriel.

Kind regards,
Helene.

> To: Port Elizabeth
> Subject: Roo-deplaat Wind Farm
>
> Dear Sir/Madam
>
> I would like to register as an IAP for the above project.
>
> Please would you forward relevant information to me.
>
> Regards
>
> Scott Rollo
> 082 962 4028

Reece, Claire

From: Trefor Lloyd <tdlgoat@gmail.com>
Sent: 19 April 2015 03:05 PM
To: Port Elizabeth
Subject: windfarm grootwinterberg

Claire

Please register me as an interested/Affected Party.

Trefor Lloyd
tdlgoat@gmail.com

Marais, Wanda

From: Deidre Watkins <Deidre.Watkins@dmr.gov.za>
Sent: 27 January 2016 03:28 PM
To: Marais, Wanda
Cc: Xolani Mchunu; Nontobeko Mdakane
Subject: RE: The proposed Inyanda-Roodeplaat Wind Farm project

Good Afternoon,

Please note that you will be required to submit a surface usage application to the DMR for approval, since a project of this type will in effect sterilize the area under review, for the extraction of any potential minerals. In terms of surface usage applications, the application form and relevant documents must be submitted for review and approval/refusal, and the Mineral Laws Administration section can be contacted for further information in this regard. The relevant officials are as follows:

Mr Xolani Mchunu (Deputy Director) – xolani.mchunu@dmr.gov.za (041 403 6629)
Ms Nontobeko Mdakane (Assistant Director) – Nontobeko.mdakane@dmr.gov.za (041 403 6622)

Should you require any further information, please do not hesitate to contact this office.

Best regards,
Deidre

Deidre Thompson
DEPUTY DIRECTOR: MINE ENVIRONMENTAL MANAGEMENT



Department of Mineral Resources: Eastern Cape Region
Pier 14 Building (3rd Floor), 444 Govan Mbeki Avenue, North End, Port Elizabeth
Private Bag X6076, Port Elizabeth, 6001
Tel: 041 403 6623, Fax: 086 710 1055
Cell: 082 735 5319
Email: deidre.watkins@dmr.gov.za

 Please consider the environment before printing this e-mail

From: Marais, Wanda [<mailto:WMarais@srk.co.za>]
Sent: Wednesday, January 27, 2016 3:04 PM
To: Azwihangwisi Mulaudzi; Zimkita Tyala; mcdonaldmdhuli@dmr.gov.za; Deidre Watkins
Subject: The proposed Inyanda-Roodeplaat Wind Farm project
Importance: High

Dear Authorities,

Proposed Inyanda-Roodeplaat Wind Farm Project near Uitenhage, Cacadu District Municipality, Eastern Cape
NEAS: DEA/EIA/001673/2013
DEA: 14/12/16/3/3/2/464

SRK Consulting has been appointed by Inyanda Energy Projects (Pty) Ltd to conduct an Environmental Impact Assessment (EIA) for the proposed construction of a Wind Energy Facility in the Groot Winterhoek Mountains west of the town of Uitenhage in the Eastern Cape.

We have been requested to add your organisation to the database and to provide you with the opportunity to review the Environmental Impact Report and comment on its contents. I am therefore attaching the executive summary of the latest report distributed (Final Scoping Report) to this mail for informational purposes. The complete report is accessible on SRK's webpage using the following link:

<http://www.srk.co.za/en/inyanda-roodeplaat-wef-eia>

The comment period on the Final Scoping Report is now closed, and we will be distributing the draft Environmental Impact Report for comment in Q1 of 2016, however we welcome any comments you may have on the project in the interim. Also, please let me know if there are any additional people from your organisation that we should register on the database as well.

Kind Regards,

Wanda Marais B Proc
Public Participation Practitioner



SRK Consulting (South Africa) (Pty) Ltd
Ground Floor, Bay Suites, 1a Humewood Rd, Humeral, Port Elizabeth, 6001
P O Box 21842, Port Elizabeth, 6000
Tel: +27-(0)41-509-4809; **Fax:** +27-(0)41-509-4850
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www.srk.co.za

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Corner Belmont Terrace / Castle Hill Central Port Elizabeth 6001
Private Bag X5001 Greenacres 6057 | Republic of South Africa

Ref: Roodeplaat WEF | Contact Person: Alan Southwood

Tel: 041 508 5813 | Fax: 041 508 5865 | E-mail: Alan.Southwood@dedea.gov.za | www.dedea.gov.za

Attention: Mr Rob Gardiner
Organisation: SRK Consulting
Postal address: P O Box 21842,
Port Elizabeth,
6000

Enquiries : Alan Southwood
DEA Ref No : **14/12/16/3/3/2/464**

Fax: 041 509 4850
Tel: 041 509 4800
E-mail: portelizabethi@srk.co.za

Dear Mr Gardiner,

COMMENT: FINAL SCOPING REPORT: PROPOSED WIND ENERGY FACILITY: FARM ROODEPLAAT: UITENHAGE: EASTERN CAPE: DEA REFERENCE NUMBER: 14/12/16/3/3/2/464

Your letter dated 19th March 2014 refers.

The Applicant initiated a development (construction of roads) that triggered a Listed Activity in terms of the 2010 EIA Regulations without being granted the applicable Authorization.

This transgression is being investigated by the Compliance and Enforcement Section of this department.

This Department will thus not be able to comment on the FSC until this matter is resolved.

Yours sincerely,

DAYALAN GOVENDER

REGIONAL MANAGER: ENVIRONMENTAL AFFAIRS: CACADU REGION

DATE: 31/03/2015

"Innovation for Sustainable Development"

SRK Consulting (South Africa) (Pty) Ltd.
Ground Floor Bay Suites
1a Humewood Road
Humeral
Port Elizabeth
6001

DEA reference: 14/12/16/3/3/2/464

Your reference: 478867/1

Our reference: EIA/2015/001

Date: 07 April 2015

ATTENTION: NICOLA RUMP

Delivered: By email (portelizabeth@srk.co.za)

Dear Nicola

RE: FINAL SCOPING REPORT FOR THE PROPOSED INYANDA - ROODEPLAAT WIND ENERGY FACILITY SITUATED IN THE GROOT WINTERHOEK MOUNTAINS WEST OF THE TOWN OF UITENHAGE, EASTERN CAPE (DEA REF: 14/12/16/3/3/2/464).

Eastern Cape Parks and Tourism Agency (ECPTA), as custodian of biodiversity in the Eastern Cape, would like to thank you for the opportunity to review and comment on the Final Environmental Scoping Report for the proposed Inyanda - Roodeplaat wind farm, receive from SRK Consulting on the 20th March 2015. Our comments submitted during the earlier Environmental Impact Assessment (EIA) phases conducted for this project refers, please note that our objection against the projects still strongly stands.

We recognizes the importance of shifting to a more sustainable energy mix, and strongly supports entering into partnerships with landowners in protected area expansion priority areas. However, due to the high level of sensitivity of the proposed development site and its surrounding, ECPTA cannot support this development. This opinion is based on all our comments submitted during the previous EIA Public Participation Phases (PPP), which should still apply and be considered. In addition to these comments we would like to highlight the following concerns:

1. As noted before, the site is in the Groot Winterberg Mountains and lies between three nature reserves (Groendal, Stinkhoutberg & Mierhoooplaat) and the Baviaanskloof section of the Cape Floristic Region World Heritage Site (CFR WHS). Both Stinkhoutberg and the Groendal Wilderness Area are included in a proposed extension to the CFR WHS. The extension document for the CFR WHS has been submitted to DEA as well as to United Nations Educational, Scientific and Cultural Organization (UNESCO) prior to submission to the World Heritage Convention for inscription in February 2014. The proposed site may also fall within the current 10km buffer of the Baviaanskloof WHS. The process to extend the Baviaanskloof section of the CFR WHS to Groendal should thus be noted as the construction of a wind farm on the boundary of the WHS is considered inappropriate.
2. Our concerns regarding the impacts on the dwarf chameleons and Hewitt's ghost frog still remains, even though we are aware of the required specialist study detailing possible impacts and mitigation measures.
3. We noted that on page 57 of the report that the Crowned eagle was excluded from the target bird species of most concern. Please confirm this as the Crowned eagles are very vulnerable to wind farms. They are forest species, but they frequently utilise adjacent habitats for territorial displays (during which



they would soar, placing them in the path of turbines) and for hunting. Groendal has a very high density of crowned eagles and likely represents a source from which young birds disperse into adjacent areas. This species needs very careful consideration in the impact assessment and decision-making processes. In addition, the Denham's bustard, black stork (SA Near Threatened), secretary bird and blue crane have been verified to occur on Groendal; there is thus no reason why these species would not be on the site. Please confirm why these species were also not mentioned on page 57 of the FSR as they are also very vulnerable to wind farms and must be considered during impact assessment.

4. On page 61 the FSR discusses the National Wetlands Inventory but makes no reference to the National Freshwater Ecosystem Priority Areas, although there is a map of NFEPA areas, please refer to figure 3-8 on page 65.
5. On page 61 the FRS also discusses the National Protected Areas Expansion Strategy (NPAES), but makes no reference to the Eastern Cape Protected Area Expansion Strategy (ECPAES). The ECPAES, attached as annexure A, has been approved by the National Department of Environmental Affairs (DEA) and should also be referred to and included in all future reports.
6. The quality of Fig 3-11 titled as "*Baviaanskloof planning Tools and Protected Areas*" is poor as none of the Baviaanskloof planning tools are depicted in the map besides for the planning domain of the Baviaanskloof Mega-Reserve (BMR). There is a need to analyse the outcomes of the BMR biodiversity plan and to note that the proposed site falls within a Critical Biodiversity Area (CBA) in terms of the BMR plan. The use of polygons depicted biodiversity hotspots is not appropriate at this scale. Biodiversity hotspots reflect regional priorities and should not be displayed at this scale.
7. The illegal construction of roads are in contravention with Section 24 of the National Environmental Management Act of 1998 (Act No 107 of 1998, as amended) and triggers various listed activities under the 2010 NEMA EIA Regulations. The client should note that this activity is unlawful and unacceptable, and the possibility of conducting an application terms of S24G of the NEMA of 1998. Please refer to Annexure B attached for more information regarding S24 of the NEMA. We have also noted that SRK were aware of the construction of this road and no reference was made of it in the FSR, even though the activity 3 of Listing Notice 3 of GNR 546 EIA regulations is discussed on page 6. The appointed Environmental Assessment Practitioner (EAP) should address this matter in future reports for this project and also inform the relevant competent authority regarding this unlawful activity.
8. As per page 37 of the FSR "*the possible upgrading, resurfacing, and/or rehabilitation of these gravel roads and associated borrow pits is outside the scope of this EIA process.*" This activity is directly linked to the proposed project and would have not required for an upgrade if it were not for the wind farm. We urge that these impacts should also be assessed during the decision-making process.

CONCLUSION

Having reviewed the Final Scoping Report, ECPTA acknowledges the priority to reduce the consumption use of fossil fuel and the motive behind the project to contribute to strengthening the existing electricity grid for the area and will aid the South African Government in achieving its goal of a 30% share of all new power generation being derived from Independent Power Producers (IPPs). However, as a designated biodiversity management body, our perspective needs to be wider than these opportunities, as the project will have a significant negative impact on the environment proposed study area, as noted above.

Should you wish to discuss the above comments please do not hesitate to contact me. ECPTA reserves the right to revise initial comment and request further information based on any additional information that may be received. It would be appreciated if ECPTA could be included in all future correspondence relating to this application.



Yours sincerely



Wayne Erlank
Chief Operating Officer
EASTERN CAPE PARKS AND TOURISM AGENCY

Annexure:

Annexure A: Eastern Cape Protected Area Expansion Strategy

Annexure B: NEMA S24(2)(a)&(b)
NEMA S24 F
NEMA S24G



Annexure A
Eastern Cape Protected Area Expansion Strategy



Annexure B:

NEMA S24(2)(a)&(b)



(a) as appropriate, engage with the organisation or sector concerned, as the case may be, on the content and use of its instrument if the organisation or sector concerned, as the case may be, requires the Minister to endorse or approve such instrument; or

(b) endorse or approve such instrument.

[S 23A inserted by S.3 of Act 30 of 2013 w.e.f. 18 December 2014]

24. Environmental authorisations

(1) In order to give effect to the general objectives of integrated environmental management laid down in this Chapter, the potential consequences for or impacts on the environment of listed activities or specified activities must be considered, investigated, assessed and reported on to the competent authority or the Minister responsible for mineral resources, as the case may be, except in respect of those activities that may commence without having to obtain an environmental authorisation in terms of this Act.

(1A) Every applicant must comply with the requirements prescribed in terms of this Act in relation to-

- (a) steps to be taken before submitting an application, where applicable;
- (b) any prescribed report;
- (c) any procedure relating to public consultation and information gathering;
- (d) any environmental management programme;
- (e) the submission of an application for an environmental authorisation and any other relevant information; and
- (f) the undertaking of any specialist report, where applicable.

(2) The Minister, or an MEC with the concurrence of the Minister, may identify-

- (a) activities which may not commence without environmental authorisation from the competent authority;
- (b) geographical areas based on environmental attributes, and as specified in spatial development tools adopted in the prescribed manner by the Minister or MEC with the concurrence of the Minister, in which specified activities may not commence without environmental authorisation [by] from the competent authority;

[Subs. (2)(b) substituted by s. 5 of Act 30 of 2013]

(b) identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management set out in section 2;

(c) ensure that the effects of activities on the environment receive adequate consideration before actions are taken in connection with them;

(d) ensure adequate and appropriate opportunity for public participation in decisions that may affect the environment;

(e) ensure the consideration of environmental attributes in management and decisionmaking which may have a significant effect on the environment; and

(f) identify and employ the modes of environmental management best suited to ensuring that a particular activity is pursued in accordance with the principles of environmental management set out in section 2.

(3) The Director-General must coordinate the activities of organs of state referred to in section 24(1) and assist them in giving effect to the objectives of this section and such assistance may include training, the publication of manuals and guidelines and the coordination of procedures.

23A. Mainstreaming environmental management

(1) The Minister may, with a view to promote or facilitate integrated, environmentally sustainable and sound management, provide for-

(a) the guidelines on the development, content and use of voluntary organisation or sector based instruments; and

(b) the circumstances under which such instruments may be submitted to and considered by the Minister.

(2) Such instruments must, at least-

(a) integrate environmental considerations into decision-making;

(b) provide for the implementation of best environmental practices;

(c) promote the progressive adoption of environmentally sound technology; or

(d) promote sustainable consumption and production including, where appropriate, eco-endorsement or labelling.

(3) This or the consideration of such instruments, the Minister may-



(b) in respect of which the MEC is identified as the competent authority may be dealt with by the Minister.

(4) In accordance with section 125(2)(b) of the Constitution, whenever an MEC fails to take a decision on an application for an environmental authorisation within the time periods prescribed by this Act, the applicant may apply to the Minister to take the decision.
[Subs. (4) added by s. 6 of Act 30 of 2013]

(5) The applicant must notify the MEC in writing of the intention to exercise the option in subsection (4) at least 30 days prior to the exercising of such option.
[Subs. (5) added by s. 6 of Act 30 of 2013]

(6) The application contemplated in subsection (4) must, at least, contain all the documents submitted to the MEC in order to enable the Minister to take a decision.
[Subs. (6) added by s. 6 of Act 30 of 2013]

(7) Before taking a decision contemplated in subsection (4), the Minister must request the MEC to provide him or her with a report within a specified time period on the status and causes of delay in the application.
[Subs. (7) added by s. 6 of Act 30 of 2013]

(8) After having received the report referred to in subsection (7) or in the event that no response or no satisfactory response or cooperation is received from the MEC within the specified time period the Minister must, where appropriate—

(a) inform the applicant in the event that the MEC had complied with the relevant prescripts;

(b) assist the MEC in accordance with section 125(3) of the Constitution to fulfil his or her obligations under this Act; or

(c) direct the MEC to take the decision and such other steps as the Minister may deem necessary within a specified time period.
[Subs. (8) added by s. 6 of Act 30 of 2013]

(9) In the event that the MEC fails to take the decision within the specified time period or in any other manner fails to comply with the directive contemplated in subsection (8)(c), the Minister must take the decision within a reasonable period of time.
[Subs. (9) added by s. 6 of Act 30 of 2013]

(10) The Minister must, simultaneously with the submission of the annual report contemplated in section 40(1)(d)(i) of the Public Finance Management Act, 1999 (Act No. 1 of 1999), submit a report to Parliament setting out the details regarding the exercise of the power referred to in subsection (8) during the previous financial year.
[Subs. (10) added by s. 6 of Act 30 of 2013]
[S. 24C inserted by s. 3 of Act 8 of 2004 and substituted by s. 3 of Act 62 of 2008]

24D. Publication of list

(1) The Minister or MEC concerned, as the case may be, must publish in the relevant *Gazette* a notice containing a list of—

(a) activities or areas identified in terms of section 24(2); and

(b) competent authorities identified in terms of section 24C.

(2) The notice referred to in subsection (1) must specify the date on which the list is to come into effect.
[S. 24D inserted by s. 3 of Act 8 of 2004 and substituted by s. 4 of Act 62 of 2008]

24E. Minimum conditions attached to environmental authorisations

Every environmental authorisation must as a minimum ensure that —

(a) adequate provision is made for the ongoing management and monitoring of the impacts of the activity on the environment throughout the life cycle of the activity;

(b) the property, site or area is specified; and

(c) provision is made for the transfer of rights and obligations.
[Para. (c) substituted by s. 7 of Act 30 of 2013]
[S. 24E inserted by s. 3 of Act 8 of 2004]

24F. Prohibitions relating to commencement or continuation of listed activity

[Heading of s. 24F substituted by s. 8 of Act 30 of 2013]

(1) Notwithstanding any other Act, no person may—

(a) commence an activity listed or specified in terms of section 24(2)(a) or (b) unless the competent authority of the Minister responsible for mineral resources, as the case may be, has granted an environmental authorisation for the activity; or

(b) commence and continue an activity listed in terms of section 24(2)(d) unless it is done in terms of an applicable norm or standard.
[Subs. (1) substituted by s. 5 of Act 62 of 2008]

(2)
[Subs. (2) substituted by s. 5 of Act 62 of 2008 and deleted by s. 8 of Act 30 of 2013]

(3)
[Subs. (3) deleted by s. 8 of Act 30 of 2013]

(4)
[Subs. (4) deleted by s. 8 of Act 30 of 2013]
[S. 24F inserted by s. 3 of Act 8 of 2004]



24G. Consequences of unlawful commencement of activity

- (1) On application by a person who-
- (a) has commenced with a listed or specified activity without an environmental authorisation in contravention of section 24F(1);
 - (b) has commenced, undertaken or conducted a waste management activity without a waste management licence in terms of section 20(b) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008),
- the Minister, Minister responsible for mineral resources or MEC concerned, as the case may be, may direct the applicant to-
- (i) immediately cease the activity pending a decision on the application submitted in terms of this subsection;
 - (ii) investigate, evaluate and assess the impact of the activity on the environment;
 - (iii) remedy any adverse effects of the activity on the environment;
 - (iv) cease, modify or control any act, activity, process or omission causing pollution or environmental degradation;
 - (v) contain or prevent the movement of pollution or degradation of the environment;
 - (vi) eliminate any source of pollution or degradation;
 - (vii) compile a report containing-
 - (aa) a description of the need and desirability of the activity;
 - (bb) an assessment of the nature, extent, duration and significance of the consequences for or impacts on the environment of the activity, including the cumulative effects and the manner in which the geographical, physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity;
 - (cc) a description of mitigation measures undertaken or to be undertaken in respect of the consequences for or impacts on the environment of the activity;
 - (dd) a description of the public participation process followed during the course of compiling the report, including all comments received from interested and affected parties and an indication of how the issues raised have been addressed.
- (2) The Minister, Minister responsible for mineral resources or MEC concerned must consider any report or information submitted in terms of subsection (1) and thereafter may-
- (a) refuse to issue an environmental authorisation; or
 - (b) issue an environmental authorisation to such person to continue, conduct or undertake the activity subject to such conditions as the Minister, Minister responsible for mineral resources or MEC may deem necessary, which environmental authorisation shall only take effect from the date on which it has been issued; or
 - (c) direct the applicant to provide further information or take further steps prior to making a decision provided for in paragraph (a) or (b).
- (3) The Minister, Minister responsible for mineral resources or MEC may as part of his or her decision contemplated in subsection (2)(a), (b) or (c) direct a person to-
- (a) rehabilitate the environment within such time and subject to such conditions as the Minister, Minister responsible for mineral resources or MEC may deem necessary; or
 - (b) take any other steps necessary under the circumstances.
- (4) A person contemplated in subsection (1) must pay an administrative fine, which may not exceed R5 million and which must be determined by the competent authority, before the Minister, Minister responsible for mineral resources or MEC concerned may act in terms of subsection (2)(a) or (b).
- (5) In considering a decision contemplated in subsection (2), the Minister, Minister responsible for mineral resources or MEC may take into account whether or not the applicant complied with any directive issued in terms of subsection (1) or (2).
- (6) The submission of an application in terms of subsection (1) or the granting of an environmental authorisation in terms of subsection (2)(b) shall in no way derogate from-
- (a) the environmental management inspector's or the South African Police Services' authority to investigate any transgression in terms of this Act or any specific environmental management Act;
 - (b) the National Prosecuting Authority's legal authority to institute any criminal prosecution.
- (ce) an environmental management programme; or
- (vii) provide such other information or undertake such further studies as the Minister, Minister responsible for mineral resources or MEC, as the case may be, may deem necessary.

(7) If, at any stage after the submission of an application in terms of subsection (1), it comes to the attention of the Minister, ~~Minister for mineral resources~~ or MEC, that the applicant is under criminal investigation for the contravention of or failure to comply with section 24F(1) or section 20(b) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), the Minister, ~~Minister responsible for mineral resources~~ or MEC may defer a decision to issue an environmental authorisation until such time that the investigation is concluded and-

- (a) the National Prosecuting Authority has decided not to institute prosecution in respect of such contravention or failure;
 - (b) the applicant concerned is acquitted or found not guilty after prosecution in respect of such contravention or failure has been instituted; or
 - (c) the applicant concerned has been convicted by a court of law of an offence in respect of such contravention or failure and the applicant has in respect of the conviction exhausted all the recognised legal proceedings pertaining to appeal or review.
- [S. 24G inserted by s. 3 of Act 8 of 2004 and substituted by s. 6 of Act 62 of 2008 and substituted by s. 9 of Act 30 of 2013 w.e.f 18 December 2013]

24H. Registration authorities

- (1) An association proposing to register its members as environmental assessment practitioners may apply to the Minister to be appointed as a registration authority in such manner as the Minister may prescribe.
- (2) The application must contain -
 - (a) the constitution of the association;
 - (b) a list of the members of the association;
 - (c) a description of the criteria and process to be used to register environmental assessment practitioners;
 - (d) a list of the qualifications of the members of the association responsible for the assessment of applicants for registration;
 - (e) a code of conduct regulating the ethical and professional conduct of members of the association; and
 - (f) any other prescribed requirements.
- (3) After considering an application, and any other additional information that the Minister may require, the Minister may -
 - (a) by notice in the *Gazette*, appoint the association as a registration authority; or

(b) in writing addressed to the association, refuse the application, giving reasons for such refusal.

- (4) The Minister may, for good cause and in writing addressed to the association, terminate the appointment of an association as a registration authority.
- (5) The Minister must maintain a register of all associations appointed as registration authorities in terms of this section.
- (6) The Minister may appoint as registration authorities such number of associations as are required for the purposes of this Act and may, if circumstances so require, limit the number of registration authorities to a single registration authority.
[Subs. (6) added by s. 7 of Act 62 of 2008]
[S. 24H inserted by s. 3 of Act 8 of 2004]

24I. Appointment of external specialist to review assessment

The Minister or MEC may appoint an external specialist reviewer, and may recover costs from the applicant, in instances where -

- (a) the technical knowledge required to review any aspect of an assessment is not readily available within the competent authority;
- (b) a high level of objectivity is required which is not apparent in the documents submitted, in order to ascertain whether the information contained in such documents is adequate for decision-making or whether it requires amendment.
[S. 24I inserted by s. 3 of Act 8 of 2004]

24J. Implementation guidelines

The Minister or an MEC, with the concurrence of the Minister, may publish guidelines regarding-

- (a) listed activities or specified activities; or
- (b) the implementation, administration and institutional arrangements of regulations made in terms of section 24(5).
[S. 24J inserted by s. 8 of Act 62 of 2008]

24K. Consultation between competent authorities and consideration of legislative compliance requirements of other organs of state having jurisdiction

- (1) The Minister or an MEC may consult with any organ of state responsible for administering the legislation relating to any aspect of an activity that also requires environmental authorisation under this Act in order to coordinate the respective requirements of such legislation and to avoid duplication.
- (2) The Minister or an MEC, in giving effect to Chapter 3 of the Constitution and section 24(4)(a)(i) of this Act, may after consultation with the organ of state contemplated in subsection (1) enter into a written agreement with the organ of

Eastern Cape Protected Area Expansion Strategy



Executive Summary

The Eastern Cape Protected Area Expansion Strategy (ECPAES) has been developed by the Eastern Cape Parks and Tourism Agency (ECPTA). It is designed to implement the objectives of the National Protected Area Expansion Strategy (NPAES 2008) in the province. The objectives of the ECPAES are to: (i) set clear strategic targets; (ii) identify an explicit set of spatial priorities for protected area expansion; and (iii) develop an action plan that can be realistically implemented by the ECPTA in the next 5 years.

A rapid assessment of the protected area system, agencies and existing expansion initiatives in the Eastern Cape revealed that there are 74 formal terrestrial protected areas (covering 716 701 ha) and seven formal marine protected areas (covering 207 397 ha). These protected areas are managed by 15 agencies with the ECPTA and SANParks responsible for the majority of the protected area system (579 835 ha and 277 500 ha respectively). It is estimated that a third to a half of these protected areas are not formally proclaimed or have uncertain boundaries and assignments.

There are a number of existing protected area expansion initiatives in the province including those led by ECPTA (Wild Coast community reserves and the Biodiversity Stewardship Programme), South African National Parks (Addo Elephant National Park expansion, Mountain Zebra-Camdeboo corridor, Garden Route and North-Eastern Cape Grasslands), Eden to Addo Corridor, Umzimvubu catchment conservation and Nelson Mandela Bay Municipality Stewardship.

In order to develop a defensible set of priority areas for protected area expansion in the Eastern Cape, provincial protected area targets were established, the current level of progress in meeting these targets was assessed, and the gap between the targets and the status quo was determined. This gap analysis revealed that currently 23/92 habitat types are well protected, 7/92 are moderately protected, 37/92 are poorly protected and 25/92 are completely unprotected. The gap analysis also indicated that the current protected area system would have to be more than doubled (expanded from 716 701 ha to 1 599 603 ha) to meet all targets for terrestrial habitat types.

To better focus capacity and resources for protected area expansion, an efficient set of **priority areas**, required to meet the provincial targets, was identified and ranked using a multi criteria prioritisation method, based on existing systematic conservation planning products. Twenty priority areas were identified and mapped. These priority areas were grouped into: i) areas where the ECPTA are leading implementation (Pondoland, Qhorha-Manubi, Greater Baviaanskloof, Katberg-Amathole, East London Coast - Sunshine Coast & St Francis); ii) areas where other agencies are leading expansion (Mountain Zebra-Camdeboo, Greater Addo & North Eastern Cape Grasslands); areas where there are significant challenges to implementation or no immediate action is required (Oviston, Great Fish, Dwesa-Cwebe & Garden Route), and areas in which further investigation is required (Cathcart-Black Kei, Mount Ayliff, Mount Frere, Matatiele Wetlands, Indwe Grasslands & Commando Drift-Bedford).

Importantly, although implementation of these priority areas would dramatically improve the representativeness and efficiency of the Eastern Cape protected area network, even full implementation would leave the province short of its targets.

The final step in the process was to develop a realistic action plan for the ECPTA to implement over the next 5 years. The resource requirements for implementation were assessed against the current and potential ECPTA performance capability and a set of twenty **focus areas** were identified. For each of these focus areas: the boundaries were mapped; the focus areas profiled; explicit protected area expansion activities identified; roles and responsibilities defined; and performance targets set. High precedence focus areas include Mkhambathi, Silaka, Fort Fordyce-Mpofu-Katberg, Sunshine Coast-East London Coast, Western Baviaanskloof Inholding and St Francis. Medium precedence focus areas include Manubi-Mazeppa, Lambasi and Loerie-Gamtoos-Kabeljous. Low precedence/opportunistic focus areas include Hopewell, Yellowwoods, Langkloof-Kouga, Mtentu and Compassberg.

It is recognized in the ECPAES that the concentration of institutional resources and capacity on these focus areas does not preclude capitalising on *ad hoc* opportunities in the priority areas as they may arise, provided that protected area expansion activities outside the focal areas are linked to additional resources and capacity being made available. Opportunities for conservation and protected area implementation are also bound to arise in non-priority areas; pursuing these opportunities should only be considered if there are convincing special circumstances and/or additional information available to justify implementation activities.

The ECPAES further describes a number of protected area expansion issues that should be addressed by the ECPTA in order to support its protected area expansion mandate in the province. These include: completing existing protected area expansion initiatives; focussing on the effective management of the existing protected area system; developing a business case for a dedicated protected area expansion unit (including a fund raising plan for the unit); facilitating the establishment of a protected areas forum in the province; supporting other agencies and initiatives in protected area expansion and exerting political pressure to ensure other agencies meet their expansion commitments; investigating opportunities and constraints in poorly known priority areas; facilitating the updating and improvement of landcover data and the provincial biodiversity conservation plan; and ensuring the incorporation of marine protected areas planning into future versions of the ECPAES.

Acknowledgements

The report was compiled by EcoSol GIS (Andrew Skowno, Stephen Holness, James Jackelman & Philip Desmet) and the Eastern Cape Parks and Tourism Agency (ECPTA). A number of institutions, initiatives and individuals made significant contributions throughout the consultation and review process, notably the Department of Economic Development, Environment and Tourism (DEDEAT) and the Department of Agriculture, Forestry and Fisheries (DAFF).

Citation

Skowno, A., Holness, S., Jackelman, J. and Desmet, P. (2012) Eastern Cape Protected Area Expansion Strategy (ECPAES). Report compiled for the Eastern Cape Parks and Tourism Agency, East London.

List of acronyms

ACCODA	Amadiba Coastal Community Development Association
CAPEX	Capital Expenditure
CCA	Coastal Conservation Area
CEPF	Critical Ecosystems Partnership Fund
CI	Conservation International
CPA	Communal Property Association
DAFF	Department of Agriculture Forestry and Fisheries (National)
DEA	Department of Environmental Affairs (National)
DEDEAT	Dept. of Economic Development, Environmental Affairs & Tourism (Eastern Cape)
DPW	Department of Public Works
DRDLR	Department of Rural Development and Land Reform (National)
DWA	Department of Water Affairs (National)
ECBCP	Eastern Cape Biodiversity Conservation Plan (2007)
ECPAES	Eastern Cape Protected Area Expansion Strategy (2012)
ECPTA	Eastern Cape Parks and Tourism Agency
ELCNR	East London Coast Nature Reserve
ERS	Environmental and Rural Solutions
ha	hectares
MEC	Member of the Executive Council (Provincial Government)
MLT	Mkhambathi Land Trust
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MPA	Marine Protected Area
NBA	National Biodiversity Assessment (2011)
NEM:BA	National Environmental Management: Biodiversity Act (10 of 2004)
NEM:PAA	National Environmental Management: Protected Areas Act (57 of 2003)
NFEPA	National Freshwater Ecosystem Priority Area project (2011)
NGO	Non Governmental Organisation
NMBM	Nelson Mandela Bay Municipality
NPAES	National Protected Area Expansion Strategy (2008)
NSBA	National Spatial Biodiversity Assessment (2004)
OPEX	Operational Expenditure
PA	Protected Area
SANBI	South African National Biodiversity Institute
SANParks	South African National Parks
S&T	Subsistence and Travel Allowance
WWF	World Wide Fund for Nature

List of Tables

Table 1: Management authority, extent and status of protected areas in the Eastern Cape province.	15
Table 2: Summary by biome of the targets for protected area expansion from the NPAES	22
Table 3: Overall national biodiversity and protected area targets	23
Table 4: Categories used in the National Biodiversity Assessment	25
Table 5: Protection levels for Eastern Cape terrestrial habitat types.....	29
Table 6: Method summary and data sources for the Critical Biodiversity Area and equivalent layer.	32
Table 7: Data sets and combination method for defining NPAES protected area expansion priorities.....	33
Table 8: Summary of method used to prepare the 2007 Eastern Cape Protected Areas Prioritisation layer.	34
Table 9: Summary of input layers & summary method for collating priorities from other conservation plans. .	36
Table 10: Table summarizing the development of the aquatic features, buffers and catchments layer.	39
Table 11: Data source & compilation method for resilience to climate change impacts.....	40
Table 12: Compilation method and data summary for ecosystem threat status.....	43
Table 13: Data sources, weighting method for protection levels of different habitat types.	44
Table 14: Data sources and combination method for the updated transformation layer	46
Table 15: Data archiving of the outputs of the spatial prioritisation undertaken for the ECPAES	48
Table 16: Habitat types summary - full implementation of the priority areas.....	52
Table 17: Summary of scores for the various prioritisation attributes.....	60
Table 18: Protected area expansion mechanisms available per land tenure type.....	62
Table 19: Protected area expansion mechanisms; advantages and disadvantages	63
Table 20: Current staff complement available to implement protected area expansion activities	66
Table 21: ECPTA staff complement required for implementation of 5 year action plan.	68
Table 22: CAPEX and OPEX items in need of funding	69
Table 23: Summary of Eastern Cape Parks and Tourism Agency 5- year implementation focus areas.....	71
Table 24: High Precedence Focus Area MKHAMBATHI EX TRACOR LAND	74
Table 25: High Precedence Focus Area SILAKA EXPANSION	76
Table 26: High Precedence Focus Area MTENTU EXPANSION.....	78
Table 27: Low Precedence Focus Area LAMBASI ESTABLISHMENT	80
Table 28: Medium Precedence Focus Area MANUBI TO MAZEPPA	82
Table 29: High Precedence Focus Area MPOFU-FORT FORDYCE-KATBERG	84
Table 30: High Precedence Focal Area PROCLAMATION OF 8 COASTAL STATE FORESTS	86
Table 31: High Precedence Focal Area WESTERN BAVIAANSKLOOF INHOLDING.....	95
Table 32: Low Precedence Focal Area LANGKLOOF - KOUGA	97
Table 33: Medium Precedence Focal Area LOERIE DAM- GAMTOOS MOUTH-KABELJOUS	99
Table 34: Low Precedence Focal Area HOPEWELL	101
Table 35: Low Precedence Focal Area YELLOWWOODS.....	103
Table 36: High Precedence Focal Area CAPE ST FRANCIS.....	105
Table 37: Low Precedence Focal Area COMPASSBERG	107

List of Figures

Figure 1: Focus areas identified by the NPAES (2008) in the Eastern Cape.....	13
Figure 2: Map showing all formal protected areas (marine and terrestrial) in the Eastern Cape province	18
Figure 3: Map showing Eastern Cape Parks and Tourism Agency managed protected areas.....	19
Figure 4: Map showing extent of existing protected area expansion initiatives in the Eastern Cape.....	20
Figure 5: Protection level of vegetation types in the Eastern Cape in terms of the number of different types ..	26
Figure 6: Protection level of vegetation types in the Eastern Cape in terms of the area	26
Figure 7: Map of protection level of vegetation types in the Eastern Cape.....	27
Figure 8: Level of protection for non-vegetation type features	27
Figure 9: Critical Biodiversity Areas and areas of equivalent status.....	32
Figure 10: Protected area expansion priorities from the NPAES.....	34
Figure 11: Spatial prioritisation from the Eastern Cape Protected Areas Prioritisation Study.....	35
Figure 12: Priorities identified in other conservation planning processes.....	37
Figure 13: Combined aquatic value.....	38
Figure 14: Climate change resilience at the landscape scale.....	41
Figure 15: Remaining natural or near-natural areas important for climate change resilience	41
Figure 16: Combined ecosystem threat status layer.....	42
Figure 17: Combined protection level layer	45
Figure 18: Updated land cover developed for the planning domain.....	46
Figure 19: Diagrammatic summary of the prioritisation method.....	48
Figure 20: Prioritisation of individual grid squares.....	49
Figure 21: Priority areas for protected area expansion in the Eastern Cape.....	50
Figure 22: Anticipated progress towards achieving Eastern Cape habitat targets.....	51
Figure 23: (a) Potential (b) Current protection levels of vegetation types- number of type.....	54
Figure 24: (a) Potential (b) Current protection levels of vegetation types- area	55
Figure 25: (a) Map of potential protection levels of vegetation types. (b) Current protection levels	56
Figure 26: (a) Potential representation of non-vegetation type (b) Current.....	58
Figure 27. Map showing the priority areas for protected area expansion in the Eastern Cape.....	61
Figure 28: Map showing the ECPTA implementation focus areas, a subset of the ECPAES priority areas.....	72
Figure 29: Mkambathi - Ex Tracor Focus Area	75
Figure 30: Silaka Focus Area	77
Figure 31: Mkhambathi - Mtentu Focus Area.....	79
Figure 32: Lambasi Focus Area	81
Figure 33: Manubi - Mazeppa Focus Area	83
Figure 35: Katberg-Mpofu-Fort Fordyce Focus Area	85
Figure 35: Sunshine Coast Focus Area	87
Figure 36 : Hamburg Coast Focus Area.....	88
Figure 37: Tylomnqa Focus Area	89
Figure 38: Christmas Vale Focus Area.....	90
Figure 39: Cove Rock Focus Area.....	91
Figure 40: Chintsa Focus Area	92
Figure 41: Double Mouth Focus Area	93
Figure 42: Cape Morgan Focus Area.....	94
Figure 43: Western Baviaanskloof Inholding Focus Area	96
Figure 44: Langkloof-Kouga Focus Area.....	98
Figure 45: Loerie Dam - Gamtoos Mouth - Kabeljous Focus Area	100
Figure 46 Hopewell Focus Area	102
Figure 47: Yellowwoods Focus Area	104
Figure 48: Cape St Francis Focus Area	106
Figure 49: Compassberg Focus Area.....	108
Figure 50: Sunshine Coast to East London Coast ECPAES Priority Area	118
Figure 51: Greater Baviaanskloof ECPAES Priority Area	119
Figure 52: Katberg - Amathole ECPAES Priority Area	120
Figure 53: Pondoland ECPAES Priority Area	121
Figure 54: Qhorha to Manubi Priority Area.....	122
Figure 55: St Francis ECPAES Priority Area	123

Figure 56: Addo Consolidation ECPAES Priority Area	124
Figure 57: Mountain Zebra to Camdeboo ECPAES Priority Area	125
Figure 58: North East Cape Grasslands ECPAES Priority Area	126
Figure 59: Cathcart - Black Kei ECPAES Priority Area	127
Figure 60: Commando Drift to Bedford ECPAES Priority Area	128
Figure 61: Indwe Grasslands ECPAES Priority Area	129
Figure 62: Matatiele Wetlands ECPAES Priority Area	130
Figure 63: Mount Ayliff ECPAES Priority Area	131
Figure 64: Mount Frere ECPAES Priority Area	132
Figure 65: Compassberg ECPAES Priority Area	133
Figure 66: Dwesa-Cwebe ECPAES Priority Area	134
Figure 67: Garden Route ECPAES Priority Area	135
Figure 68: Great Fish ECPAES Priority Area	136
Figure 69: Oviston ECPAES Priority Area	137

Table of Contents

Executive Summary.....2

 Acknowledgements.....4

 Citation.....4

 List of acronyms5

 List of Tables6

 List of Figures7

1 CHAPTER 1: INTRODUCTION11

 1.1 Background.....11

 1.2 National context and relationship to the NPAES11

 1.3 Approach to developing ECPAES.....13

 1.4 Structure of ECPAES14

2 CHAPTER 2: PROFILE OF EASTERN CAPE PROTECTED AREAS14

 2.1 Existing protected areas & protected area agencies in the Eastern Cape.....14

 2.2 Current protected area expansion initiatives in the Eastern Cape.....15

3 CHAPTER 3: PRIORITY AREAS FOR PROTECTED AREA EXPANSION.....21

 3.1 Protected area expansion targets for the Eastern Cape.....21

 3.2 Current protection levels and gap analysis.....24

 3.2.1 Gap analysis of the current Eastern Cape protected area estate and
determination of additional areas required to meet targets28

 3.3 Spatial Prioritisation31

 3.3.1 Critical Biodiversity Areas and equivalent priorities.....31

 3.3.2 Protected area expansion priorities from the National Protected Area
Expansion Strategy.....33

 3.3.3 Priorities from the 2007 Eastern Cape Protected Areas Prioritisation.....34

 3.3.4 Priorities from other plans.....35

 3.3.5 Aquatic features, buffers and catchments37

 3.3.6 Climate change resilience at the landscape scale40

 3.3.7 Ecosystem threat status.....42

 3.3.8 Protection level.....43

 3.3.9 Land cover update45

 3.3.10 Combination method.....47

 3.4 Assuming all this was successfully implemented – where would we be?51

 3.5 Which priority areas should be implemented first?58

 3.6 Implementation mechanisms62

4 CHAPTER 4: GENERAL RECOMMENDATIONS64

5	CHAPTER 5: IMPLEMENTATION and ACTION PLAN FOR EASTERN CAPE PARKS AND TOURISM AGENCY (2013-2018).....	66
5.1	Resource requirements for implementing the ECPTA action plan for protected area expansion	66
5.2	ECPTA action plan for protected area expansion: 2013 – 2017	70
5.2.1	Focus Areas	70
6	References	109
7	Consultation summary.....	110
8	Addendums.....	111
8.1	Protected areas in the Eastern Cape & Protected areas managed by ECPTA	111
8.2	Descriptions and detailed maps of each identified ECPAES Priority Area	115

CHAPTER 1: INTRODUCTION

1.1 Background

In June 2012 the Eastern Cape Parks and Tourism Agency (ECPTA) appointed EcoSol GIS to assist the Agency in preparing a 15-year Protected Area Expansion Strategy for the Eastern Cape province (ECPAES) and associated implementation plans, as recommended by the National Protected Area Expansion Strategy (NPAES 2008).

The Terms of Reference for the project stated that the ECPAES should be aligned to the national strategy, set clear targets with explicit spatial priorities, identify short (5-year) and medium-term (15-year) opportunities, propose a short-term implementation plan linked to current resources, and identify future resource needs.

The objectives of the ECPAES are to:

- Gain an understanding of the context, constraints and opportunities of protected area expansion, including: the background and status quo; the institutional, provincial and national context; the underpinning rationale and logic; knowledge gaps; resources and institutional needs; and potential mechanisms for implementation.
- Develop a defensible set of strategic priority areas for protected area expansion for the Eastern Cape as a whole.
- Develop a 5 year implementation and action plan for ECPTA, including focal areas, activities and resources required for implementation.

Legal mandate of ECPTA

The *Eastern Cape Parks and Tourism Agency* is a statutory body established in terms of section 10 of the Eastern Cape Parks and Tourism Agency Act 2 of 2010. It is responsible for: (i) developing and managing biodiversity in the protected areas in the Eastern Cape province that are assigned to it; and (ii) ensuring the effective implementation of its biodiversity management powers and duties (granted in terms of the Eastern Cape Parks and Tourism Agency Act (2 of 2010), and any other law) outside the protected areas.

The Eastern Cape MEC for Economic Development, Environmental Affairs & Tourism may declare nature reserves or protected environments by notice in the Provincial Gazette.

Consequently it is appropriate for the ECPTA to develop and implement the Eastern Cape Protected Area Expansion Strategy.

1.2 National context and relationship to the NPAES

The National Protected Area Expansion Strategy (NPAES 2008) details at a national level how South Africa's protected area system falls far short of what is required to sustain biodiversity and ecological processes. The NPAES aims to achieve cost effective protected area expansion for ecological sustainability and increased resilience to climate change. It sets targets for protected area expansion, provides maps of the most important areas for protected area expansion, and makes recommendations on mechanisms for expansion. The NPAES recognizes that protected area agencies are the primary implementers of the NPAES. These include the provincial conservation authorities such as ECPTA and national agencies

such as South African National Parks (SANParks). The NPAES further recognizes the support role played by a range of organisations including Department of Environmental Affairs (DEA), South African National Biodiversity Agency (SANBI), National Treasury, provincial environment departments and conservation non-governmental organizations (NGOs).

For the purposes of the ECPAES the NPAES had two key elements:

- Specific protected area expansion targets are set for each terrestrial habitat type. These targets equate to 54% of the biodiversity target for each type, as defined in the National Spatial Biodiversity Assessment (NSBA, 2004). The targets are set for the long term (20 year) and short term (5 year), with the 5 year targets due to be met by 2013.
- Specific geographic focus areas are identified, which the NPAES recommends as areas where protected area expansion targets can be met in an efficient way. These NPAES focus areas for land-based protected area expansion (large, intact and unfragmented areas of high importance, suitable for the creation or expansion of large protected areas) are shown in Figure 1.

It is important to recognize that the NPAES spatial assessment which defined the NPAES focus areas has a number of limitations in terms of current implementation:

- It was a national assessment and was undertaken at a fairly broad scale.
- The analysis is now dated as it was undertaken in 2007. Many of the datasets have since been improved, and additional data are now available. In particular, progress has been made on freshwater features (wetlands and rivers) in the National Freshwater Ecosystem Priority Area project (NFEPA 2011), and the updated National Biodiversity Assessment (NBA 2011). A range of more detailed datasets (local and provincial) have also been developed.
- The Eastern Cape protected area system has also changed and a number of civil society, municipal, provincial and national protected areas expansion projects have been initiated in the province.

The NPAES requires that each protected area agency should develop its own agency-specific protected area expansion implementation plan based on the protected area targets and focus areas developed in the NPAES. The ECPAES has been prepared to fulfil this requirement. This ECPAES aims to utilise updated information and take the existing expansion activities into account to produce a defensible Eastern Cape protected area expansion strategy and priority areas map, and an achievable and clear action plan for the ECPTA to implement in the next 5 years.

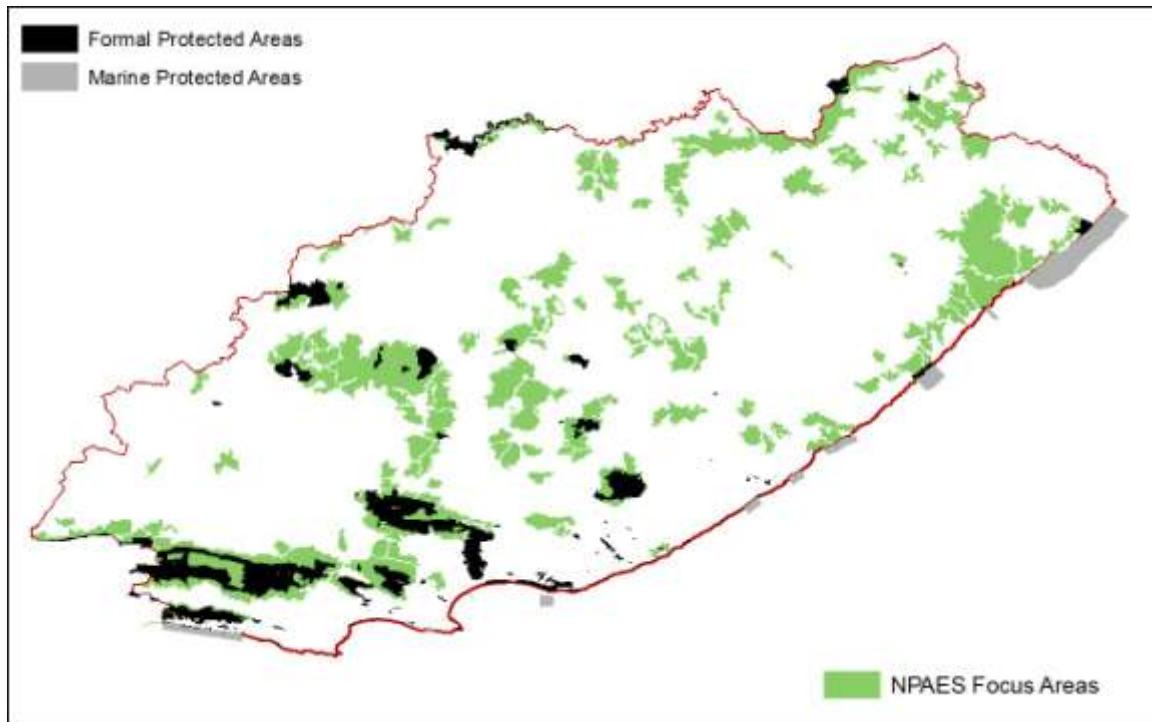


Figure 1: Focus areas for land-based protected area expansion (large, intact and unfragmented areas of high importance, suitable for the creation or expansion of large protected areas) identified by the NPAES (2008) in the Eastern Cape.

1.3 Approach to developing ECPAES

The focus of the project was to produce concise and clear strategies and implementation plans based on the review of available reports, legislation and spatial products together with detailed input from agency staff and other relevant experts gathered via a series of workshops. The approach taken was to facilitate an ECPTA-driven process. The process was not aimed at prescribing solutions, but rather aimed to use available information and analyses to present options to the ECPTA and to guide the agency through a decision-making process to arrive at a generally agreed outcome.

The spatial analysis is based on existing analyses, specifically the Eastern Cape Biodiversity Conservation Plan (2007), the NPAES (2008), the NFEPA (2011), the NBA (2011) and assessments undertaken for the Maputaland Pondoland Albany Hotspot. The ECPAES spatial prioritisation has limited scope, is based on an integration of available spatial data, and is intended to rapidly update, evaluate and refine the spatial priorities for protected area expansion. Importantly, as it is not based on a new finescale systematic conservation plan and does not include a new CPlan or Marxan analysis, it is not a spatial optimization. It is important to note that although this approach does provide a useful set of spatial priorities and represents an efficient way of incorporating the newly available national analyses, it does not replace the need for an updated provincial biodiversity conservation plan and spatial optimization, which ideally should include the development of significantly improved datasets for the key input layers (i.e. a revised and refined habitat map, improved species data and improved land cover/transformation data).

The ECPAES focuses on the terrestrial component only, although portions of the spatial prioritisation include freshwater priorities (NFEPA), priority estuaries (from the NBA 2011-

Estuary Component), and assessments of protection level and threat status for rivers, wetlands and estuaries (from the NBA 2011). Further, the marine component of protected area expansion is beyond the scope of the project.

It is important to note that the ECPAES is a planning tool for the short to medium term and should be reviewed every 5 years. It is aimed at ensuring that protected area expansion activities are efficient and contribute to the ultimate, long term target of a fully representative protected area system.

1.4 Structure of ECPAES

The project TOR states that the ECPAES should address both 15 year strategic - and 5 year implementation related aspects of protected area expansion in the province. The first three chapters of the ECPAES deal with the province as a whole, providing information on the status quo of protected areas, current target achievement, and **provincial priority areas** for future expansion. In Chapter 4 the Eastern Cape Parks and Tourism Agency's role in protected areas expansion over the next 5 years is developed; specific **ECPTA focus areas** are identified and described together with implementation related constraints and opportunities.

CHAPTER 2: PROFILE OF EASTERN CAPE PROTECTED AREAS

2.1 Existing protected areas & protected area agencies in the Eastern Cape

A rapid review of available protected area databases indicated that there are 74 terrestrial protected areas and 7 marine protected areas in the Eastern Cape province ([Addendum 1](#); Figure 2, Figure 3 & Table 1). These areas are under the management of 15 different agencies including 3 provincial, 2 national, 9 local government structures and one landowners association. Just over 4% of the terrestrial extent of the province is formally protected (716 401 ha), while 207 397 ha of coastal and off shore marine environments are formally protected. The ECPTA and South African National Parks (SANParks) manage the vast majority of this terrestrial protected area estate in the province (579 835 ha and 277 500 ha respectively). It should be noted that there are a number of unresolved cases of uncertain protected area status and management authority designation in the Eastern Cape that the ECPTA, Department of Public Works, Department of Agriculture Forestry and Fisheries, and various municipalities need to address.

While a complete survey of proclamation status across all protected areas in the province is beyond the scope of this project¹ it is estimated that a third to half of the protected areas in the province are not formally protected, including State Forests and areas which are not proclaimed at all. Some protected areas which were declared under previous legislation (e.g. Forest Nature Reserves and Provincial Nature Reserves) are deemed to be protected

¹ DEA is currently undertaking a project to determine proclamation status of all protected areas in South Africa both private and state.

areas under NEM:PAA, but nevertheless it is critical to fully secure these areas through formal proclamation. The ECPTA has a detailed register of proclamations which shows that a third of the ECPTA managed reserves are declared state forests, a third are proclaimed nature reserves and a third are not proclaimed.

Table 1: Management authority, extent and status of protected areas in the Eastern Cape province.

Agency	Number of Protected Areas	Extent of Protected Areas	Protected Area Status
Eastern Cape Parks and Tourism Agency	35 PA, 4 MPA	406 681 PA* ^{see below} 173 155 ha MPA	Nature Reserves, Forest Nature Reserves, World Heritage Site and Marine Protected Areas
Eastern Cape Department of Economic Development , Environmental Affairs and Tourism (DEDEAT)	5 PA	452 ha	Nature Reserves or Forest Nature Reserves
South African National Parks (SANParks)	4 PA, 2 MPA	244 595 ha PA 32 905 ha MPA	National Parks and Marine Protected Areas
Department of Environment Affairs - Oceans and Coasts	1 MPA	1 336 ha	Marine Protected Area
Western Cape Nature Conservation (CapeNature)	1 PA	5 886 ha	Nature Reserve (and World Heritage Site)
Cacadu District Municipality	9 PA	3 438 ha	Local Authority Nature Reserves
Nelson Mandela Bay Municipality (NMBM)	9 PA	3 472 ha	Local Authority Nature Reserves
Buffalo City Municipality	6 PA	818 ha	Local Authority Nature Reserves
Amahlathi Local Municipality	1 PA	456 ha	Local Authority Nature Reserve
Blue Crane Route Local Municipality	1 PA	2 708 ha	Local Authority Nature Reserve
Camdeboo Local Municipality	1 PA	1 577 ha	Local Authority Nature Reserve
Kouga Local Municipality	5 PA	115 ha	Local Authority Nature Reserve
Kou-Kamma Local Municipality	1 PA	817 ha	Local Authority Nature Reserve
Matatiele Local Municipality	1 PA	4 801 ha	Nature Reserve
Compassberg Protected Environment Landowners Association	1 Protected Environment	40 593 ha	Protected Environment

* Note total ECPTA protected area estate is actually 422 747ha, as 16 066 ha of Baviaanskloof NR falls within the Western Cape Province.

2.2 Current protected area expansion initiatives in the Eastern Cape

It is a requirement of a protected area expansion strategy to consider expansion initiatives that are currently in progress or have been proposed. The Eastern Cape has a number of these initiatives, ranging from formal government agency programmes to civil society initiatives (Figure 4).

1) ECPTA Wild Coast Project

The 'Wild Coast Project' is a US\$6.5m Global Environment Facility-funded project implemented by a small project unit within the ECPTA. The overall project objective is to develop an effective system of protected areas on the Wild Coast, and provide tested

co-management models for replication. The project was initiated in 2006 and is due for completion in mid-2013. One of the project outcomes is to expand the protected area system within the 15 'biodiversity priority regions' identified in the coastal corridor between the Kei and Umtamvuna rivers (Wild Coast Conservation and Sustainable Development Project, 2005). To guide this expansion process, the Wild Coast Project has prepared a draft *Protected Area Expansion Strategy for the Wild Coast* (2012). This draft strategy identifies expansion options, implications and issues for 13 areas targeted for expansion. The Wild Coast Project unit is currently in an advanced stage of negotiation with affected community leaders, community trusts, Communal Property Associations (CPA) and key government institutions (notably Department of Agriculture Forestry & Fisheries, Department of Rural Development & Land Reform and DEDEAT) in four of these areas (Silaka expansion area, Mkhambathi expansion area, Lambasi and Manubi-Ngqwara). It is envisaged that formal proclamation processes may be initiated in at least two of these areas by the end of the project (July 2013).

2) ECPTA Biodiversity Stewardship Programme

The ECPTA has developed a biodiversity stewardship programme which actively pursues biodiversity agreements, protected environments and nature reserves in priority areas in the province. The programme recently facilitated the proclamation of the Compassberg Protected Environment and is currently working on biodiversity stewardship agreements and nature reserve agreements in the western NMBM, Langkloof, Baviaanskloof and Mpofu/Fort Fordyce areas.

3) SANParks Mountain Zebra to Camdeboo Corridor Project

The Mountain Zebra – Camdeboo Corridor Project aims to expand the protected area system through the establishment of a protected environment, but also through proclamation of limited contractual national parks, within the 530 000 ha of land between and surrounding Mountain Zebra National Park near Cradock and Camdeboo National Park which surrounds Graaff-Reinet. The project, which is currently underway and runs until mid 2014, is a joint initiative between the Wilderness Foundation and SANParks and is funded by the Critical Ecosystems Partnership Fund. The objective is the proclamation of a Protected Environment or contractual National Park covering an additional 45 000 ha.

4) SANParks Addo Elephant National Park Consolidation

SANParks is undertaking further minor consolidation of the Addo Elephant National Park. The consolidation is mostly for management purposes such as boundary shortening, but also includes potential contractual expansion of the reserve.

5) SANParks Garden Route National Park Consolidation

This newly proclaimed National Park is mainly located in the Western Cape. The section in the Eastern Cape, consisting of what was Tsitsikamma National Park, various State Forests and the Soetkraal Contractual section of the National Park, is going through a land consolidation process aimed at ensuring full proclamation of all land managed by the park. This may potentially include some rationalization of land holdings. Some potential contractual expansion of the reserve is possible.

6) High Altitude Tourism and Conservation Development Area in the North Eastern Cape Grasslands

SANParks, in partnership with the ECPTA, undertook a conservation planning process and a feasibility study for a potential Grasslands National Park or other large protected area located in the north-eastern Eastern Cape in the Rhodes-Ugie-Maclear area. The potential reserve would implement the southern-most priority areas of the Maloti-Drakensberg Transfrontier Programme. A motivation for the project and a business case has been developed and has been presented to DEA and the SANParks Executive. It is understood that progress on this project is unlikely without dedicated ring-fenced funding being provided by DEA.

7) Umzimvubu Catchment Partnership Programme

Conservation South Africa and Environmental and Rural Solutions lead this civil society programme which together with various other stakeholders (such as South African National Biodiversity Institute (SANBI) Grasslands Programme and Department of Water Affairs (DWA)) aims to facilitate integrated catchment management and ecological restoration in the Umzimvubu catchment, including the possible expansion of the Matatiele Nature Reserve.

8) Eden to Addo Corridor initiative

This is a civil society driven initiative which aims to link three mega-reserves, namely the Garden Route National Park, the Baviaanskloof World Heritage Site and the Addo Elephant National Park by means of natural corridors to protect and restore the integrity of biodiversity and ecosystem functioning. The stated mission of the initiative is to assist and engage with landowners and all stakeholders to identify and develop a living corridor from Eden to Addo by applying sound land-use practices, encouraging a diversity of environmentally sustainable livelihoods and linking ecologically important areas, for the benefit of biodiversity and the extended community. Protected environment and/or contractual nature reserve proclamations are possible, which would contribute to meeting protected area targets for the province. A memorandum of understanding (MOU) between Eden to Addo and ECPTA is being drawn up to strengthen this partnership and indicate the roles of each organisation.

9) Nelson Mandela Bay Municipality Biodiversity Stewardship Programme

This programme focuses on long and short term biodiversity agreements between landowners and the NMBM, and includes biodiversity offset agreements linked to developments. Although biodiversity agreements are not considered as formal contributions to protected area expansion, the NMBM facilitates the ECPTA's involvement if landowners seek to declare protected environments or nature reserves. A MOU between the NMBM and the ECPTA needs to be drawn up to clarify roles regarding stewardship and nature reserve management within the municipal area.

Eastern Cape Protected Area Expansion Strategy 2012

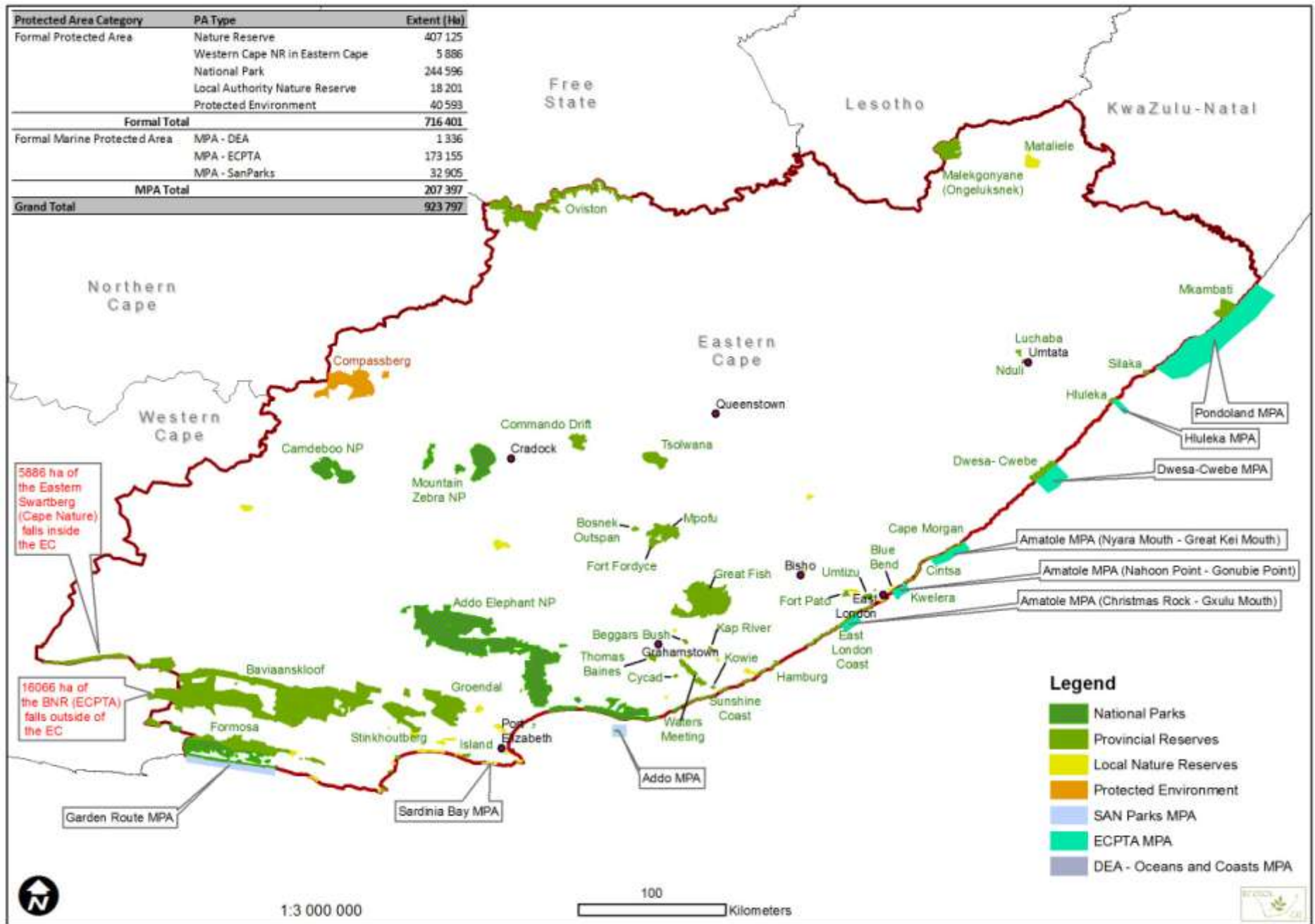


Figure 2: Map showing all formal protected areas (marine and terrestrial) in the Eastern Cape province

Eastern Cape Protected Area Expansion Strategy 2012

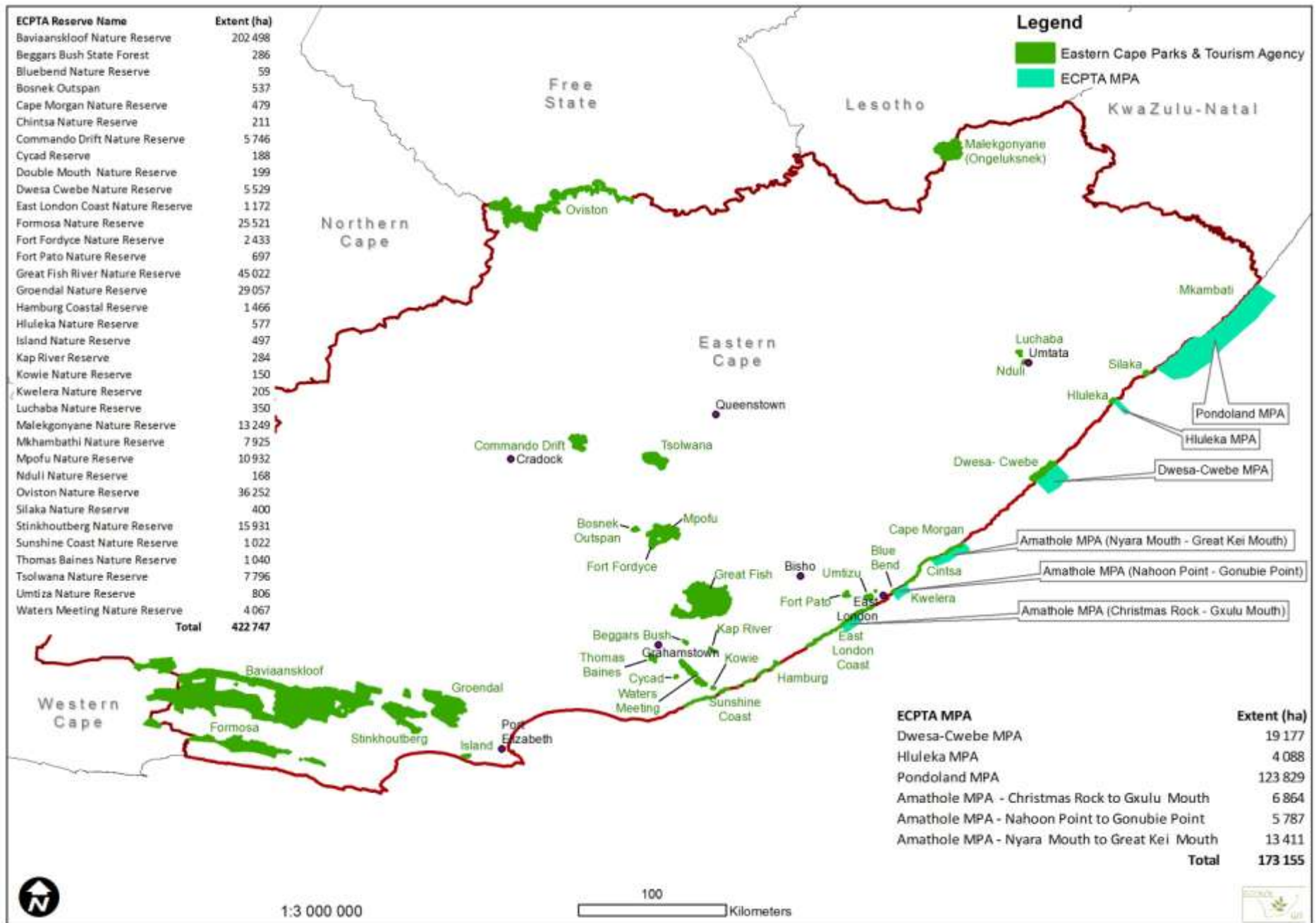


Figure 3: Map showing Eastern Cape Parks and Tourism Agency managed protected areas.

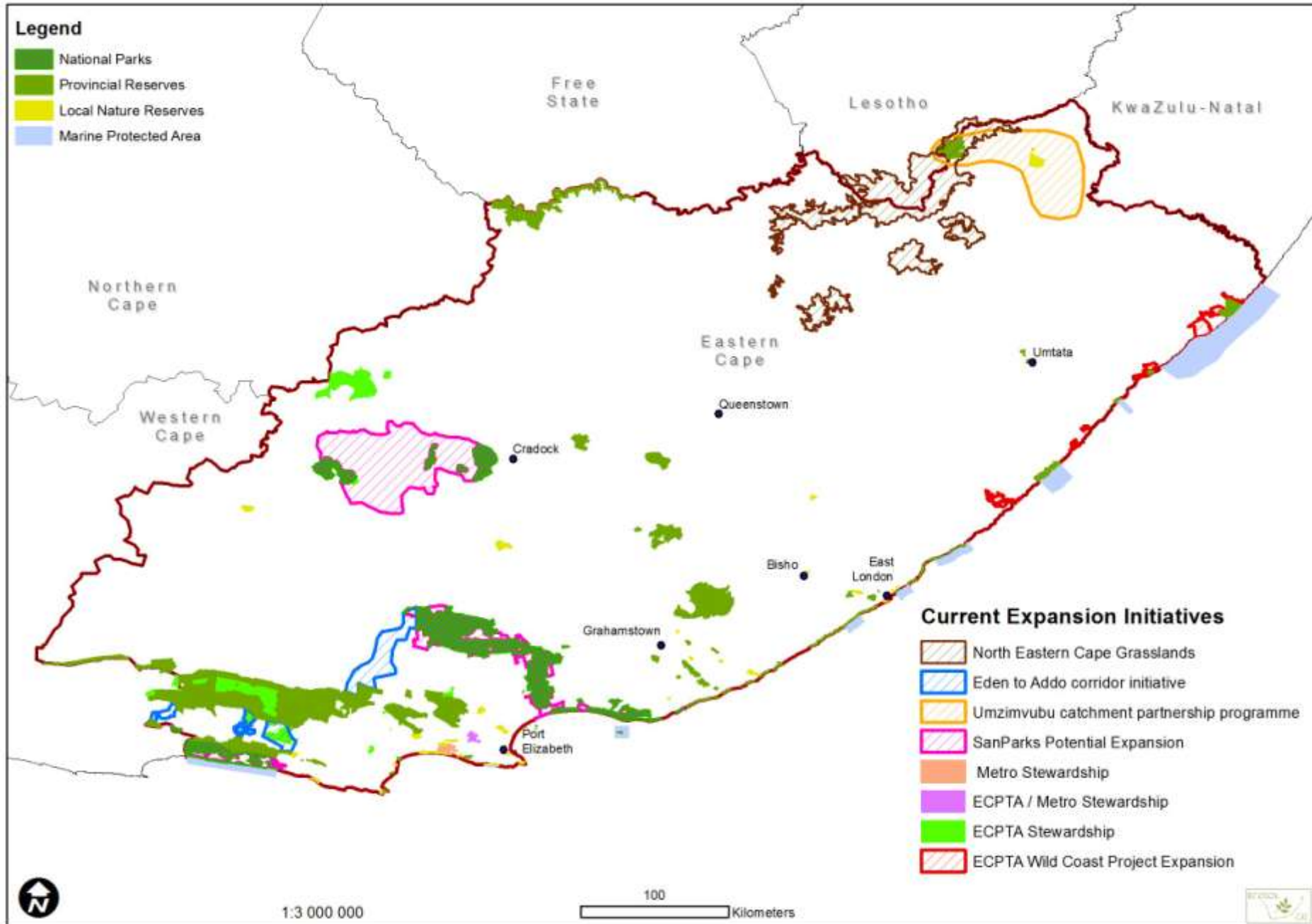


Figure 4: Map showing extent of existing protected area expansion initiatives in the Eastern Cape

CHAPTER 3: PRIORITY AREAS FOR PROTECTED AREA EXPANSION

This chapter aims to:

- Set long term provincial protected area expansion targets for the Eastern Cape in order to define the contribution the province (including contributions by all agencies responsible for protected area expansion and management in the province) needs to make to meet national targets for terrestrial habitats (including associated freshwater aquatic habitats) as contained within the National Protected Area Expansion Strategy.
- Examine the current level of attainment of these targets in the province based on the most up to date protected area data available, following a standard gap analysis method.
- Undertake a spatial prioritisation to identify potential focus areas for protected area expansion in the province for all agencies responsible for protected areas in the province.
- Prioritise within the identified focus areas to identify which focus areas will be included in the short term implementation plans (Chapter 4) for the Eastern Cape Parks and Tourism Agency.
- Clearly articulate the level of attainment of the long term protected area expansion targets for the Eastern Cape should the identified focus areas be implemented, and detail what would still remain to be done to meet long term targets. This will serve as the basis for ensuring that sufficient support is in place to implement the identified priorities as well as to motivate for additional required resources to deal with the gap.

3.1 Protected area expansion targets for the Eastern Cape

The NPAES (2008) sets specific protected area targets for each terrestrial habitat:

- The targets were derived by combining national objectives for protected area expansion from the National Biodiversity Strategy and Action Plan (2005) with the biodiversity targets per habitat type as determined by the NSBA (2004).
- Biodiversity targets for terrestrial areas in South Africa range from 16% to 36% of the original extent of each habitat type, with higher targets for more species-rich systems. Long term protected area targets (i.e. areas for inclusion into formal protected areas over a 20 year period) were set at 54% of this value. Table 2 summarizes the land based protected area targets for South Africa by biome.
- The targets were set per habitat type to ensure that a more representative protected area system is obtained. However, it is acknowledged that some types will optimally be protected by other conservation mechanisms and may not necessarily need to be included in formal protected areas.
- The protected area targets are minimum areas required, as there are many other valid reasons for expanding protected areas beyond what is necessary to meet

habitat targets (e.g. ranges for larger species, tourism requirements, management requirements and climate change considerations).

- The long term targets were set for a 20 year implementation period, while the short term (5 year) targets were set at a quarter of the long term targets. The short term targets theoretically need to be met by 2013. To date, none of the provinces are on track to meet these short term targets.

Table 2: Summary by biome of the targets for protected area expansion from the NPAES 2008.

Biome	Biome area* (000 ha)	20-year PA target (%)	Current protected areas		Still required to meet 20-year vegetation type targets		Required in next 5 years	
			000 ha	%	000 ha	%	000 ha	%
Albany Thicket	2 913	10	211	7	107	3.7	27	0.9
Azonal Vegetation	2 898	14	227	8	282	9.7	71	2.4
Desert	716	18	160	22	96	13.4	24	3.4
Forests	472	23	176	37	8	1.7	2	0.4
Fynbos	8 395	15	1 667	20	669	8.0	167	2.0
Grassland	35 449	14	753	2	4 249	12.0	1 062	3.0
Indian Ocean Coastal Belt	1 428	14	97	7	110	7.7	28	1.9
Nama-Karoo	24 820	11	198	1	2 600	10.5	650	2.6
Savanna	41 266	10	3 803	9	2 442	5.9	610	1.5
Succulent Karoo	8 329	12	435	5	715	8.6	179	2.1

The NPAES set targets at a national level, and therefore it is necessary to adapt these for specific provinces to deal with issues such as shared habitat types. The key principles used to set protected area expansion targets for the Eastern Cape were:

- The ECPAES aims to fully meet the NPAES targets in the long term. As the NPAES sets area targets for each habitat type, this requires the Eastern Cape to fully meet the targets for endemic habitat types, and proportionally contribute to meeting targets where habitat types are shared with other provinces.
- Only long term (effectively 20 year) targets have been set for the Eastern Cape. Setting short term targets (especially if they are to meet the short term targets in the NPAES for delivery by 2013) is unrealistic in terms of current implementation constraints. The approach taken in the ECPAES is that short term protected area expansion objectives for the province are better articulated in terms of specific areas for immediate implementation. Importantly, these areas will not fully meet the long term targets, and the ECPAES identifies the inevitable shortfalls between what would be delivered by their implementation and what is necessary in the long term (i.e. for full meeting of targets).
- As a fully representative set of protected areas should be established in each province, the Eastern Cape protected area expansion targets are set based on the NPAES percentage target for each habitat type, combined with its original extent in the Eastern Cape. The exception to this approach is when national targets for a vegetation type have been met outside of the Eastern Cape. In these cases, no additional area of this type is required even though it is underrepresented in the

provincial protected area system. This is to avoid having an inefficient protected area system at a national scale, and to allow resources to be expended on other priorities.

- In some cases, it may be impossible or very difficult to meet the allocated target for a shared habitat type in the Eastern Cape. Where better opportunities exist to meet targets outside the province (or conversely where it is easier to meet the full national target for a habitat type in the Eastern Cape), these need to be identified by the provinces, and the targets re-allocated if necessary. This re-allocation process is beyond the scope of the current project.
- The protected area expansion targets for the Eastern Cape are set out in Table 3. Importantly, protected area expansion targets are minimum acceptable values and there are many other reasons for expanding protected areas (e.g. management requirements, protecting large scale functioning systems, improving climate change resilience and adaptation potential, meeting requirements for wide-ranging species, and unlocking tourism and eco-tourism opportunities), and hence it not necessarily a problem if targets are exceeded, especially in a comprehensive protected area system.

Table 3: Overall national biodiversity and protected area targets, as well as Eastern Cape provincial protected area targets. Continued on next page

Name	Area of vegetation type (km ²) RSA Extent	National Biodiversity Target %	National Protected Area Target %	RSA Protected Area Target (km ²)	Area of vegetation type (km ²) EC Extent	Percentage of vegetation type in Eastern Cape	Eastern Cape Protected Area Target (km ²)
Albany Alluvial Vegetation	584.0	31.0	17.0	99.2	580.38	99.4	98.6
Albany Broken Veld	1647.9	16.0	8.8	144.5	1509.84	91.6	132.4
Albany Coastal Belt	3269.2	19.0	10.4	340.4	3160.38	96.7	329.0
Albany Dune Strandveld	170.4	20.0	11.0	18.7	170.15	99.9	18.6
Algoa Dune Strandveld	281.5	20.0	11.0	30.9	283.48	100.7	31.1
Algoa Sandstone Fynbos	341.0	23.0	12.6	43.0	338.93	99.4	42.7
Aliwal North Dry Grassland	7162.1	24.0	13.2	941.9	2020.78	28.2	265.7
Amathole Mistbelt Grassland	158.3	27.0	14.8	23.4	158.27	100.0	23.4
Amathole Montane Grassland	4419.5	27.0	14.8	653.9	4419.55	100.0	654.1
Basotho Montane Shrubland	3469.9	28.0	15.3	532.4	24.67	0.7	3.8
Baviaanskloof Shale Renosterveld	118.8	29.0	15.9	18.9	118.59	99.8	18.8
Bedford Dry Grassland	2050.9	23.0	12.6	258.5	2024.08	98.7	255.0
Besemkaree Koppies Shrubland	9677.7	28.0	15.3	1484.9	1627.64	16.8	249.7
Bhisho Thornveld	8006.0	25.0	13.7	1096.8	7809.73	97.5	1069.9
Buffels Thicket	1132.2	19.0	10.4	117.9	1130.74	99.9	117.7
Camdebo Escarpment Thicket	1976.2	19.0	10.4	205.8	1613.14	81.6	167.9
Cape Coastal Lagoons	46.4	24.0	13.2	6.1	14.33	30.9	1.9
Cape Estuarine Salt Marshes	102.1	24.0	13.2	13.4	46.09	45.1	6.1
Cape Inland Salt Pans	84.6	24.0	13.2	11.1	5.81	6.9	0.8
Cape Lowland Freshwater Wetlands	72.0	24.0	13.2	9.5	1.73	2.4	0.2
Cape Seashore Vegetation	227.3	20.0	11.0	24.9	181.07	79.7	19.8
Coega Bontveld	246.2	19.0	10.4	25.6	236.83	96.2	24.7
Drakensberg Foothill Moist Grassland	12892.0	23.0	12.6	1624.9	7190.16	55.8	906.0
East Griqualand Grassland	8667.5	23.0	12.6	1092.4	7254.35	83.7	914.0
Eastern Cape Escarpment Thicket	1291.8	19.0	10.4	134.5	1278.38	99.0	133.1
Eastern Coastal Shale Band Vegetation	78.2	27.0	14.8	11.6	64.05	82.0	9.5
Eastern Inland Shale Band Vegetation	108.9	27.0	14.8	16.1	102.22	93.9	15.1
Eastern Lower Karoo	8321.1	16.0	8.8	729.6	7952.84	95.6	697.5
Eastern Temperate Freshwater Wetlands	556.8	24.0	13.2	73.2	34.80	6.3	4.6
Eastern Upper Karoo	49821.3	21.0	11.5	5733.4	17287.88	34.7	1989.8
Eastern Valley Bushveld	9955.7	25.0	13.7	1363.9	6994.63	70.3	958.3
Freshwater Lakes	158.3	24.0	13.2	20.8	0.61	0.4	0.1
Gamka Karoo	20324.9	16.0	8.8	1782.1	2102.60	10.3	184.4
Gamka Thicket	1474.4	19.0	10.4	153.5	42.79	2.9	4.5
Gamtoos Thicket	883.0	19.0	10.4	91.9	874.18	99.0	91.0
Garden Route Shale Fynbos	566.4	23.0	12.6	71.4	38.68	6.8	4.9
Great Fish Noorsveld	673.9	19.0	10.4	70.2	434.65	64.5	45.2
Great Fish Thicket	6763.4	19.0	10.4	704.2	6248.02	92.4	650.4
Groot Thicket	2484.4	19.0	10.4	258.7	2391.08	96.2	248.9

Table 3 (continued): Overall national biodiversity and protected areas targets, as well as Eastern Cape provincial protected area targets

Name	Area of vegetation type (km ²) RSA Extent	National Biodiversity Target %	National Protected Area Target %	RSA Protected Area Target (km ²)	Area of vegetation type (km ²) EC Extent	Percentage of vegetation type in Eastern Cape	Eastern Cape Protected Area Target (km ²)
Grootrivier Quartzite Fynbos	564.8	23.0	12.6	71.2	520.43	92.1	65.6
Highveld Salt Pans	1160.9	24.0	13.2	152.7	10.72	0.9	1.4
Humansdorp Shale Renosterveld	366.6	29.0	15.9	58.3	348.62	95.1	55.4
Karoo Escarpment Grassland	8378.3	24.0	13.2	1101.9	7675.43	91.6	1009.3
Kouga Grassy Sandstone Fynbos	4136.7	23.0	12.6	521.4	3880.42	93.8	488.9
Kouga Sandstone Fynbos	2402.6	23.0	12.6	302.8	1503.33	62.6	189.4
Kowie Thicket	2248.7	19.0	10.4	234.1	1845.09	82.1	192.1
Langkloof Shale Renosterveld	207.1	29.0	15.9	32.9	57.68	27.9	9.2
Lesotho Highland Basalt Grassland	20154.8	27.0	14.8	2982.1	3552.58	17.6	525.8
Lesotho Mires	26.6	24.0	13.2	3.5	1.64	6.2	0.2
Loerie Conglomerate Fynbos	218.7	23.0	12.6	27.6	218.66	100.0	27.6
Lower Karoo Gwarrieveld	1569.6	16.0	8.8	137.6	1472.88	93.8	129.2
Mabela Sandy Grassland	477.1	23.0	12.6	60.1	470.58	98.6	59.3
Mangrove Forest	33.4	100.0	54.8	18.3	1.70	5.1	0.9
Midlands Mistbelt Grassland	6576.6	23.0	12.6	828.9	1351.41	20.5	170.3
Mthatha Moist Grassland	5282.5	23.0	12.6	665.8	5282.50	100.0	665.6
Ngongoni Veld	10051.1	25.0	13.7	1377.0	2911.27	29.0	398.8
North Swartberg Sandstone Fynbos	864.3	27.0	14.8	127.9	57.80	6.7	8.6
Northern Coastal Forest	467.1	43.0	23.6	110.1	0.57	0.1	0.1
Pondoland-Ugu Sandstone Coastal Sourv	1303.5	25.0	13.7	178.6	931.15	71.4	127.6
Prince Albert Succulent Karoo	2582.9	16.0	8.8	226.5	968.97	37.5	85.0
Queenstown Thornveld	3606.3	23.0	12.6	454.5	3606.30	100.0	454.4
Scarp Forest	867.2	40.0	21.9	190.1	361.99	41.7	79.3
Senqu Montane Shrubland	3736.9	28.0	15.3	573.4	716.79	19.2	110.0
South Swartberg Sandstone Fynbos	1084.8	27.0	14.8	160.5	31.11	2.9	4.6
Southern Afrotropical Forest	799.8	34.0	18.6	149.0	163.83	20.5	30.5
Southern Cape Dune Fynbos	186.3	36.0	19.7	36.8	96.62	51.9	19.1
Southern Coastal Forest	165.5	40.0	21.9	36.3	147.29	89.0	32.3
Southern Drakensberg Highland Grasslan	6477.7	27.0	14.8	958.4	5753.72	88.8	851.6
Southern Karoo Riviere	5299.1	24.0	13.2	696.9	3038.40	57.3	399.5
Southern Mistbelt Forest	1100.2	30.0	16.4	180.9	729.37	66.3	119.9
Steytlerville Karoo	793.4	16.0	8.8	69.6	786.65	99.1	69.0
Stormberg Plateau Grassland	2964.3	27.0	14.8	438.6	2964.34	100.0	438.7
Subtropical Coastal Lagoons	468.5	24.0	13.2	61.6	11.64	2.5	1.5
Subtropical Dune Thicket	19.8	20.0	11.0	2.2	6.30	31.8	0.7
Subtropical Estuarine Salt Marshes	3.8	24.0	13.2	0.5	3.76	100.0	0.5
Subtropical Seashore Vegetation	41.5	20.0	11.0	4.6	4.69	11.3	0.5
Sundays Noorsveld	1271.1	19.0	10.4	132.4	1255.14	98.7	130.7
Sundays Thicket	5235.6	19.0	10.4	545.1	4858.72	92.8	505.8
Suurberg Quartzite Fynbos	885.4	23.0	12.6	111.6	681.87	77.0	85.9
Suurberg Shale Fynbos	515.0	23.0	12.6	64.9	470.77	91.4	59.3
Swartberg Shale Renosterveld	276.4	29.0	15.9	43.9	36.80	13.3	5.8
Tarkastad Montane Shrubland	4239.7	28.0	15.3	650.5	4105.84	96.8	629.8
Transkei Coastal Belt	1636.3	25.0	13.7	224.2	1634.44	99.9	223.9
Tsitsikamma Sandstone Fynbos	2279.2	23.0	12.6	287.3	1511.07	66.3	190.4
Tsomo Grassland	6136.9	23.0	12.6	773.5	6136.87	100.0	773.2
uKhahlamba Basalt Grassland	1503.3	27.0	14.8	222.4	26.93	1.8	4.0
Uniondale Shale Renosterveld	1340.9	29.0	15.9	213.1	626.44	46.7	99.5
Upper Gariep Alluvial Vegetation	1785.3	31.0	17.0	303.3	243.45	13.6	41.4
Upper Karoo Hardeveld	11734.3	21.0	11.5	1350.4	1183.38	10.1	136.2
Willowmore Gwarrieveld	2310.8	16.0	8.8	202.6	1860.30	80.5	163.1
Xhariep Karroid Grassland	13391.9	24.0	13.2	1761.3	4.45	0.0	0.6
Zastron Moist Grassland	4268.1	24.0	13.2	561.3	1509.79	35.4	198.5

3.2 Current protection levels and gap analysis

This section evaluates the current representation of terrestrial habitat types in the formal protected areas of the Eastern Cape based on the protected area targets (as outlined in the previous section) and the revised protected area data layer developed for the current project. The difference between the targets and the current protected area system will form the basis for subsequent spatial prioritisation and identification of priority implementation areas.

We have deliberately not presented a new set of protection level categories for the Eastern Cape, as the NBA (2011) has just released a national assessment of the protection level, and it would be confusing to publish a similar but not quite identical product. Note that the NBA evaluates protection level against the full biodiversity target for each type (unlike the NPAES which evaluates against the lower protected area targets (See section 3.1)². The categories used in the NBA protection level assessment are given in Table 4.

Table 4: Categories used in the National Biodiversity Assessment

Ecosystem Protection Level	Proportion of biodiversity target met in a protected area
Not Protected	Zero or less than 5% of biodiversity target
Poorly Protected	5–49% of biodiversity target
Moderately Protected	50–99% of biodiversity target
Well Protected	>=100% of biodiversity target

The protection level assessment undertaken by the NBA highlights some key characteristics of the Eastern Cape protected area system. These characteristics can be summarised in terms of number of types in each protection level, area in each protection level category and geographical variation in protection level across the province (Figure 5, Figure 6 & Figure 7). For completeness, we also evaluated the levels of protection of non-vegetation type features (especially sites important for rare species) used in the Eastern Cape Biodiversity Conservation Plan (Berliner and Desmet, 2007).

Figure 5 illustrates that the majority (75%) of the Eastern Cape vegetation types are under-protected (i.e. Not Protected, Poorly Protected or Moderately Protected). Of most concern is the fact that over a quarter of the vegetation types have no effective protection at all.

The picture looks even worse if one examines the current level of protection in terms of area in each category. Figure 6 illustrates that when examined on this basis, approximately 94% of the province consists of under-protected vegetation types (i.e. Not Protected, Poorly Protected or Moderately Protected), and Not Protected types characterise over half the province (54%). This highlights a need for PA expansion planning in the province to focus on creating an efficient protected area system that is more representative of the province's ecosystems.

² This means that even where the full protected area target has been met, the type may still not be seen as well protected.

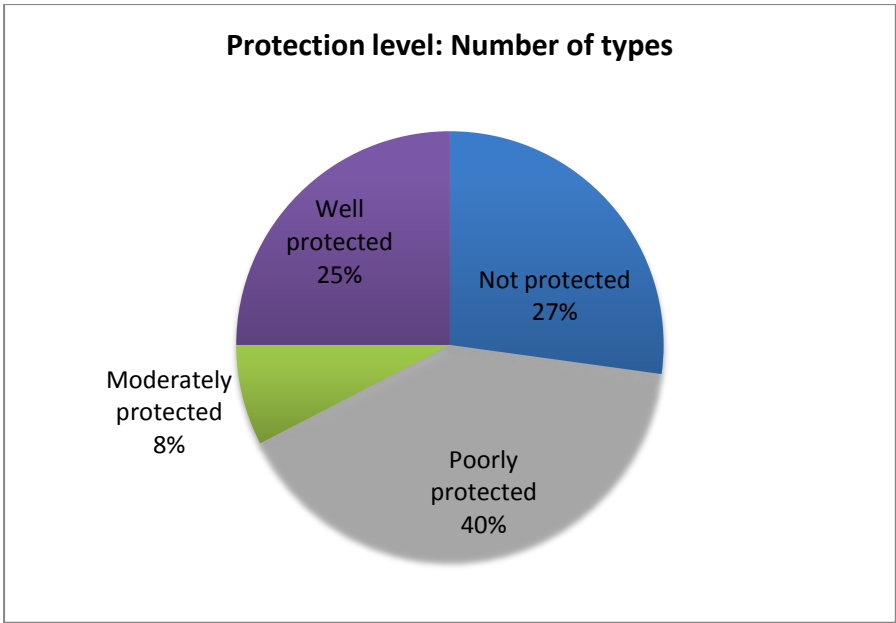


Figure 5: Summary of the protection level of vegetation types in the Eastern Cape in terms of the number of different types. Data from the NBA 2011. Categories are described in Table 4

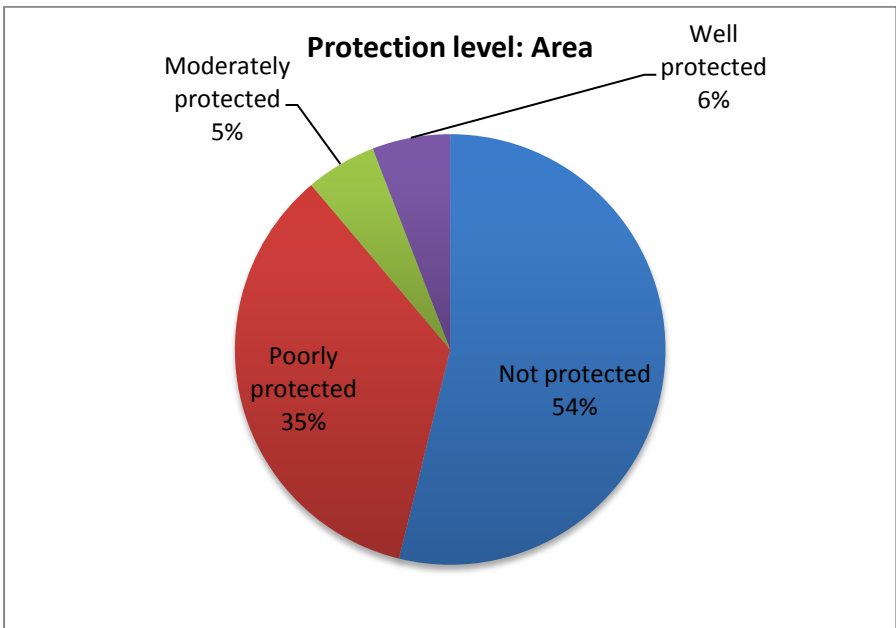


Figure 6: Summary of the protection level of vegetation types in the Eastern Cape in terms of the area of types in each category. Data from the NBA 2011. Categories are described in Table 4.

Geographically, the pattern of representation of vegetation types in the Eastern Cape is striking (Figure 7). If one splits the province into four quarters, it is noticeable that the south-west of the province includes almost all of the Well Protected and Moderately Protected types, as a result of the presence of the province’s larger protected areas such as Baviaanskloof Nature Reserve, Addo Elephant National Park and Garden Route National Park. Conversely, the remainder of the province is poorly represented. Although vegetation types in the east of the province stand out in terms of their lack of representation in the protected area system, this is not purely a west-east split, as the north-western portions of the province are also under-represented.

This poor representation of the range of different biodiversity features is not restricted to vegetation types. Figure 8 evaluates the level of protection for non-vegetation type features (especially sites important for rare species) used in the ECBCP. Importantly, 77% of the identified non-vegetation type features are not found in any protected area. Clearly there is a significant need to expand and improve the protected area network.

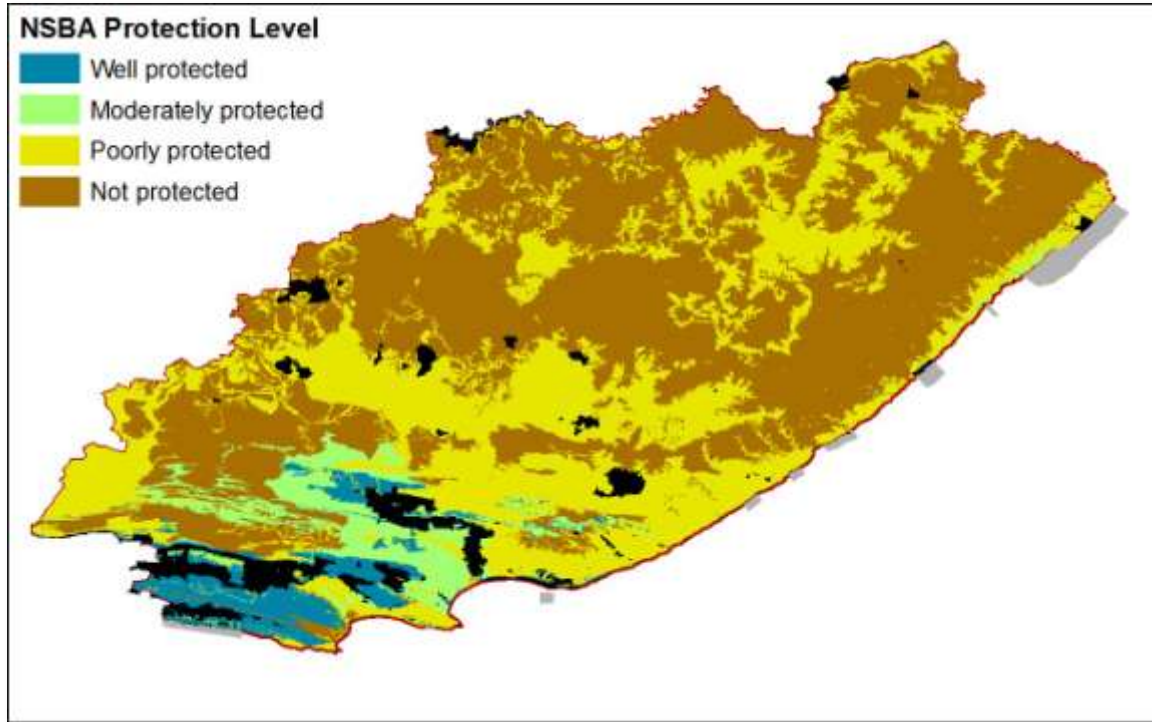


Figure 7: Map of protection level of vegetation types in the Eastern Cape. Data from the NBA 2011. Categories are described in Table 4.

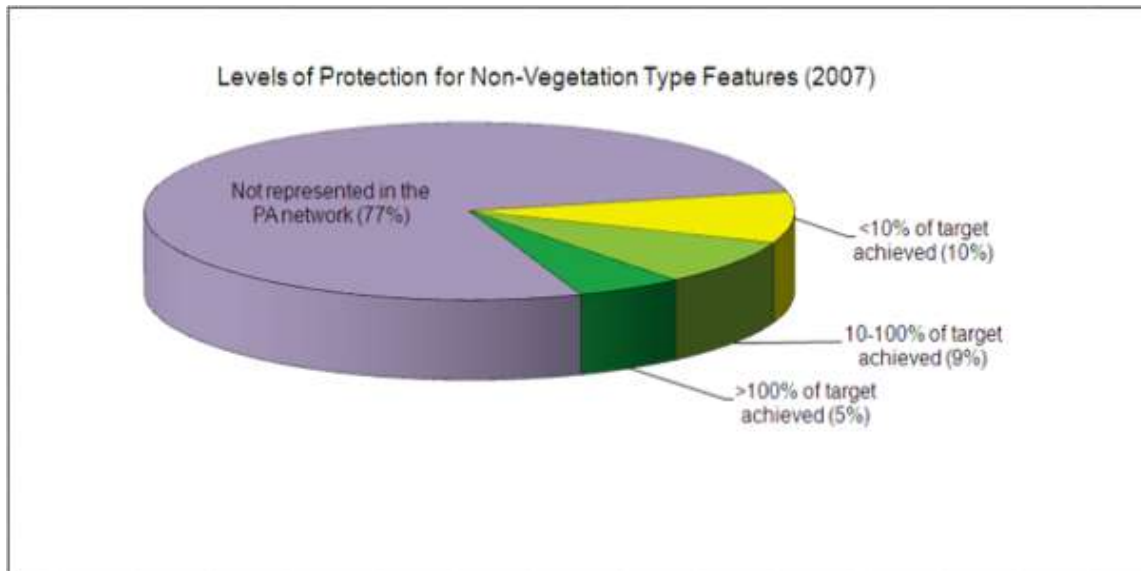


Figure 8: Level of protection for non-vegetation type features (especially sites important for rare species) used in the ECBCP. Source Berliner & Desmet, 2007.

3.2.1 Gap analysis of the current Eastern Cape protected area estate and determination of additional areas required to meet targets

Although the National Biodiversity Assessment provides a useful overall picture of the protected area system in the Eastern Cape, it is important to be specific about each habitat type, and identify the additional areas required to meet protected area targets for individual habitat types.

Table 5 summarizes the results of the gap analysis of the Eastern Cape protected area system. These figures were obtained by using the provincial protected area targets as set out in Table 3, and the revised Eastern Cape protected area GIS layer produced for this project³. The remaining area required to meet targets for each habitat type was obtained by subtracting the current protected area from the provincial protected area target for each type. Where no additional area is required to meet the provincial target, this is indicated as "Target met". In cases where the provincial protected area target has not been met, but the habitat type is Well Protected according to the National Biodiversity Assessment (i.e. the full Biodiversity target, and not just the NPAES protected area target has been achieved), we have indicated this as "Target met nationally". In these cases, although the Eastern Cape protected area system is not fully representative, in the context of limited resources it would be more efficient to include other higher priority areas before aiming to have a fully representative provincial protected area system.

A total additional area of 15 996 km² is required to meet the protected area targets for all habitat types in the Eastern Cape. As the current protected area system in the province covers around 7 167 km², the magnitude of the task required to attain a fully representative protected area system becomes apparent. An **additional** area of 8 829 km² (equivalent to 123% of the current protected area system) needs to be added to the protected area estate. This task clearly does not allow any leeway for inefficiency⁴, therefore it is critical that we carefully prioritise our protected area expansion activities. This is dealt with in the following section.

³ Note that there will inevitably be discrepancies between the national and the provincial data. The most obvious anomaly is where the value in the Eastern Cape protected area register exceeds the value recorded in the national protected area register. This can occur when reserves that have expanded in the Eastern Cape are reflected in the updated provincial GIS layer, but are not yet reflected in the national layer. On the other hand, the value for protection of habitats in the Eastern Cape protected area data can be lower than the value in the national data. The primary cause of this is where reserves are found in that habitat type outside of the province. However, in some cases the national protected area value may exceed the provincial value even for endemic vegetation types. The most important cause of this anomaly is where an area is seen to have protection, but in reality there is no legal protection for the area (certain state forests fall into this category).

⁴ In this context inefficiency is referring to an area in excess of the protected area target which is included in protected areas. Note that this does not imply that these areas do not have value, or that there are not valid reasons to include these "excess" areas into reserves for tourism, to maintain ecological processes, protect water resources, increase resilience to climate change or for species conservation reasons.

Table 5: Protection levels for Eastern Cape terrestrial habitat types. The categories are according to the National Biodiversity Assessment (refer to Table 4 for categories). The table details the area of each habitat type found in formal protected areas in the province and sets out the remaining area required. (Continued on next page).

Name	RSA Biodiversity Target (km ²)	NBA RSA PA area (km ²)	NBA % of Biodiversity Target Met	NBA Protection Level (based on biodiversity target)	Eastern Cape Protected Area Target (km ²)	Eastern Cape PA area (km ²)	Eastern Cape % of Protected Area Target Met	Eastern Cape Additional Area Required (km ²)
Albany Alluvial Vegetation	181.0	37.9	20.9	poorly protected	98.6	38.1	38.7	60.5
Albany Broken Veld	263.7	94.6	35.9	poorly protected	132.4	93.8	70.8	38.6
Albany Coastal Belt	621.1	51.4	8.3	poorly protected	329.0	39.4	12.0	289.6
Albany Dune Strandveld	34.1	52.9	155.2	well protected	18.6	54.6	293.0	Target met
Algoa Dune Strandveld	56.3	11.0	19.5	poorly protected	31.1	11.2	35.9	19.9
Algoa Sandstone Fynbos	78.4	5.8	7.4	poorly protected	42.7	5.8	13.6	36.9
Alwal North Dry Grassland	1718.9	40.7	2.4	not protected	265.7	0.0	0.0	265.7
Amathole Mistbelt Grassland	42.7	5.6	13.1	poorly protected	23.4	0.0	0.0	23.4
Amathole Montane Grassland	1193.3	203.4	17.0	poorly protected	654.1	101.1	15.5	553.0
Basotho Montane Shrubland	971.6	62.9	6.5	poorly protected	3.8	0.0	0.0	3.8
Baviaanskloof Shale Renosterveld	34.4	48.9	141.8	well protected	18.8	51.1	271.2	Target met
Bedford Dry Grassland	471.7	0.0	0.0	not protected	255.0	0.0	0.0	255.0
Besemkaree Koppies Shrubland	2709.8	429.9	15.9	poorly protected	249.7	65.0	26.0	184.7
Bhisho Thornveld	2001.5	29.3	1.5	not protected	1069.9	10.9	1.0	1059.0
Buffels Thicket	215.1	17.2	8.0	poorly protected	117.7	12.2	10.4	105.5
Camdeboo Escarpment Thicket	375.5	105.4	28.1	poorly protected	167.9	105.1	62.6	62.8
Cape Coastal Lagoons	11.1	2.1	19.2	poorly protected	1.9	1.2	62.7	0.7
Cape Estuarine Salt Marshes	24.5	25.4	103.5	well protected	6.1	5.2	85.5	Target met nationally
Cape Inland Salt Pans	20.3	21.6	106.4	well protected	0.8	0.0	0.0	Target met nationally
Cape Lowland Freshwater Wetlands	17.3	21.1	122.3	well protected	0.2	0.0	0.0	Target met nationally
Cape Seashore Vegetation	45.5	119.0	261.9	well protected	19.8	114.2	575.5	Target met
Coega Bontveld	46.8	31.9	68.1	moderately protected	24.7	31.7	128.5	Target met
Drakensberg Foothill Moist Grassland	2965.2	353.9	11.9	poorly protected	906.0	0.0	0.0	906.0
East Griqualand Grassland	1993.5	21.2	1.1	not protected	914.0	12.4	1.4	901.6
Eastern Cape Escarpment Thicket	245.4	73.1	29.8	poorly protected	133.1	70.4	52.9	62.7
Eastern Coastal Shale Band Vegetation	21.1	7.5	35.5	poorly protected	9.5	2.0	21.6	7.4
Eastern Inland Shale Band Vegetation	29.4	43.4	147.5	well protected	15.1	43.9	290.0	Target met
Eastern Lower Karoo	1331.4	6.0	0.5	not protected	697.5	7.1	1.0	690.4
Eastern Temperate Freshwater Wetlands	133.6	17.1	12.8	poorly protected	4.6	0.0	0.0	4.6
Eastern Upper Karoo	10462.5	406.5	3.9	not protected	1989.8	394.0	19.8	1595.9
Eastern Valley Bushveld	2488.9	17.6	0.7	not protected	958.3	6.4	0.7	951.8
Freshwater Lakes	38.0	111.3	292.8	well protected	0.1	0.0	0.0	Target met nationally
Gamka Karoo	3252.0	431.5	13.3	poorly protected	184.4	0.0	0.0	184.4
Gamka Thicket	280.1	147.2	52.6	moderately protected	4.5	0.0	0.0	4.5
Gamtoos Thicket	167.8	67.4	40.2	poorly protected	91.0	67.7	74.4	23.3
Garden Route Shale Fynbos	130.3	17.2	13.2	poorly protected	4.9	1.7	35.6	3.1
Great Fish Noorsveld	128.0	22.5	17.6	poorly protected	45.2	29.2	64.4	16.1
Great Fish Thicket	1285.0	414.5	32.3	poorly protected	650.4	421.9	64.9	228.5
Groot Thicket	472.0	287.9	61.0	moderately protected	248.9	290.2	116.6	Target met

Eastern Cape Protected Area Expansion Strategy 2012

Table 5: (Continued from previous page)

Name	RSA Biodiversity Target (km ²)	NBA PA area (km ²)	NBA % of Biodiversity Target Met	NBA Protection Level (based on biodiversity target)	Eastern Cape Protected Area Target (km ²)	Eastern Cape PA area (km ²)	Eastern Cape % of Protected Area Target Met	Eastern Cape Additional Area Required (km ²)
Grootrivier Quartzite Fynbos	129.9	0.0	0.0	not protected	65.6	0.0	0.0	65.6
Highveld Salt Pans	278.6	1.7	0.6	not protected	1.4	0.0	0.0	1.4
Humansdorp Shale Renosterveld	106.3	0.0	0.0	not protected	55.4	0.0	0.0	55.4
Karoo Escarpment Grassland	2010.8	243.8	12.1	poorly protected	1009.3	213.8	21.2	795.5
Kouga Grassy Sandstone Fynbos	951.4	981.4	103.2	well protected	488.9	985.7	201.6	Target met
Kouga Sandstone Fynbos	552.6	1054.2	190.8	well protected	189.4	875.1	462.0	Target met
Kowie Thicket	427.2	110.6	25.9	poorly protected	192.1	110.5	57.5	81.6
Langkloof Shale Renosterveld	60.1	0.0	0.0	not protected	9.2	0.0	0.0	9.2
Lesotho Highland Basalt Grassland	5441.8	166.4	3.1	not protected	525.8	75.6	14.4	450.2
Lesotho Mires	6.4	1.0	15.0	poorly protected	0.2	1.0	442.7	Target met
Loerie Conglomerate Fynbos	50.3	25.8	51.2	moderately protected	27.6	32.2	116.8	Target met
Lower Karoo Gwarrieveld	251.1	0.0	0.0	not protected	129.2	0.0	0.0	129.2
Mabela Sandy Grassland	109.7	1.3	1.2	not protected	59.3	0.7	1.1	58.6
Mangrove Forest	33.4	24.0	72.0	well protected	0.9	0.0	0.0	Target met nationally
Midlands Mistbelt Grassland	1512.6	46.5	3.1	not protected	170.3	0.0	0.0	170.3
Mthatha Moist Grassland	1215.0	0.0	0.0	not protected	665.6	1.7	0.3	663.9
Ngongoni Veld	2512.8	28.0	1.1	not protected	398.8	0.0	0.0	398.8
North Swartberg Sandstone Fynbos	233.4	656.3	281.2	well protected	8.6	27.9	326.5	Target met
Northern Coastal Forest	200.8	319.0	158.8	well protected	0.1	0.0	0.0	Target met nationally
Pondoland-Ugu Sandstone Coastal Sourv	325.9	88.0	27.0	poorly protected	127.6	70.1	54.9	57.5
Prince Albert Succulent Karoo	413.3	65.1	15.7	poorly protected	85.0	6.1	7.2	78.9
Queenstown Thornveld	829.4	21.8	2.6	not protected	454.4	21.7	4.8	432.7
Scarp Forest	346.9	181.4	52.3	moderately protected	79.3	57.8	72.9	21.5
Senqu Montane Shrubland	1046.3	0.0	0.0	not protected	110.0	0.0	0.0	110.0
South Swartberg Sandstone Fynbos	292.9	879.6	300.3	well protected	4.6	20.4	443.0	Target met
Southern Afrotropical Forest	271.9	437.4	160.8	well protected	30.5	116.1	380.5	Target met
Southern Cape Dune Fynbos	67.1	27.8	41.5	poorly protected	19.1	0.6	2.9	18.5
Southern Coastal Forest	66.2	88.8	134.2	well protected	32.3	87.5	270.9	Target met
Southern Drakensberg Highland Grassland	1749.0	554.6	31.7	poorly protected	851.6	42.9	5.0	808.6
Southern Karoo Riviere	1271.8	85.3	6.7	poorly protected	399.5	83.7	20.9	315.8
Southern Mistbelt Forest	330.0	143.8	43.6	poorly protected	119.9	41.8	34.8	78.2
Steytlerville Karoo	126.9	0.0	0.0	not protected	69.0	0.0	0.0	69.0
Stormberg Plateau Grassland	800.4	0.0	0.0	not protected	438.7	0.0	0.0	438.7
Subtropical Coastal Lagoons	112.4	430.7	383.0	well protected	1.5	0.5	32.4	Target met nationally
Subtropical Dune Thicket	4.0	6.6	166.9	well protected	0.7	0.3	38.9	Target met nationally
Subtropical Estuarine Salt Marshes	0.9	0.1	14.0	poorly protected	0.5	0.1	25.6	0.4
Subtropical Seashore Vegetation	8.3	20.0	240.7	well protected	0.5	0.3	58.4	Target met nationally
Sundays Noorsveld	241.5	255.0	105.6	well protected	130.7	255.1	195.3	Target met
Sundays Thicket	994.8	587.0	59.0	moderately protected	505.8	589.7	116.6	Target met
Suurberg Quartzite Fynbos	203.6	138.8	68.2	moderately protected	85.9	139.5	162.3	Target met
Suurberg Shale Fynbos	118.4	199.5	168.4	well protected	59.3	199.8	336.9	Target met
Swartberg Shale Renosterveld	80.2	25.7	32.1	poorly protected	5.8	4.3	73.1	1.6
Tarkastad Montane Shrubland	1187.1	31.6	2.7	not protected	629.8	31.0	4.9	598.8
Transkei Coastal Belt	409.1	41.7	10.2	poorly protected	223.9	15.1	6.7	208.8
Tsitsikamma Sandstone Fynbos	524.2	807.9	154.1	well protected	190.4	424.8	223.1	Target met
Tsomo Grassland	1411.5	0.0	0.0	not protected	773.2	0.0	0.0	773.2
uKhahlamba Basalt Grassland	405.9	1143.5	281.7	well protected	4.0	0.0	0.0	Target met nationally
Uniondale Shale Renosterveld	388.9	33.1	8.5	poorly protected	99.5	31.6	31.7	68.0
Upper Gariiep Alluvial Vegetation	553.4	41.8	7.6	poorly protected	41.4	12.0	28.9	29.4
Upper Karoo Hardeveld	2464.2	447.9	18.2	poorly protected	136.2	30.3	22.3	105.9
Willowmore Gwarrieveld	369.7	3.5	0.9	not protected	163.1	0.0	0.0	163.1
Xhariep Karroid Grassland	3214.1	335.2	10.4	poorly protected	0.6	4.0	680.2	Target met
Zastron Moist Grassland	1024.4	0.0	0.0	not protected	198.5	0.0	0.0	198.5

3.3 Spatial Prioritisation

The previous section detailed how the current protected area system in the Eastern Cape is insufficient in terms of its extent (i.e. significant expansion is required), poorly representative of the habitats found in the province (i.e. the majority of habitat types are not sufficiently protected), and to some extent inefficient (i.e. certain habitat types are over-represented). Consequently significant expansion into un- and under-represented habitat types is necessary for the Eastern Cape to move towards a representative protected area system and to achieve the objectives set out in the NPAES⁵.

The current ECPAES spatial prioritisation has limited scope, and is based on a rapid multi-criteria prioritisation of available spatial data. As it is not based on a new finescale systematic conservation plan and does not include a new CPlan or Marxan analysis, it is not a spatial optimization^{6,7}. The components of the multi-criteria analysis are detailed in sections 3.3.1 to 3.3.9, and the combination method is explained in section 3.3.10.

3.3.1 Critical Biodiversity Areas and equivalent priorities

The first layer in the multi-criteria analysis was largely derived from the Eastern Cape Biodiversity Conservation Plan (Berliner and Desmet, 2007) and remains the key input into any spatial biodiversity prioritisation in the province. However, this plan is now fairly dated and significant new national analyses have become available in the intervening period. We therefore updated categories (specifically, we added in NFEPA data for wetlands and rivers; and used up dated protected area boundaries) and added in additional priorities (specifically estuarine functional zones from the NBA; buffers around national parks and nature reserves following the guidelines of NEMA EIA Listing Notice 3; included identified focus areas for NPAES; and included default coastal protection areas which prescribe a 1km coastal buffer outside urban areas and 100m within them) in order to align the original ECBCP outputs more closely with some other more recent conservation plans. The summary method is outlined in Table 6. The composite layer of Critical Biodiversity Areas and areas of equivalent status is shown in Figure 9.

⁵ Even though protected area expansion targets are minimum acceptable values there are many other reasons for expanding protected areas (e.g. management requirements, protecting large scale functioning systems, meeting requirements for wide-ranging species, and unlocking tourism and eco-tourism opportunities), and hence it not necessarily a problem if targets are exceeded (especially in comprehensive protected area systems); in the context of limited resources and a poorly representative and insufficient reserve system, it is difficult to justify reserve expansion which increases the inefficiency of the system.

⁶ It is important to note that although this approach does provide a useful set of spatial priorities (and represents an efficient way of incorporating the newly available national analyses), it does not replace the need for an updated provincial conservation plan and spatial optimization. Ideally this plan should include the development of significantly improved datasets for the key input layers (i.e. a revised and refined habitat map, improved species data and improved land cover/transformation data).

⁷ As the protected area network is currently so restricted, at this stage in the planning, it is not necessary to optimize spatially as most expansion will improve the efficiency of the network so long as vegetation types where targets have already been met are avoided. Later, when one moves closer towards a comprehensive reserve network, optimization becomes more critical.

Table 6: Method summary and data sources for the Critical Biodiversity Area and equivalent layer.

Component	Data source	Weighting
Protected Areas	The National Protected Areas layer developed for the National Protected Areas Expansion Strategy and updated by SANParks (Holness) Updated protected areas from the Eastern Cape (A. Skowno).	All sites scored =10 and treated the same as Critical Biodiversity Area One. This is necessary as the CBAs and other provincial priorities are built up on the assumption that the PAs are meeting targets and are secure. Therefore these at very least should have the same status as the CBA Ones.
Critical Biodiversity Areas One (and equivalent)	The Eastern Cape Conservation Plan v1 was used. Critical Biodiversity Area Ones were used, but it was necessary to strip out transformed areas where these were included to ensure consistency with the above categories. Estuarine functional zones were include from the National Biodiversity Assessment (see aquatic section for estuary references). River and wetland FEPAs (and a 1km buffer around these) were included (see aquatic section for FEPA references).	All sites scored as a 10.
Critical Biodiversity Areas Two (and equivalent)	The Eastern Cape Conservation Plan v1 was used. Critical Biodiversity Area Twos were used, but it was necessary to strip out transformed areas where these were included to ensure consistency with the CBA concept. The Coastal Protection Zone, which unless otherwise specified is 1km in rural areas and 100m in urban areas, was included. Buffers around formal protected areas were include. These were 10km around NPs and 5km around NRs following NEMA Listing Notice Three categories.	All sites scored as a 5.
Ecological Support Areas (and equivalent)	These included Ecological Support Areas from the provincial plans (details above). Protected Area Expansion Strategy identified priority areas (NPAES 2008).	All sites scored as a 2.
Combination method		Maximum value from input layers. Individual rasters prepared for the above layers. Cell statistics used to identify maximum value from individual input layers.
Data Archive	ECPAES/Map data/pacba12esa.rrd ESRI grid with values stored in value field	Scoring: As above.

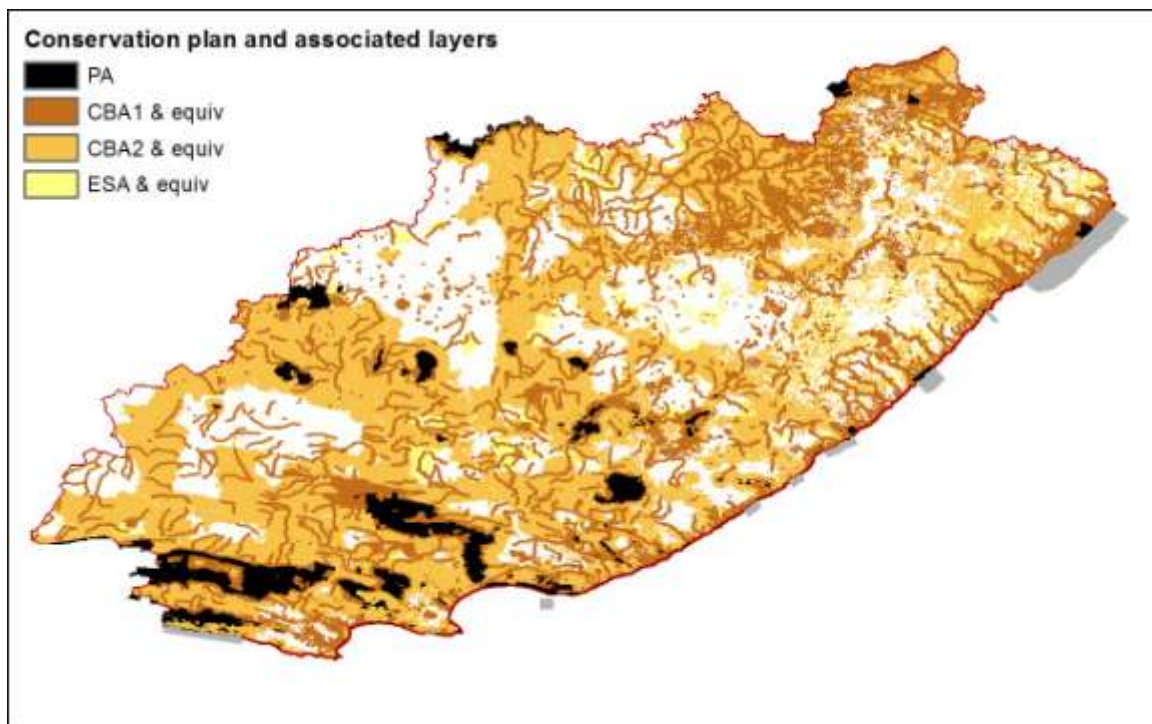


Figure 9: Critical Biodiversity Areas and areas of equivalent status.

3.3.2 Protected area expansion priorities from the National Protected Area Expansion Strategy

The second layer in the multi-criteria analysis was based on the NPAES spatial assessment which prioritised areas to meet national targets for all terrestrial habitat types (including inland wetlands) in a configuration which met targets most efficiently. The assessment was heavily driven by areas important for supporting key ecological processes (including areas required for climate change adaptation) as well as incorporating river and catchment protection priorities. As this project aims to apply the NPAES down to a provincial level, it is important to include its spatial priorities.

The NPAES produced two complementary spatial outputs:

- The focus areas identified in the project. These areas represented the optimal large intact sites for meeting protection targets⁸.
- The underlying assessment of level of priority. The focus area layer concentrated on the largest intact areas available to meet targets, but deliberately excluded smaller areas in fragmented landscapes. We therefore utilized the underlying NPAES prioritisation assessment which retained the smaller important sites and also provided a continuous layer of relative scores across the province.

Table 7 details how the composite layer shown in Figure 10 was developed.

Table 7: Data sets and combination method for defining NPAES protected area expansion priorities

Component	Data source	Weighting
National focus areas (A)	Holness, S., 2008. <i>Focus areas identified in the National Protected Area Expansion Strategy conservation assessment.</i>	Focus areas scored as a 10.
NPAES continuous scoring grid (B)	Holness, S., 2008. <i>Summary grid of the National Protected Area Expansion Strategy conservation assessment.</i>	Values reclassified on a continuous basis to give a 0 (never selected) -10 range (always selected).
Combination method	Above 2 layers	Layers combined using formula (A+B)/2
Data Archive	ECPAES/Map data/focuscont.rrd ESRI grid with values stored in value field	Scoring: Values from 0-10 (low to high value)

⁸ It is important to recognize that this has some significant limitations. The two key ones to highlight for the current analysis are that it focuses strongly on larger intact landscapes, and conversely was deliberately designed to strongly avoid degraded or fragmented landscapes. This has important consequences in areas with small remaining pockets of threatened habitat (e.g. the Cape St Francis and Nelson Mandela Bay area) and areas which may have significant intact sites but where there are a scattering of households or infrastructure which result in an area being considered at the national scale to be fragmented or degraded (e.g. the northern sections of Pondoland).

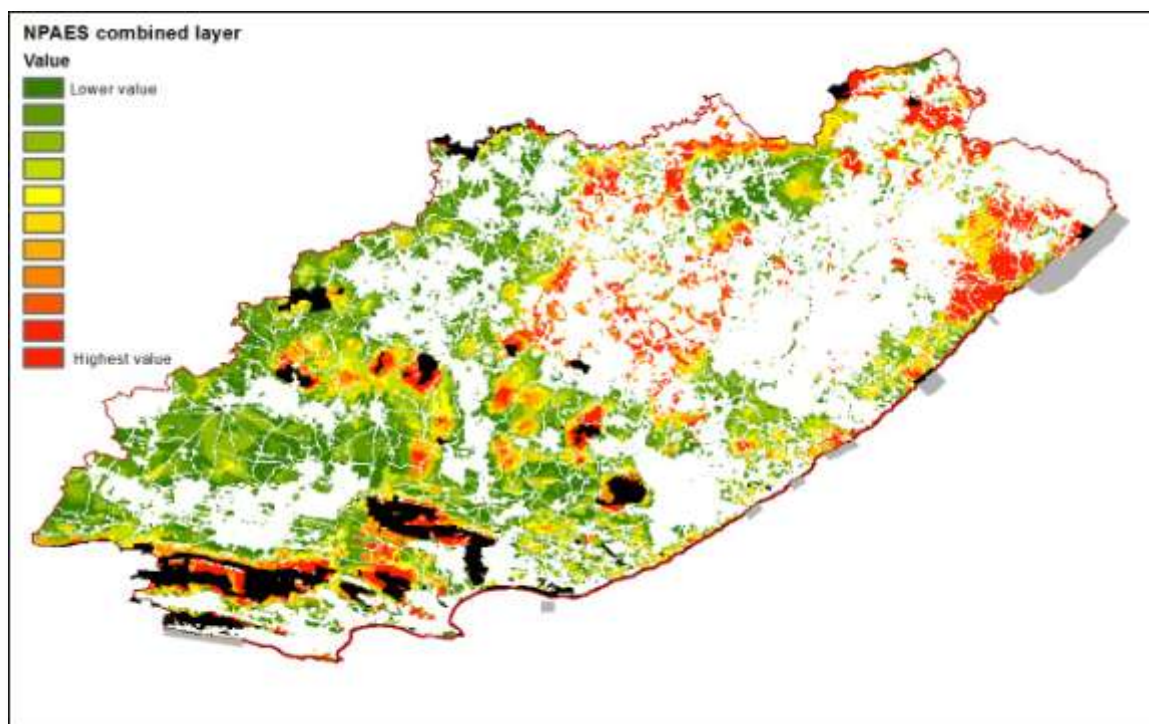


Figure 10: Protected area expansion priorities from the NPAES – composite layer produced for the ECPAES project.

3.3.3 Priorities from the 2007 Eastern Cape Protected Areas Prioritisation

The third layer in the multi-criteria analysis was based on the analyses undertaken for “Recommendations for the Development of a Protected Areas Consolidation and Expansion Strategy for the Eastern Cape Province” (Desmet and Berliner, 2007). The prioritisation complemented the NPAES well as it included a range of species data and expert identified areas which were not incorporated into the national study. The summary method is outlined in Table 8, and the resulting layer is shown in Figure 11.

Table 8: Summary of method used to prepare the 2007 Eastern Cape Protected Areas Prioritisation layer.

Component	Data source	Weighting
Marxan analysis for 2007 EC PA strategy	Desmet P & Berliner DD 2007. <i>Recommendations for the Development of a Protected Areas Consolidation and Expansion Strategy for the Eastern Cape Province</i> . Report for Eastern Cape Parks, East London.	Marxan scores converted to a 0-10 range. Data normalized initially converted to a 0-1 range using the formula n/n_{90} where n is the site value and n_{90} is the 90th percentile of the data. Values over 1 reclassified as 1. Values were then multiplied by 10 to give a 0-10 range.
Data Archive	ECPAES/Map data/ecpaes.rrd ESRI grid with values stored in value field	Scoring: Values from 0-10 (low to high value)

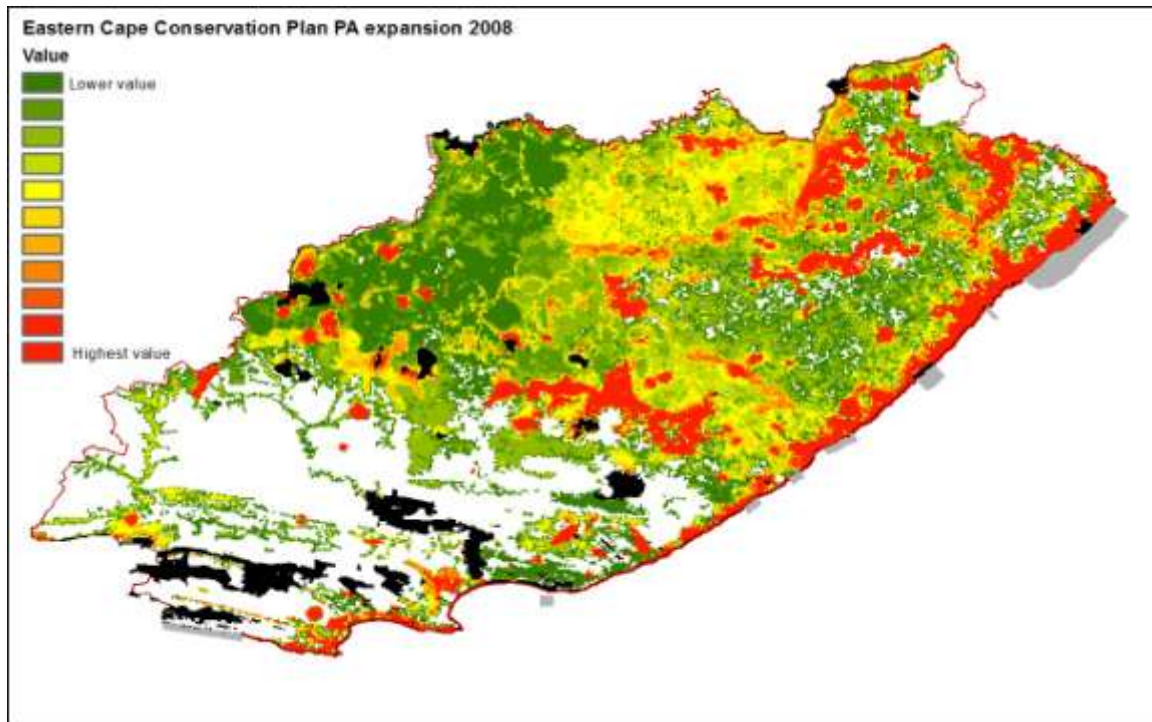


Figure 11: Spatial prioritisation from the Eastern Cape Protected Areas Prioritisation Study (Desmet and Berliner, 2007).

3.3.4 Priorities from other plans

The fourth layer in the multi-criteria analysis included priorities identified by a variety of other systematic conservation planning processes in the region. Its purpose was to align the ECPAES with other conservation implementation efforts and build in outputs of these other systematic analyses, especially when these analyses dealt with issues which were beyond the scope of the current project (e.g. climate change, ecosystem services, species conservation requirements, etc.). Key input layers used were:

- Priority sites identified in the CEPF Biodiversity Profile for the Maputaland Pondoland Albany Hotspot (Source: Stephen Holness). This layer incorporates species (notably plant data) and climate change data not included in any of the other studies. The layer's main limitation was that it excluded the north-west interior of the province as well as high altitude Drakensberg habitats.
- Priority areas from the East Cape Forestry Biodiversity Screening Tool (Source: Richard Lechmere-Oertel). This layer focused on the east of the province.
- High Altitude Tourism and Conservation Development Area conservation planning outputs. Priority areas from the planning process for the potential Grasslands National Park located in the north-eastern Eastern Cape (Source: Stephen Holness) which was based on systematic planning undertaken for the Maloti-Drakensberg Transfrontier Park Conservation Plan (Source: Richard Lechmere-Oertel).

- Critical Biodiversity Areas from the NMBM Bioregional Plan (Source: Warrick Stewart). This incorporated important finescale priorities and corridors in the Metro.
- Critical Biodiversity Areas from the Garden Route Bioregional Plan (Source: Stephen Holness). This included finescale priorities on the coastal plain westwards of the Seekoei River.
- Priority areas from the Baviaanskloof Conservation Plan (Source: Andrew Skowno).
- Priority natural areas around Addo Elephant National Park (Source: Stephen Holness).

A composite layer was developed from aggregated areas of all the above plans (Table 9, Figure 12).

Table 9: Summary of input layers and summary method for collating priorities from other conservation plans.

Component	Data source	Weighting
CEPF Biodiversity Profile	Priority sites identified in the CEPF Biodiversity Profile for the Maputaland Pondoland Albany Hotspot (Source: Stephen Holness).	Priority sites = 10
Nelson Mandela Metro Bioregional Plan	CBA areas from the NMM Bioregional Plan (Source: Warrick Stewart).	Priority sites = 10
Garden Route Bioregional Plan	CBA areas from the Garden Route Bioregional Plan (Source: Stephen Holness).	Priority sites = 10
Priority areas from the Addo Conservation Plan	Priority natural areas around Addo Elephant National Park (Source: Stephen Holness).	Priority sites = 10
Priority areas from the Baviaanskloof Conservation Plan	Priority areas from the Baviaanskloof Conservation Plan (Source: Andrew Skowno).	Priority sites = 10
East Cape Forestry Biodiversity Screening Tool	Priority areas from the East Cape Forestry Biodiversity Screening Tool (Source: Richard Lechmere-Oertel).	Priority sites = 10
High Altitude Tourism and Conservation Development Area - Conservation planning outputs	Priority areas from the planning process for the potential Grasslands National Park located in the North-East Eastern Cape (Source: Stephen Holness) which is based on systematic planning undertaken for the Maluti-Drakensberg Transfrontier Park Conservation Plan (Source: Richard Lechmere-Oertel).	Priority sites = 10
Combination method		Maximum value from input layers. Individual rasters prepared for the above layers. Cell statistics used to identify maximum value from individual input layers.
Data Archive	ECPAES/Map data/otherplans.rrd ESRI grid with values stored in value field	Scoring: Values 0, 10 (not selected, high value)

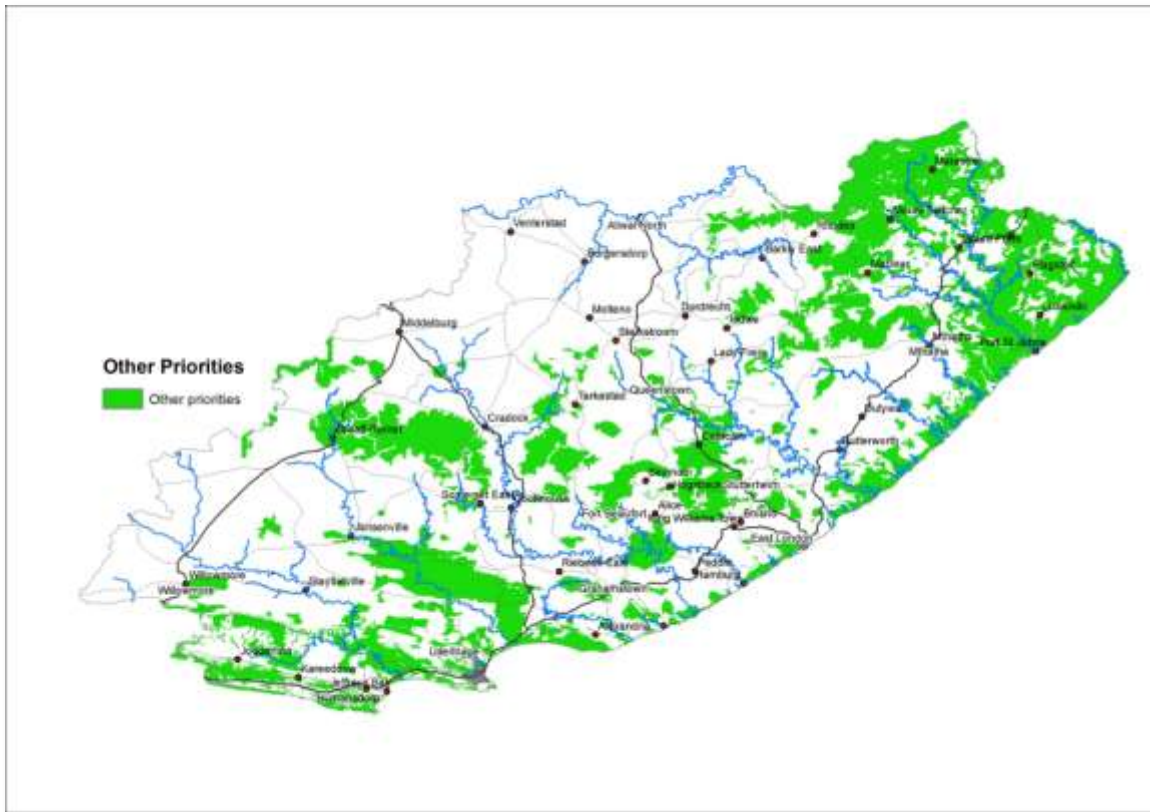


Figure 12: Priorities identified in other conservation planning processes.

3.3.5 Aquatic features, buffers and catchments

The fifth layer in the multi-criteria analysis integrated aquatic issues. Two key assessments were carried out in 2011 and 2012, namely the NFEPA for rivers and wetlands (Nel et al., 2011), and the National Estuary Biodiversity Plan (van Niekerk et al., 2012). Although these are recent assessments for rivers, wetlands and estuaries, they have only been integrated to a very limited extent. Many issues exist, such as Freshwater Ecosystem Priority Areas river lines running “over” non-selected estuaries, overlapping catchments and buffers and different concepts embedded in each project and project component. Hence, producing a sensible combined aquatic priority layer was a key challenge for the ECPAES project.

We divided the aquatic features into three groups:

- **The aquatic feature (actual river, wetland or estuary).** The features were scored based on their priority within their original assessment (see Table 10 for details).
- **The immediate buffer (river buffer, estuary buffer, or wetland buffer).** 1km buffers were delineated around priority aquatic features.
- **The catchment (FEPA river catchment or wetland cluster).** FEPA river catchments and wetland clusters were scored according the outputs of the NFEPA project.

These aquatic feature components were then combined into a single summary layer (Table 10, Figure 13).

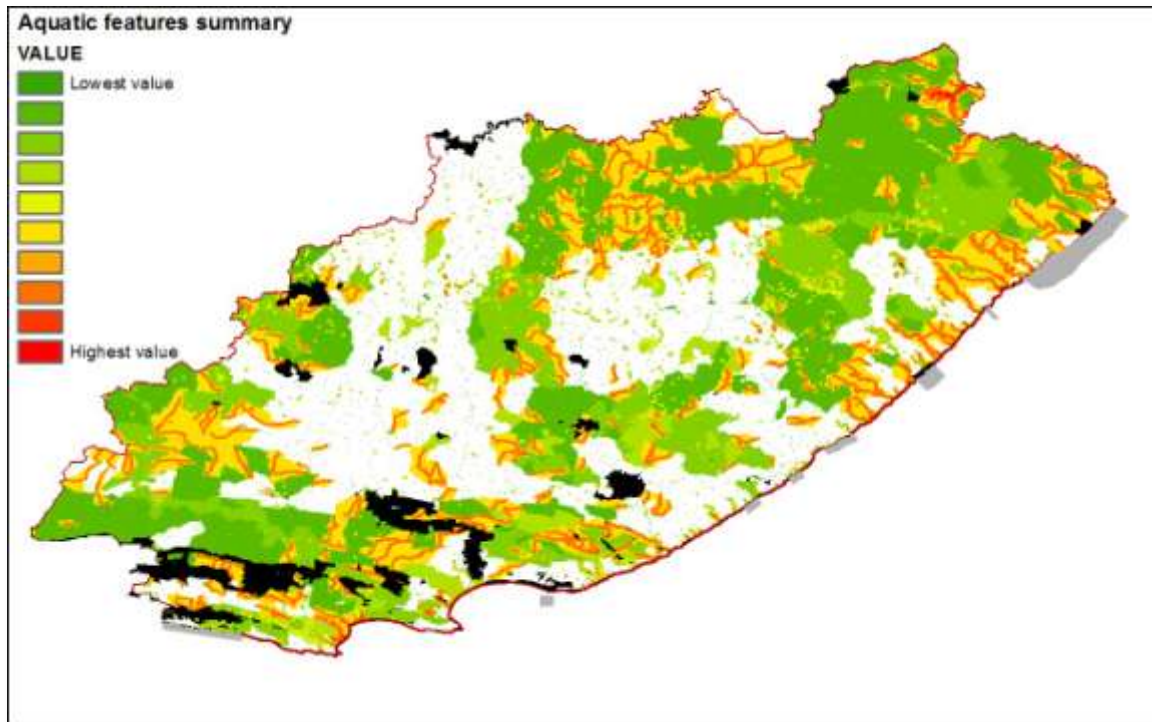


Figure 13: Combined aquatic value, derived by summing the aquatic feature, the aquatic buffer and the catchment & wetland cluster layers.

Table 10: Table summarizing the development of the aquatic features, buffers and catchments layer.

Component	Data source	Weighting
Wetlands	Nel, J.L., Driver, A. & Swartz, E.R. 2012. National Biodiversity Assessment 2011: Technical Report. Volume 2: Freshwater Component. CSIR Report Number CSIR/NRE/ECO/IR/2012/0022/A. Council for Scientific and Industrial Research, Stellenbosch. Nel, J.L., Driver, A., Strydom, W.F., Maherry, A., Petersen, C., Hill, L., Roux, D.J., Nienaber, S., Van Deventer, H., Swartz, S. & Smith-Adao, L.B. 2011. Atlas of Freshwater Ecosystem Priority Areas in South Africa. WRC Report No. TT 500/11. Water Research Commission, Pretoria.	Wetland FEPAs were scored as 10, with other wetlands being scored as 1.
Rivers	As above	Rivers were scored according to their NFEPA priority with FEPA rivers = 10, Phase2FEPA=4, Fish Support Area and FishCorrid=3 and Upstream Management Areas=2. Free-flowing rivers were scored as 10, with other rivers being scored as 1.
Estuaries	Turpie, J.K., Wilson, G. & Van Niekerk, L. 2012. National Biodiversity Assessment 2011: National Estuary Biodiversity Plan for South Africa. Anchor Environmental Consulting, Cape Town. Report produced for the Council for Scientific and Industrial Research and the South African National Biodiversity Institute.	Estuaries which had been selected for either full or partial protection were scored as 10, while other estuaries were scored as 1.
Aquatic features	As above	Feature layer based on the highest value from the above three rows.
Aquatic buffers	As above	Estuaries which had been selected for either full or partial protection were buffered by 1 km. The selected FEPA rivers were buffered by 1 km. The selected FEPA wetlands were buffered by 1 km. All buffers were scored as 5.
Catchments and clusters	As above	FEPA catchments = 10, Phase2FEPA=4, Fish Support Area and FishCorrid=3 and Upstream Management Areas=2. Priority wetland clusters were given a score of 10. Feature layer based on the highest value from the above layers.
Aquatic features, buffers and catchments	As above	Summed value from aquatic features, aquatic buffers and catchments & clusters.
Data Archive	ECPAES/Map data/aquaadd.rrd ESRI grid with values stored in value field	Scoring: Values from 0-25 (low to high value)

3.3.6 Climate change resilience at the landscape scale

The sixth layer in the multi-criteria analysis was based on the climate change component of the NBA which identified the remaining natural or near-natural areas important for supporting climate change resilience⁹ at the landscape scale. Keeping these areas in a natural or near-natural state will help ecosystems and species to adapt naturally to climate change, thus supporting ecologically healthy landscapes and the ability of ecosystems to continue to provide a range of ecosystem services. The development and analysis process is summarized in Table 11, Figure 14 & Figure 15. For further information see the NBA 2011 (Driver et al., 2012).

Table 11: Data source and compilation method for areas important for supporting resilience to climate change impacts.

Component	Data source	Weighting
Areas important for supporting resilience to climate change	Driver, A., Sink, K.J., Nel, J.L., Holness, S., Van Niekerk, L., Daniels, F., Majiedt, P.A., Jonas, Z. & Maze, K. 2012. <i>National Biodiversity Assessment 2011: An assessment of South Africa's biodiversity and ecosystems. Synthesis Report. South African National Biodiversity Institute and Department of Environmental Affairs, Pretoria.</i> <i>Original resilience layer which was scored from 0-60 was divided by 6, rounded up, converted to integer, projected to Albers, resampled by nearest neighbour to 30 metres, background reclassified to 0. This gave a 0-10 range comparable with the other layers.</i>	Continuous scoring with highest values =10 and areas of least value =0.
Combination method		Layer clipped to planning domain
Data Archive	ECPAES/Map data/climate.rrd ESRI grid with values stored in value field	Scoring: Values from 0-10 (low to high value)

⁹ Resilience: the ability of a biome, landscape or ecosystem to absorb change and re-organise itself in order to retain its character and ecological functioning. Keeping these areas in a natural or near-natural state will help ecosystems and species to adapt naturally to climate change, thus supporting ecologically healthy landscapes and the ability of ecosystems to continue to provide a range of ecosystem services.

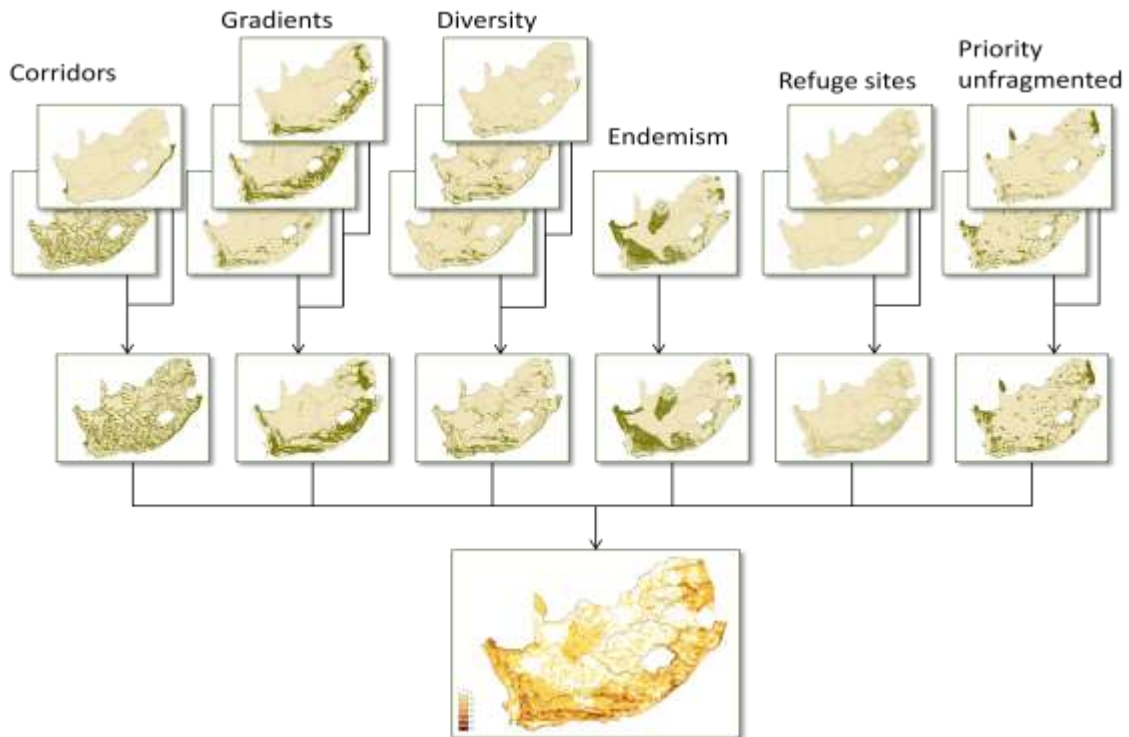


Figure 14: Summary of features that were combined to identify areas important for climate change resilience at the landscape scale. These areas were identified as part of the NBA.

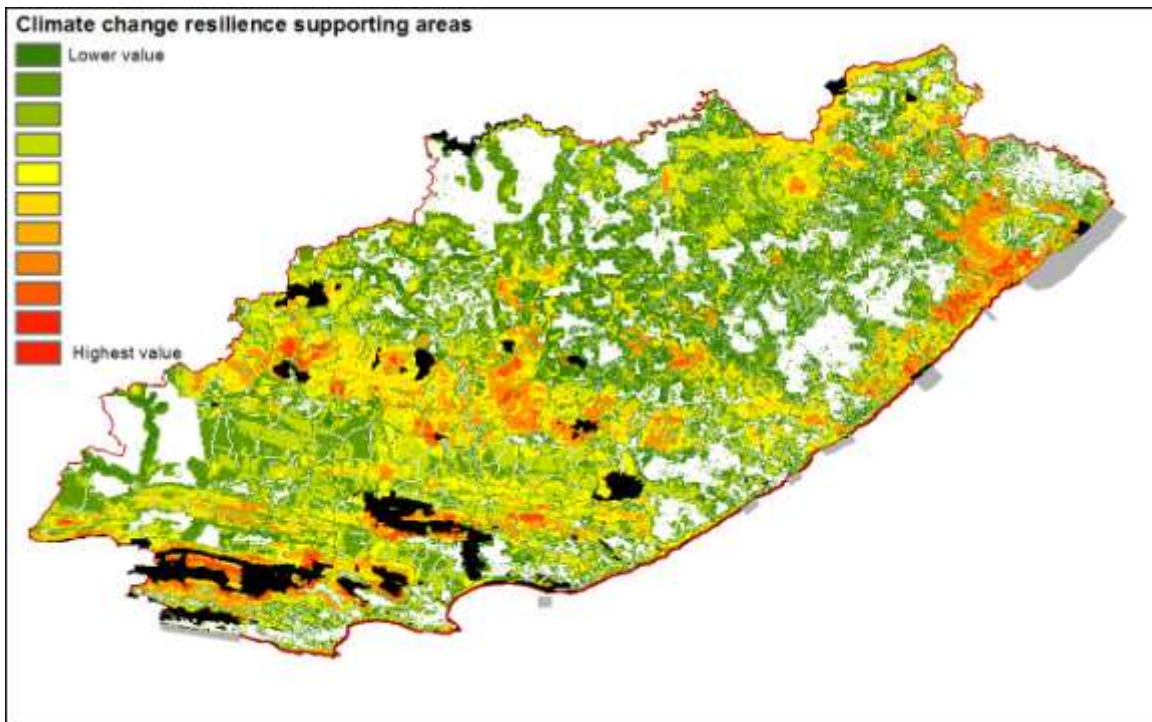


Figure 15: Remaining natural or near-natural areas important for climate change resilience at the landscape scale, under a range of climate scenarios.

3.3.7 Ecosystem threat status

The seventh layer in the multi-criteria analysis was based on the ecosystem threat status, which is a good indicator of habitats where opportunities for protected area expansion are rapidly diminishing, and hence where reserve expansion is most urgent. ecosystem threat status for each of the individual habitat types (i.e. terrestrial, wetlands, estuaries and rivers) were updated using best available data from the NFEPA project (Table 12). The score given to a particular site was based on the highest ecosystem threat status for all the features found at a site (Figure 16).

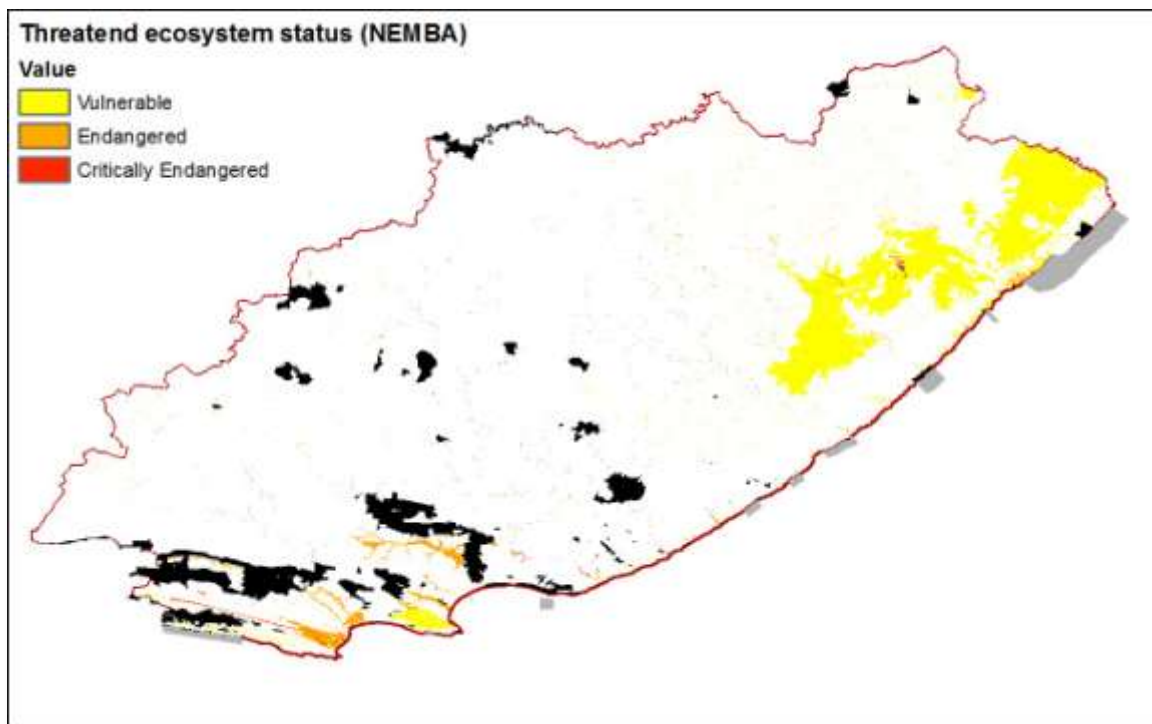


Figure 16: Combined ecosystem threat status layer produced by taking the highest value from each of the underlying layers (terrestrial, wetland, river and estuary).

Table 12: Compilation method and data summary for ecosystem threat status.

Component	Data source	Weighting
Terrestrial habitat types	Jonas, Z., Daniels, F., Driver, A., Malatji, K.N., Dlamini, M., Malebu, T., April, V. & Holness, S. 2012. <i>National Biodiversity Assessment 2011: Technical Report. Volume 1: Terrestrial Component</i> . South African National Biodiversity Institute, Pretoria.	Least Threatened = 0 Vulnerable = 4 Endangered = 8 Critically Endangered = 10
Wetlands	Nel, J.L., Driver, A. & Swartz, E.R. 2012. National Biodiversity Assessment 2011: Technical Report. Volume 2: Freshwater Component. CSIR Report Number CSIR/NRE/ECO/IR/2012/0022/A. Council for Scientific and Industrial Research, Stellenbosch. Nel, J.L., Driver, A., Strydom, W.F., Maherry, A., Petersen, C., Hill, L., Roux, D.J., Nienaber, S., Van Deventer, H., Swartz, S. & Smith-Adao, L.B. 2011. Atlas of Freshwater Ecosystem Priority Areas in South Africa. WRC Report No. TT 500/11. Water Research Commission, Pretoria.	As above
Rivers	Nel, J.L., Driver, A. & Swartz, E.R. 2012. National Biodiversity Assessment 2011: Technical Report. Volume 2: Freshwater Component. CSIR Report Number CSIR/NRE/ECO/IR/2012/0022/A. Council for Scientific and Industrial Research, Stellenbosch. Nel, J.L., Driver, A., Strydom, W.F., Maherry, A., Petersen, C., Hill, L., Roux, D.J., Nienaber, S., Van Deventer, H., Swartz, S. & Smith-Adao, L.B. 2011. Atlas of Freshwater Ecosystem Priority Areas in South Africa. WRC Report No. TT 500/11. Water Research Commission, Pretoria.	As above
Estuaries	Turpie, J.K., Wilson, G. & Van Niekerk, L. 2012. National Biodiversity Assessment 2011: National Estuary Biodiversity Plan for South Africa. Anchor Environmental Consulting, Cape Town. Report produced for the Council for Scientific and Industrial Research and the South African National Biodiversity Institute.	Estuary threat status not released per type. Therefore to approximate a better answer we have scored: priority estuaries requiring full protection = 10; priority estuaries requiring partial protection = 8; other estuaries = 4.
Combination method	Above 4 layers	Maximum value from input layers. Individual rasters prepared for the above layers. Cell statistics used to identify maximum value from individual input layers.
Data Archive	ECPAES/Map data/threat.rrd ESRI grid with values stored in value field	Scoring: WP (well protected) = 0; MP (moderately protected) = 3; PP (partially protected) = 6; NP (not protected) = 10

3.3.8 Protection level

The eighth layer in the multi-criteria analysis was based on the protection levels of each feature. This is a key informant in the spatial prioritisation, as a primary objective of the ECPAES is to focus on habitats and features which are not sufficiently represented in the protected area system. Unfortunately, as with the ecosystem threat status, the spatial data and assessments for each of the individual habitat groups (i.e. terrestrial, wetlands, estuaries and rivers) are separate and often overlap. We therefore had to follow a similar

approach to that taken for ecosystem threat status(detailed in Table 13), to integrate the data from the NBA and NFEPA (See Figure 17 for the outputs).

Table 13: Data sources, categories and weighting method for protection levels of different habitat types.

Component	Data source	Weighting
Terrestrial habitat types	Jonas, Z., Daniels, F., Driver, A., Malatji, K.N., Dlamini, M., Malebu, T., April, V. & Holness, S. 2012. <i>National Biodiversity Assessment 2011: Technical Report. Volume 1: Terrestrial Component</i> . South African National Biodiversity Institute, Pretoria.	Well Protected = 0; Moderately Protected = 3; Partially Protected = 6; Not Protected = 10
Wetlands	Nel, J.L., Driver, A. & Swartz, E.R. 2012. National Biodiversity Assessment 2011: Technical Report. Volume 2: Freshwater Component. CSIR Report Number CSIR/NRE/ECO/IR/2012/0022/A. Council for Scientific and Industrial Research, Stellenbosch. Nel, J.L., Driver, A., Strydom, W.F., Maherry, A., Petersen, C., Hill, L., Roux, D.J., Nienaber, S., Van Deventer, H., Swartz, S. & Smith-Adao, L.B. 2011. Atlas of Freshwater Ecosystem Priority Areas in South Africa. WRC Report No. TT 500/11. Water Research Commission, Pretoria.	As above
Rivers	Nel, J.L., Driver, A. & Swartz, E.R. 2012. National Biodiversity Assessment 2011: Technical Report. Volume 2: Freshwater Component. CSIR Report Number CSIR/NRE/ECO/IR/2012/0022/A. Council for Scientific and Industrial Research, Stellenbosch. Nel, J.L., Driver, A., Strydom, W.F., Maherry, A., Petersen, C., Hill, L., Roux, D.J., Nienaber, S., Van Deventer, H., Swartz, S. & Smith-Adao, L.B. 2011. Atlas of Freshwater Ecosystem Priority Areas in South Africa. WRC Report No. TT 500/11. Water Research Commission, Pretoria.	As above
Estuaries	Turpie, J.K., Wilson, G. & Van Niekerk, L. 2012. National Biodiversity Assessment 2011: National Estuary Biodiversity Plan for South Africa. Anchor Environmental Consulting, Cape Town. Report produced for the Council for Scientific and Industrial Research and the South African National Biodiversity Institute.	Estuary protection levels not released per type. Therefore to approximate a better answer we have scored: priority estuaries requiring Full protection = 10; priority stuaries requiring Partial Protection = 6; other estuaries = 3
Combination method	Above 4 layers	Maximum value from input layers. Individual rasters prepared for the above layers. Cell statistics used to identify maximum value from individual input layers. ECPAES/Map data/threat
Data Archive	ECPAES/Map data/protection.rrd ESRI grid with values stored in value field	Scoring: Well Protected = 0; Moderately Protected = 3; Partially Protected = 6; Not Protected = 10

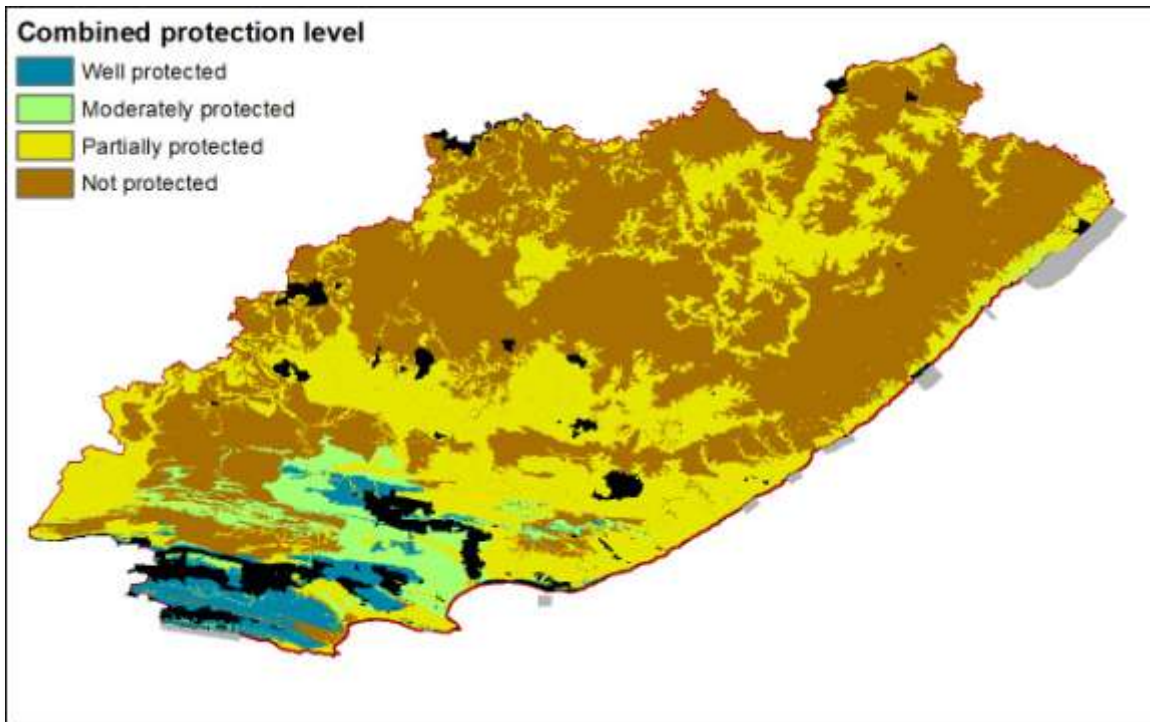


Figure 17: Combined protection level layer produced by taking the highest value from each of the underlying layers (terrestrial, wetland, river and estuary).

3.3.9 Land cover update

In addition to the eight basic multi-criteria input layers detailed in the previous sections, the land cover data for the planning domain was updated using sources such as the National Land cover (2009), the ESKOM building dataset (2010), the ARC national fields dataset (2006) of all arable fields, and infrastructure such as dams and roads¹⁰. The layer production method is summarised in Table 14 and shown in Figure 18.

¹⁰ Note that the revised land cover developed for the East Cape Forestry Biodiversity Screening Tool was not used as the layer only covers a small portion of the planning domain.

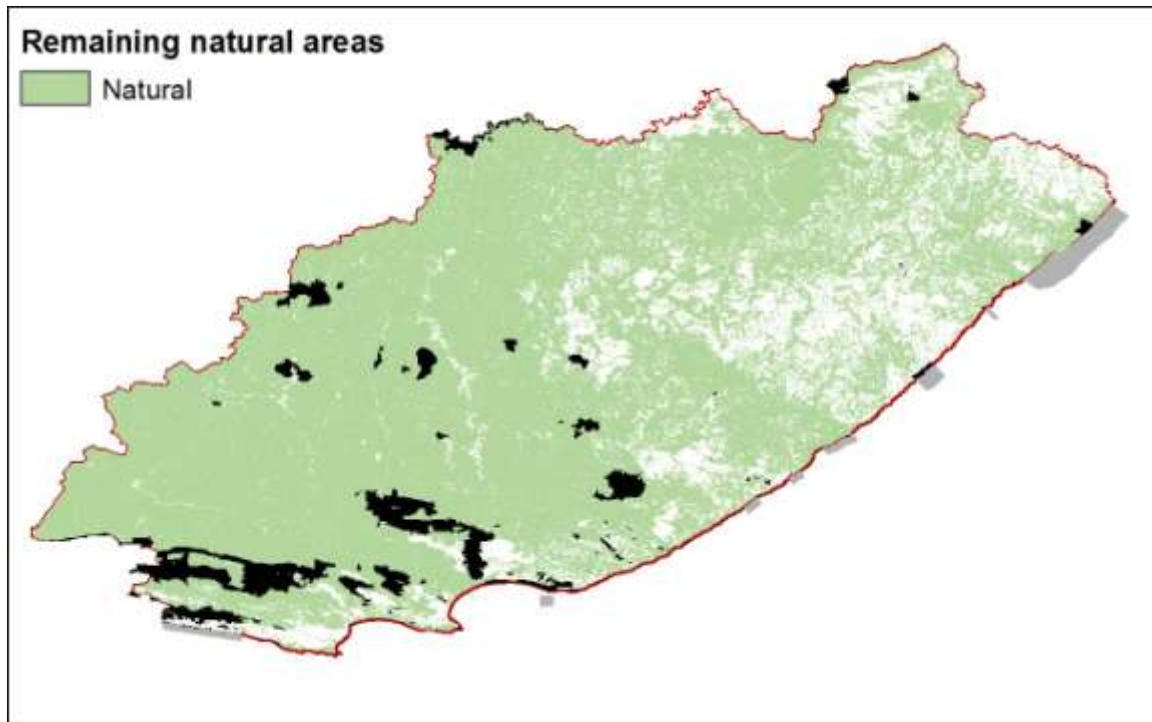


Figure 18: Updated land cover developed for the planning domain.

Table 14: Data sources and combination method for the updated transformation layer

Component	Data source	Method
National landcover	National mosaiced landcover from 2009 http://bgis.sanbi.org/landcover/project.asp	Base layer
Eskom households data	Eskom households data	30m rasterization of the Eskom households dataset.
Agricultural fields	ARC fields layers for Eastern Cape.	30 metre rasterisation of provincial farm fields layers for Eastern Cape.
Roads	All roads from the 1:50 000 datasets from the surveyor general	30m rasterization of the roads layer
Dams	All larger dams from the 1:500 000 dams datasets from the surveyor general (note the accuracy of the dams is closer to 1:50 000)	30m rasterization of the dams layer.
Combined transformation layer	As above	Layers contents classified as either natural, degraded or transformed. Final layer developed from an assessment of the worst transformation state from any of the underlying layers. Final assessment reclassified to binary layer : Transformed or degraded= 0 Natural = 1
Data Archive	ECPAES/Map data/nat1trdeg0.rrd ESRI grid with values stored in value field	Scoring: 0 = transformed/degraded 1 = natural

3.3.10 Combination method

The project followed a simple but robust multi-criteria prioritisation method to integrate the individual spatial layers. The process was split into two stages (Figure 19):

- Stage 1: Summarizing scores for each grid square. In this stage the eight basic input layers were added together, and then transformed and degraded sections were removed¹¹ (Table 15). The initial prioritisation of grid squares is given in Figure 20.
- Stage 2: Identifying priority areas for protected area expansion. We identified discrete contiguous high value areas using a robust and repeatable method¹², which identified the largest and highest value sections and then combined these with adjacent slightly lower scoring areas. Some manual editing of these priority areas was undertaken following workshop interactions with ECPTA staff members¹³.

The priority areas identified through this process are shown in Figure 21.

¹¹ Summarizing scores for each grid square: The overall value of each grid square was determined using an equal weighted multi-criteria analysis (although some weighting is implicit in the scoring of individual layers). The approach simply adds the individual layers together, and combines the underlying scores for each grid square, i.e. no additional weighting of the individual layers has been done. This produces a layer with scores ranging from 0-93, with the highest scores being areas of highest importance for inclusion into new and expanded protected areas. This layer was modified using the land cover layer. The land cover data was converted to a binary layer with natural areas scored as 1 and transformed and degraded areas given a 0 score as both categories were considered to be unsuitable for protected area expansion at a broad scale. The transformed and degraded areas were removed from the spatial prioritisation by multiplying the layers. This effectively dropped the value of any transformed or degraded area to 0. This does not necessarily mean that these areas should never be considered for reserve expansion as finescale planning and more accurate transformation data may identify areas which were incorrectly classified; and there may be valid reasons for including transformed or degraded sites into expanded protected areas (Table 15).

¹² Defining the priority areas: The underlying summary scores for each grid cell were divided into 8 quantiles, each representing 12.5 % of the surface area of the province. These categorized cells were converted from a raster layer into a polygon layer, and dissolved to identify continuous areas which fell into the same quantile. The area of each continuous polygon was calculated and all top quantile polygons which had a total area of above 5 000 ha were identified as initial core areas. Then all areas which fell into the second quantile (i.e. the next 12.5 % of sites) and which were adjacent to the high value sites were added to the core areas. In addition, any smaller highest quantile areas which were linked to the initial core areas by these second quantile sites were then added to generate contiguous focus areas.

¹³ In particular high value sites which were spatially separate from the core sites were added in (e.g. Umtamvuna Gorge, priorities around Cape St Francis and corridors and priority sites in the Nelson Mandela Bay Municipality). In the Nelson Mandela Bay Municipality a lower cutoff of 1 000 ha was used to ensure that the smaller but very high value sites were included. It is important to note that all these sites were of very high value, but that generally they were separated from the larger core areas by linear infrastructure (e.g. roads) and hence were not identified by the method outlined earlier.

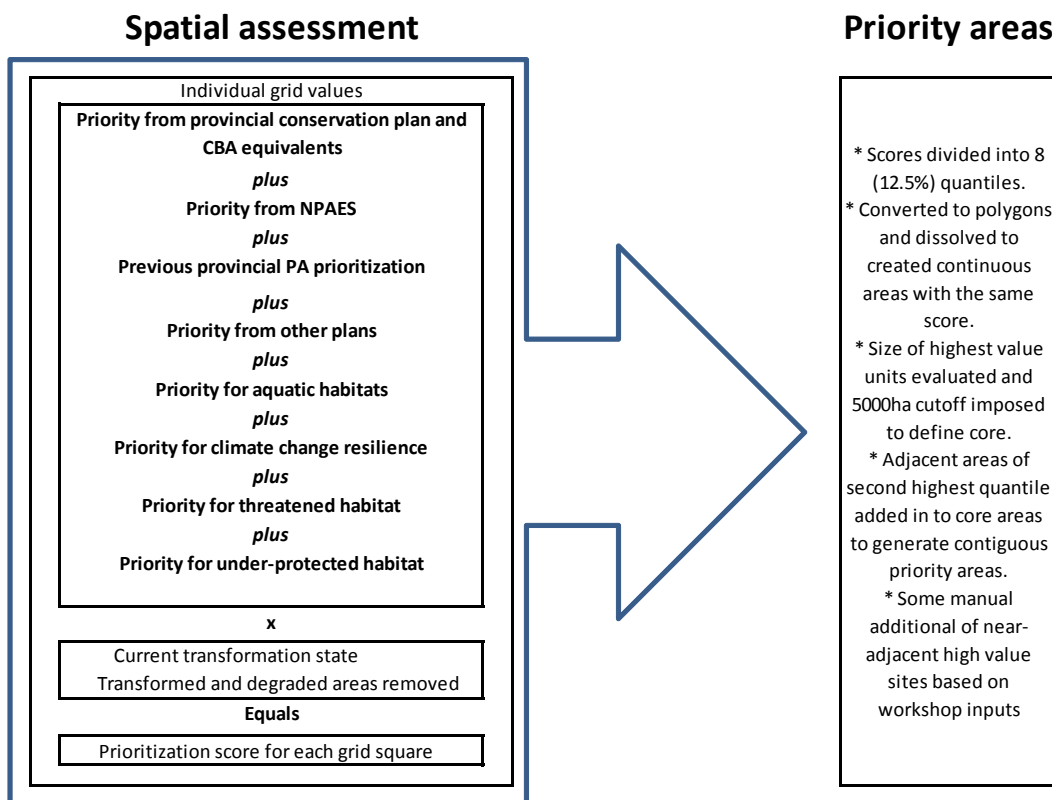


Figure 19: Diagrammatic summary of the prioritisation method.

Table 15: Data archiving of the outputs of the spatial prioritisation undertaken for the ECPAES

Component	Data layer	Description
Data Archive: Summary Grid	ECPAES/Map data/combtrans.rrd ESRI grid with values stored in value field	Values from 0-95 summarizing value of individual grid squares. (Low to high value)
Data Archive: Focus areas detailed	ECPAES/Map data/ECPAES priority areas.shp ESRI shapefile with focus areas name (field = name) and priority (Field = priority) values stored in value field	ESRI shapefile with focus areas name (field = name) and priority (Field = priority) values stored in value field
Data Archive: Focus areas generalized	ECPAES/Map data/ECPAES priority areas generalized.shp ESRI shapefile with focus areas name (field = name) and priority (Field = priority).	Generalized version of the above layer for cartographic purposes: ESRI shapefile with focus areas name (field = name) and priority (Field = priority) values stored in value field

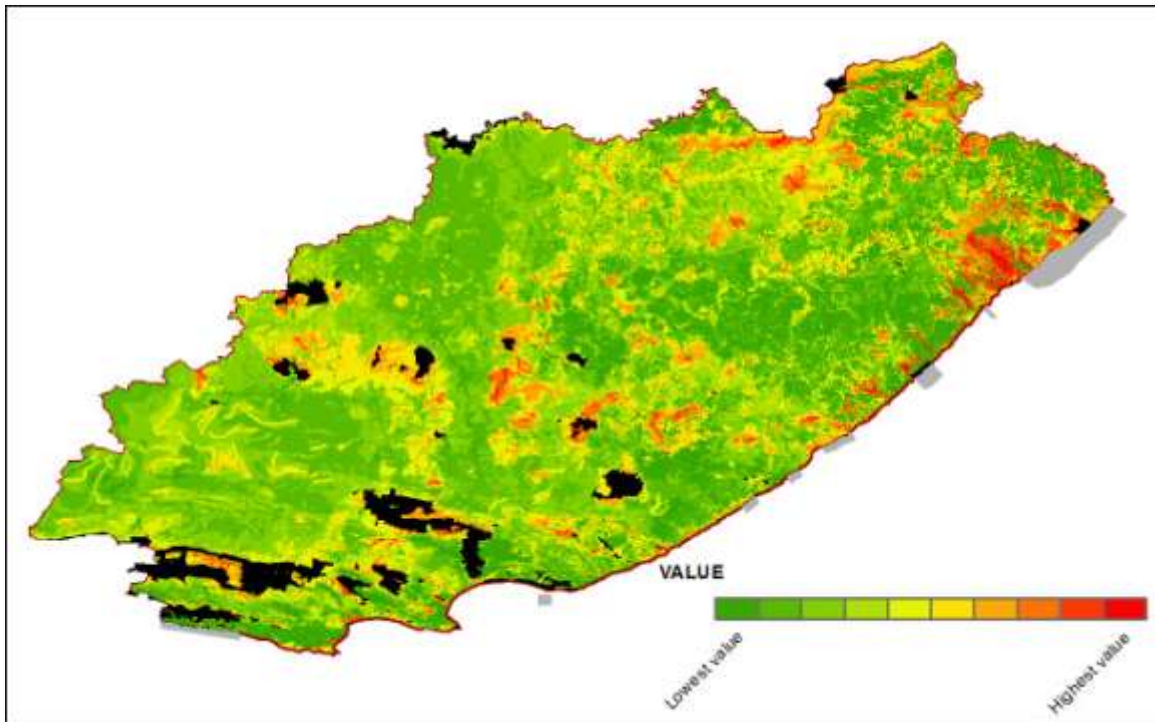


Figure 20: Prioritisation of individual grid squares based on the underlying summary layers and the land cover.

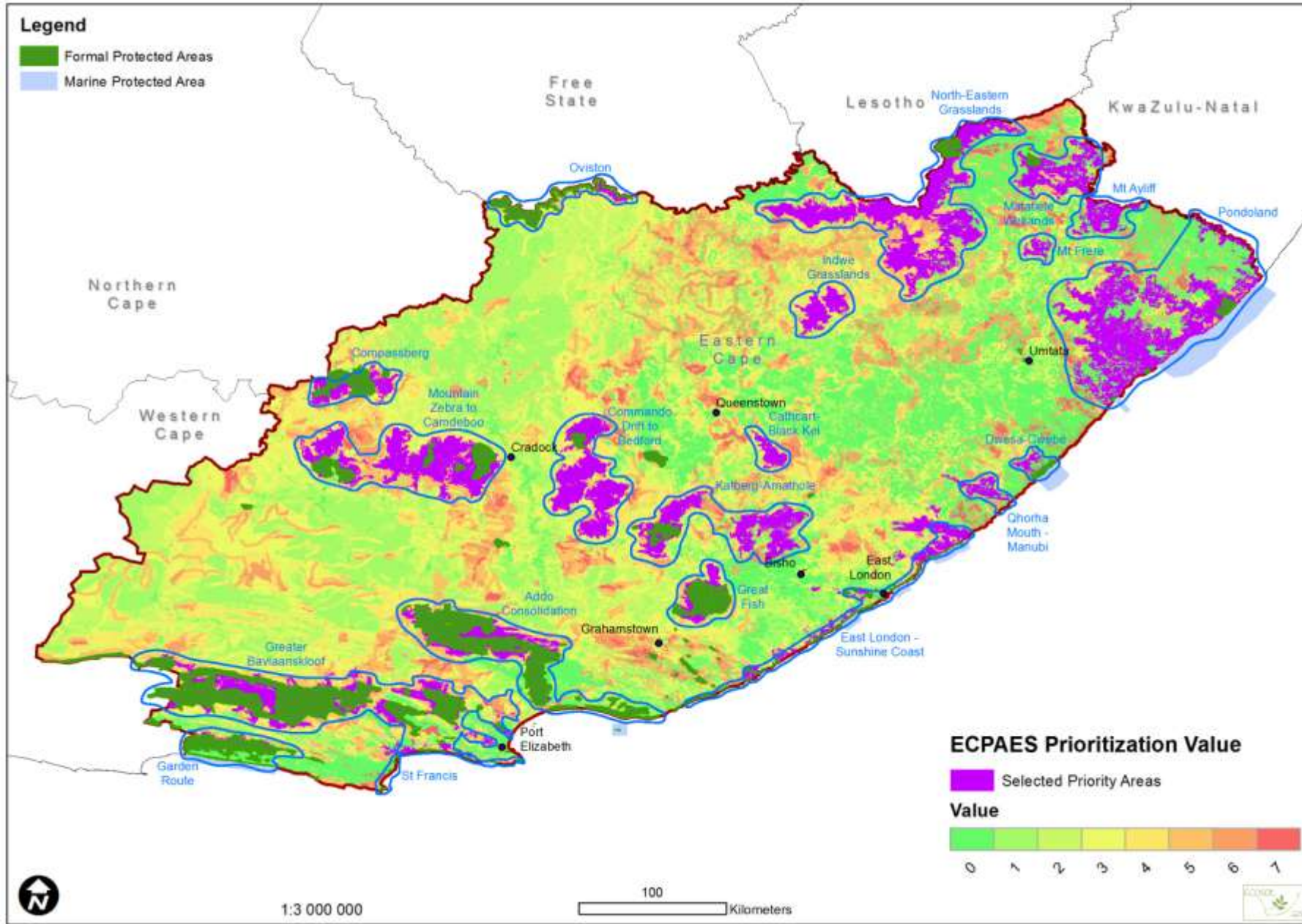


Figure 21: Priority areas for protected area expansion in the Eastern Cape.

3.4 Assuming all this was successfully implemented – where would we be?

Section 3.3 outlines an ambitious set of expansion priority areas. Despite this level of ambition, this would still leave the province short of meeting protected area expansion targets. Hence, it is critical that we clearly define where we would be in terms of meeting protected area targets assuming that all the priority areas were successfully implemented, and identify where the province will still be short of its targets.

Table 16 and Figure 22 summarize the anticipated progress towards meeting targets for habitat types should all the priority areas identified in Figure 21 be implemented. Implementing the priority areas would result in the Eastern Cape protected area targets being met for an additional 26% of habitat types (33% are met by the current protected area system), there would be a large improvement (i.e. more than 50% of the required additional area would be achieved) for 11% of the types, some improvement (i.e. 10-50% of the required additional area) for 11% of types, and there would be small improvements for 6% of types. Unfortunately, even if all the priority areas were implemented, it would not change the level of incorporation into protected areas of 13% of the habitat types.

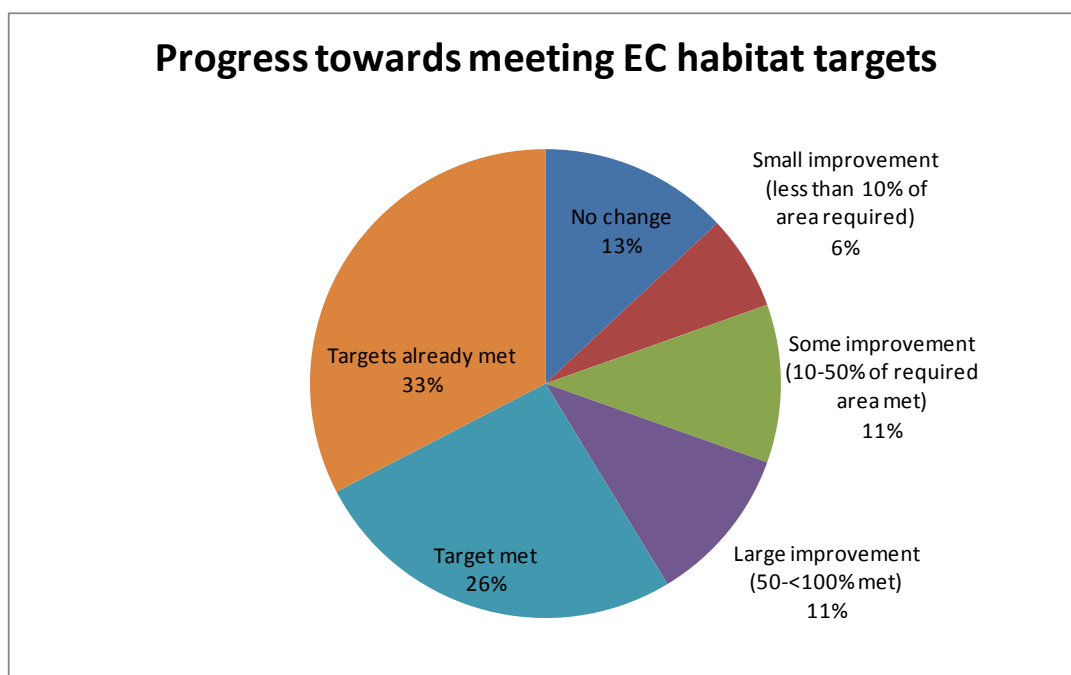


Figure 22: Anticipated progress towards achieving Eastern Cape habitat targets should all priority areas in Figure 21 be implemented

Eastern Cape Protected Area Expansion Strategy 2012

Table 16: Additional areas of each habitat types which would be added assuming full implementation of the priority areas. The potential National Protection Level has been calculated using categories in the National Biodiversity Assessment (refer to Table 4 for categories). The table also details the percentage of the Eastern Cape protected area target which would be met, and the progress towards meeting the EC targets (continued on next page).

Name	Current NBA Protection Level (based on biodiversity target)	Eastern Cape Protected Area Target (km ²)	Eastern Cape PA area (km ²)	Eastern Cape % of Protected Area Target Met	Eastern Cape Additional Area Required (km ²)	Eastern Cape Area added assuming full priority area implementation (km ²)	Potential National Protection Level	Potential Eastern Cape % of Protected Area target met	Progress towards EC PA target
Albany Alluvial Vegetation	poorly protected	98.6	38.1	38.7	60.5	53.1	moderately protected	92.5	Large improvement (50-<100% met)
Albany Broken Veld	poorly protected	132.4	93.8	70.8	38.6	53.2	moderately protected	111.0	Target met
Albany Coastal Belt	poorly protected	329.0	39.4	12.0	289.6	291.7	moderately protected	100.6	Target met
Albany Dune Strandveld	well protected	18.6	54.6	293.0	Target met	9.3	well protected	342.9	Targets already met
Algoa Dune Strandveld	poorly protected	31.1	11.2	35.9	19.9	6.7	poorly protected	57.5	Some improvement (10-50% of required area met)
Algoa Sandstone Fynbos	poorly protected	42.7	5.8	13.6	36.9	25.4	poorly protected	73.0	Large improvement (50-<100% met)
Aliwal North Dry Grassland	not protected	265.7	0.0	0.0	265.7	0.0	not protected	0.0	No change
Amathole Mistbelt Grassland	poorly protected	23.4	0.0	0.0	23.4	62.9	well protected	268.5	Target met
Amathole Montane Grassland	poorly protected	654.1	101.1	15.5	553.0	1036.9	well protected	174.0	Target met
Basotho Montane Shrubland	poorly protected	3.8	0.0	0.0	3.8	0.0	poorly protected	0.0	No change
Baviaanskloof Shale Renosterveld	well protected	18.8	51.1	271.2	Target met	61.8	well protected	598.9	Targets already met
Bedford Dry Grassland	not protected	255.0	0.0	0.0	255.0	52.3	poorly protected	20.5	Some improvement (10-50% of required area met)
Besemkaree Koppies Shrubland	poorly protected	249.7	65.0	26.0	184.7	64.3	poorly protected	51.8	Some improvement (10-50% of required area met)
Bhisho Thornveld	not protected	1069.9	10.9	1.0	1059.0	485.7	poorly protected	46.4	Some improvement (10-50% of required area met)
Buffels Thicket	poorly protected	117.7	12.2	10.4	105.5	62.5	poorly protected	63.5	Large improvement (50-<100% met)
Camdeboo Escarpment Thicket	poorly protected	167.9	105.1	62.6	62.8	166.6	moderately protected	161.8	Target met
Cape Coastal Lagoons	poorly protected	1.9	1.2	62.7	0.7	6.9	moderately protected	426.7	Target met
Cape Estuarine Salt Marshes	well protected	6.1	5.2	85.5	Target met nationally	21.8	well protected	445.7	Targets already met
Cape Inland Salt Pans	well protected	0.8	0.0	0.0	Target met nationally	0.0	well protected	0.0	Targets already met
Cape Lowland Freshwater Wetlands	well protected	0.2	0.0	0.0	Target met nationally	0.0	well protected	3.2	Targets already met
Cape Seashore Vegetation	well protected	19.8	114.2	575.5	Target met	7.6	well protected	613.9	Targets already met
Coega Bontveld	moderately protected	24.7	31.7	128.5	Target met	1.2	moderately protected	133.4	Targets already met
Drakensberg Foothill Moist Grassland	poorly protected	906.0	0.0	0.0	906.0	462.5	poorly protected	51.0	Large improvement (50-<100% met)
East Griqualand Grassland	not protected	914.0	12.4	1.4	901.6	1070.5	moderately protected	118.5	Target met
Eastern Cape Escarpment Thicket	poorly protected	133.1	70.4	52.9	62.7	170.7	moderately protected	181.2	Target met
Eastern Coastal Shale Band Vegetation	poorly protected	9.5	2.0	21.6	7.4	1.8	poorly protected	40.7	Some improvement (10-50% of required area met)
Eastern Inland Shale Band Vegetation	well protected	15.1	43.9	290.0	Target met	8.8	well protected	348.3	Targets already met
Eastern Lower Karoo	not protected	697.5	7.1	1.0	690.4	4.9	not protected	1.7	Small improvement (less than 10% of area required)
Eastern Temperate Freshwater Wetlands	poorly protected	4.6	0.0	0.0	4.6	10.0	poorly protected	218.2	Target met
Eastern Upper Karoo	not protected	1989.8	394.0	19.8	1595.9	700.0	poorly protected	55.0	Some improvement (10-50% of required area met)
Eastern Valley Bushveld	not protected	958.3	6.4	0.7	951.8	1850.9	moderately protected	193.8	Target met
Freshwater Lakes	well protected	0.1	0.0	0.0	Target met nationally	0.0	well protected	0.0	Targets already met
Gamka Karoo	poorly protected	184.4	0.0	0.0	184.4	0.0	poorly protected	0.0	No change
Gamka Thicket	moderately protected	4.5	0.0	0.0	4.5	0.0	moderately protected	0.0	No change
Gamtoos Thicket	poorly protected	91.0	67.7	74.4	23.3	176.6	well protected	268.5	Target met
Garden Route Shale Fynbos	poorly protected	4.9	1.7	35.6	3.1	0.0	poorly protected	35.6	No change
Great Fish Noorsveld	poorly protected	45.2	29.2	64.4	16.1	51.1	moderately protected	177.4	Target met
Great Fish Thicket	poorly protected	650.4	421.9	64.9	228.5	288.2	moderately protected	109.2	Target met
Groot Thicket	moderately protected	248.9	290.2	116.6	Target met	237.8	well protected	212.1	Targets already met

Eastern Cape Protected Area Expansion Strategy 2012

Table 16: continued from previous page

Name	Current NBA Protection Level (based on biodiversity target)	Eastern Cape Protected Area Target (km ²)	Eastern Cape PA area (km ²)	Eastern Cape % of Protected Area Target Met	Eastern Cape Additional Area Required (km ²)	Eastern Cape Area added assuming full priority area implementation (km ²)	Potential National Protection Level	Potential Eastern Cape % of Protected Area target met	Progress towards EC PA target
Grootrivier Quartzite Fynbos	not protected	65.6	0.0	0.0	65.6	0.0	not protected	0.0	No change
Highveld Salt Pans	not protected	1.4	0.0	0.0	1.4	0.0	not protected	0.0	No change
Humansdorp Shale Renosterveld	not protected	55.4	0.0	0.0	55.4	38.5	poorly protected	69.5	Large improvement (50-<100% met)
Karoo Escarpment Grassland	poorly protected	1009.3	213.8	21.2	795.5	1618.9	moderately protected	181.6	Target met
Kouga Grassy Sandstone Fynbos	well protected	488.9	985.7	201.6	Target met	423.7	well protected	288.3	Targets already met
Kouga Sandstone Fynbos	well protected	189.4	875.1	462.0	Target met	132.1	well protected	531.7	Targets already met
Kowie Thicket	poorly protected	192.1	110.5	57.5	81.6	56.4	poorly protected	86.9	Large improvement (50-<100% met)
Langkloof Shale Renosterveld	not protected	9.2	0.0	0.0	9.2	0.0	not protected	0.0	No change
Lesotho Highland Basalt Grassland	not protected	525.8	75.6	14.4	450.2	1598.5	poorly protected	318.4	Target met
Lesotho Mires	poorly protected	0.2	1.0	442.7	Target met	0.7	poorly protected	760.5	Targets already met
Loerie Conglomerate Fynbos	moderately protected	27.6	32.2	116.8	Target met	7.1	moderately protected	142.6	Targets already met
Lower Karoo Gwarrieveld	not protected	129.2	0.0	0.0	129.2	0.0	not protected	0.0	No change
Mabela Sandy Grassland	not protected	59.3	0.7	1.1	58.6	134.4	well protected	227.7	Target met
Mangrove Forest	well protected	0.9	0.0	0.0	Target met nationally	1.5	moderately protected	164.7	Targets already met
Midlands Mistbelt Grassland	not protected	170.3	0.0	0.0	170.3	48.5	poorly protected	28.5	Some improvement (10-50% of required area met)
Mthatha Moist Grassland	not protected	665.6	1.7	0.3	663.9	30.0	not protected	4.8	Small improvement (less than 10% of area required)
Ngongoni Veld	not protected	398.8	0.0	0.0	398.8	375.7	poorly protected	184.5	Target met
North Swartberg Sandstone Fynbos	well protected	8.6	27.9	326.5	Target met	0.0	well protected	326.5	Targets already met
Northern Coastal Forest	well protected	0.1	0.0	0.0	Target met nationally	0.5	well protected	348.6	Targets already met
Pondoland-Ugu Sandstone Coastal Sourv	poorly protected	127.6	70.1	54.9	57.5	463.6	well protected	418.3	Target met
Prince Albert Succulent Karoo	poorly protected	85.0	6.1	7.2	78.9	0.0	poorly protected	7.2	No change
Queenstown Thornveld	not protected	454.4	21.7	4.8	432.7	49.4	poorly protected	15.6	Some improvement (10-50% of required area met)
Scarp Forest	moderately protected	79.3	57.8	72.9	21.5	206.9	well protected	333.6	Target met
Senqu Montane Shrubland	not protected	110.0	0.0	0.0	110.0	107.6	poorly protected	97.8	Large improvement (50-<100% met)
South Swartberg Sandstone Fynbos	well protected	4.6	20.4	443.0	Target met	0.0	well protected	443.0	Targets already met
Southern Afrotemperate Forest	well protected	30.5	116.1	380.5	Target met	0.4	well protected	381.9	Targets already met
Southern Cape Dune Fynbos	poorly protected	19.1	0.6	2.9	18.5	0.0	poorly protected	2.9	No change
Southern Coastal Forest	well protected	32.3	87.5	270.9	Target met	0.7	well protected	273.2	Targets already met
Southern Drakensberg Highland Grasslan	poorly protected	851.6	42.9	5.0	808.6	1097.7	moderately protected	133.9	Target met
Southern Karoo Riviere	poorly protected	399.5	83.7	20.9	315.8	160.0	poorly protected	61.0	Large improvement (50-<100% met)
Southern Mistbelt Forest	poorly protected	119.9	41.8	34.8	78.2	352.2	well protected	328.6	Target met
Steytlerville Karoo	not protected	69.0	0.0	0.0	69.0	1.2	not protected	1.7	Small improvement (less than 10% of area required)
Stormberg Plateau Grassland	not protected	438.7	0.0	0.0	438.7	6.5	not protected	1.5	Small improvement (less than 10% of area required)
Subtropical Coastal Lagoons	well protected	1.5	0.5	32.4	Target met nationally	6.7	well protected	469.4	Targets already met
Subtropical Dune Thicket	well protected	0.7	0.3	38.9	Target met nationally	0.5	well protected	113.2	Targets already met
Subtropical Estuarine Salt Marshes	poorly protected	0.5	0.1	25.6	0.4	0.9	well protected	207.5	Target met
Subtropical Seashore Vegetation	well protected	0.5	0.3	58.4	Target met nationally	1.1	well protected	273.1	Targets already met
Sundays Noorsveld	well protected	130.7	255.1	195.3	Target met	40.6	well protected	226.4	Targets already met
Sundays Thicket	moderately protected	505.8	589.7	116.6	Target met	212.8	moderately protected	158.7	Targets already met
Suurberg Quartzite Fynbos	moderately protected	85.9	139.5	162.3	Target met	115.8	well protected	297.1	Targets already met
Suurberg Shale Fynbos	well protected	59.3	199.8	336.9	Target met	108.0	well protected	519.0	Targets already met
Swartberg Shale Renosterveld	poorly protected	5.8	4.3	73.1	1.6	0.0	poorly protected	73.1	No change
Tarkastad Montane Shrubland	not protected	629.8	31.0	4.9	598.8	486.3	poorly protected	82.1	Large improvement (50-<100% met)
Transkei Coastal Belt	poorly protected	223.9	15.1	6.7	208.8	487.2	well protected	224.3	Target met
Tsitsikamma Sandstone Fynbos	well protected	190.4	424.8	223.1	Target met	37.1	well protected	242.6	Targets already met
Tsomo Grassland	not protected	773.2	0.0	0.0	773.2	105.3	poorly protected	13.6	Some improvement (10-50% of required area met)
uKhahlamba Basalt Grassland	well protected	4.0	0.0	0.0	Target met nationally	0.0	well protected	0.0	Targets already met
Uniondale Shale Renosterveld	poorly protected	99.5	31.6	31.7	68.0	41.5	poorly protected	73.4	Large improvement (50-<100% met)
Upper Gariep Alluvial Vegetation	poorly protected	41.4	12.0	28.9	29.4	2.3	poorly protected	34.4	Small improvement (less than 10% of area required)
Upper Karoo Hardeveld	poorly protected	136.2	30.3	22.3	105.9	145.3	poorly protected	128.9	Target met
Willowmore Gwarrieveld	not protected	163.1	0.0	0.0	163.1	35.5	poorly protected	21.8	Some improvement (10-50% of required area met)
Xhariep Karroid Grassland	poorly protected	0.6	4.0	680.2	Target met	0.0	poorly protected	680.2	Targets already met
Zastron Moist Grassland	not protected	198.5	0.0	0.0	198.5	5.7	not protected	2.9	Small improvement (less than 10% of area required)

Figure 23 summarizes by number of vegetation types the potential national protection levels for the Eastern Cape assuming full implementation of the priority areas (Figure 23a), and compares this with the current situation (Figure 23b). This illustrates significant potential improvement in protection levels: the number of Not Protected habitat types drop from 27% to 11%, Poorly Protected types drop from 40% to 35%, while Moderately Protected types increase from 8% to 18% and Well Protected types from 25% to 36%. Although these figures may still look low, it is important to remember that the NBA 2011 method evaluates against the full biodiversity target which is almost double the protected area target.

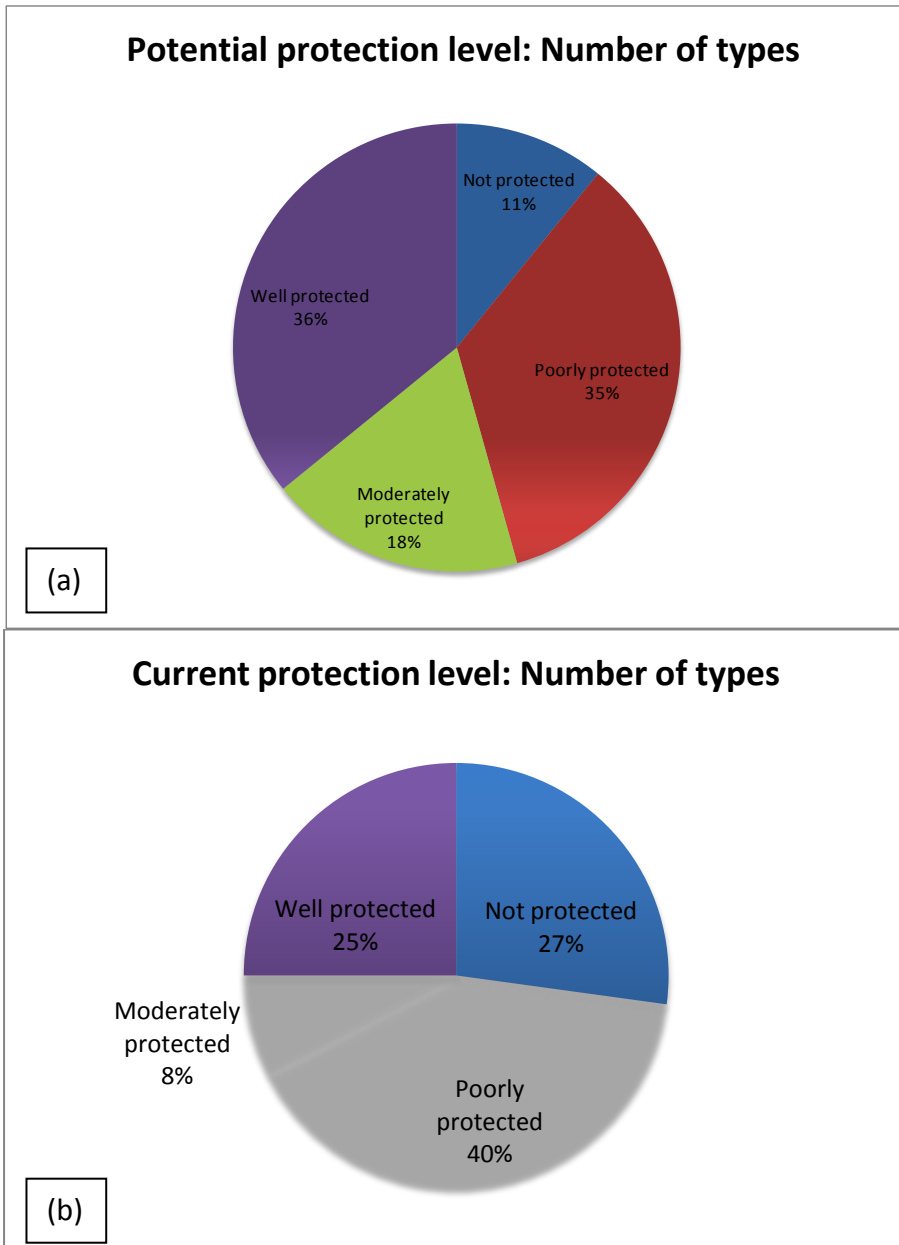


Figure 23: (a) Potential national protection levels for Eastern Cape vegetation types assuming full implementation of the priority areas in terms of the number of different types. (b) Current protection levels of vegetation types in the Eastern Cape in terms of the number of different types. Data from the NBA 2011.

Figure 24 summarizes the potential national protection levels for Eastern Cape vegetation types by area assuming full implementation of the priority areas (Figure 24a) and compares this with the current situation (Figure 24b). This illustrates significant potential improvement in protection levels: the percentage of Not Protected types drops from 54% to 14%, Poorly Protected types change from 35% to 44% (this is a consequence of many types moving up from Not Protected), while Moderately Protected types increase from 5% to 29% and Well Protected types from 6% to 13%. Although these figures may still look low, it is important to remember that the NBA 2011 method evaluates against the full biodiversity target which is almost double the protected area target.

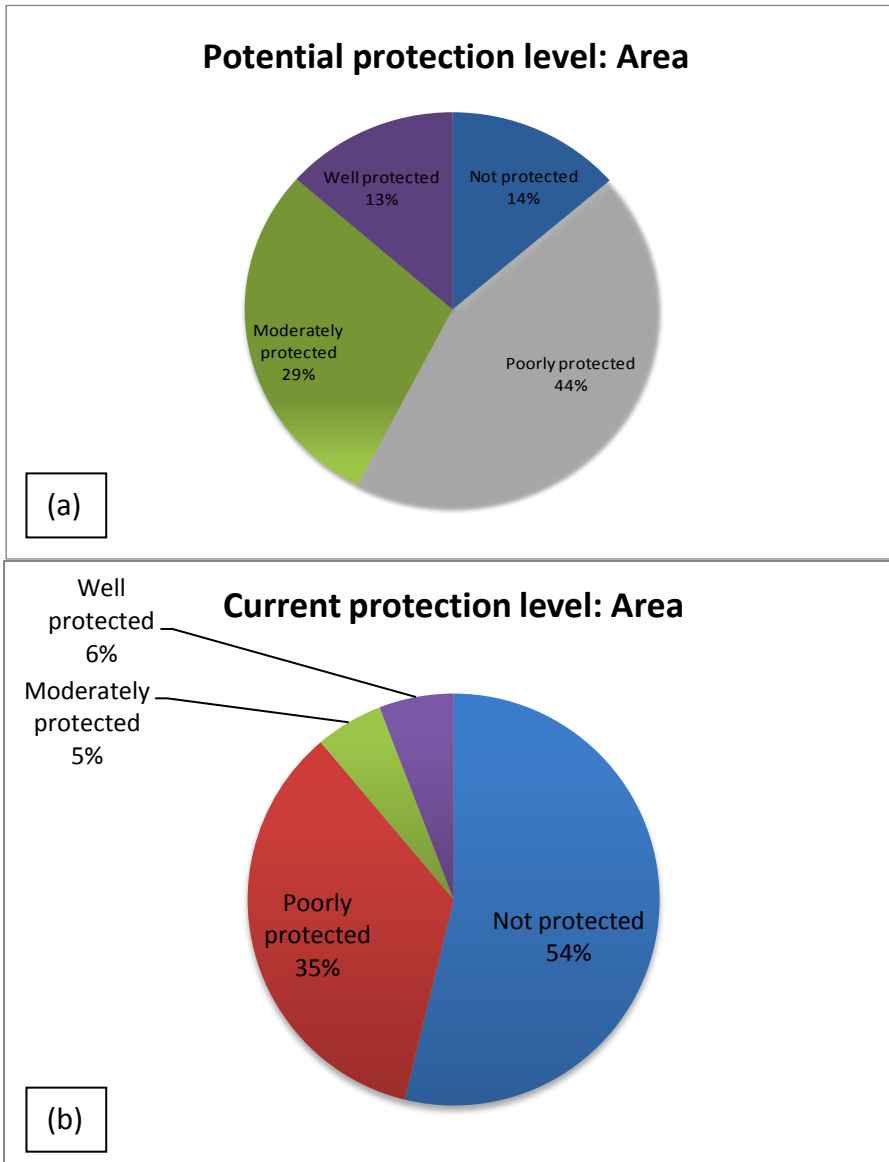


Figure 24: (a) Potential national protection levels for Eastern Cape vegetation types assuming full implementation of the priority areas in terms of area. (b) Current protection levels of vegetation types in the Eastern Cape in terms of area. Data from the NBA 2011.

Figure 25 shows how the distribution of Well Protected and Moderately Protected habitat types would extend to the central and eastern portions of the province. The extent of Not Protected types is dramatically reduced especially in the east, though habitat types in this category persist in the arid Nama Karoo in the western interior, the arid grasslands in the Aliwal North area, and the midland grasslands in the Mthatha region. Figure 25a (potential protection levels) should be compared to Figure 25b (current-NSBA-protection levels).

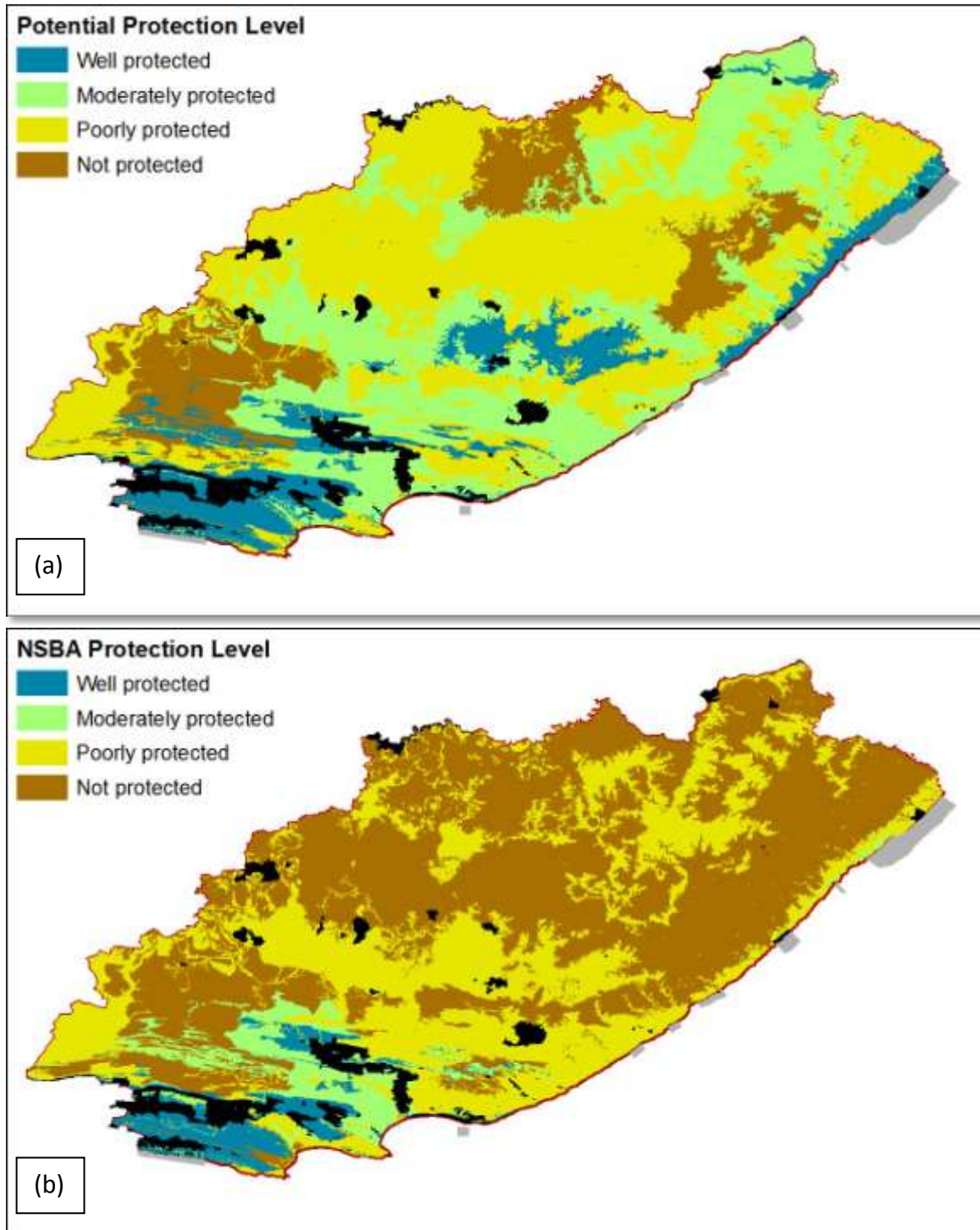


Figure 25: (a) Potential national protection levels for the Eastern Cape assuming full implementation of the priority areas. (b) Current protection levels of vegetation types in the Eastern Cape. Data from NBA 2011.

There is a similar picture for the non-vegetation type features included in the ECBCP. Although these features (e.g. sites for vultures, and priority forest sections) are not specifically targeted in the NPAES, and there are no specific national objectives for including areas important for species or other reasons into protected areas, one should remember that vegetation and habitat types are only significant in that they serve as proxies for broader biodiversity. Therefore, it is very encouraging that there are significant improvements in the potential coverage of non-vegetation type features (Figure 26). Features that are not represented in the protected area system drop from 77% to 33%, types where <10% of a feature's target are met increase from 10% to 32% (as a result of many features moving out of the Not represented category), while features where 10% - <100% of target achieved increased from 9% to 23%, and features where targets are met potentially increases from 5% to 12%.

Overall, implementing the identified priority areas would represent a significant improvement in the current protected area system. This system would be far more representative of the biodiversity in the province, and would represent a substantial movement towards fully implementing the objectives of the National Protected Area Expansion Strategy. However, we need to be clear that:

- Full implementation of the priority areas would still leave the province well short of fully meeting all protected area expansion targets.
- This prioritisation is fairly broadscale and the implementation of each priority area should be carefully planned at a fine scale to avoid actions which increase the inefficiency of the system (i.e. the finescale planning and implementation should focus strongly on under-represented habitat types and features).
- The prioritisation is only as good as the data that goes into it. A new provincial spatial biodiversity assessment, built on substantial improvements in data (e.g. a new finer scale vegetation map, better species data and current land cover), would significantly increase the confidence one has in the spatial prioritisation at the fine or local scale. Nevertheless, at the scale of the province and given the current gaps in the protected area system we are confident that any expansion in the identified priority areas would improve the representativeness of the protected area system in the Eastern Cape.

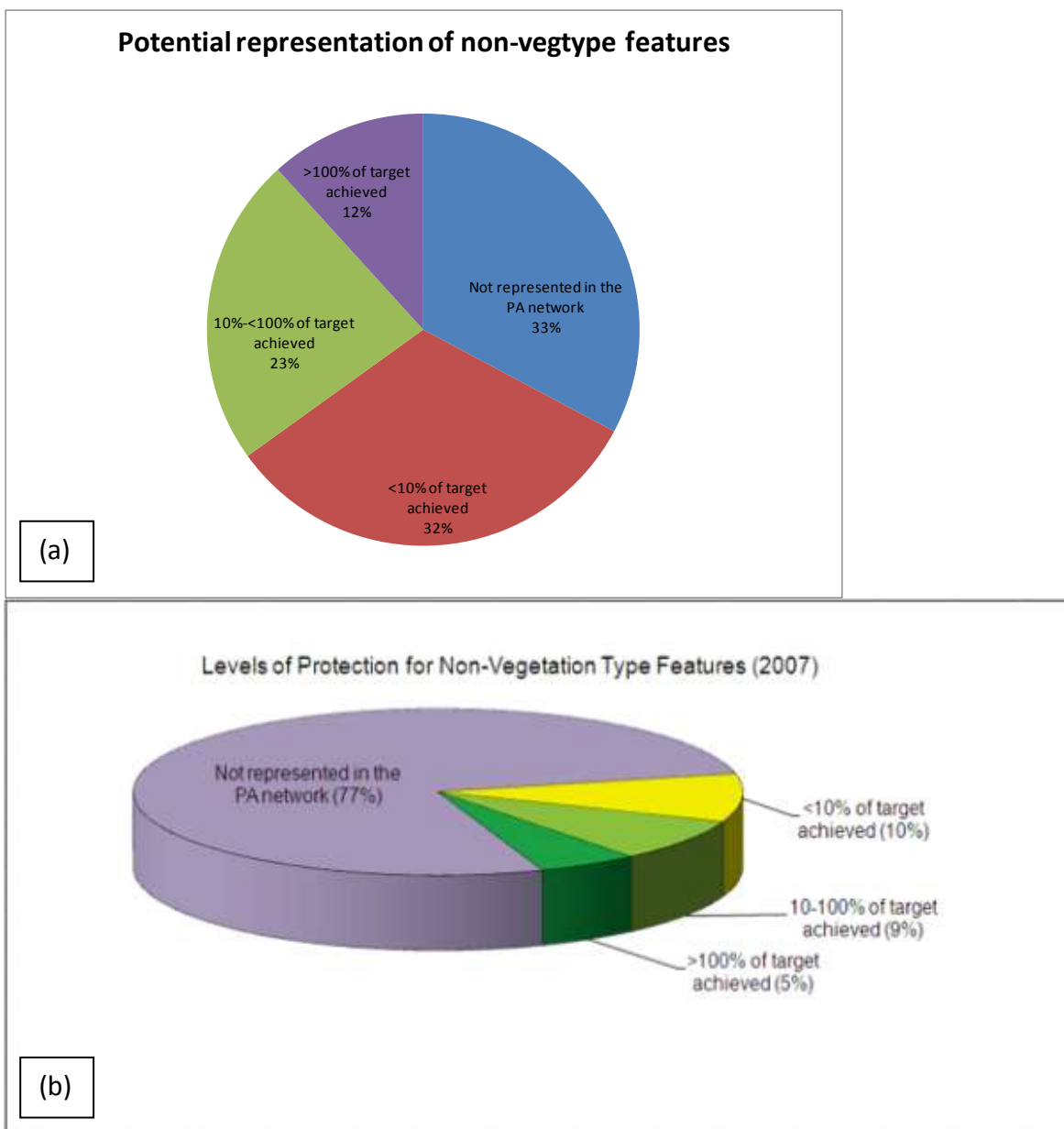


Figure 26: (a) Potential representation of non-vegetation type features assuming full implementation of the priority areas. (b) Current representation of non-vegetation types features in the Eastern Cape, especially sites important for rare species, used in the ECBCP (Source: Berliner and Desmet, 2007).

3.5 Which priority areas should be implemented first?

Thus far in this chapter, Section 3.1 set out the required long term targets for protected area expansion, Section 3.2 showed how far the province is away from achieving these goals, Section 3.3 assessed which portions of the province should be priorities for reserve expansion, and Section 3.4 highlighted the disturbing reality that even with full implementation of the priority areas the Eastern Cape would still be left well short of meeting all protected area targets for the province.

A fully representative protected area system is not created over the short term. The identified spatial priorities need to be scheduled in terms of action based on their biodiversity value, likelihood of the areas being lost (threat), and actual and potential resources available for protected area expansion. The areas identified in Section 3.3 are far

too extensive for the protected area agencies active in the Eastern Cape to deal with all at once. We therefore need to examine each of the priority areas in order to focus on the ones which should be addressed immediately.

Table 17 summarizes the individual priority areas in terms of the attributes used in this study. Importantly, the prioritisation is not just based on an algorithmic analysis of the scores for each area, but also includes inputs from workshops with key individuals in the ECPTA and other stakeholders (Figure 27). The approach followed was to:

- Summarize the average value for each priority area based on the underlying data for the province and the scoring for each individual input layer outlined in Section 3.3.
- Categorize each priority area for each attribute into high, medium and low based on natural breaks in the numerical scores¹⁴.
- Summarize the current level of threat to each priority area¹⁵.
- Finally, and perhaps most importantly, ensure significant interactions with ECPTA staff and other stakeholders to help clarify implementation issues.

All these issues were combined to allow us to divide the priority areas into a number of implementation categories. These categories are:

- High priority areas identified as key ECPTA responsibilities with regard to protected area expansion, including existing processes which need to be seen through to ensure that the ECPTA retains credibility as a protected area agency. These priority areas include Greater Baviaanskloof, Pondoland, Qhorha Mouth to Manubi, St Francis, Katberg-Amathole and Sunshine Coast-East - London Coast, all of which are at various stages of implementation.
- Areas which are the focus of expansion by other agencies and which are therefore not seen as ECPTA priorities. These are the SANParks protected area expansion initiatives, namely Addo Consolidation, Mountain Zebra to Camdeboo Corridor, and the proposed high altitude conservation area in the north-eastern Eastern Cape grasslands.
- Areas which are recognized to be of high value, but where current knowledge is not sufficient to immediately prioritise them for reserve expansion. These areas are Cathcart-Black Kei, Commando Drift to Bedford, Indwe Grasslands, Matatiele Wetlands, Mount Ayliff and Mount Frere. These sites urgently need to be investigated on the ground, as based on desktop analyses they appear to have very high potential value for reserve expansion.
- Other priority areas which are recognized to be of high value, but which are not being considered for implementation at this stage. Dwesa-Cwebe, Great Fish, Compassberg, Oviston and Garden Route fall into this category.

¹⁴ The process involved manually examining the range of values present, and dividing these into categories as appropriate. Note that there was no requirement to have the same number of areas in each category. Further, in some cases the category cutoffs were clear, and based on strong binomial or trinomial data distributions, while in other cases the values represented relatively smooth continuous distributions, and the exact location of the division was more difficult to define.

¹⁵ This was determined by calculating the percentage transformation for all of the quinary catchments which intersect that priority area. Priority areas with high levels of transformation in their catchments were seen to be at higher risk than ones with lower levels of transformation, more urgent for protected area expansion, and hence were scored more highly.

Eastern Cape Protected Area Expansion Strategy 2012

Table 17: Summary of scores for the various prioritisation attributes used in the study; providing information on the basis for selection as a priority area.

	Priority from provincial conservation plan and CBAs	Priority from NPAES	Previous provincial PA prioritization		Priority from other plans	Priority for aquatic habitats	Priority for climate change resilience	Priority for threatened habitat	Priority for under-protected habitat	Combined score in current prioritization	Priority in terms of transformation pressure	Implementation
			Overall priority	Priority for non-habitat features								
High priority expansion areas - ECPTA												
East London Coast - Sunshine Coast	High	Low	High	High	Medium	Medium	Low	Medium	Medium	Medium	Medium	Opportunity for proclamation & consolidation
Greater Baviaanskloof	High	High	Low	Medium	Low	High	High	Medium	Low	Medium	Low	Existing process: Consolidation of core area and linkages
Katberg-Amathola	High	Medium	High	High	High	High	Medium	Low	Medium	Medium	Medium	Urgent implementation
Pondoland	Medium	Medium	High	High	High	High	High	High	High	High	High	Existing process: Wild Coast implementation area
Qhorha Mouth - Manubi	High	Low	Medium	High	Medium	High	Medium	Medium	High	High	High	
St Francis	Low	Low	Low	High	Low	Low	Low	High	Medium	Low	High	Existing process: Transfers and consolidation
Priority expansion areas - other agency												
Addo Consolidation	High	High	Low	Low	High	Medium	Medium	Medium	Low	Medium	Medium	Facilitate implementation by other agencies.
Mountain Zebra to Camdeboo	Low	High	Medium	Medium	High	Low	High	Low	Medium	Medium	Low	
North East Grasslands	Medium	Medium	Medium	High	High	Medium	Medium	Low	High	Medium	Medium	
Priority areas in need of investigation												
Cathcart- Black Kei	Low	High	Medium	Medium	High	Low	High	Low	High	Medium	Medium	Insufficient knowledge to prioritize areas for current implementation
Commando Drift to Bedford	Medium	Medium	Medium	Medium	High	Medium	High	Low	Medium	High	Low	
Indwe Grasslands	High	Medium	Medium	Medium	High	Low	Low	Low	High	Medium	Low	
Matatiele Wetlands	High	High	Low	High	High	High	Low	Medium	High	High	High	Facilitate implementation by other agencies.
Mt Ayliff	Medium	Medium	High	High	High	High	Medium	Low	High	High	High	Insufficient knowledge to prioritize areas for current implementation
Mt Frere	Medium	Medium	High	High	High	Low	Medium	Low	High	Medium	High	
Other priority areas												
Compassberg	Medium	Medium	Medium	Medium	Medium	High	Medium	Low	High	High	Low	Already implemented, remaining areas for opportunistic mop-up
Dwesa-Cwebe	High	Medium	Medium	Medium	Medium	High	High	Medium	Medium	High	High	Major implementation challenges
Garden Route	High	High	Low	Low	High	Medium	Medium	Medium	Low	Low	High	Opportunistic rationalisation
Great Fish	Medium	High	Low	Low	High	Low	Medium	Low	Medium	Medium	Low	
Oviston	High	High	Low	Low	No	Low	Low	Low	High	Low	Medium	

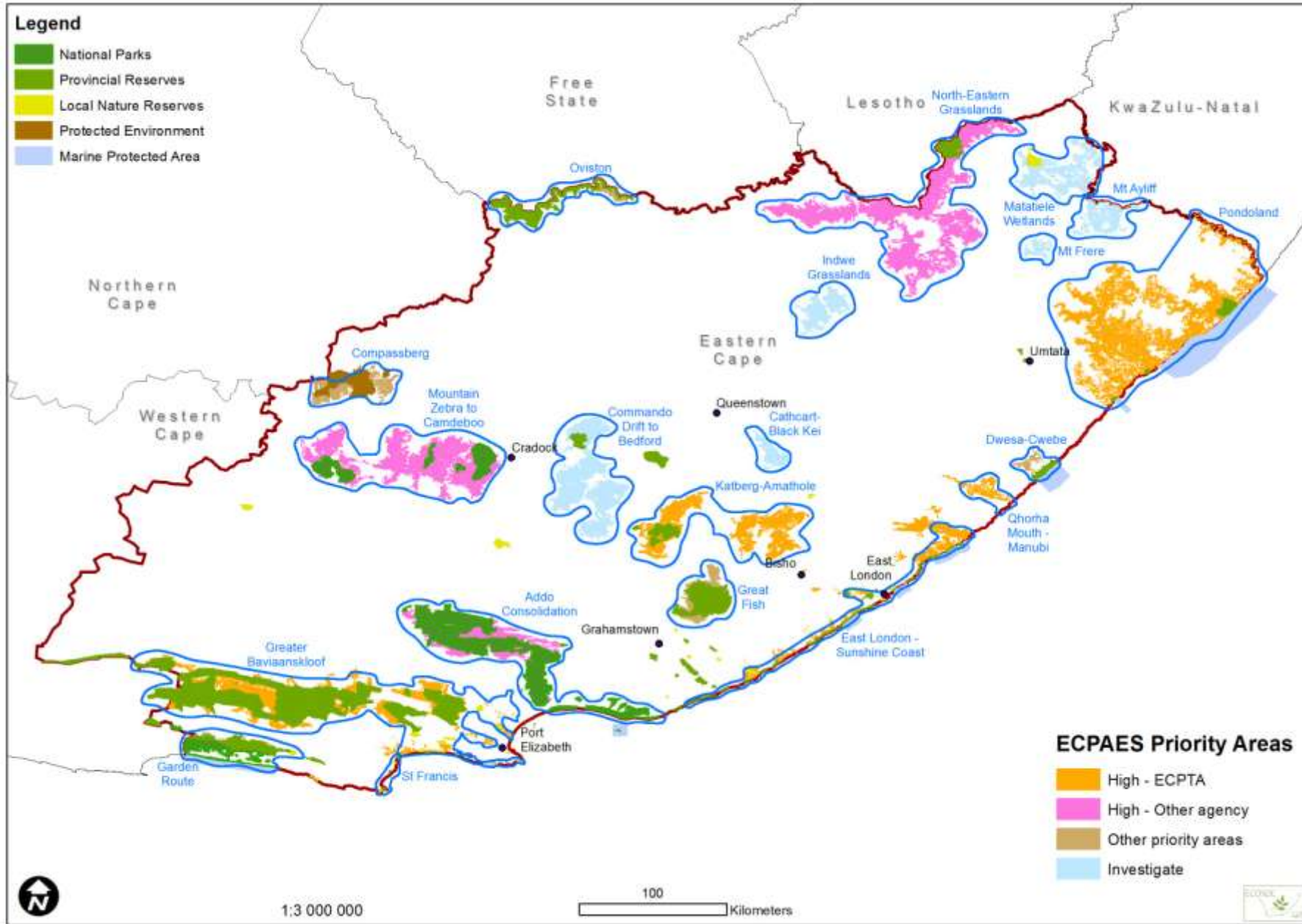


Figure 27. Map showing the priority areas for protected area expansion in the Eastern Cape. See [Addendum 2](#) for details and maps.

3.6 Implementation mechanisms

There are a wide range of protected area expansion mechanisms available to the ECPTA (Table 18), the main advantages and disadvantages of which have been published elsewhere (Table 19).

Table 18: Protected area expansion mechanisms available per land tenure type. X indicates mechanism unavailable, ✓ indicate available and ✓ indicates preferred mechanism. Note: stewardship includes protected environment and contractual nature reserve establishment.

Land Tenure	Purchase	Donation	Lease	Stewardship	Allocation	Reallocation	Delegation
Private land	✓	✓	✓	✓			
Municipal land	x	✓	✓	✓	✓		
Community owned land	x	x	✓	✓			
Communal land	x	x	✓	✓			
Unallocated state land	x	x	x	x	✓	x	x
Allocated state land	x	x	x	x	x	✓	✓

The 5-year action plan (Chapter 5) highlights two main approaches to expanding the protected area system:

- The establishment of Protected Environments and Nature Reserves managed by another agency/landowner/community in partnership with the ECPTA.
- The establishment of Nature Reserves managed by ECPTA through the allocation or reallocation of state land to the ECPTA, or delegation of management authority for state land to ECPTA.

Table 19: Protected area expansion mechanisms; advantages and disadvantages. Adapted from the Feasibility Study for a North Eastern Cape High Altitude Conservation & Development Area (SANParks, 2011).

Conservation Mechanism	Main advantages	Main disadvantages
Purchase	<ul style="list-style-type: none"> • Long term security of tenure • Reduced long-term transaction costs • May have potential to generate revenue for the PA agency. • Employment and upliftment of local communities and skills development • Associated tourism industry/entrepreneurship 	<ul style="list-style-type: none"> • High costs • Potential land price inflation as reserve expands • Possible displacement of people • Not possible with communal land • High costs if no other PAs are in the area
Lease	<ul style="list-style-type: none"> • Management authority can implement measures to protect biodiversity immediately after signing of agreement • Can be implemented on communal land. • Economic benefits to traditional communities (rental) 	<ul style="list-style-type: none"> • Ongoing rental and managements cost in perpetuity. • Reliant on landowner willingness and land availability. • Ongoing transaction costs • Limited potential to invest in tourism and other reserve infrastructure in areas not owned by the PA agency.
Stewardship – Contract Nature Reserve	<ul style="list-style-type: none"> • Reduced financial outlay as no capital costs. • Management costs are met by the landowner not the PA agency. • Requires a management plan to be developed and monitored by the conservation agency • Flexible arrangement 	<ul style="list-style-type: none"> • Reliant on landowner willingness • Ongoing transaction costs • Requires a strong champion, institutional capacity and political willingness.
Stewardship - Protected Environment	<ul style="list-style-type: none"> • Little or no disruption of current economic activity, landowners and farm workers. • Reduced financial outlay as no capital costs. • Management costs are met by the landowner not the PA agency. • Potential to secure far larger areas than other mechanisms. • Requires a management plan to be developed and monitored by the conservation agency • Encourages community unification and interaction 	<ul style="list-style-type: none"> • May not fully secure biodiversity as generally current agricultural practices are retained. • Requires ongoing support and interaction which decreases as management authority gains capacity. • Reliant on willingness of landowners • Reliant on government for certain management actions • Requires a strong champion and institutional capacity
Allocation, Reallocation and Delegation	<ul style="list-style-type: none"> • Low costs as land value is not a factor - most costs are linked to legal process followed and surveying costs. • Secure tenure. • Reduced long-term transaction cost 	<ul style="list-style-type: none"> • Increased management costs for PA agency.

CHAPTER 4: GENERAL RECOMMENDATIONS

Apart from the implementation actions and activities in the ECPAES **focus areas** (described in Section 5.2), there are certain protected area expansion related issues that the ECPTA needs to address in order to support its mandate in the province.

In order to promote and support protected area expansion in the Eastern Cape the following activities are recommended:

- **Complete existing initiatives:** Complete all the protected area expansion initiatives that have been formally started by ECPTA and are currently in progress. Completion of existing activities is critically important if ECPTA wishes to be seen as a credible and dependable conservation agency. Long term damage could be done if projects (e.g. the Pondoland community conservation areas) are not seen through to completion.
- **Focus on the effective management of existing PA system:** Until additional resources (funding, staff and equipment) are allocated for the protected area function, it is considered prudent to consolidate and focus the limited ECPTA resources on the effective management of the existing system of provincial nature reserves and NOT on protected area expansion. The launch of any new protected area expansion initiatives should thus only be linked to the availability of additional, dedicated resources committed to supporting protected area expansion activities (and the cost implications of their future management as new/expanded protected areas). This should include **filling existing posts** in management and scientific services.
- **Establish PA forum:** Lobby DEDEAT to establish a provincial PA expansion coordination structure to bring together all the agencies and initiatives involved in PA expansion, including representatives from the private conservation industry, to coordinate activities. Agencies: DEDEAT, ECPTA, DEA, DAFF, SANParks, NMBM, DPW, DRDLR; NGOs/Trusts: WWF (Wild Coast), CI/ERS (Umzimvubu), Eden to Addo; Wilderness Foundation; Private Sector: Private Conservation (INDALO), Wildlife Industry.
- **Prepare a business case for PA expansion unit:** Prepare a succinct business plan that will provide a rigorous and well-motivated justification and rationale for the funding of the establishment and functioning of a small professional 'protected area expansion unit'. The business plan should inter alia address the following: the institutional benefits of PA expansion; a cost-benefit analysis of the options for addressing the protected area expansion mandate; the rationale for the establishment of a protected area expansion unit (as the most cost-effective option); the proposed organisational structure and staffing of the unit; the proposed job descriptions of unit staff; the proposed cost-to-company of the unit staff; the projected CAPEX and OPEX costs for the unit staff; the sources of funding for the human resources, CAPEX and OPEX costs of the unit; a phased implementation plan for the establishment of the unit; and the projected institutional and conservation benefits of investment in the unit. Note that the development of this business case will be significantly aided by the completion of the national business case for stewardship which is being developed by Prime Africa for the

SANBI Grasslands programme. The ECPTA business case could focus on the operational details and requirements as outlined above rather than duplicating this national study.

- **Raise funds for PA expansion unit:** Develop and implement a focused fund-raising effort to secure funds to support the establishment and recurrent running costs of the unit. These funds should then be used to supplement and co-finance committed national and provincial government grant funding allocations to employ the unit staff.
- **Update the PA register:** Update the protected area register and fully integrate with the necessary spatial data, including survey diagrams and fence line maps.
- **Formalise transfers and reallocations:** Formalise transfers, reallocations and allocations of former DEAET nature reserves, municipal nature reserves, state forests and unallocated state land. Ensure appropriate proclamations take place. These activities will ensure that the province does not regress in terms of meeting protected area targets. However, if these activities are not seen through, it is possible that the province could effectively lose some of these existing reserves.
- **Support other agencies and initiatives:** In a number of cases where other conservation agencies (e.g. SANParks) or NGOs are involved in Protected Area expansion activities, it may be necessary for ECPTA to support the Protected Area expansion activities of these agencies and organizations. This support may be in the form of political support or lobbying for completion of various processes involving provincial government e.g. Protected Environment declarations.
- **Exert political pressure:** Exert political pressure to ensure other agencies meet their expansion commitments. In some cases (e.g. the North Eastern Cape Grasslands), it may be required for ECPTA to exert political pressure (e.g. in the Protected Area CEOs Forum and at MINTECH level) in order to ensure that these agencies meet their obligations.

In order to improve future protected area expansion planning in the province, the following activities are recommended:

- **Investigate poorly known areas:** Investigate ECPAES Priority Areas which have not been targeted for implementation in this version of the ECPAES, and ensure that ECPTA develops an understanding of the opportunities for, and constraints to, protected area expansion in these areas. In most cases this requires specific field work in these areas.
- **Improve provincial conservation plan:** Promote and, where possible, facilitate the update and improvement of provincial biodiversity spatial data (e.g. vegetation map, species distribution data and ecological process) and landcover/landuse data (including landcover change analysis) to form the basis of an updated finescale systematic biodiversity assessment for the province.
- **Incorporate marine protected areas planning:** Facilitate and promote protected area expansion planning in the Eastern Cape marine and coastal environments and ensure that terrestrial and marine planning is integrated.

CHAPTER 5: IMPLEMENTATION and ACTION PLAN FOR EASTERN CAPE PARKS AND TOURISM AGENCY (2013-2018)

Chapter 3 described and ranked a set of large provincial **priority areas** for protected area expansion (Table 17, Figure 27). Chapter 5 develops a smaller set of **focus areas**, nested within these provincial priority areas, that, based on realistic staff complement and resources, could be implemented by the ECPTA in the short term (5 years).

5.1 Resource requirements for implementing the ECPTA action plan for protected area expansion

The 'ECPTA Action Plan for protected area expansion' is premised on the ECPTA's **actual or potential** performance capability – given its available personnel, funding and any other resources – to ensure that the spatial targets and expansion activities identified in the ECPTA action plan are realistic and achievable (Table 20).

Table 20: Summary of the current staff complement (in terms of responsibilities and the approximate % of time allocated to protected area expansion for each post) available to implement protected area expansion activities in the ECPTA.

Post description	Number of staff	Responsibility (in terms of protected area expansion)	% of time committed to PA expansion
1. Stewardship Manager	1	Implementation of stewardship activities (private land)	100
2. Wild Coast Project: Project Coordinator ¹⁶	1	Identification of PA expansion opportunities in the Wild Coast planning domain. Facilitation of the institutional and co-management arrangements required to realise the identified PA expansion opportunities	15-20
3. Wild Coast Project: Community Liaison Officer ¹⁷	1	Negotiation with targeted (see above) affected communities about co-management options for new PAs ¹⁸	30-35
4. Executive Director: Biodiversity Conservation	1	Strategic oversight for PA expansion in ECPTA. High level negotiation of inter-agency agreements Management of stewardship staff, Ecologists, planners, Wild Coast Project manager and overall oversight of the expansion programme	5 - 10
5. Regional Ecologist ¹⁹ and Planning Unit staff ²⁰	3	Identification and ground-truthing of priority areas targeted for PA expansion Support the preparation of management plans for stewardship sites Supporting the formal proclamation processes	5-10
6. Regional Manager	3	Identification of opportunities for the	<2

¹⁶ The 'Wild Coast Project' is a US\$6.5m Global Environment Facility (GEF)-funded project. The project was initiated in 2006 and is due for completion in 2013.

¹⁷ The Wild Project Community Liaison officer will be appointed as the People and Parks Manager (Eastern Region) in January 2013. While the KPAs for this position may include ongoing support for PA expansion efforts, the % of time committed to this function will significantly decrease.

¹⁸ Supported by 6 community outreach officers until January 2013.

¹⁹ While the approved organogram makes provision for 3 regional ecologists, only 1 post is currently filled.

²⁰ Includes the Senior Conservation Planner, Data Manager, Environmental Planner and Planning Technician.

		rationalisation of existing provincial nature reserves in the region	
7. Reserve Manager	5 ²¹	Identification of opportunities for expansion Liaison with communities/ landowners Technical input into contractual agreements with landowners and/or communities	<2
8. Chief Operating Officer	1	Identification of, and planning for, the operational management implications of newly established protected areas	<1
9. Legal advisor	1	Legal support to the processing of stewardship contracts	<5

It is evident that, apart from one individual staff member, protected area expansion functions currently do not constitute a primary responsibility of any of the ECPTA staff. Further, the GEF-funded Wild Coast Project (that is committing staff and resources towards negotiating with communal land owners for the expansion of the protected area system in the Wild Coast) is due to be completed in mid-2013. Effectively this means that, at best, only the current limited suite of protected area expansion activities can be sustained with the actual *in situ* ECPTA staff capacity. At worst, with the effective loss of GEF funding support for rationalising and expanding protected areas in communal land, even the current levels of protected area expansion cannot be sustained over the next five years. This situation may be further exacerbated by the incremental reduction in capital and operational budget allocations for the management of the existing system of provincial nature reserves.

If the assumption is made that the actual performance capability for protected area expansion will remain unchanged, or is incrementally reduced, then the recommendation for the ECPTA 'Action Plan for Implementation' for the next five years is as follows:

1. *Complete all the protected area expansion initiatives that have been formally started by ECPTA.*
2. *Until additional resources (funding, staff and equipment) are allocated for the protected area function²², it is considered prudent to consolidate and focus the limited ECPTA resources on the effective management of the existing system of provincial nature reserves and NOT on protected area expansion. The launch of any new protected area expansion initiatives should thus only be linked to the availability of additional, dedicated resources committed to supporting protected area expansion activities (and the cost implications of their future management as new/expanded protected areas).*

In a series of discussions with ECPTA staff, the potential ECPTA staff complement that could realistically be engaged to facilitate the implementation of a suite of protected area

²¹ Reserves Managers located in the reserves targeted for expansion, including: Mkhambathi; Silaka; Mpofu-Fort Fordyce; East London Coast and Baviaanskloof

²² Presently protected area expansion is an unfunded provincial and national government mandate.

expansion activities in the focus areas over a five year time horizon can be summarised as follows in Table 21²³:

Table 21: ECPTA staff complement required for implementation of 5 year action plan.

Post description	Number of staff	Responsibility (in terms of protected area expansion)	% of time committed to PA expansion
Existing staff (excluding Wild Coast Project staff)			
1. Stewardship Manager	1	Operational oversight of PA expansion activities and staff Development of PA expansion strategies, approaches, tools and/or mechanisms Development of incentives for expansion Technical support to negotiation of contract agreements (all forms of land tenure/ownership) Engagement with potential partners Technical support to negotiation of inter-agency agreements for delegation /allocation of management authority	100
2. Executive Director: Biodiversity Conservation	1	Strategic oversight for PA expansion Institutional and political negotiation of inter-agency agreements for delegation/allocation of management authority	>5
3. Regional Ecologist	3	Identification and ground-truthing of priority areas targeted for PA expansion Support to the preparation of management plans for stewardship sites Technical/professional support and advice to contracted landowners	5-10
4. Regional Manager	3	Identification of opportunities for the rationalisation of existing provincial nature reserves in the region	5
5. Reserve Manager	5	Identification of opportunities for expansion Liaison with communities/ landowners Technical input into contractual agreements with landowners and/or communities	<5
6. Chief Operating Officer	1	Identification of, and planning for, the operational management implications of newly established protected areas	2
7. Legal advisor	1	Provides legal support to the processing of stewardship contracts Legal support to processing of proclamation	5
New staff appointments			
8. Stewardship facilitator – communal land	1	Initiation of contact with targeted community representatives, negotiation and securing of community resolutions and conclusion of co-management agreements	100

²³ This potential staff complement however excludes addressing the internal capacity (and associated resources) that will be required for the ongoing administration and management of any newly contracted, allocated, designated or acquired land into the protected area system.

9. Stewardship facilitator – private land ²⁴	1	Initiation of contact with targeted private landowners and Communal Property Associations, negotiation and conclusion of contractual agreements	100
10. Facilitator – state-owned land	1	Initiation and maintenance of contact with targeted and affected state agencies (e.g. DAFF, Rural Development & Land Reform, Public Works and Surveyor General), para-legal activities relating to tenure, proclamation and assignments, and negotiation and conclusion of <i>inter alia</i> : state land allocations; back-to-back lease agreements; and/or delegation of management authority agreements.	100
11. Community liaison officer	1	Ongoing liaison, communications and awareness-raising in/with targeted communities, particularly in communal areas	>50
Other support services			
12. Contracted legal service provider (retainer contract)	1	Legal support services (e.g. drafting of inter-agency MOAs, development of legal contract agreements, provision of legal opinions, registration of title deeds and title deed restrictions, etc.)	Only as required
13. Contracted surveying firm (retainer contract)	1	Survey of boundaries Preparation and registration of survey diagrams	Only as required

Assuming that this potential staff complement can be funded, and will be included into the organisational organogram, the costs of the following capital expenditure (CAPEX) and operational expenditure (OPEX) items will also need to be financed (Table 22).

Table 22. CAPEX and OPEX items in need of funding.

CAPEX	OPEX
1. Vehicles (x 3)	1. Costs of retainer contracts
2. Computer equipment, software and peripherals	2. S&T costs
3. Office furniture	3. Fuel costs
	4. Cellphone costs
	5. Stationery
	6. Office rental

If the ECPTA is able to fund the costs of the necessary staff, the recommendation for the ECPTA ‘Action Plan for Implementation’ for the next 5 years includes the development of a business plan and fundraising plan for a PA expansion unit.

The following ‘*ECPTA Action Plan for protected area expansion*’ (Section 5.2) is based on the assumption that this ‘PA expansion unit’ will be fully established by the ECPTA, and operational, within a period of 3 years. If the unit is not fully functional by the end of year 3, the suite of activities – and associated performance targets – will need to be scaled back

²⁴ Including land owned by public entities, businesses, trusts and local authorities

accordingly. If no additional resources are available for protected area expansion, the recommendations in respect of the current performance capacity should then prevail.

5.2 ECPTA action plan for protected area expansion: 2013 – 2017

This action plan delineates and describes a set of **focus areas** to be implemented by the ECPTA in the short term (5 years).

5.2.1 Focus Areas

The ECPTA action plan identifies the key activities that should be implemented by the ECPTA to secure the formal declaration of land within these focus areas as a Nature Reserve (or any other type of formal protected area). For each focus area, the action plan will identify the most appropriate and cost-effective expansion mechanism/s to be adopted, and identify a number of discrete activities that will be required to progress the ECPTA to proclamation of all (or part of) the focus area. The proposed timelines and responsibilities for implementation of each activity will also be identified.



An iterative consultative process, involving workshops with relevant ECPTA staff, was followed in delineating the focus areas. This process is summarised as follows:

Step	Activity
Step 1	Deciding on the locality of the focus areas (within the broader priority areas)
Step 2	Deciding on the outer boundaries of these focus areas
Step 3	Profiling each focus area in respect of current initiatives, land uses, etc.
Step 4	Deciding on the target protected area and suite of expansion approaches to be adopted in the focus area
Step 5	Deciding on the specific actions required
Step 6	Deciding on responsibilities and performance targets for the actions

The implementation **focus areas** (Table 23 and Figure 28) are thus the selected areas for investment of ECPTA time, resources and capacity for the next 5 years. This does not preclude capitalising on *ad hoc* opportunities in the priority areas as they may arise, provided that these additional activities are linked to additional resources and capacity being made available. Opportunities for conservation and protected area implementation are also bound to arise in non-priority areas; pursuing these opportunities should only be considered if there are special circumstances and/or additional information and/or additional resources available to justify implementation activities.

Table 23: Summary of Eastern Cape Parks and Tourism Agency 5- year implementation focus areas.

Priority Area	Focal Area	Activity	Precedence
Pondoland	Mkhambathi - Ex Tracor land (Table 24, Figure 29)	Proclamation of community owned nature reserve	High
	Mkhambathi - Mtentu (Table 26, Figure 31)	Proclamation of community owned nature reserve	Low/Opportunistic
	Silaka (Table 25, Figure 30)	Proclamation/establishment of community owned nature reserve	High
	Lambasi (Table 27, Figure 32)	Establishment of community owned nature reserve	Medium/Opportunistic
Qhorha	Manubi-Mazeppa (Table 28, Figure 33)	Establishment of community owned nature reserve or protected environment	Medium
Katberg-Amathole	Mpofu-Fort Fordyce-Katberg (Table 29, Figure 34)	Proclamation of protected environment on communal and private land linking existing nature reserves and state forest	High
East London Coast and Sunshine Coast (Table 30)	1) Sunshine Coast (Figure 35) 2) Hamburg (Figure 36) 3) Tylomnqa(Figure 37) 4) Christmas Vale (Figure 38) 5) Cove Rock (Figure 39) 6) Chintsa E&W (Figure 40) 7) Double Mouth (Figure 41) 8) Cape Morgan (Figure 42)	Proclamation of state forests and other un-proclaimed state land currently managed as nature reserve by ECPTA	High
Greater Baviaanskloof	Western Baviaanskloof Inholding (Table 31, Figure 43)	Establishment of biodiversity stewardship site/s to consolidate the Baviaanskloof Nature Reserve. Biodiversity agreement or protected environment.	High
	Langkloof - Kouga (Table 32, Figure 44)	Establishment of biodiversity stewardship site/s. Protected environment.	Low
	Loerie-Gamtoos-Kabeljous (Table 33, Figure 45)	Establishment of biodiversity stewardship site/s to link three existing reserves	Medium
	Nelson Mandela Bay Municipality - Hopewell (Figure 46, Table 34)	Proclamation of nature reserve and establish an MOU with NMBM.	Low
	Nelson Mandela Bay Municipality - Yellowwoods (Table 35, Figure 47)	Facilitate proclamation of protected environment or nature reserve for the NMBM stewardship programme.	Low
St Francis	Cape St Francis (Table 36, Figure 48)	Proclamation of protected environment or nature reserve to link three existing reserves - focus on local protected areas and private land	High
Compassberg	Compassberg (Table 37, Figure 49)	Extend the protected environment and ensure strategic management plan completed and implemented.	Low/Opportunistic

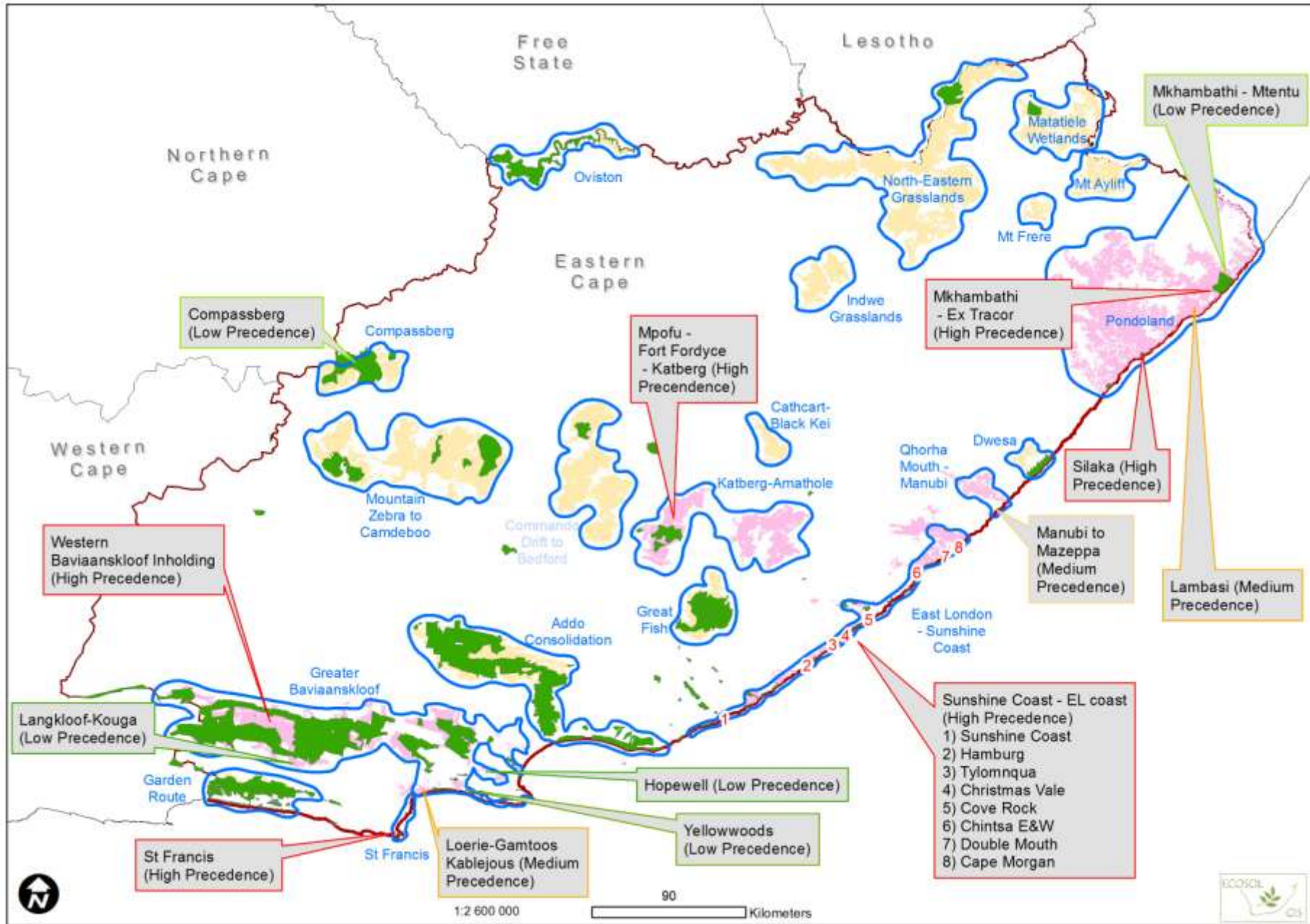


Figure 28: Map showing the ECPTA implementation focus areas, a subset of the ECPAES priority areas

For each ECPTA **focus area** a detailed location map and implementation plan was developed (Figure 29-49 and Tables 24-37).

The implementation plan tables include the following information:

- Proposed extent;
- Land tenure;
- Current status/use;
- Current progress in expansion;
- Target PA;
- Expansion strategy/ approach;
- Lead agency; Key stakeholders;
- Key actions;
- Key responsible staff (ECPTA);
- Performance target/s.

This ECPTA Action Plan will not address activities linked to the transfer of management authority for formally proclaimed protected areas or activities linked to improving the conservation management of areas that are already proclaimed.

Table 24: High Precedence Focus Area MKHAMBATHI EX TRACOR LAND; Priority Area PONDOLAND

Priority Area: PONDOLAND	
High Precedence: MKHAMBATHI EXPANSION (EX-TRACOR LAND)	
Proposed extent:	~3 900 ha
Land tenure:	Successful land claim by Mkhambathi Land Trust (MLT)
Current status/use:	Land largely undeveloped. Some use of land for grazing. Very few, isolated homesteads located on the land. The northerly point of the Msikaba river connects to the proposed realigned N2 toll road. Future development pressure from small-scale forestry (Eucalypt).
Current progress in expansion:	Proposed boundaries preliminarily identified in consultation with the Mkhambathi Land Trust (areas in blue on adjacent map)
Target PA:	Nature Reserve
Expansion strategy/ approach:	<ul style="list-style-type: none"> i. Negotiated agreement with communal land owner to expand Mkhambathi Nature Reserve ii. Extension of current co-management agreement between DEDEAT and Mkhambathi Land Trust to additional targeted area/s
Lead agency:	ECPTA (expansion planning and future management)
Key stakeholders:	MLT; DRDLR; DEDEAT
Key actions:	<ul style="list-style-type: none"> i. Finalise boundaries of land to be incorporated into Mkhambathi Nature Reserve ii. Secure community agreement/resolution on the intent to include the additional area into Mkhambathi Nature Reserve iii. Negotiate changes to, and update, the current co-management and settlement agreement between MLT and DEDEAT iv. Survey, and formally proclaim, the incorporation of the additional land into Mkhambathi Nature Reserve
Key responsible staff (ECPTA):	PA expansion support unit (communal land – currently the Wild Coast Project); People and Parks Manager (East); Mkhambathi Nature Reserve Reserve Manager; Mkhambathi Nature Reserve Outreach Officer; Regional Ecologist (East); Regional Manager (East)
Performance target/s:	Formal proclamation of at least an additional 2 000 ha of land into Mkhambathi Nature Reserve

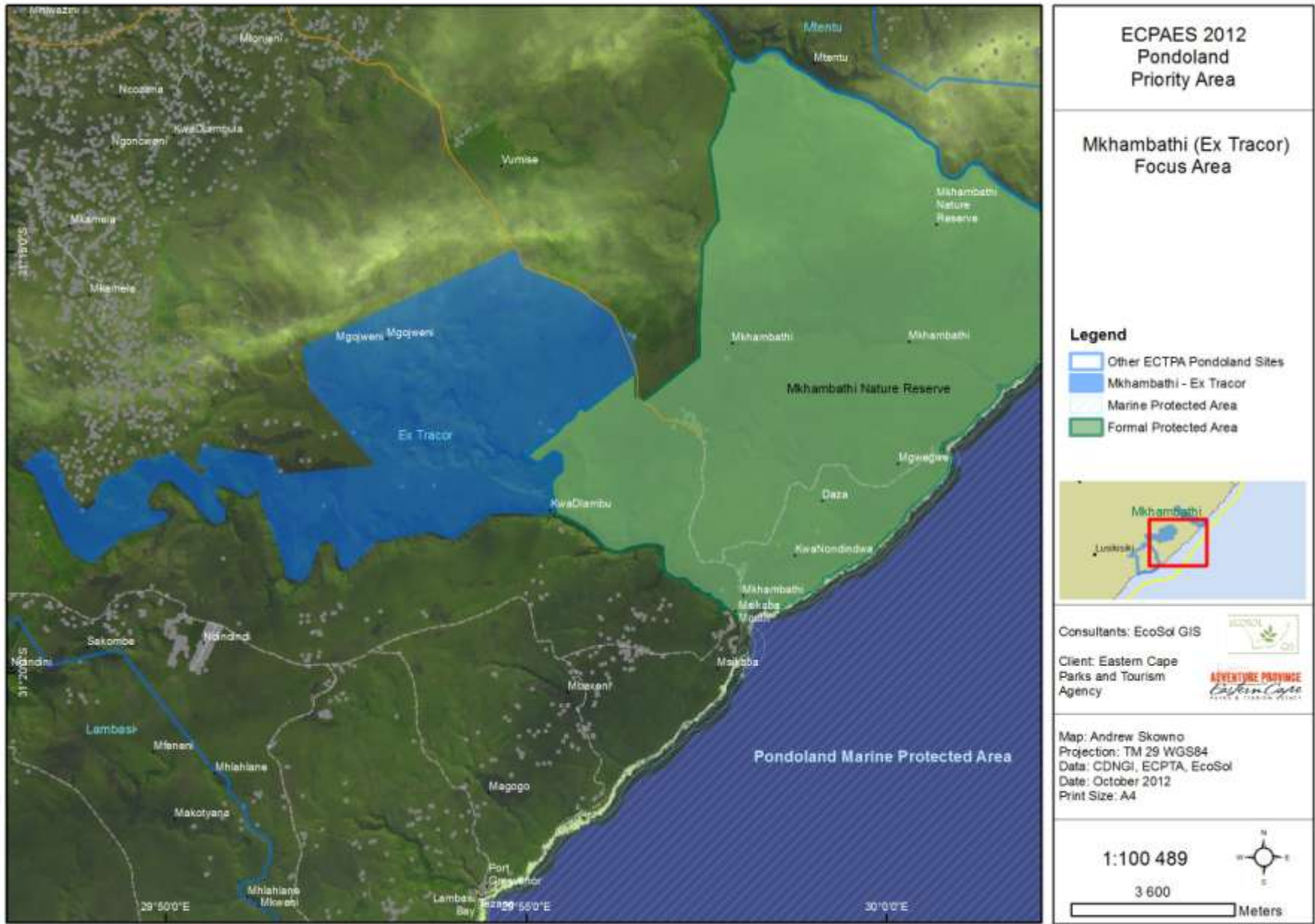


Figure 29: Mkhambathi - Ex Tracor Focus Area within the ECPAES Pondoland Priority Area

Table 25: High Precedence Focus Area SILAKA EXPANSION; Priority Area PONDOLAND

Priority area: PONDOLAND	
High Precedence: SILAKA ESTABLISHMENT/EXPANSION	
Proposed extent:	~820 ha
Land tenure:	Successful land claim by Cageba Community
Current status/use:	400 ha currently managed as a <i>de facto</i> Nature Reserve by ECPTA (area shown in green). 1 km coastal strip within the Coastal Conservation Area (CCA). Western portion abuts onto Mngazi River Bungalows. Limited grazing and browsing by livestock.
Current progress in expansion:	Proposed boundaries preliminarily identified in consultation with the Cageba Community. DAFF in process of assigning selected state forests to the management authority of DEDEAT/ECPTA
Target PA:	Nature Reserve
Expansion strategy/ approach:	i. Negotiation of a formal co-management agreement between ECPTA and the Cageba Community to proclaim and manage a new Nature Reserve along the coast to include the CCA from Silaka to Mngazi River and then to Umngazana The second phase of expansion will be inland to Mt Thesiger (anticipated to be prioritised post-2018)
Lead agency:	ECPTA (establishment planning and future management)
Key stakeholders:	Cageba Community; DRDLR; DEDEAT;
Key actions:	i. Finalise boundaries of land to be proclaimed ii. Secure community agreement/resolution on the intent to proclaim a Nature Reserve iii. Negotiate a co-management agreement between the Cageba Community and ECPTA iv. Survey, and formally proclaim, the new Nature Reserve
Key responsible staff (ECPTA):	PA expansion support unit (communal land – currently the Wild Coast Project); People and Parks Manager (East); current Reserve Manager at Silaka; relevant Ecologist; Regional Manager (East)
Performance target/s:	Formal proclamation of at least 600 ha of land as a new Nature Reserve

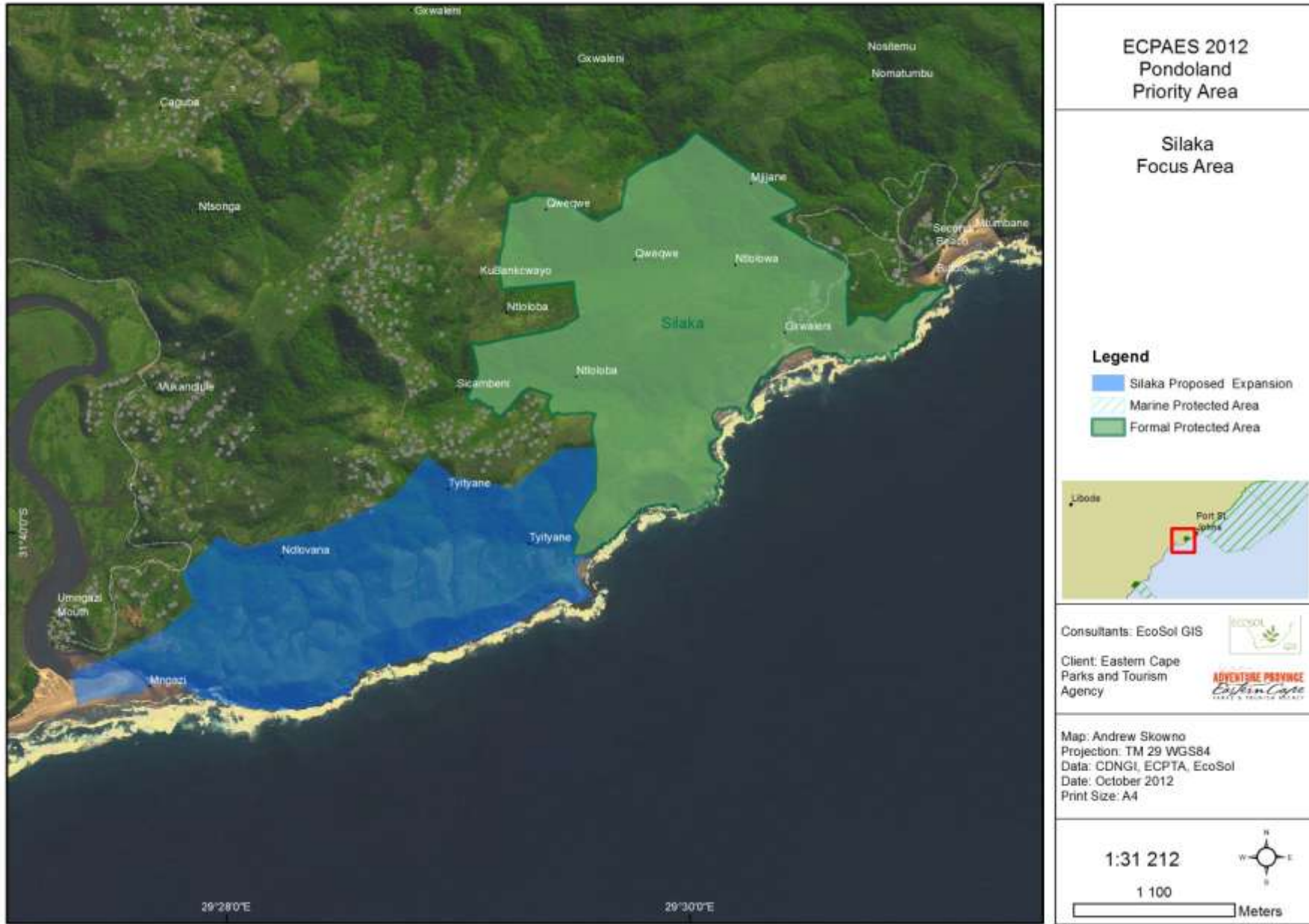


Figure 30: Silaka Focus Area within the ECPAES Pondoland Priority Area

Table 26: High Precedence Focus Area MTENTU EXPANSION; Priority Area PONDOLAND

Priority Area: PONDOLAND	
Low Precedence: MTENTU EXPANSION	
Proposed extent:	~1980 ha
Land tenure:	State-owned communal land (Amadiba Traditional Authority, Mtentu Administrative Area)
Current status/use:	Mtentu River Lodge, comprising 6 cabins and a central area 1km coastal strip within the Coastal Conservation Area - Mtentu river mouth to Sikombe. Western portion abuts onto Mkhambathi Nature Reserve, extending up to the proposed alignment of the new N2 toll road. Limited grazing and browsing by livestock.
Current progress in expansion:	Proposed boundaries preliminarily identified in consultation with ACCODA and the Mtentu River Lodge Trust. The proposed area may, if feasible, be included into Mkhambathi Nature Reserve at a later stage.
Target PA:	Nature Reserve or Protected Environment
Expansion strategy/ approach:	<ul style="list-style-type: none"> i. Securing an agreement with the Amadiba Traditional Authority to establish a new Nature Reserve or Protected Environment ii. Formalising an agreement between ECPTA, the Amadiba Traditional Authority and Mtentu Administrative Area on the future management of the Nature Reserve or Protected Environment
Lead agency:	ECPTA (establishment planning)
Key stakeholders:	Amadiba Traditional Authority , Mtentu Administrative Area, ACCODA, Mtentu River lodge Trust, DRDLR, DEDEAT
Key actions:	<ul style="list-style-type: none"> i. Finalise boundaries of land to be proclaimed ii. Secure community agreement/resolution on the intent to proclaim a Nature Reserve or Protected Environment, and the proposed management modality of the protected area
Key responsible staff (ECPTA):	PA expansion support unit (communal land – currently the Wild Coast Project); People and Parks Manager (East); Mkhambathi Nature Reserve Reserve Manager; Mkhambathi Nature Reserve Outreach Manager; relevant Ecologist; Regional Manager (East)
Performance target/s:	Documented community agreement/resolution to proclaim a Nature Reserve or Protected Environment

Table 27: Low Precedence Focus Area LAMBASI ESTABLISHMENT; Priority Area PONDOLAND

Priority Area: PONDOLAND	
Medium/Oppportunistic Precedence: LAMBASI ESTABLISHMENT	
Proposed extent:	~7935 ha
Land tenure:	Successful land claim by the Lambasi Traditional Authority (Lambasi Communal Property Association(CPA))
Current status/use:	Luphatana tented campsite, comprising 12 tents and a central area 1km coastal strip within the Coastal Conservation Area - Mkwani river mouth to Myekane. Isolated homesteads (most used only seasonally) Limited seasonal grazing and browsing by livestock. Forms part of Wild Coast hiking trail
Current progress in expansion:	Proposed boundaries preliminarily identified in consultation with the Lambasi CPA
Target PA:	Nature Reserve
Expansion strategy/ approach:	i. Securing an agreement with the Lambasi Traditional Authority to establish a new Nature Reserve ii. Secure additional land which may become available
Lead agency:	ECPTA (establishment planning)
Key stakeholders:	Lambasi Traditional Authority, Lambasi CPA, DRDLR, DEDEAT, managers of Luphatana tented camp, Pat Goss (Goss Point, if included)
Key actions:	iii. Finalise boundaries of land to be proclaimed iv. Secure community agreement/resolution on the intent to proclaim a Nature Reserve, and the proposed management modality of the protected area
Key responsible staff (ECPTA):	PA expansion support unit (communal land – currently the Wild Coast Project); People and Parks Manager (East); relevant Ecologist; Regional Manager (East)
Performance target/s:	Documented community agreement/resolution to proclaim a Nature Reserve

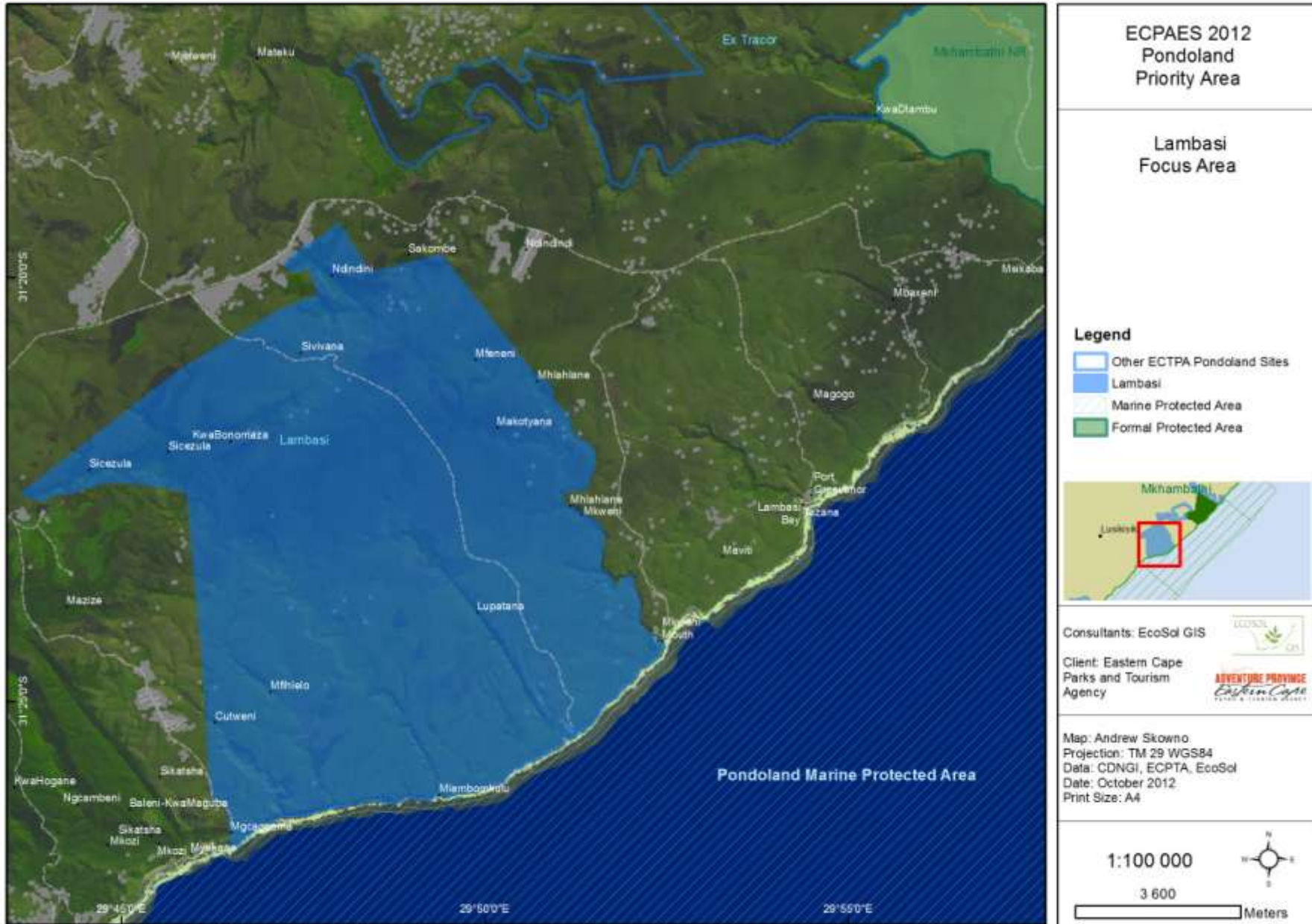


Figure 32: Lambasi Focus Area within the ECPAES Pondoland Priority Area

Table 28: Medium Precedence Focus Area MANUBI TO MAZEPPA; Priority Area: QHORHA

Priority Area: QHORHA	
Medium Precedence: MANUBI TO MAZEPPA ESTABLISHMENT	
Proposed extent:	~3 500 ha
Land tenure:	Manubi is state land allocated to DAFF The remaining area is state-owned communal land.
Current status/use:	Manubi designated as a state forest. 1km coastal strip within the Coastal Conservation Area – Mazeppa Bay to Gqunqe. Wood harvesting for livelihood purposes. A number of isolated homesteads located on the land. Extensive grazing and browsing by livestock. High levels of illegal harvesting, poaching and hunting. Significant infestations of invasive alien plants in forests. Coastal hiking trail.
Current progress in expansion:	Proposed boundaries preliminarily identified in consultation with the Manubi community.
Target PA:	Forest Nature Reserve, forming an integral part of a larger Protected Environment
Expansion strategy/ approach:	<ul style="list-style-type: none"> i. DAFF to proclaim Manubi state forest as a Forest Nature Reserve ii. DAFF and ECPTA to support establishment of larger Protected Environment or Forest Nature Reserve iii. Negotiated memorandum of agreement between partners (ECPTA, DAFF, community) to guide cooperative governance of the protected area/s
Lead agency:	DAFF (establishment and management of Forest Nature Reserve); ECPTA (Protected Environment establishment planning)
Key stakeholders:	Manubi community; DRDLR; DEDEAT
Key actions:	<ul style="list-style-type: none"> i. Initiate processes for proclamation of Manubi Forest Nature Reserve ii. Finalise boundaries of land to be incorporated into Protected Environment or Forest Nature Reserve iii. Negotiate tri-lateral memorandum of agreement between relevant partners to support establishment of the protected area/s
Key responsible staff (ECPTA):	PA expansion support unit (communal land – currently the Wild Coast Project); People and Parks Manager (East); Regional Ecologist (East); Regional Manager (East)
Performance target/s:	Formal proclamation of at least 1 000 ha of Forest Nature Reserve

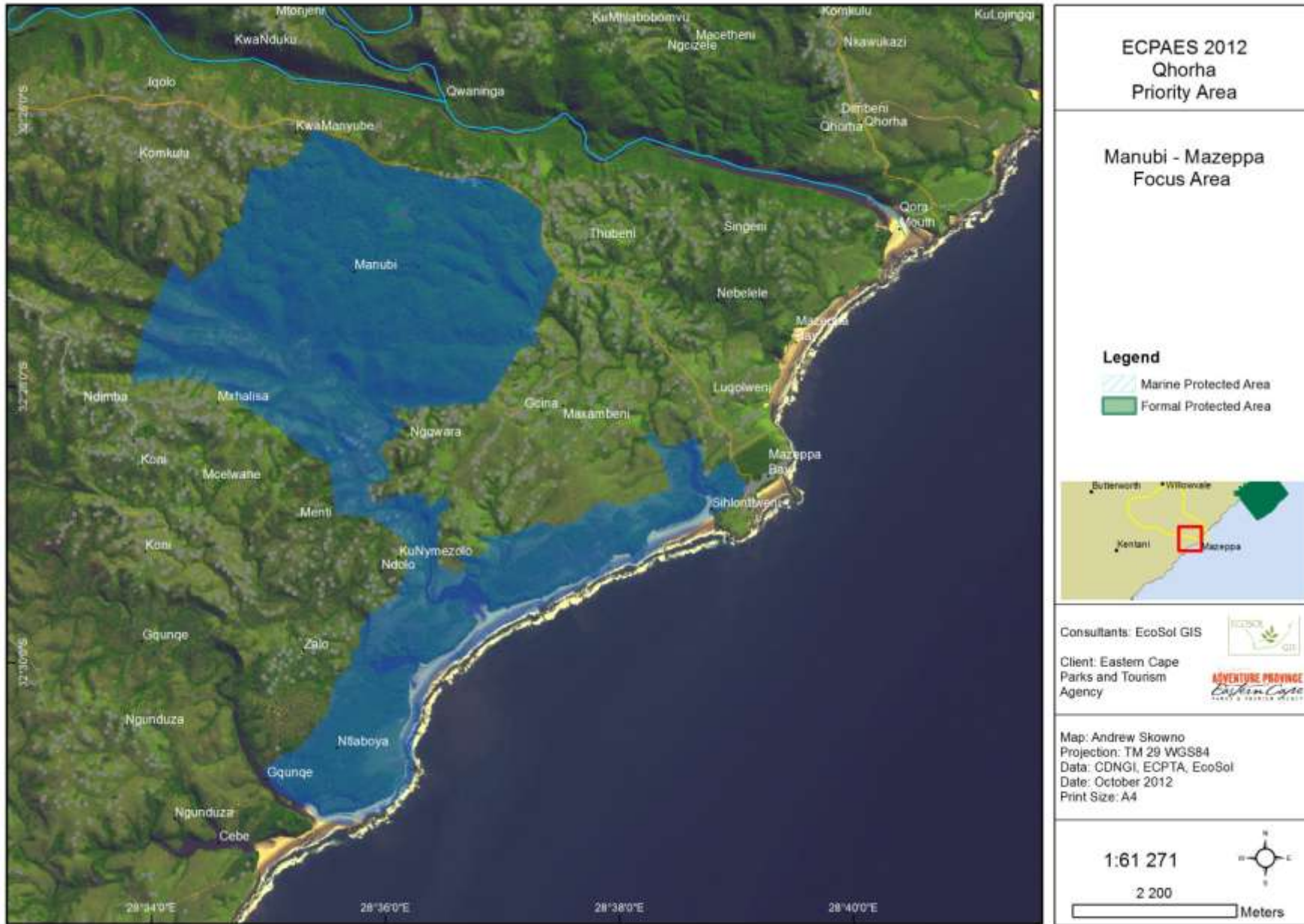


Figure 33: Manubi - Mazeppa Focus Area within the ECPAES Qhorha Priority Area

Table 29: High Precedence Focus Area MPOFU-FORT FORDYCE-KATBERG; Priority Area KATBERG AMATHOLE

Priority Area: KATBERG-AMATHOLE	
High Precedence: MPOFU-FORT FORDYCE-KATBERG CONSOLIDATION	
Proposed extent:	~25 312 ha
Land tenure:	Privately owned farms; communal land (possibly including commonage area); state land vested in DAFF and managed as indigenous state forest; state land vested in DAFF and managed as nature reserve; ECPTA-owned land.
Current status/use:	<i>Privately owned land:</i> game farming, commercial agriculture; commercial livestock farming; residential; earth dams. <i>Communal land:</i> livestock grazing/browsing; homesteads; subsistence farming; earth dams. <i>DAFF-managed state forest:</i> commercial plantations; indigenous state forests. <i>ECPTA-managed state forest (Fort Fordyce)</i> managed as <i>de facto</i> (unproclaimed) provincial protected area. <i>ECPTA-managed state land</i> (proclaimed Mpofu Nature Reserve and adjacent, acquired farms) – managed as provincial protected area.
Current progress in expansion:	ECPTA acquired key properties adjacent to Mpofu Nature Reserve. ~ Preliminary discussions held with individual landowners located between Mpofu and Fort Fordyce. Some landowners have expressed an in principle interest in stewardship options. ~ Land swap of state-owned 'Bosnek' for critical privately-owned land identified as an expansion option for further investigation. ~ DAFF in process of assigning selected state forests (incl. Fort Fordyce) to the management authority of DEDEAT/ECPTA. ~ Expanded Public Works funding available to fence rationalised boundaries/ Mpofu-Fort Fordyce corridor area.
Target PA:	Nature Reserve - Fort Fordyce; ECPTA-owned land); key private and/or communal properties (stewardship PA management agreement). Forest Nature Reserve or Nature Reserve – Indigenous state forest (Katberg state forest) Protected Environment – areas not designated as Forest Nature Reserve or Nature Reserve
Expansion strategy/ approach:	(i) Assignment of Mpofu and Fort Fordyce to DEDEAT/ECPTA (ii) Negotiation of biodiversity stewardship agreements (iii) Negotiation of land swap (Bosnek outspan) arrangements (iv) DAFF to proclaim indigenous state forests as Forest Nature Reserve (v) ECPTA to proclaim land currently managed as a <i>de facto</i> provincial protected area as Nature Reserve (vi) Negotiation of a formal co-management / stewardship agreement between ECPTA and the communal landowners to proclaim and manage a PA
Lead agency:	ECPTA
Key stakeholders:	Private landowners; Communal landowners; DRDLR; Provincial DPW
Key actions:	(i) Secure the assignment of Fort Fordyce state forest and Mpofu to DEDEAT/ECPTA (ii) Formalise the proclamation of Fort Fordyce and Mpofu (including the additionally acquired land) as a consolidated Nature Reserve (name still to be confirmed) (iii) Profile the landowners, communities, public institutions and other organisations within targeted area (iv) Identify, ground-truth, demarcate, map and prioritise the areas targeted for possible designation as biodiversity stewardship sites (v) Initiate discussions with affected landowners, communities and land managers about options for designation of priority areas as Nature Reserve or Protected Environment (biodiversity stewardship agreement; land swap; land acquisition; co-management agreement) (vi) Initiate discussions with DAFF about designation of indigenous state forests as Forest Nature Reserve or as part of a consolidated Nature Reserve (vii) Conclude biodiversity stewardship agreements & conclude proclamations of indigenous state forests under the management authority of DAFF
Key staff (ECPTA):	PA expansion support unit (; relevant Ecologist; Regional Manager (Central); Reserve Manager (Mpofu-Fort Fordyce)
Performance target/s:	Proclamation of all areas managed as <i>de facto</i> provincial protected area; At least two formal biodiversity stewardship agreements concluded for key properties linking Mpofu and Fort Fordyce; Documented community agreement/resolution to proclaim a Nature Reserve or Protected Environment on communal land; DAFF proclamation of indigenous state forests as formal protected area.

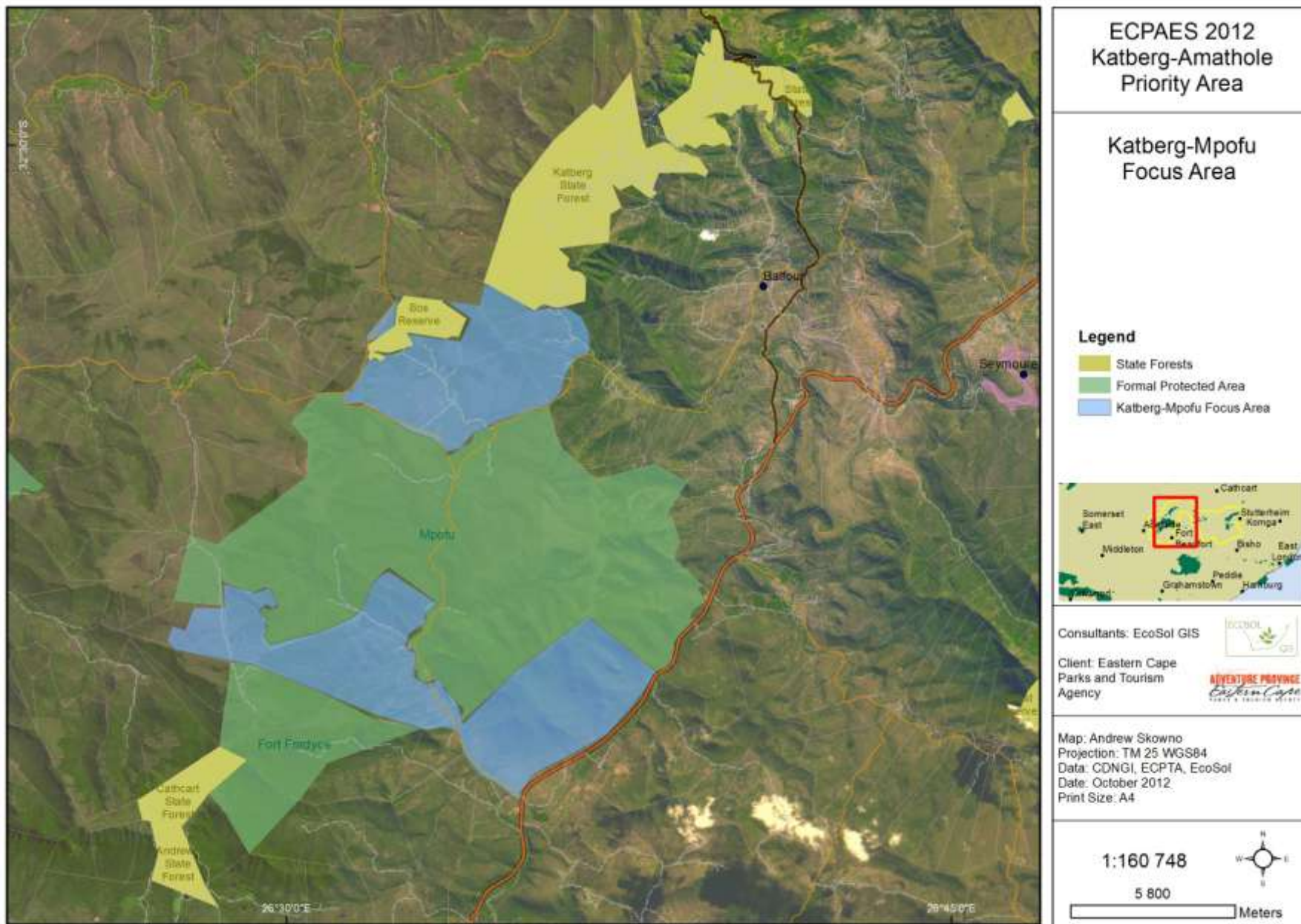


Figure 34: Katberg-Mpofu-Fort Fordyce Focus Area, part of the ECPAES Katberg - Amathole Priority Area

Table 30: High Precedence Focal Area PROCLAMATION OF 8 COASTAL STATE FORESTS; Priority Area EAST LONDON COAST & SUNSHINE COAST

Priority Area: EAST LONDON COAST & SUNSHINE COAST			
High Precedence: UNPROCLAIMED ECPTA-MANAGED STATE FORESTS			
Proposed extent:	Listed from West to East: 3542 ha total extent:		
	State Forest	Ha	State Forest
	1.Sunshine Coast	760	5.Cove Rock
	2.Hamburg	1 467	6.Chintsa (East and West)
	3.Tylomnqa	101	7.Double Mouth
	4.Christmas Vale	328	8.Cape Morgan
Land tenure:	<i>Unallocated state land; State-owned land allocated to DAFF:</i> designated as State Forest		
Current status/use:	All properties are managed as part of the consolidated, but un-proclaimed 'East London Coast Nature Reserve' (ELCNR), under the management authority of ECPTA. A number of state forests within the ELCNR are already formally proclaimed as individual protected areas (i.e. Umtiza, Fort Pato, Gulu, Cape Henderson, Kwelera). The properties listed above are however not proclaimed. Encroachments into the properties include: road reserves; municipal infrastructure (e.g. water treatment plants, ablution facilities); and private residences (buildings and gardens). The properties are primarily used for recreational purposes (e.g. hiking, picnic). ECPTA administered campsite at Double Mouth.		
Current progress in expansion:	<i>State-owned land vested in DAFF:</i> DAFF in process of assigning selected state forests (including all the properties in the ELCNR) to the management authority of DEDEAT/ECPTA. Reserve management currently re-locating and demarcating all existing survey beacons. <i>Unallocated state land:</i> Provincial DPW in the process of identifying, surveying and allocating (or disposing of) unallocated state land.		
Target PA:	Nature Reserve		
Expansion strategy/ approach:	<i>DAFF-allocated land:</i> i. DAFF to assign state forests to DEDEAT/ECPTA ii. ECPTA to proclaim assigned areas as part of a consolidated Nature Reserve (name to be determined) <i>Unallocated state land:</i> iii. DPW to allocate state land to DEDEAT/ECPTA iv. ECPTA to proclaim vested areas as part of a consolidated Nature Reserve		
Lead agency:	ECPTA, Provincial DPW		
Key stakeholders:	Deeds Office; DEDEAT; Local and District municipalities; and individuals and organisations encroaching onto properties		
Key actions:	i. Collate all documented diagrams and ownership information and assignment / allocation status for all the individual portions (by farm/farm portion number and by SG code) ii. Identify unallocated state and municipal land that would make a valuable contribution to consolidating the East London Coast Nature Reserve iii. Ground-truth all individual portions, and map all encroachments iv. As required, re-survey and re-register portions that are not yet registered with the national title deeds office (a preliminary estimate of 19 portions) v. As required, re-survey and re-register portions where the property boundaries may encroach onto other developments and infrastructure vi. Locate and ensure the demarcation of all the survey beacons for the perimeter boundaries of the properties vii. Collate information on additional coastal state land that could be incorporated into a rationalised, consolidated coastal protected area viii. Secure the assignment or allocation of all properties to DEDEAT/ECPTA ix. Formalise the proclamation of all individual properties as a consolidated Nature Reserve (name still to be confirmed). This may require the concurrent de-proclamation of the current individual protected areas making up ELCNR.		
Key staff (ECPTA):	PA expansion support unit (state land); relevant Ecologist; Regional Manager (Central); Reserve Manager (ELCNR)		
Performance target/s:	Formal proclamation of all properties as part of a single consolidated and rationalised Nature Reserve		



Figure 35: Sunshine Coast Focus Area, part of the ECPAES Sunshine Coast to East London Coast Priority Area

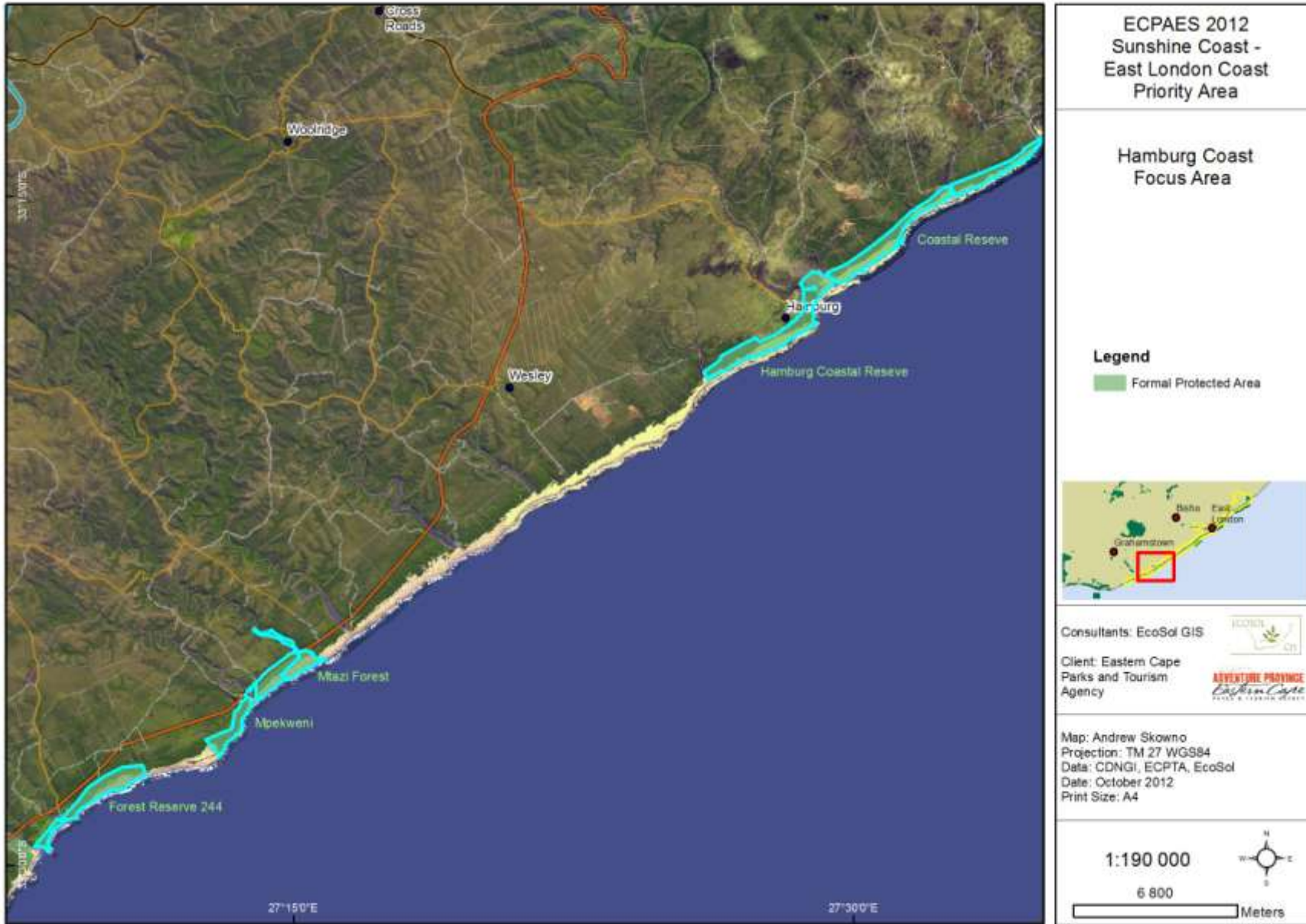


Figure 36 : Hamburg Coast Focus Area, part of the ECPAES Sunshine Coast to East London Coast Priority Area



Figure 37: Tylomnqa Focus Area, part of the ECPAES Sunshine Coast to East London Coast Priority Area

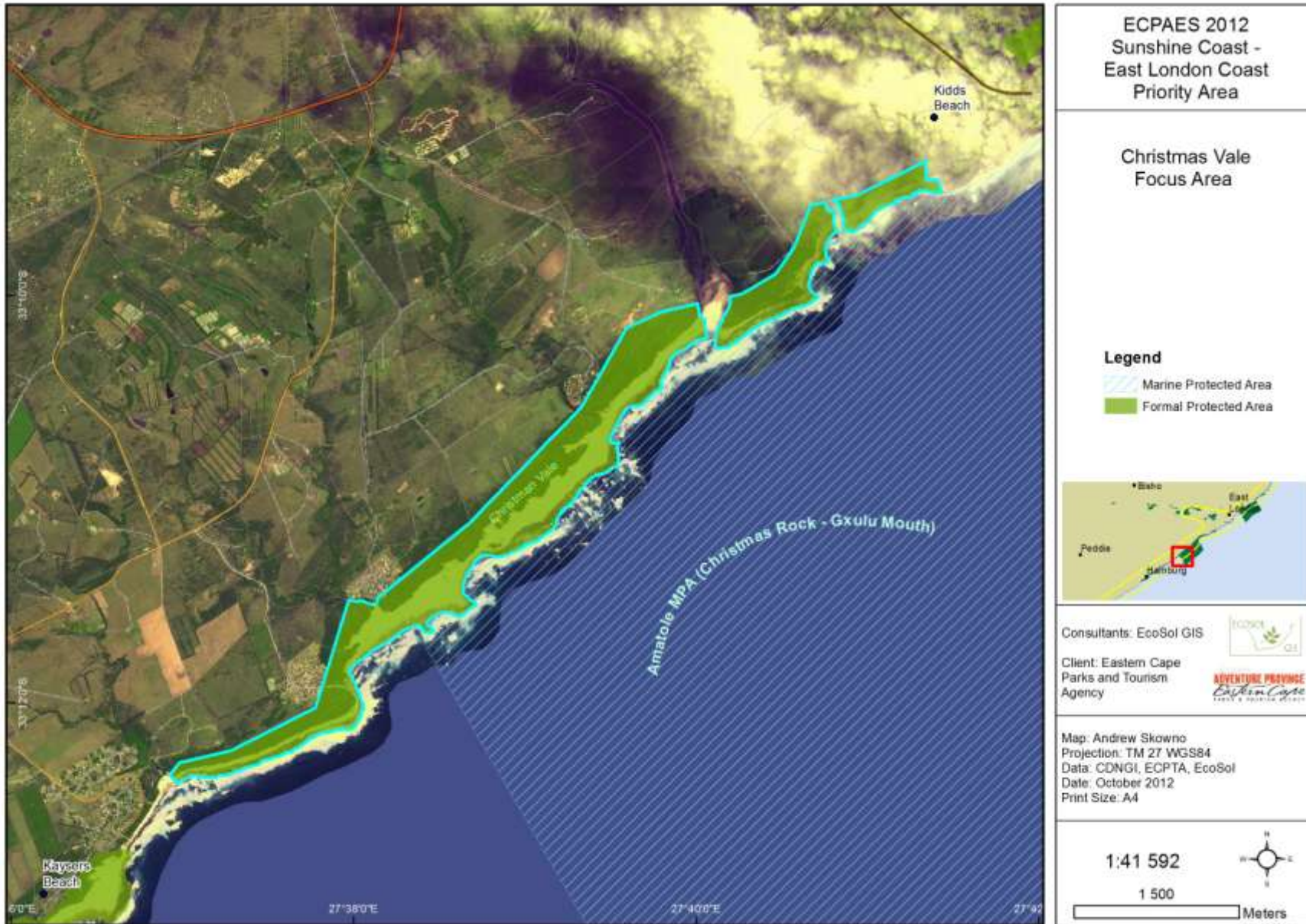


Figure 38: Christmas Vale Focus Area, part of the ECPAES Sunshine Coast to East London Coast Priority Area



Figure 39: Cove Rock Focus Area, part of the ECPAES Sunshine Coast to East London Coast Priority Area

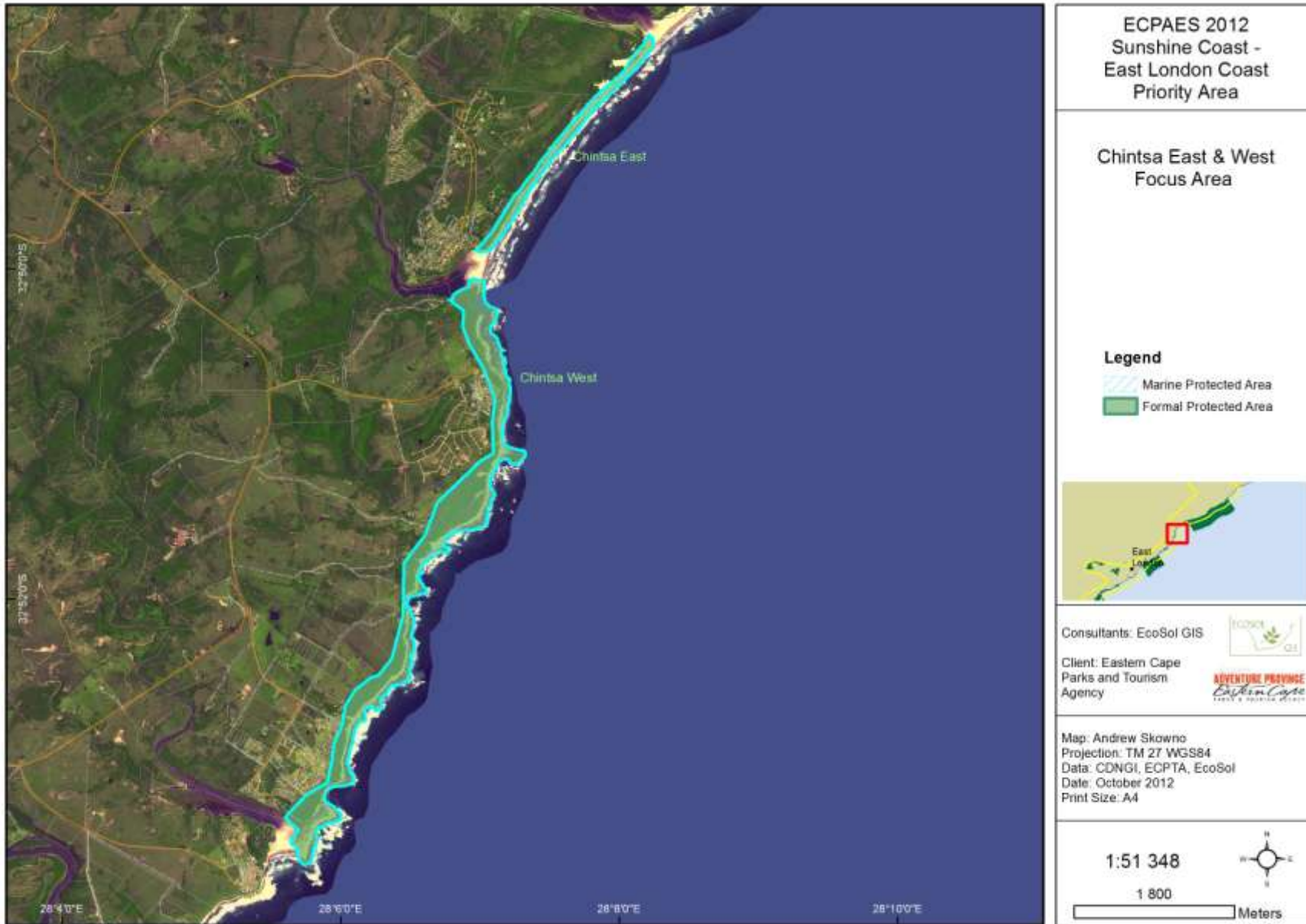


Figure 40: Chintsa Focus Area, part of the ECPAES Sunshine Coast to East London Coast Priority Area



Figure 42: Cape Morgan Focus Area, part of the ECPAES Sunshine Coast to East London Coast Priority Area

Table 31: High Precedence Focal Area WESTERN BAVIAANSKLOOF INHOLDING; Priority Area GREATER BAVIAANSKLOOF

Priority Area: GREATER BAVIAANSKLOOF	
High Precedence: WESTERN BAVIAANSKLOOF INHOLDING	
Proposed extent:	~ 44 000 ha : Biodiversity Agreement & Conservancy (Phase 1) - preliminary steps which are not considered PA expansion & 5 000 - 15 000 ha Protected Environment or Nature Reserve Proclamation (Phase 2)
Land tenure:	Private land belonging to 26 land owners, of which 3 are community owned and have been included as part of initial actions
Current status/use:	Some commercial grazing land with limited irrigated cultivation along river. High proportion of area is largely natural due to inaccessibility. Most land owners have some existing tourism operations and plans.
Current progress in expansion:	ECPTA Stewardship programme focus area; Conservancy formed and biodiversity agreement ready for final approval by legal advisor
Target PA:	Protected Environment and or Nature Reserve
Expansion strategy/ approach:	Phased biodiversity stewardship approach using a collective biodiversity agreement, protected environment proclamation and/or nature reserve proclamation
Lead agency:	ECPTA
Key stakeholders:	–Baviaanskloof Hartland Landowners Association, Baviaanskloof Municipality
Key actions:	<ul style="list-style-type: none"> iii. Finalise Biodiversity Agreement and Protected Area Management Plan iv. Develop AOPs and audit these v. Proclaim Protected Environment and / or Nature Reserve
Key responsible staff (ECPTA):	Stewardship unit, Regional Ecologist, Reserve Manager (Baviaanskloof World Heritage Site), Regional Manager (Western).
Performance target/s:	i. Protected Environment Proclamation for 5 000-15 000 ha of the western Baviaanskloof

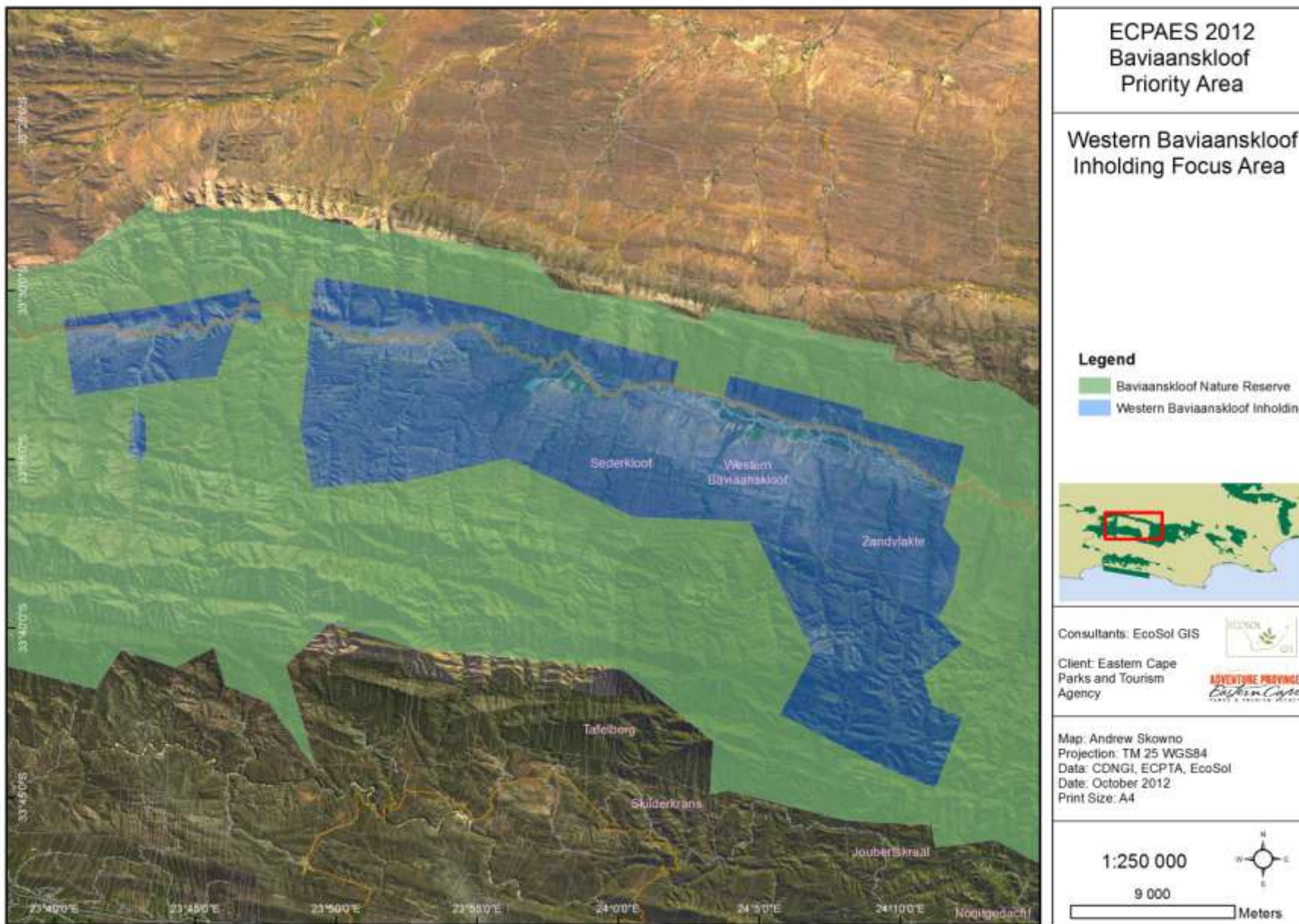


Figure 43: Western Baviaanskloof Inholding Focus Area, part of the ECPAES Greater Baviaanskloof Priority Area

Table 32: Low Precedence Focal Area LANGKLOOF - KOUGA; Priority Area GREATER BAVIAANSKLOOF

Priority Area: GREATER BAVIAANSKLOOF	
Low Precedence: LANGKLOOF - KOUGA	
Proposed extent:	~ 9 000 ha Protected Environment proclamation
Land tenure:	Private land - one landowner
Current status/use:	Some commercial grazing land. High proportion of area is natural due to inaccessibility. Some tourism operations in place.
Current progress in expansion:	Stewardship programme focus area for Eden 2 Addo initiative; Protected Area Management Plan development in progress
Target PA:	Protected Environment or Nature Reserve
Expansion strategy/ approach:	Stewardship approach using Protected Environment proclamation or Nature Reserve proclamation
Lead agency:	Eden 2 Addo
Key stakeholders:	Eden 2 Addo, ECPTA, Land Owner
Key actions:	<ul style="list-style-type: none"> • Finalise MOU between Eden to Addo initiative and ECPTA • Provide support to Eden to Addo for development of Protected Area Management Plan • Provide support to Eden to Addo for development of Annual Operational Plans and audit implementation • Proclaim Protected Environment / or Nature Reserve
Key responsible staff (ECPTA):	Stewardship unit and Regional Ecologist
Performance target/s:	Protected Environment or Nature Reserve proclamation for ~ 4 000 ha of the Langkloof- Kouga section of the Baviaanskloof World Heritage Site.

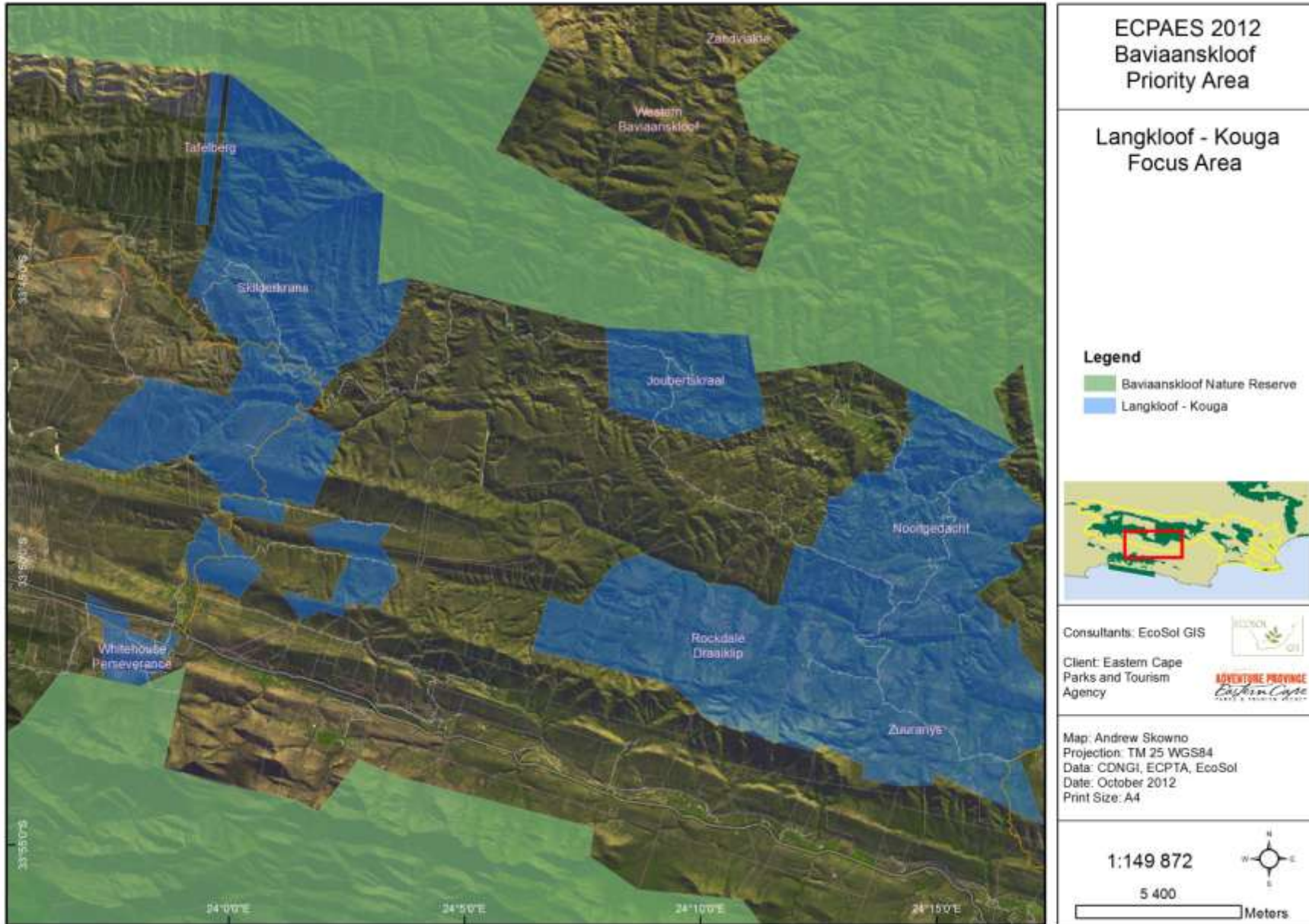


Figure 44: Langkloof-Kouga Focus Area, part of the ECPAES Greater Baviaanskloof Priority Area

Table 33: Medium Precedence Focal Area LOERIE DAM- GAMTOOS MOUTH-KABELJOUS; Priority Area GREATER BAVIAANSKLOOF

Priority Area: GREATER BAVIAANSKLOOF	
Medium Precedence: LOERIE DAM- GAMTOOS MOUTH-KABELJOUS	
Proposed extent:	~ 3000 ha Protected Environment
Land tenure:	Privately owned land between Loerie Dam - Gamtoos Mouth and Kabeljous River, linking 3 Nature Reserves
Current status/use:	Some undeveloped land along the coast (Papiesfontein) and on the steep slopes on eastern side of Gamtoos Valley otherwise dairy areas on flood plain and occasional poultry farm.
Current progress in expansion:	Limited current or historical action. Area highlighted as a priority in the Baviaanskloof Mega Reserve Project.
Target PA:	Protected Environment
Expansion strategy/ approach:	Opportunistic stewardship activities
Lead agency:	ECPTA
Key stakeholders:	Kouga Local Municipality, Private Landowners, DEDEAT.
Key actions:	Engage opportunistically with key landowners
Key responsible staff ECPTA):	Stewardship unit, Regional Manager West.
Performance target/s:	Identify willing landowners in the corridor and investigate opportunities at Papiesfontein in particular.

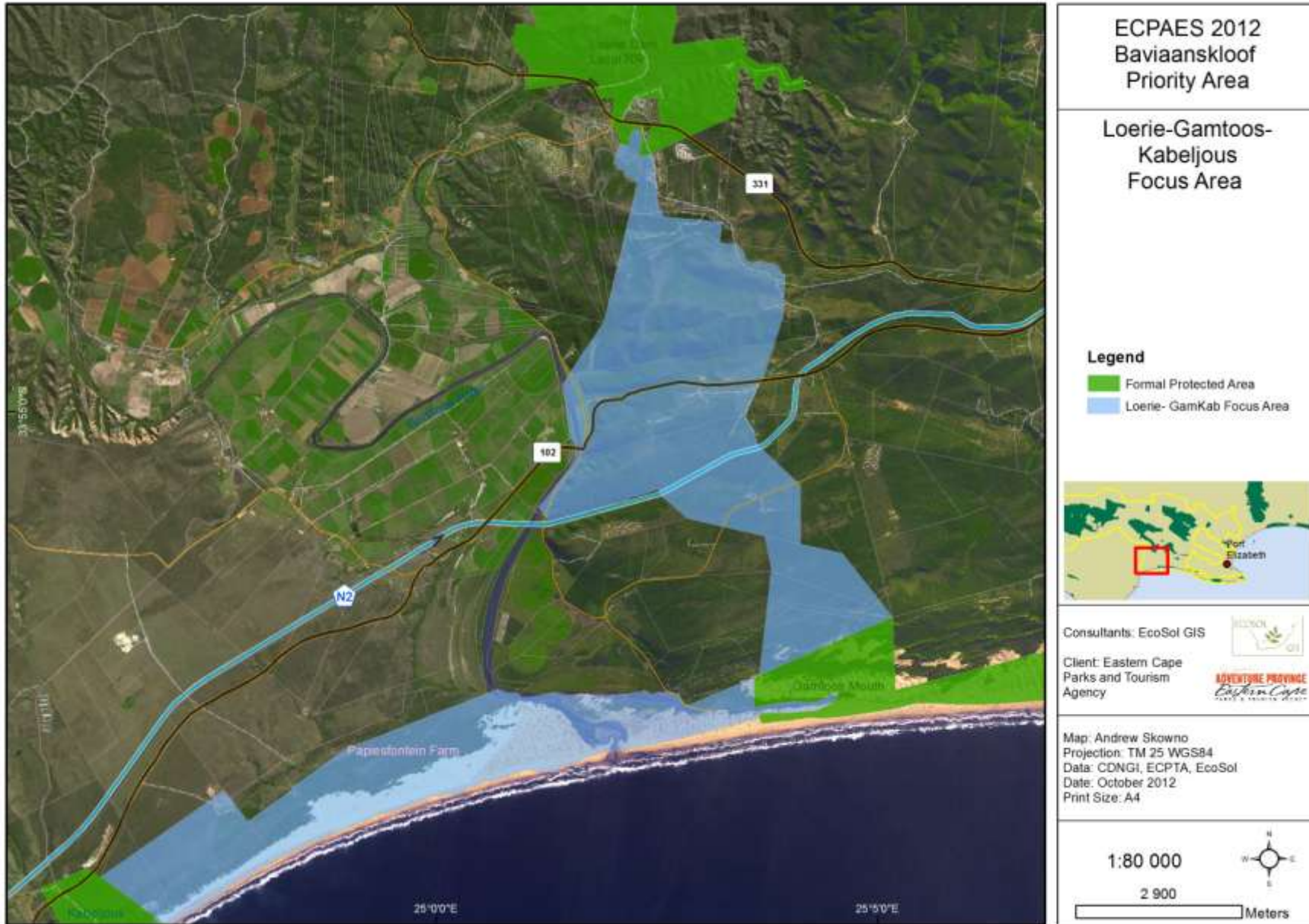


Figure 45: Loerie Dam - Gamtoos Mouth - Kabeljous Focus Area, part of the ECPAES Greater Baviaanskloof Priority Area

Table 34: Low Precedence Focal Area HOPEWELL; Priority Area GREATER BAVIAANSKLOOF

Priority Area: GREATER BAVIAANSKLOOF	
Low Precedence: HOPEWELL	
Proposed extent:	~3 700 ha
Land tenure:	Private land neighbouring NMBM reserve (Van der Kemp's Kloof), church owned land and private land.
Current status/use:	Private nature conservation and housing estate, neighbouring nature conservation area, surrounded by some agriculture, quarry, township, housing and open space.
Current progress in expansion:	ECPTA & NMBM and have initiated some stewardship activities aimed at proclamation of protected environment or nature reserve
Target PA:	Protected Environment
Expansion strategy/ approach:	ECPTA led biodiversity stewardship resulting in a Nature Reserve proclamation; facilitate municipality's stewardship activities
Lead agency:	ECPTA/Metro
Key stakeholders:	Metro, Land owners
Key actions:	<ul style="list-style-type: none"> • Develop an MOU with Metro regarding stewardship activities • Review the Protected Area Management Plan • Facilitate development of Annual Operational Plans • Facilitate the proclamation of a Nature Reserve
Key responsible staff ECPTA):	Stewardship unit
Performance target/s:	<ul style="list-style-type: none"> • MOU with Metro regarding Stewardship signed; • Proclamation of the Hopewell Nature Reserve

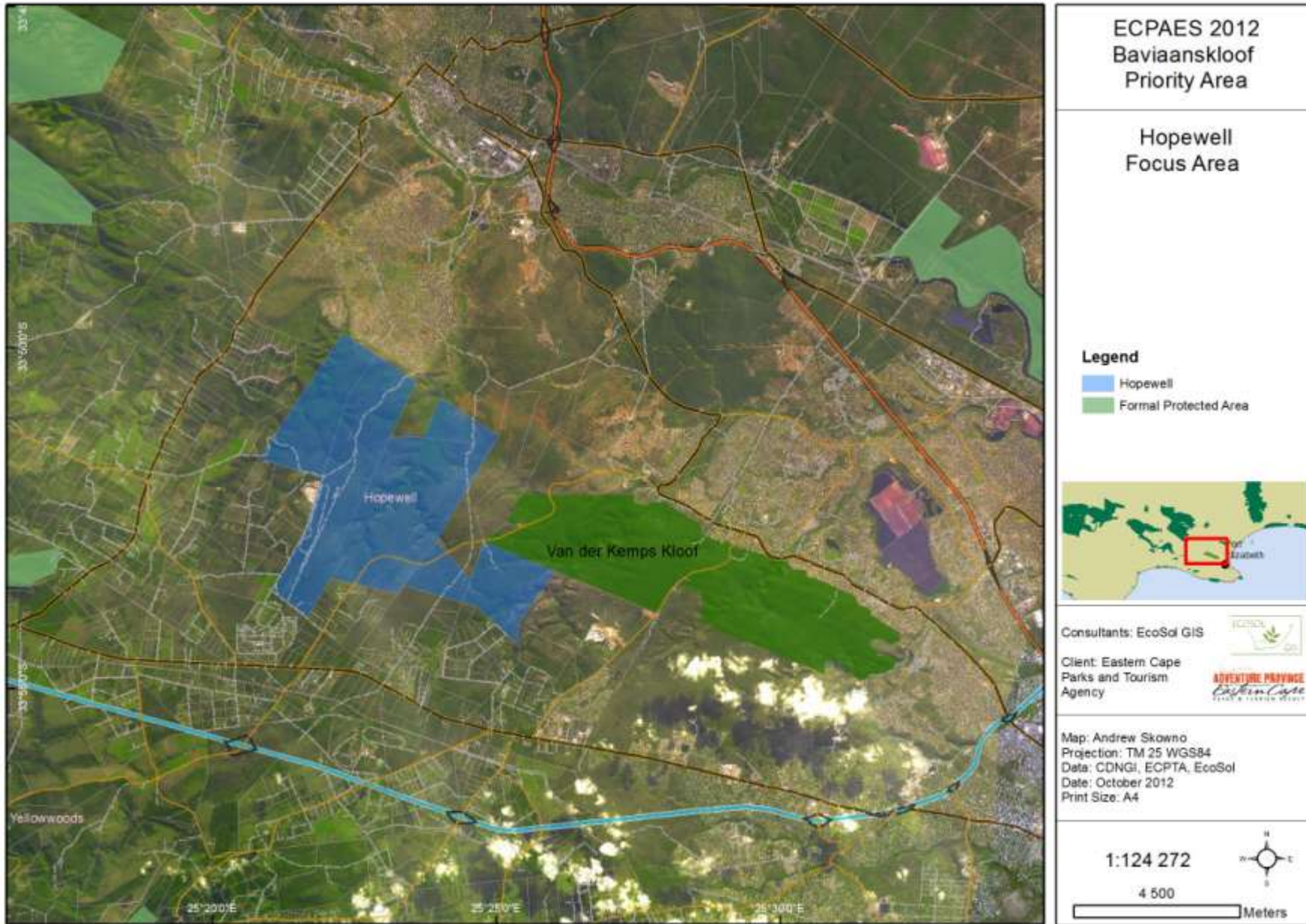


Figure 46 Hopewell Focus Area, part of the ECPAES Greater Baviaanskloof Priority Area

Table 35: Low Precedence Focal Area YELLOWWOODS; Priority area GREATER BAVIAANSKLOOF

Priority Area: GREATER BAVIAANSKLOOF	
Low Precedence: YELLOWWOODS	
Proposed extent:	~5 000 ha
Land tenure:	Private land neighbouring NMBM reserve (Van Stadens Wild Flower Reserve) and Kouga Municipality reserve (Gamtoos Mouth) on coast.
Current status/use:	Private nature conservation, agriculture, housing and open space.
Current progress in expansion:	ECPTA has facilitated NMBM stewardship activities aimed at proclamation of protected environment
Target PA:	Nature Reserve
Expansion strategy/ approach:	Stewardship approach using Nature Reserve proclamation; facilitate NMBM stewardship activities
Lead agency:	NMBM
Key stakeholders:	NMBM, ECPTA, Land owners, neighbours
Key actions:	<ul style="list-style-type: none"> • Develop an MOU with the NMBM regarding stewardship activities • Facilitate declaration of Protected Environment / or Nature Reserves
Key responsible staff ECPTA):	Stewardship unit
Performance target/s:	<ul style="list-style-type: none"> • MOU with Metro regarding biodiversity stewardship signed; • Nature Reserve proclaimed for Yellowwoods

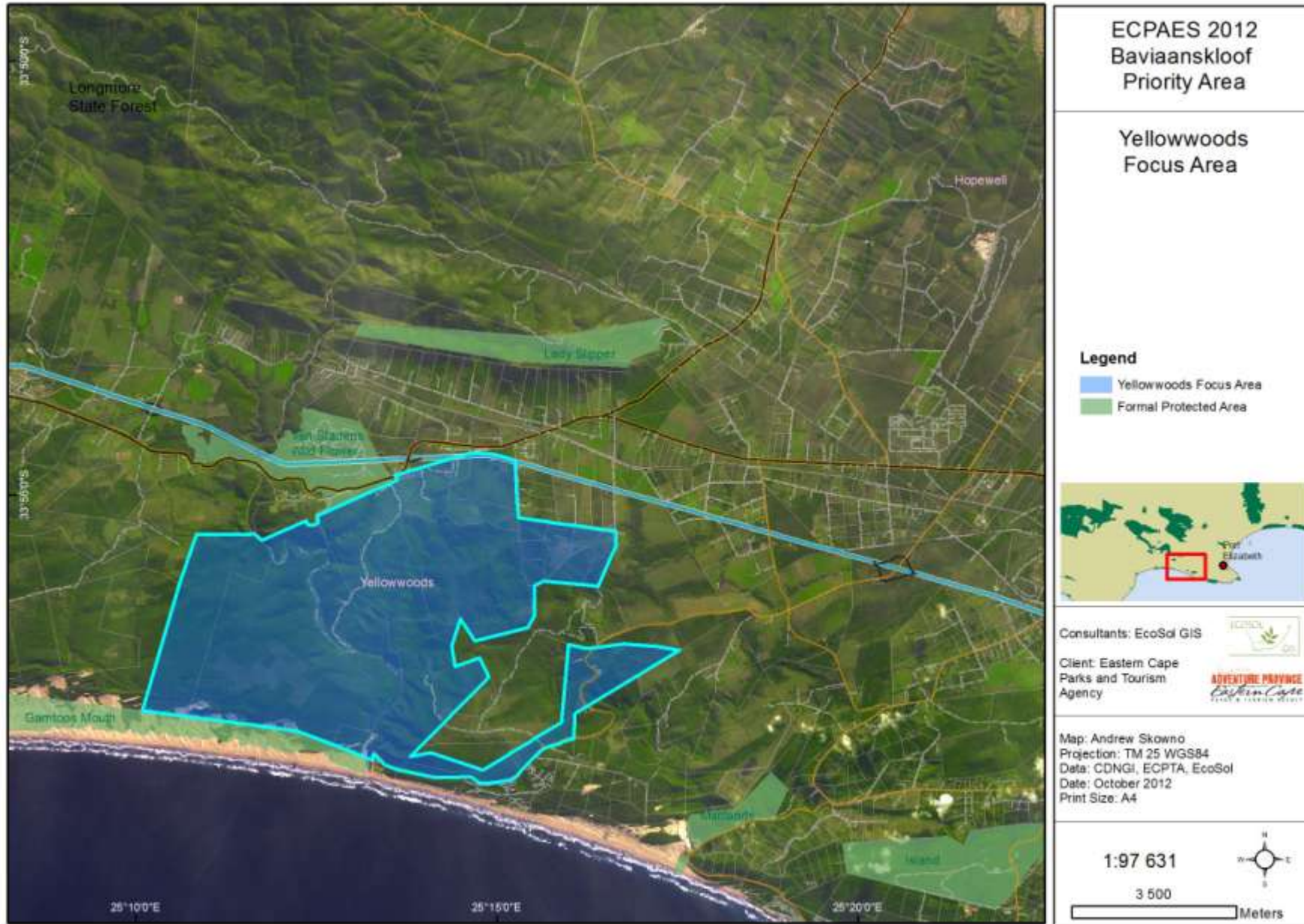


Figure 47: Yellowwoods Focus Area, part of the ECPAES Greater Baviaanskloof Priority Area

Table 36: High Precedence Focal Area CAPE ST FRANCIS; Priority Area ST FRANCIS

Priority Area: ST FRANCIS	
High Precedence: CAPE ST FRANCIS	
Proposed extent:	57 ha of Kouga Municipality nature reserves at Cape St Francis; plus additional private land of unknown extent
Land tenure:	Municipal Land: Proclaimed or un-proclaimed local authority nature reserves (Seal Bay, Seal Point and Irma Booysen) Private Land: Undeveloped land
Current status/use:	Nature Conservation; recreational open space; housing
Current progress in expansion:	Municipal Land : Long term discussions between Kouga Local Municipality and ECPTA , agreement in principal to proclaim the reserves as provincial nature reserves with management ceded to ECPTA Private Land : none
Target PA:	Nature Reserve
Expansion strategy/ approach:	Municipal Land: Transfer of Management Authority and formal Proclamation. Private Land : Proclaim a Protected Environment or Nature Reserve
Lead agency:	ECPTA
Key stakeholders:	FOSTER (Friends of St Francis), Kouga Local Municipality, DEDEAT
Key actions:	<ul style="list-style-type: none"> • Determine appropriate interventions required by ECPTA • Obtain necessary documentation and permissions • Complete necessary conveyencing activities • Proclaim Nature Reserves
Key responsible staff (ECPTA):	Stewardship unit, Regional Manager West
Performance target/s:	Formal Proclamation of Irma Booysen, Seal Bay and Seal Point Provincial Nature Reserves; Proclamation of Cape St Francis Protected Environment.

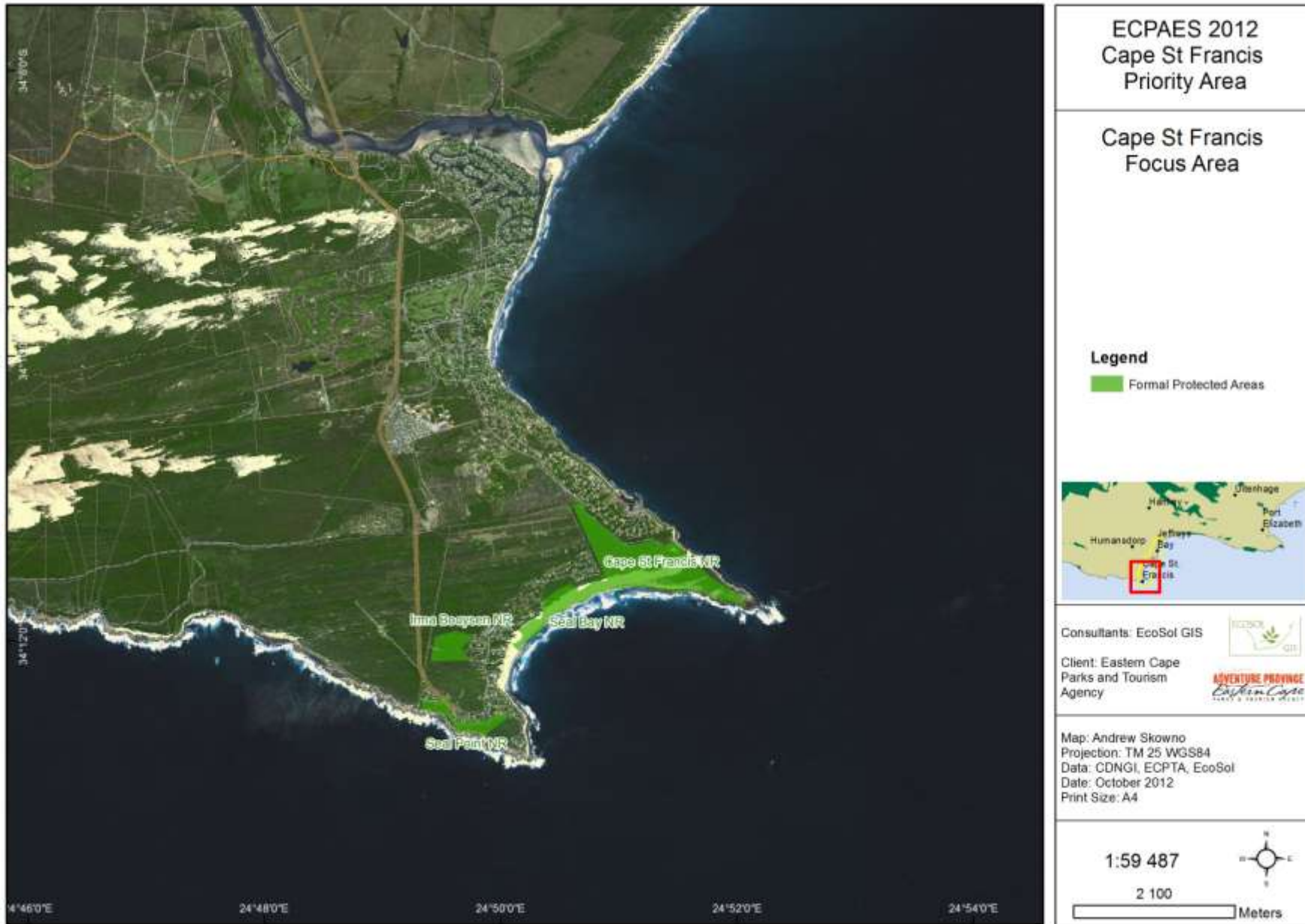


Figure 48: Cape St Francis Focus Area, part of the ECPAES St Francis Priority Area

Table 37: Low Precedence Focal Area COMPASSBERG; Priority Area COMPASSBERG

Priority Area: COMPASSBERG	
Low Precedence: COMPASSBERG EXPANSION	
Proposed extent:	Expansion of Protected Environment
Land tenure:	Private owned land in the Compassberg priority area
Current status/use:	Informal nature conservation, livestock farming, game farming and hunting, adventure tourism.
Current progress in expansion:	Compassberg protected environment proclaimed for 42 000ha; Strategic Management Plan in progress.
Target PA:	Protected Environment
Expansion strategy/ approach:	Opportunistic stewardship activities
Lead agency:	Compassberg Protected Environment Landowners association; ECPTA
Key stakeholders:	Compassberg Protected Environment Landowners Association, Camdeboo Municipality
Key actions:	Engage opportunistically with key landowners
Key responsible staff ECPTA):	Stewardship unit
Performance target/s:	Approval of Strategic Management Plan and Protected Area Management Authority; Develop a list of additional willing landowners adjacent to existing Protected Environment

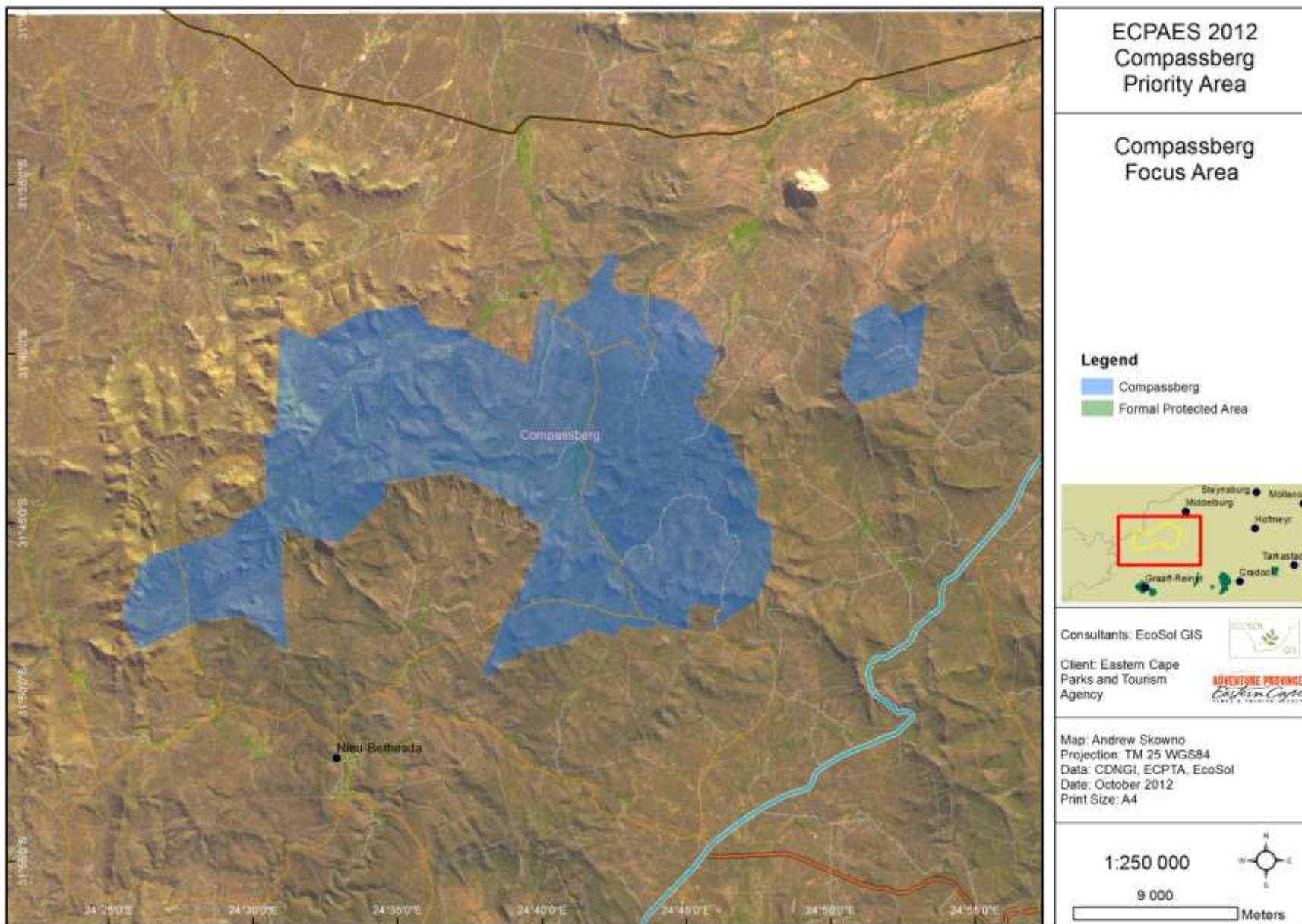


Figure 49: Compassberg Focus Area, part of the ECPAES Compassberg Priority Area

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Consultation summary

Type	Date	Notes
Project initiation meeting	5th July 2012	Port Alfred: ECPTA officials and consultants
ECPAES context strategy and implementation planning workshop	28-29th August 2012	Great Fish Reserve: ECPTA, DEDEA, KZN Wildlife Planner, Wild Coast Planner, and consultants
ECPAES institutional workshop	27th September 2012	East London: ECPTA, DEA, DAFF, DEDEAT, DMR, Eden to Addo, EWT, WWF, WESSA, DPW and consultants
Action Planning interviews	2nd September to 10 October 2012	Interviews with ECPTA officials focussed on implementation activities by ECPTA, Pondoland (JJ), Sunshine Coast (JJ), Katberg -Amathole (JJ), Baviaanskloof (ALS), St Francis (ALS).
Additional Meetings	17th October 2012	Port Elizabeth: Meeting with NMBM
Review of Draft ECPAES	19th November -23rd December 2012	Comments by ECPTA, Derek Berliner, Richard Cowling, Eden to Addo, DEDEAT.

Addendums

8.1 Protected areas in the Eastern Cape & Protected areas managed by ECPTA

Addendum 1a: Eastern Cape Parks and Tourism Agency Protected Areas Estate

Eastern Cape Parks and Tourism Agency Reserve Name	Extent Hectares
Baviaanskloof Nature Reserve (*note 16 066 ha falls outside of the EC, so extent within EC = 186 432 ha)	*202 498
Beggars Bush State Forest	286
Bluebend Nature Reserve	59
Bosnek Outspan	537
Cape Morgan Nature Reserve	479
Chintsa Nature Reserve	211
Commando Drift Nature Reserve	5 746
Cycad Reserve	188
Double Mouth Nature Reserve	199
Dwesa Cwebe Nature Reserve	5 529
East London Coast Nature Reserve	1 172
Formosa Nature Reserve	25 521
Fort Fordyce Nature Reserve	2 433
Fort Pato Nature Reserve	697
Great Fish River Nature Reserve	45 022
Groendal Nature Reserve	29 057
Hamburg Coastal Reserve	1 466
Hluleka Nature Reserve	577
Island Nature Reserve	497
Kap River Reserve	284
Kowie Nature Reserve	150
Kwelera Nature Reserve	205
Luchaba Nature Reserve	350
Malekgonyane Nature Reserve	13 249
Mkhambathi Nature Reserve	7 925
Mpofu Nature Reserve	10 932
Nduli Nature Reserve	168
Oviston Nature Reserve	36 252
Silaka Nature Reserve	400
Stinkhoutberg Nature Reserve	15 931
Sunshine Coast Nature Reserve	1 022
Thomas Baines Nature Reserve	1 040
Tsolwana Nature Reserve	7 796
Umtiza Nature Reserve	806
Waters Meeting Nature Reserve	4 067
Total PA	422 747

ECPTA Marine Protected Area Name	Extent (ha)
Amathole MPA - Christmas Rock to Gxulu Mouth	6 864
Amathole MPA - Nyara Mouth to Great Kei Mouth	13 411
Amathole MPA - Nahoon Point to Gonubie Point	5 787
Dwesa-Cwebe MPA	19 177
Hluleka MPA	4 088
Pondoland MPA	123 829
Total MPA	173 155
ECPTA PA and MPA Grand Total	595 902

Addendum 1b: Protected area management by agencies other than ECPTA in the Eastern Cape Province; reserves and extent²⁵.

Reserve Name	Management Authority	Extent Hectares
Bridle Drift Local Authority Nature Reserve	Buffalo City Metro	503
Gonubie Mouth Bird Sanctuary	Buffalo City Metro	9
King William's Town Local Authority Nature Reserve	Buffalo City Metro	127
Nahoon Local Authority Nature Reserve	Buffalo City Metro	45
Potters Pass Local Authority Nature Reserve	Buffalo City Metro	77
Quenera Local Authority Nature Reserve	Buffalo City Metro	58
	Total - Buffalo City Metro	818
Blaauwkrantz Local Authority Nature Reserve	Cacadu District Municipality	198
Ecca Local Authority Nature Reserve	Cacadu District Municipality	78
Gamtoos River Mouth Local Nature Reserve	Cacadu District Municipality	975
Ghio Wetland Local Authority Nature Reserve	Cacadu District Municipality	62
Great Fish River Wetland Local Authority Nature Reserve	Cacadu District Municipality	211
Huisclip Local Authority Nature Reserve	Cacadu District Municipality	334
Kap River Local Authority Nature Reserve	Cacadu District Municipality	580
Loerie Dam Nature Reserve	Cacadu District Municipality	815
Roundhill Oribi Local Authority Nature Reserve	Cacadu District Municipality	185

²⁵ NOTE: A number of proclaimed protected areas may exist in the Eastern Cape that have not been included in this section, due to the lack of records and an incomplete Protected Area Register for the province. DEDEAT is currently carrying out an assessment of the status and management of such protected areas. These include the following: Auckland Nature Reserve, Alice; Bizana Nature Reserve, Mbizana; Blouberg Protea Nature Reserve, Kareedouw; Buffelspruit Nature Reserve, Aliwal North; Cathcart Nature Reserve; Joan Muirhead Nature Reserve, Kenton; Karingmelkspruit Vulture Nature Reserve, Lady Grey; Koos Ras Nature Reserve, Sterkstroom; Lawrence de Lange Nature Reserve, Queenstown; Longhill Nature Reserve Queenstown; Stutterheim Nature Reserve; Stutterheim Bird Sanctuary; The Mountain Nature Reserve, Burgersdorp.

Eastern Cape Protected Area Expansion Strategy 2012

	Total - Cacadu District Municipality	3 438
Amalinda Treatment Works	DEDEAT	18
Cape St Francis Nature Reserve	DEDEAT	96
Kabeljousriver Nature Reserve	DEDEAT	219
Seekoeirivier Nature Reserve	DEDEAT	112
The Penhurst State Reserve	DEDEAT	7
	Total DEDEAT	452
Addo Elephant National Park	SANParks	171 051
Addo Elephant National Park MPA	SANParks	7 194
Camdeboo National Park	SANParks	19 465
Garden Route National Park	SANParks	27 088
Mountain Zebra National Park	SANParks	26 991
Garden Route National Park MPA	SANParks	2 5711
	Total - SANParks	277 502
Cape Recife Local Authority Nature Reserve	Nelson Mandela Bay Municipality	323
Lady Slipper Local Authority Nature Reserve	Nelson Mandela Bay Municipality	365
Maitland Local Authority Nature Reserve	Nelson Mandela Bay Municipality	132
Sardinia Bay Local Authority Nature Reserve	Nelson Mandela Bay Municipality	225
Settlers Park Local Authority Nature Reserve	Nelson Mandela Bay Municipality	75
Springs Local Authority Nature Reserve	Nelson Mandela Bay Municipality	928
Swartkops Valley Local Authority Nature Reserve	Nelson Mandela Bay Municipality	940
Sylvic Local Authority Nature Reserve	Nelson Mandela Bay Municipality	73
Van Stadens Wild Flower Local Authority Nature Reserve	Nelson Mandela Bay Municipality	412
	Total - NMBM	3 472
Irma Booysen Flora Reservaat Local Authority Nature Reserve	Kouga Local Municipality	16
Noorsekloof Local Authority Nature Reserve	Kouga Local Municipality	30
Seal Bay Local Authority Nature Reserve	Kouga Local Municipality	27
Seal Point Local Authority Nature Reserve	Kouga Local Municipality	16
Yellowwoods Local Authority Nature Reserve	Kouga Local Municipality	26
	Total - Kouga Local Municipality	115
Sardinia Bay MPA	DEA - Oceans and Coasts	1 336
Matatiele Nature Reserve	Matatiele Local Municipality	4 801
Kareedouw Local Authority Nature Reserve	Kou-Kamma Local Municipality	817
Fonteinbos Nature Reserve	Camdeboo Local Municipality	1 577
Quacu Nature Reserve	Amahlathi Local Municipality	456
Bosberg Local Authority Nature Reserve	Blue Crane Route Local Municipality	2 708

Eastern Cape Protected Area Expansion Strategy 2012

Swartberg East Nature Reserve	Western Cape Nature Conservation	5 886
Compassberg Protected Environment	Compassberg PE Landowners Association	40 593

8.2 Descriptions and detailed maps of each identified ECPAES Priority Area

High Priority Expansion Areas - ECPTA Focal Areas	
East London - Sunshine Coast	The Sunshine Coast - East London coast priority area stretches from Kenton-On-Sea to Kei Mouth and includes 200 km of mostly coastal habitats (Albany Dune Strandveld and Albany Coastal Belt) with scattered patches of coastal forest. There are numerous sensitive estuaries and wetland systems in the priority area, though no ecosystems are listed as threatened according to NEM:BA (Figure 50).
Greater Baviaanskloof	The Greater Baviaanskloof priority area is well known for its spectacular habitat diversity, being located at the meeting point of three global biodiversity hotspots, as well as being at the convergence point of 7 of South Africa's vegetation biomes. There are areas of Mountain Fynbos and renosterveld in the west near Willowmore and Joubertina, the central areas of the Baviaanskloof itself are home to subtropical thicket, savanna woodlands, fynbos, grasslands and forest, the northern areas are dominated by Nama and Succulent Karoo vegetation types, and in the east grasslands and grassy Fynbos dominate. Listed threatened ecosystems include: Langkloof Shale Renosterveld (Critically Endangered), Humansdorp Shale Renosterveld (Endangered), Albany Alluvial Vegetation (Vulnerable) and Algoa Sandstone Fynbos (Vulnerable) (Figure 51).
Katberg-Amathole	Steep altitudinal and rainfall gradients characterise this priority area. Mistbelt forests and grasslands dominate the higher altitude montane areas of the Katberg and Amathole mountains (vegetation types include Amathole Mistbelt and Montane Grassland, and Mistbelt Forest). The escarpment areas are dominated by subtropical thicket (Buffels Thicket and Eastern Cape Escarpment Thicket) and the deep river valleys and lower ground in the south is dominated by savanna vegetation (Bisho Thornveld). Eastern Temperate Freshwater Wetlands which occur in the high-lying areas are listed as Vulnerable (NEMBA 2009) (Figure 52).
Pondoland	The coastal portions of the Pondoland priority area are dominated by Indian Ocean coastal belt vegetation (sour grasslands), scarp and coastal forests, with occasional mangrove forests and estuarine areas. The adjacent interior areas are dominated by sub-escarpment savanna vegetation in the river valleys and occasional mist belt forests. Listed threatened ecosystems include: Mangrove Forest (EN), Mt Thesiger Forest Complex (EN), Port Edward Oribi Habitat - Pondoland/Ugu Sourveld (EN), Mthatha Moist Grassland (EN), Ngongoni Veld (VU), Pondoland Scarp Forest (VU) and Transkei Coastal Forest (VU) (Figure 53).
Qhorha Mouth to Manubi	This small priority area links the Manubi forest with the Qhorha river gorge and coast, and the Cebe River and coast. Indigenous coastal forest patches, Indian Ocean coastal belt grasslands and occasional river gorges and estuaries characterise this priority area. Listed threatened habitats include Transkei Coastal Forest (VU) (Figure 54).

<p>St Francis</p>	<p>This small priority area linking Jeffrey's Bay and Cape St Francis is characterised by a temperate coastal environment with fynbos dominated vegetation and large dunes systems, both vegetated and mobile, with a number of large estuaries. There are no NEMBA listed threatened ecosystems but the estuaries and salt marshes are considered sensitive wetland ecosystems (Figure 55).</p>
<p>High priority expansion areas - other agency</p>	
<p>Addo Consolidation</p>	<p>The Addo priority area covers an extensive area and a wide range of habitats representing the fynbos, thicket and Nama-Karoo biomes. This priority area lies in the heart of the Albany Centre of Plant Endemism. The northern areas are dominated by Albany Broken Veld, the southern areas by Sundays Thicket, and the Suurberg Mountains by Shale and Quartzite Fynbos. Albany Alluvial Vegetation is the only listed threatened ecosystem (Vulnerable) (Figure 56).</p>
<p>Mountain Zebra to Camdeboo</p>	<p>The Mountain Zebra-Camdeboo priority area follows the arc of the Sneeuwberg Mountains, a recently described centre of endemism. The high altitude areas are dominated by Karoo Escarpment Grassland, the northern areas by Eastern Upper Karoo, the Southern areas by Camdeboo Escarpment Thicket and the low lying areas are dominated by Southern Karoo Riviere. None of the vegetation types of the region are listed as threatened (Figure 57).</p>
<p>North Eastern Cape Grasslands</p>	<p>The North Eastern Cape Grasslands priority area stretches along the upper escarpment from Lady Grey westwards along the Lesotho border to Qachas Nek, and southwards towards Maclear. This is a high altitude grassland environment dominated by Lesotho Highland Basalt Grassland and Southern Drakensberg Highland Grassland. Neither habitat is listed as threatened as the area is largely untransformed (Figure 58).</p>
<p>Potential priority expansion areas in need of investigation</p>	
<p>Cathcart- Black Kei</p>	<p>The Cathcart-Black Kei priority area lies in the hills to the north of the town of Cathcart and encompasses the upper reaches of the Black Kei River. The River valley is dominated by Eastern Valley Bushveld (a savanna vegetation type) and the hills and mountains by Tsomo Grassland and Amathole Montane Grassland (Figure 59).</p>
<p>Commando Drift to Bedford</p>	<p>The Commando Drift to Bedford priority area stretches south from Tarkastad to Bedford along mountainous terrain. It lies at the meeting point of the Nama Karoo, Grassland and Thicket biomes. The northern areas are dominated by Tarkastad Montane Shrubland and Eastern Upper Karoo, the central areas by Karoo Escarpment Grassland and the southern areas by Great Fish Thicket, Eastern Cape Escarpment Thicket and Amathole Montane Grassland (Figure 60).</p>
<p>Indwe Grasslands</p>	<p>The Indwe Grasslands priority area lies to the north of Indwe in the foothills of the Eastern Cape Drakensberg. This small priority area is dominated by Tsomo Grassland at low altitudes, Southern Drakensberg Highland Grassland at mid altitudes and Lesotho Highland Basalt Grassland at high altitudes (Figure 61).</p>

Matatiele Wetlands	The Matatiele Wetlands priority area stretches from Matatiele to Cedarville and covers the upper Umzimvubu River catchment. The region has extensive wetland systems (Eastern Temperate Freshwater Wetlands) which are listed as Endangered according to NEMBA. The vegetation is dominated by East Griqualand Grassland, Drakensberg Foothill Moist Grassland and Mabela Sandy Grassland (Figure 62).
Mount Ayliff	The Mount Ayliff priority area lies north of Mt Ayliff in the Grassland biome. The vegetation is dominated by East Griqualand Grassland, Drakensberg Foothill Moist Grassland and patches of Southern Mistbelt Forest (Figure 63).
Mount Frere	The Mount Frere priority area lies west of Mt Frere in the Grassland biome. The vegetation is dominated by East Griqualand Grassland, Drakensberg Foothill Moist Grassland and patches of Southern Mistbelt Forest (Figure 64).
Low priority areas	
Compassberg	The Compassberg priority areas lies at the extreme west of the Sneeuwberg Centre of Endemism and is dominated by Upper Karoo Hardeveld, Eastern Upper Karoo and Karoo Escarpment Grassland, none of which are considered threatened (Figure 65).
Dwesa-Cwebe	The coastal portions of the Dwesa-Cwebe priority area are dominated by coastal sour grasslands, large patches of coastal forest and numerous estuarine areas. The interior is dominated by Eastern Valley Bushveld, Bisho Thornveld and small patches of Southern Mistbelt Forest. NEMBA Listed threatened ecosystems include Transkei Coastal Forest (VU) (Figure 66).
Garden Route	This priority area links the Tsitsikamma Mountains and coastal areas of the Garden Route National Park and Formosa Nature Reserve. The area is dominated by alternating bands of sandstone and shale Fynbos vegetation and patches of Afrotemperate forest. River valleys are very steep in this area and estuarine and dune areas are limited in extent. Listed threatened ecosystems include Garden Route Shale Fynbos (EN) and Eastern Coastal Shale Band Vegetation (VU) (Figure 67).
Great Fish	The Great Fish priority area is focussed around the Great Fish River Nature Reserve Complex and is characterised by Bisho Thornveld in the northern portions, Great Fish Thicket in the central portions and Great Fish Noorsveld in the southern portions. None of these habitats is listed as threatened (Figure 68).
Oviston	The Oviston priority area lies in the extreme northern portion of the Eastern Cape where the Orange River and Gariep Dam form the border with the Free State. There is a transition from the Nama Karoo biome (Eastern Cape) to the Grassland (Free State) biome in this area. None of the vegetation types found here (Xhariep Arid Grassland, Besemkaree Koppies Shrubland and Eastern Upper Karoo) are listed as threatened (Figure 69).

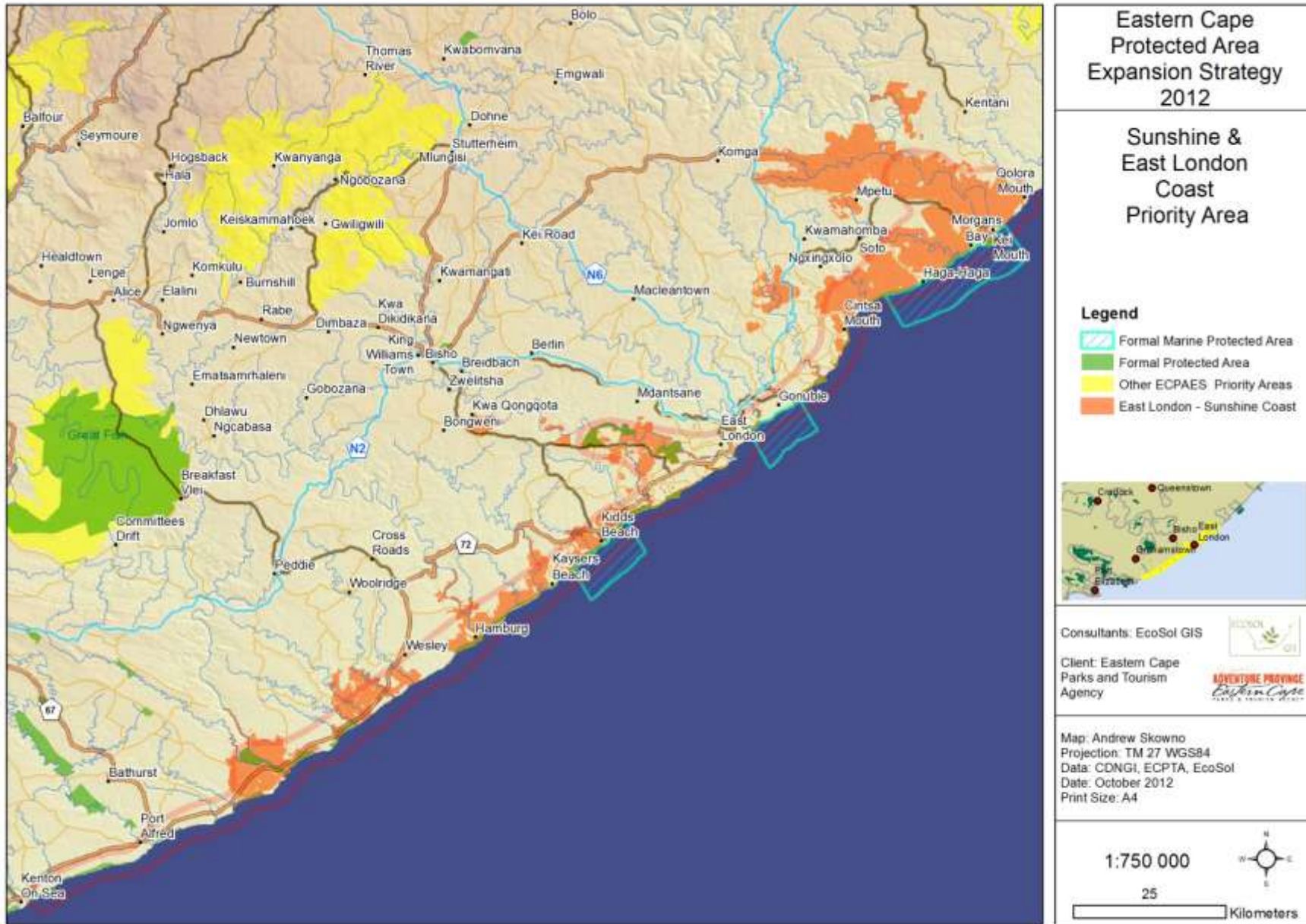


Figure 50: Sunshine Coast to East London Coast ECPAES Priority Area

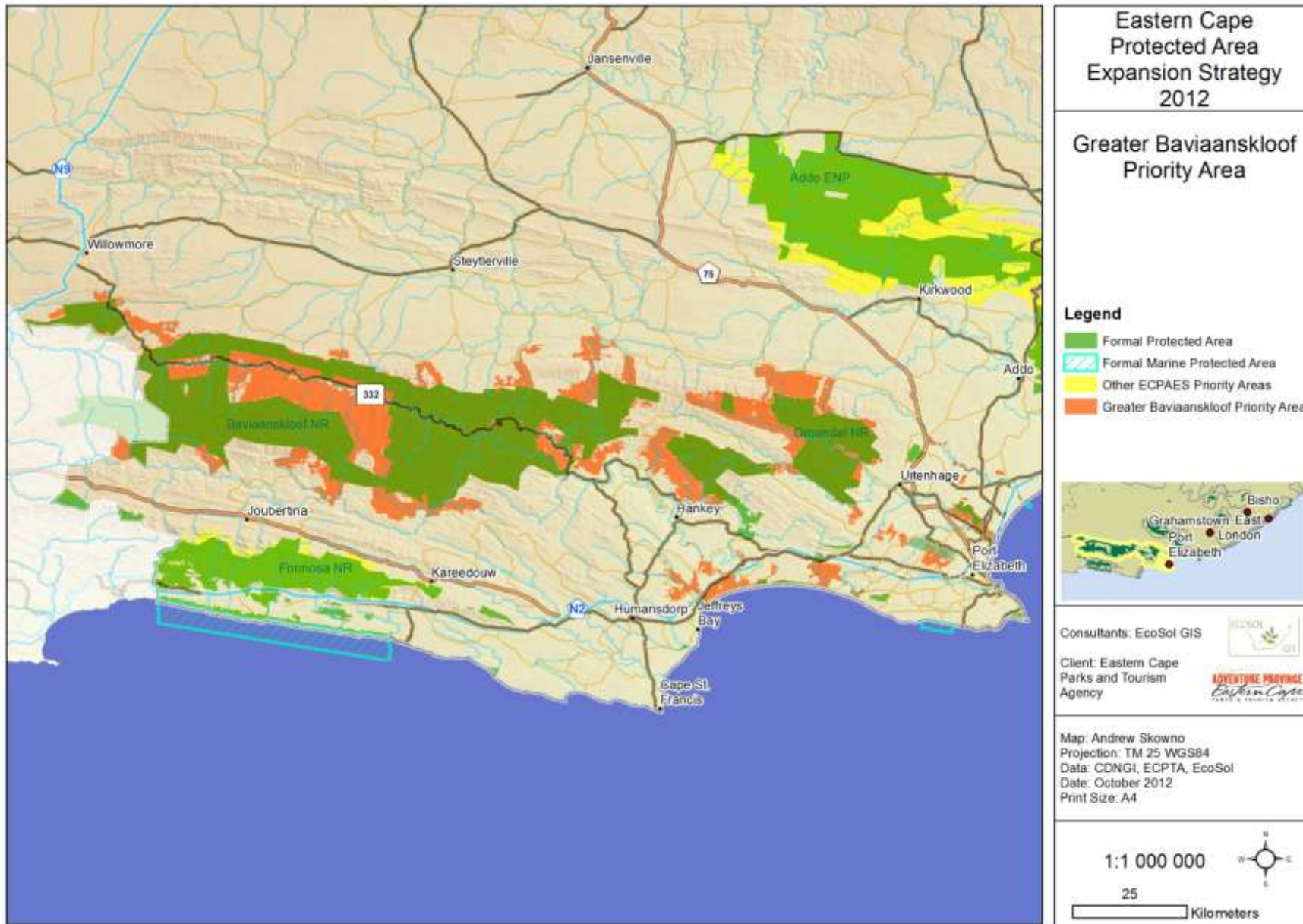


Figure 51: Greater Baviaanskloof ECPAES Priority Area

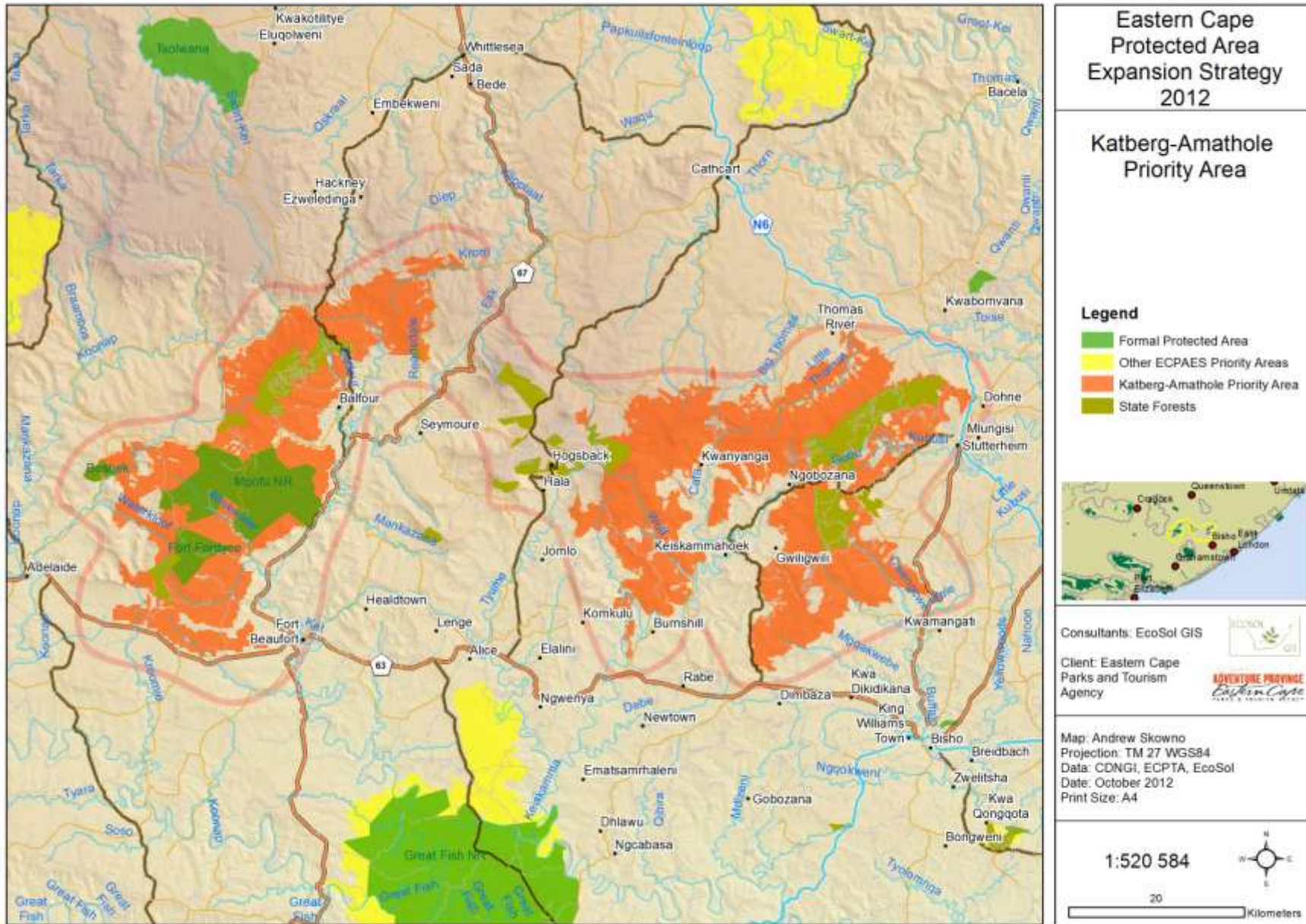


Figure 52: Katberg - Amathole ECPAES Priority Area

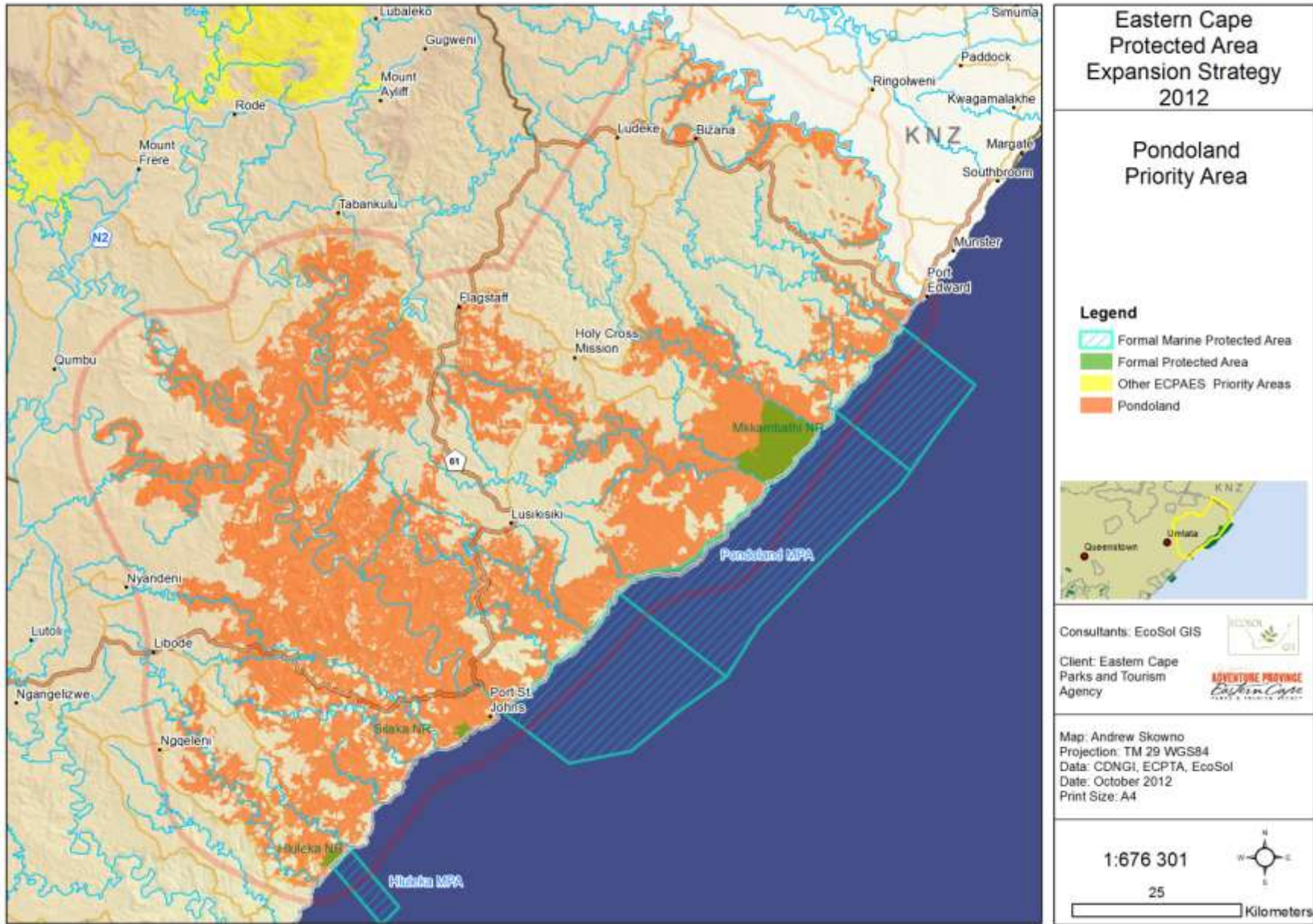


Figure 53: Pondoland ECPAES Priority Area

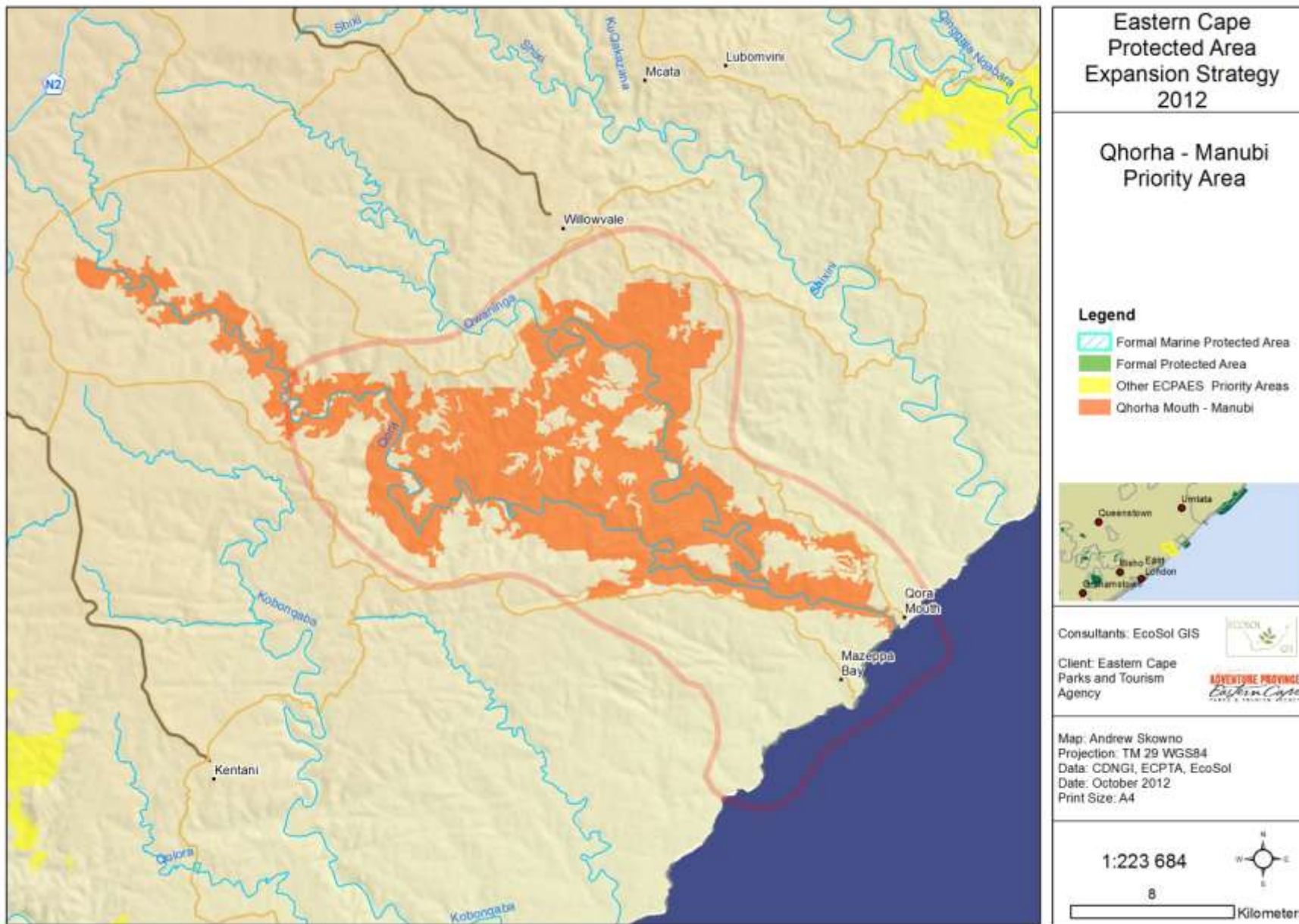


Figure 54: Qhorha to Manubi Priority Area

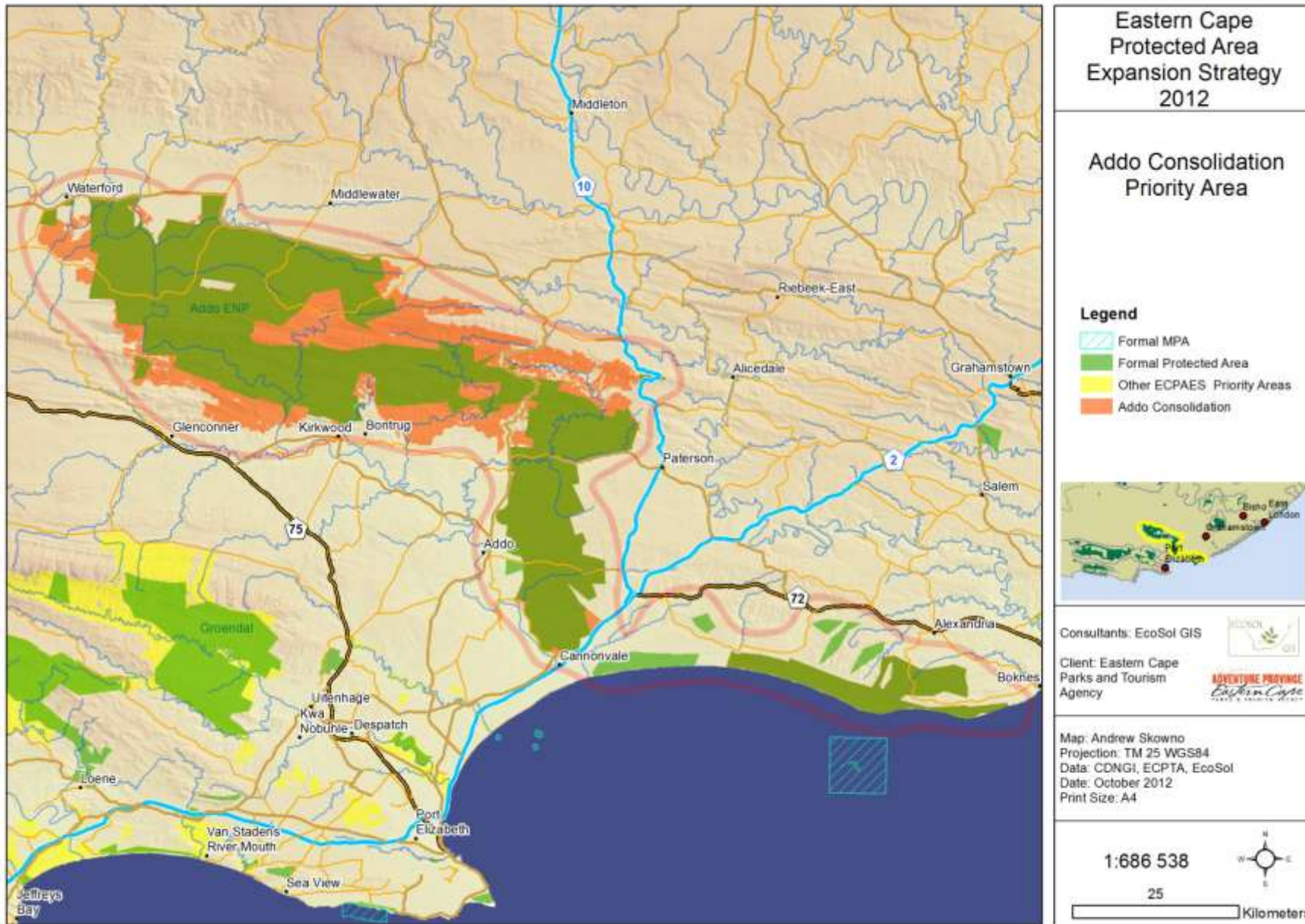


Figure 56: Addo Consolidation ECPAES Priority Area

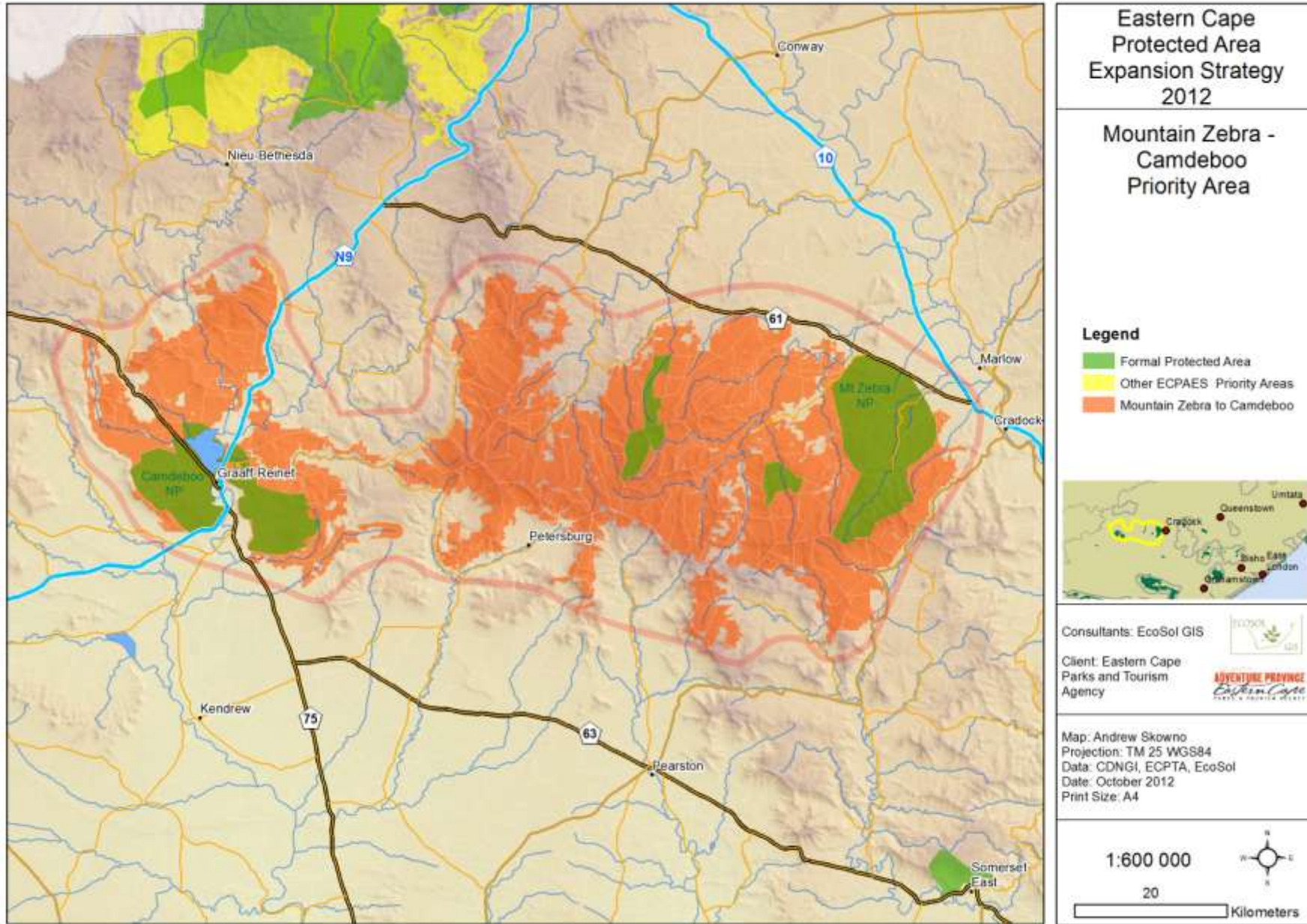


Figure 57: Mountain Zebra to Camdeboo ECPAES Priority Area

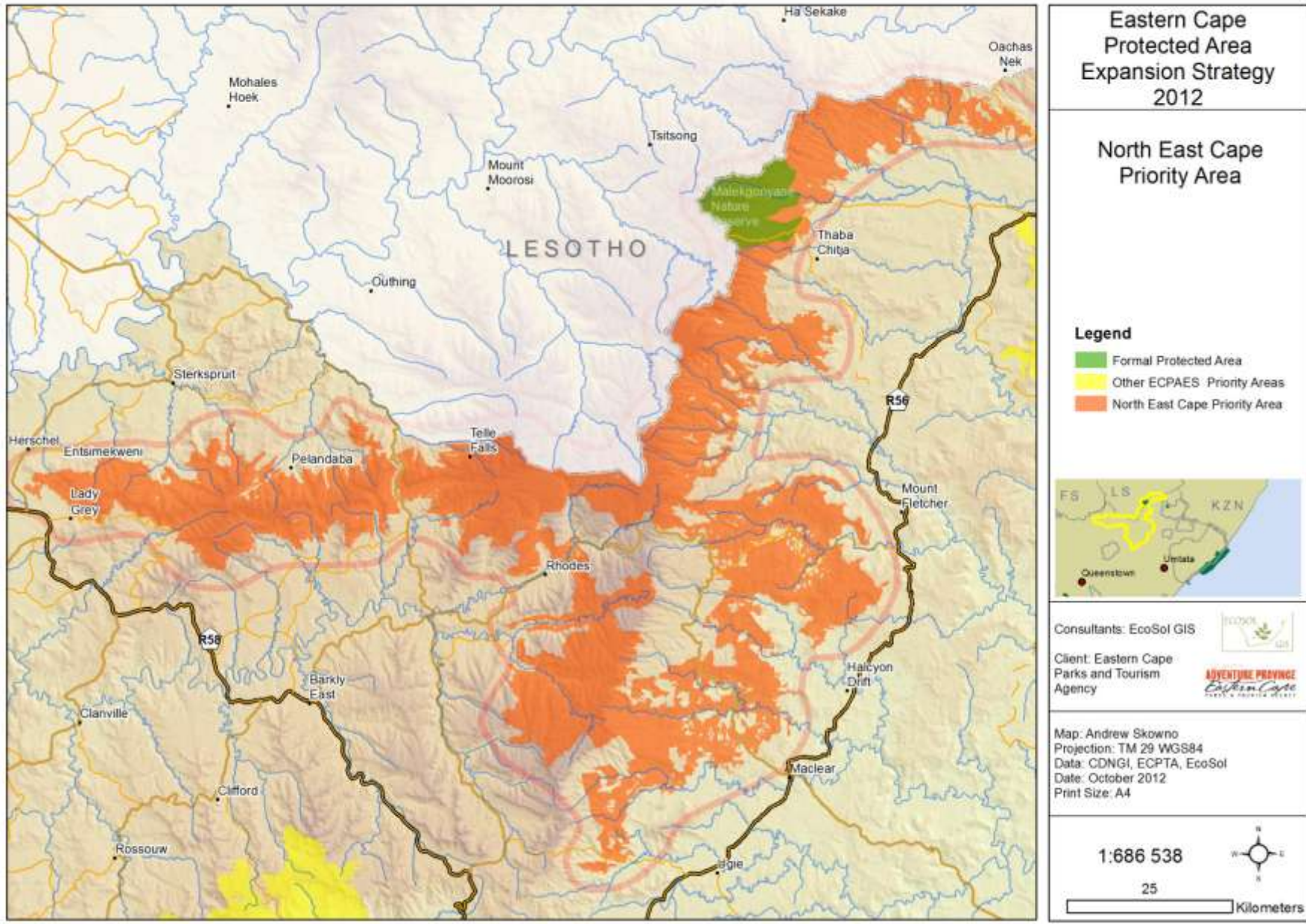


Figure 58: North East Cape Grasslands ECPAES Priority Area

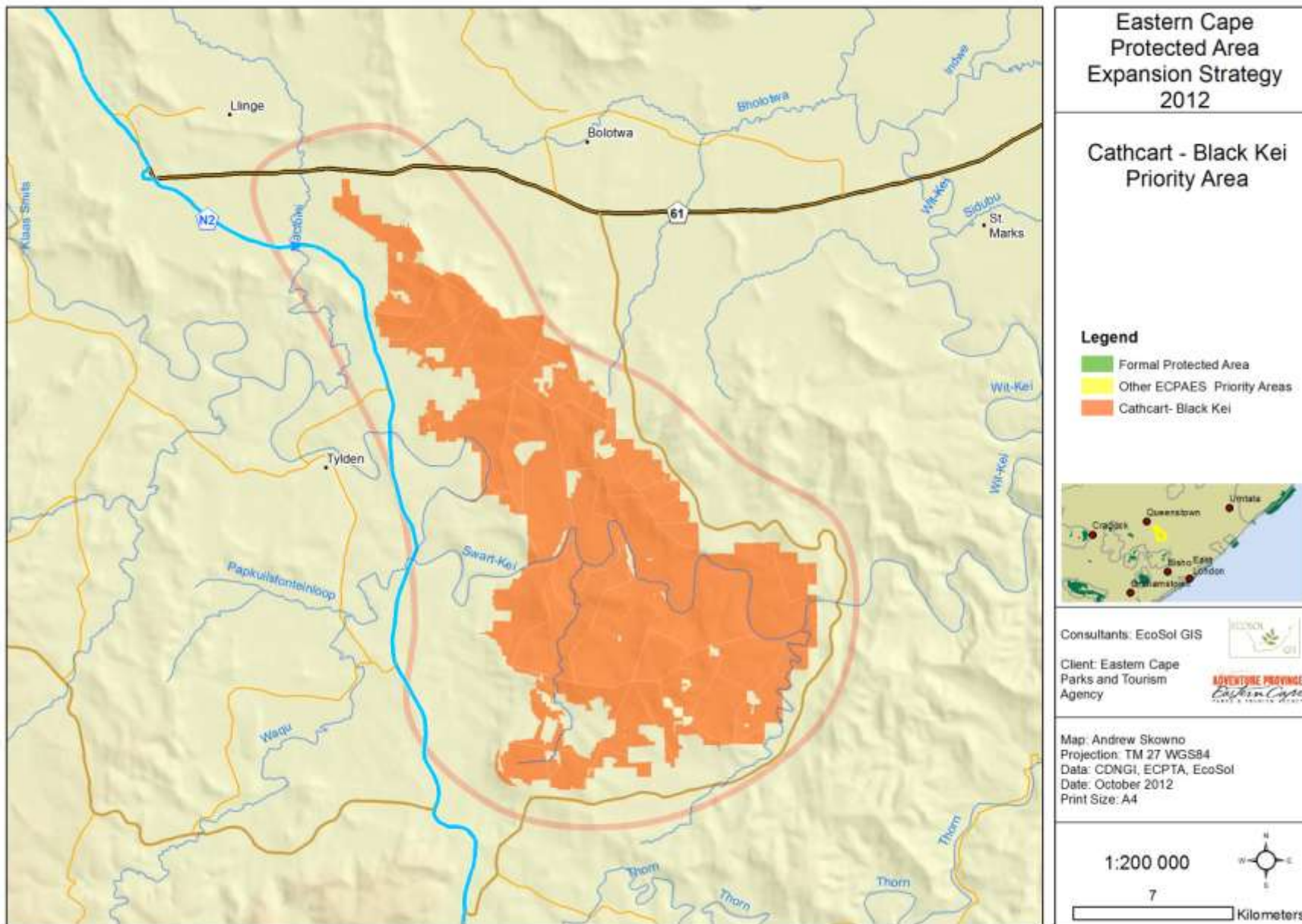


Figure 59: Cathcart - Black Kei ECPAES Priority Area

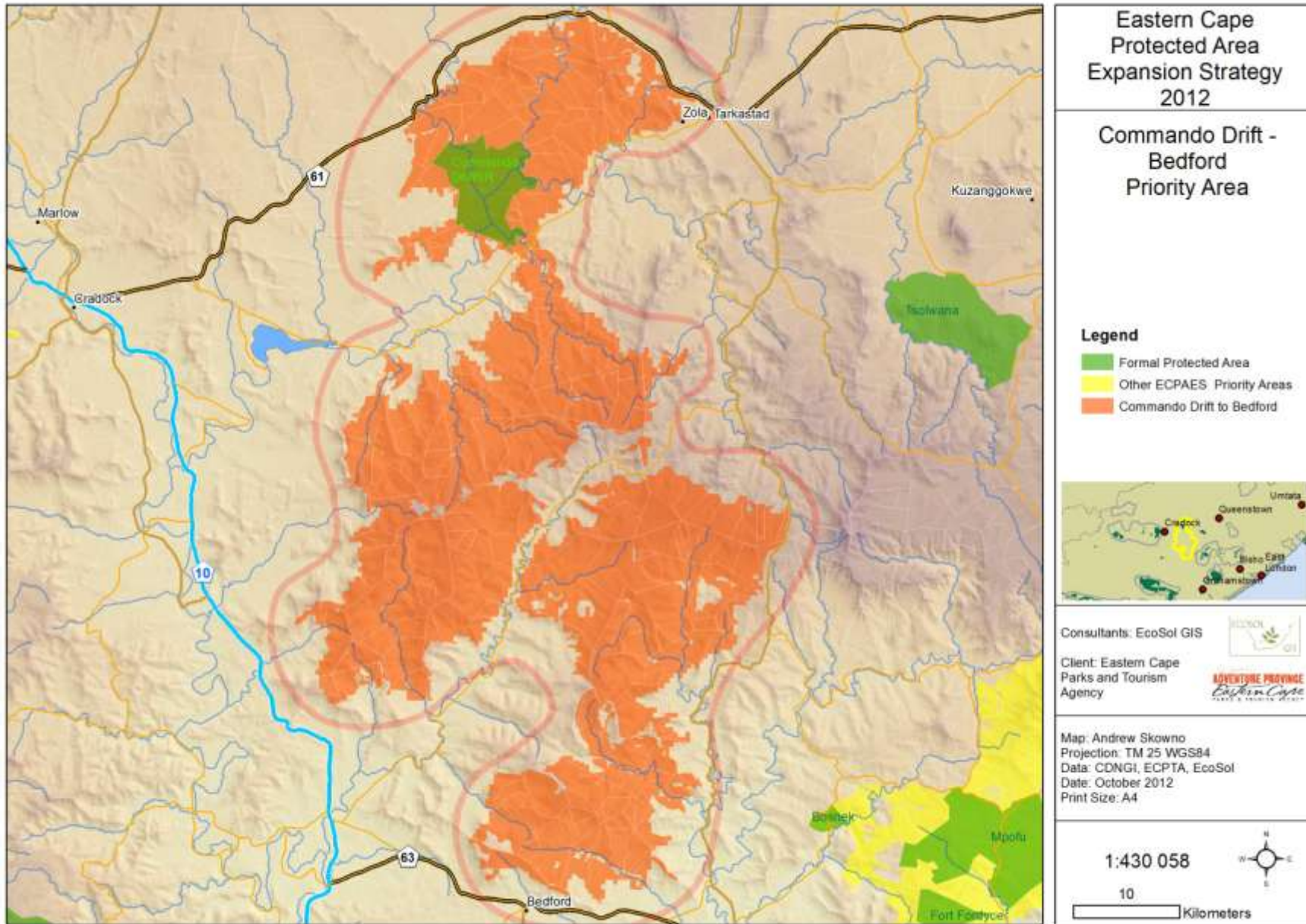


Figure 60: Commando Drift to Bedford ECPAES Priority Area

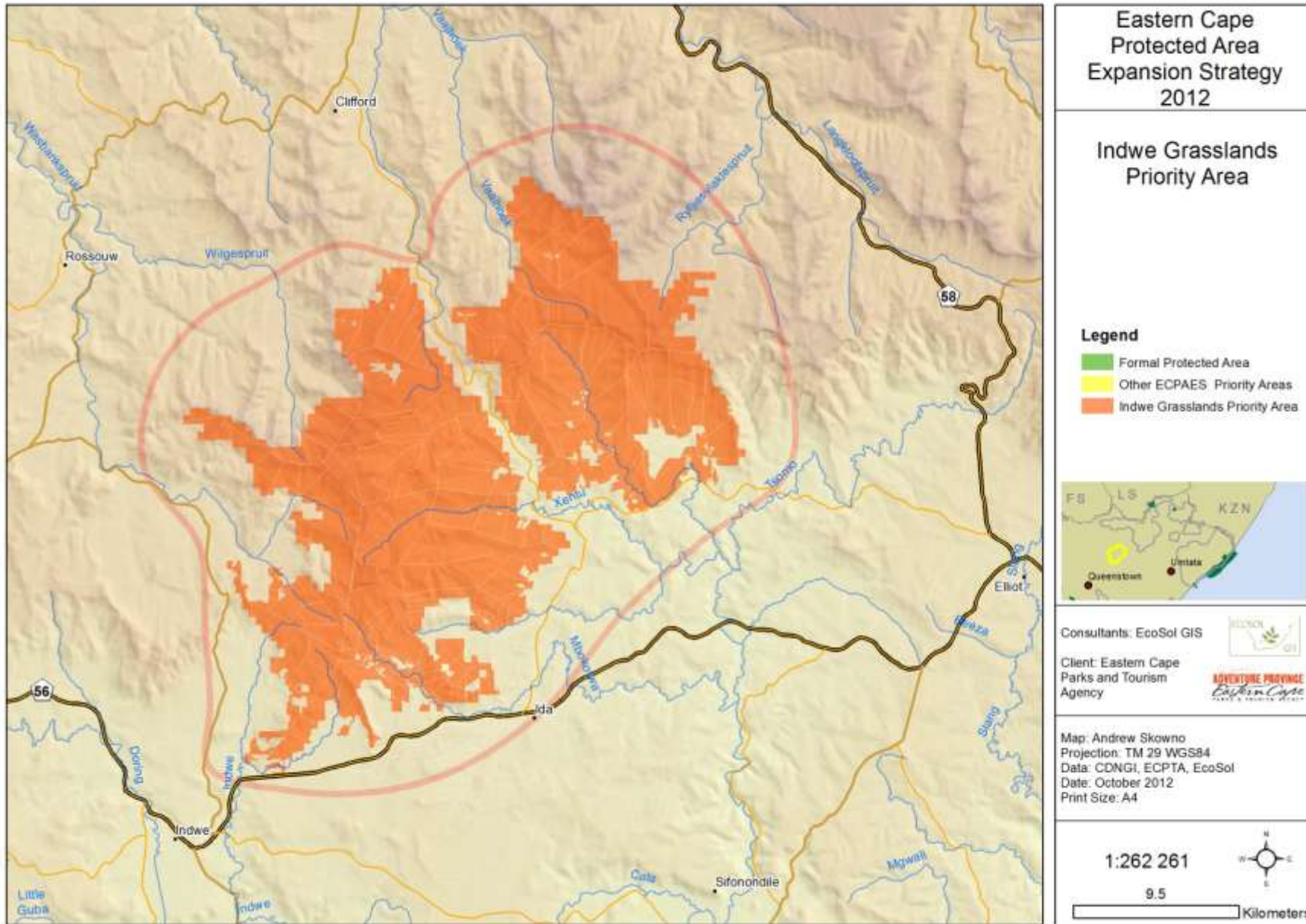


Figure 61: Indwe Grasslands ECPAES Priority Area

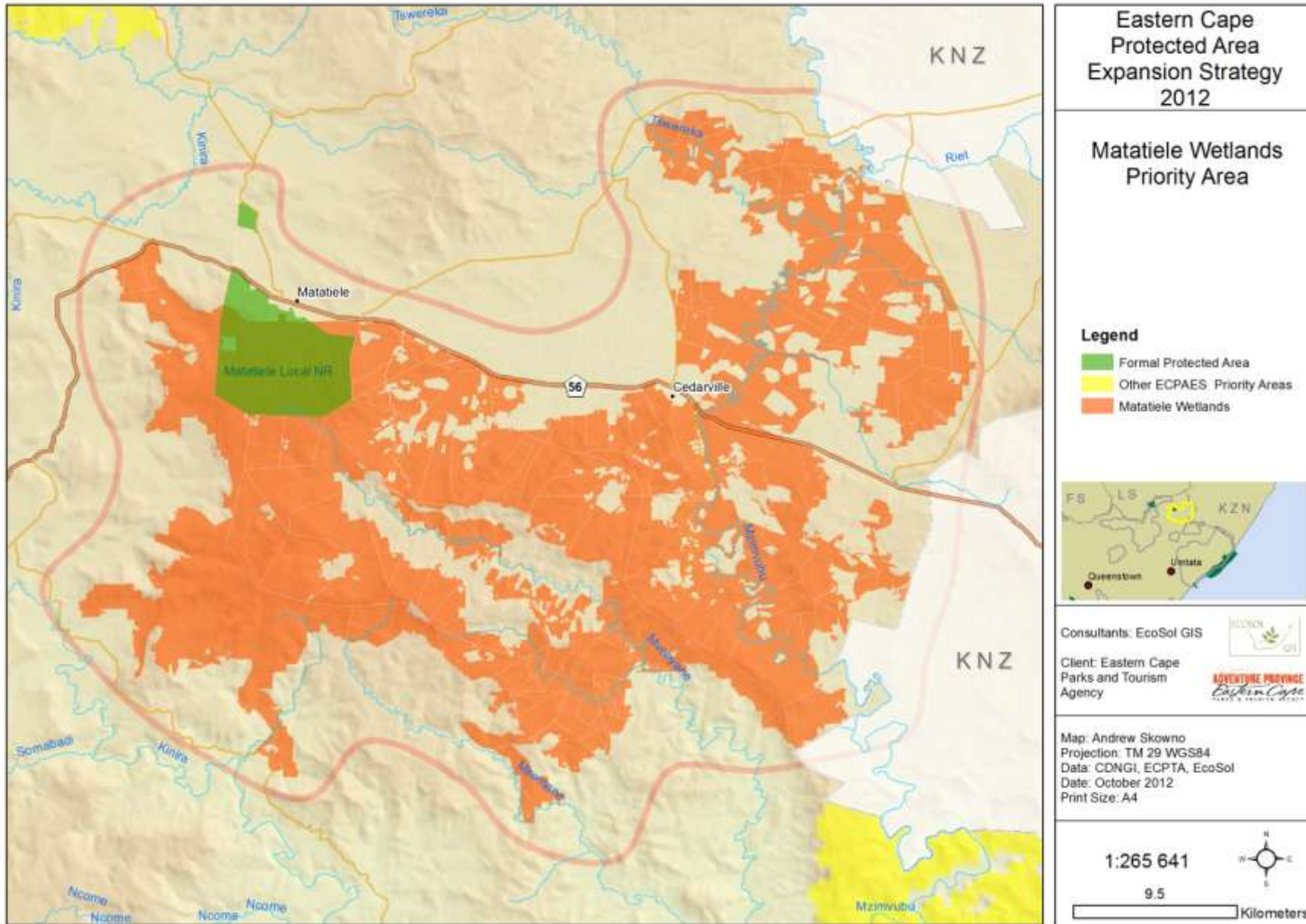


Figure 62: Matatiele Wetlands ECPAES Priority Area

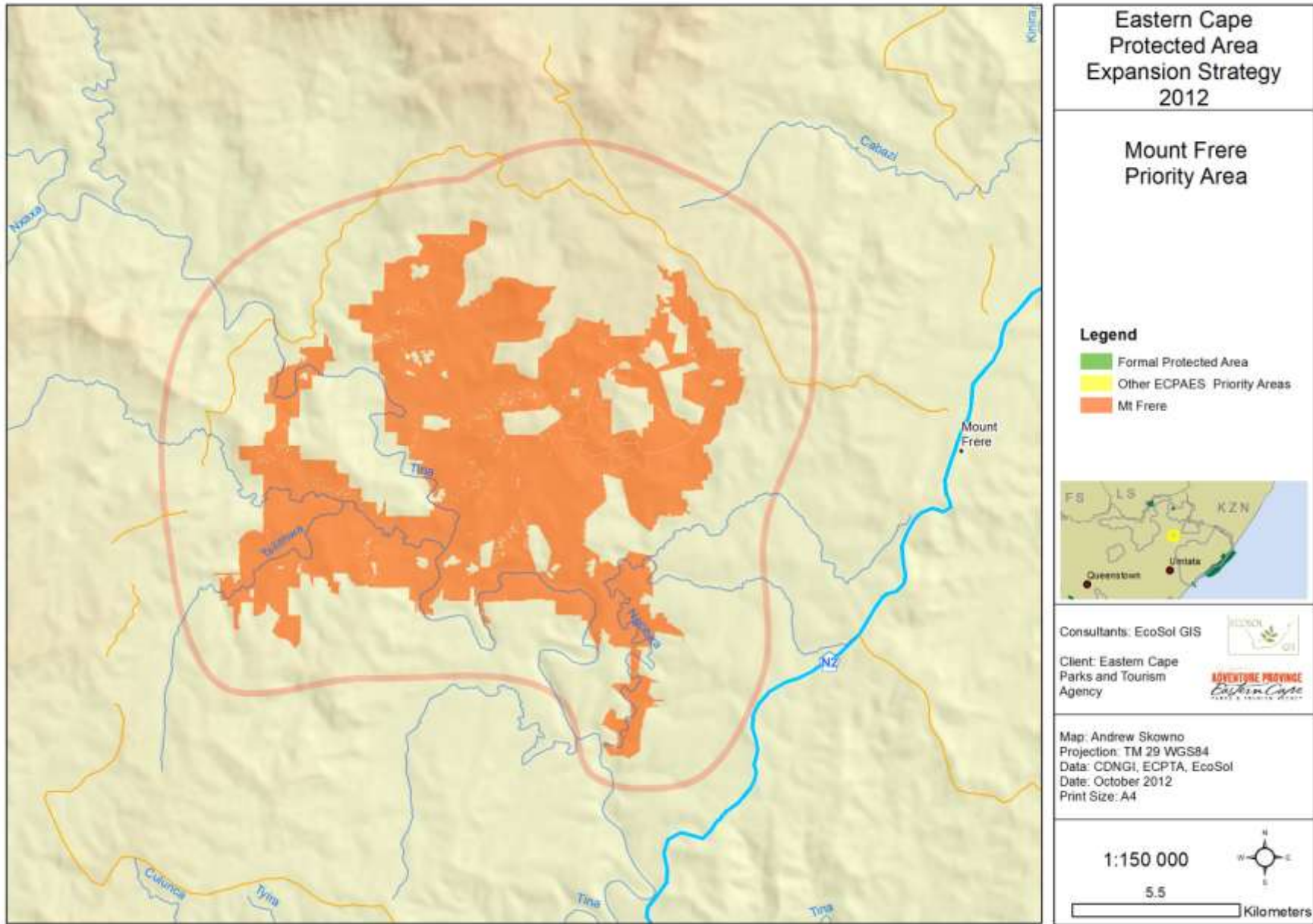


Figure 64: Mount Frere ECPAES Priority Area

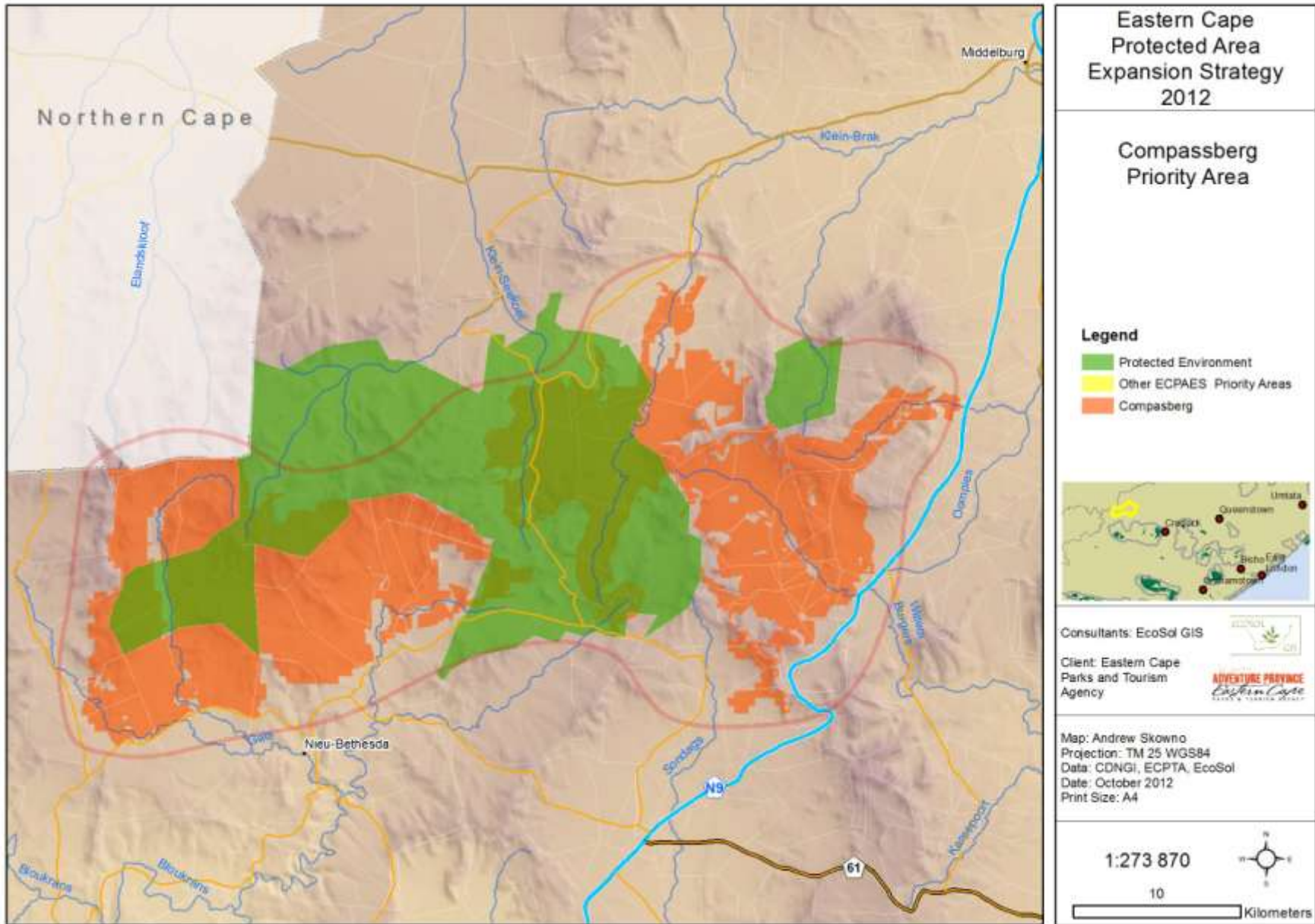


Figure 65: Compassberg ECPAES Priority Area

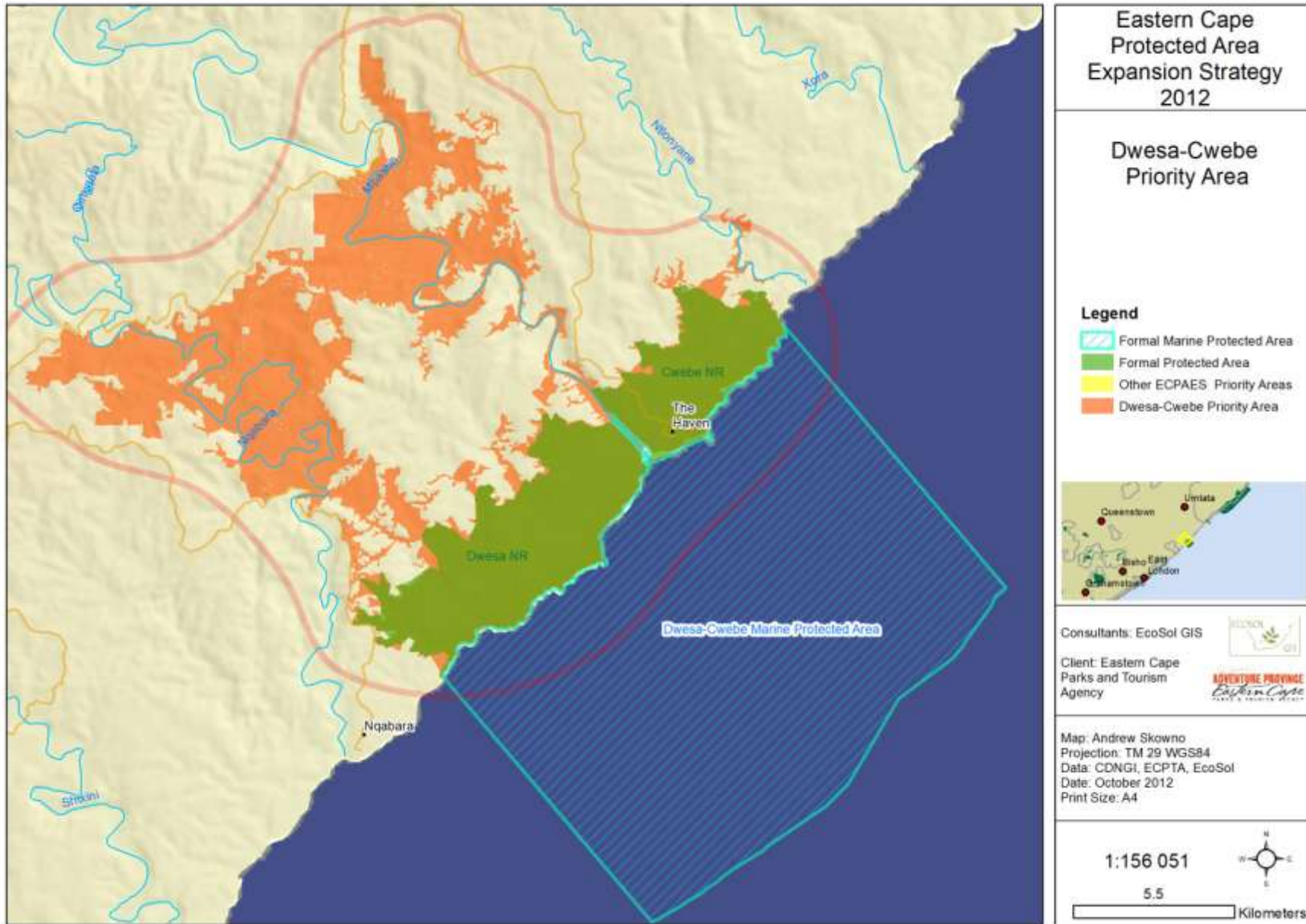


Figure 66: Dwesa-Cwebe ECPAES Priority Area

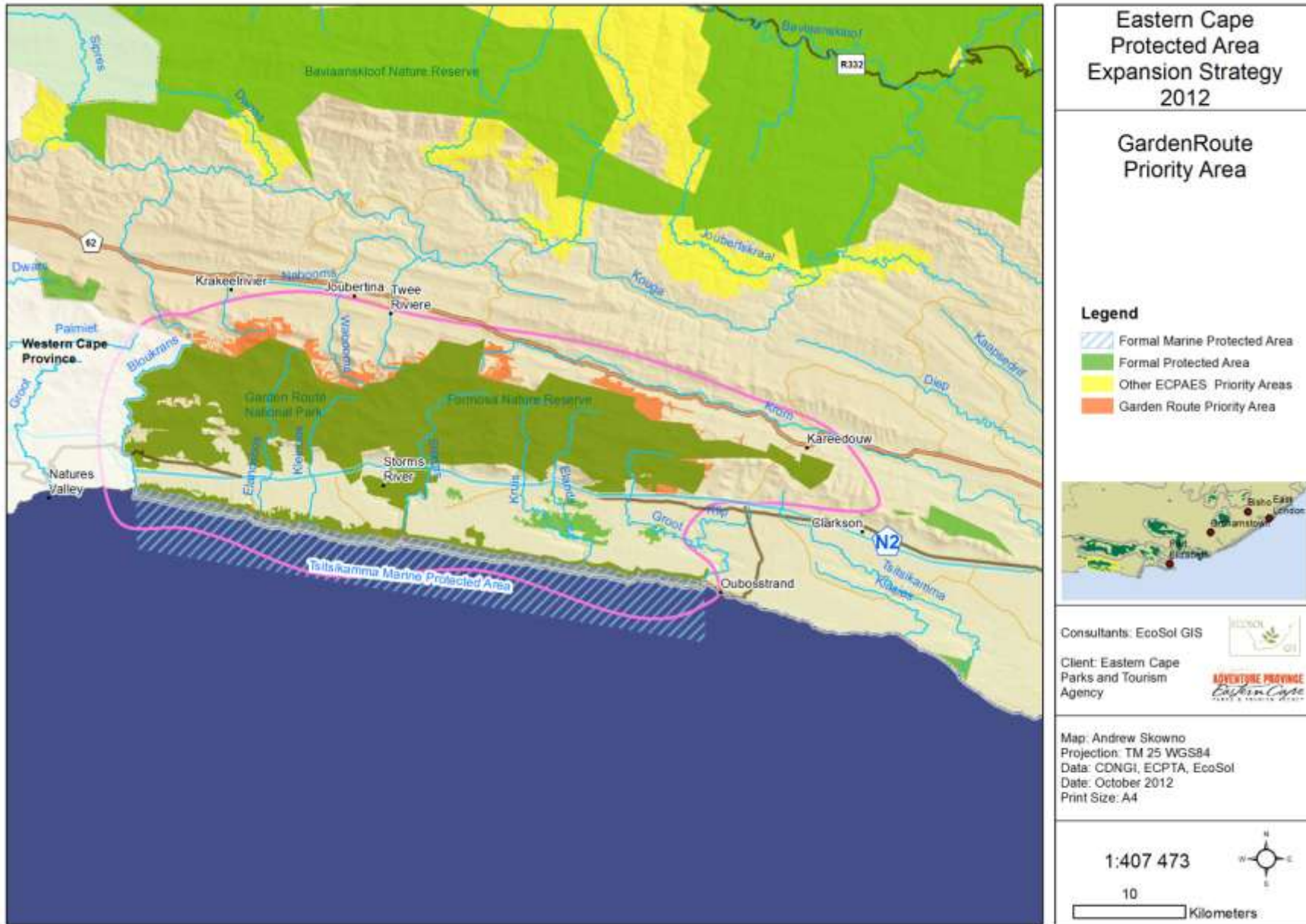


Figure 67: Garden Route ECPAES Priority Area

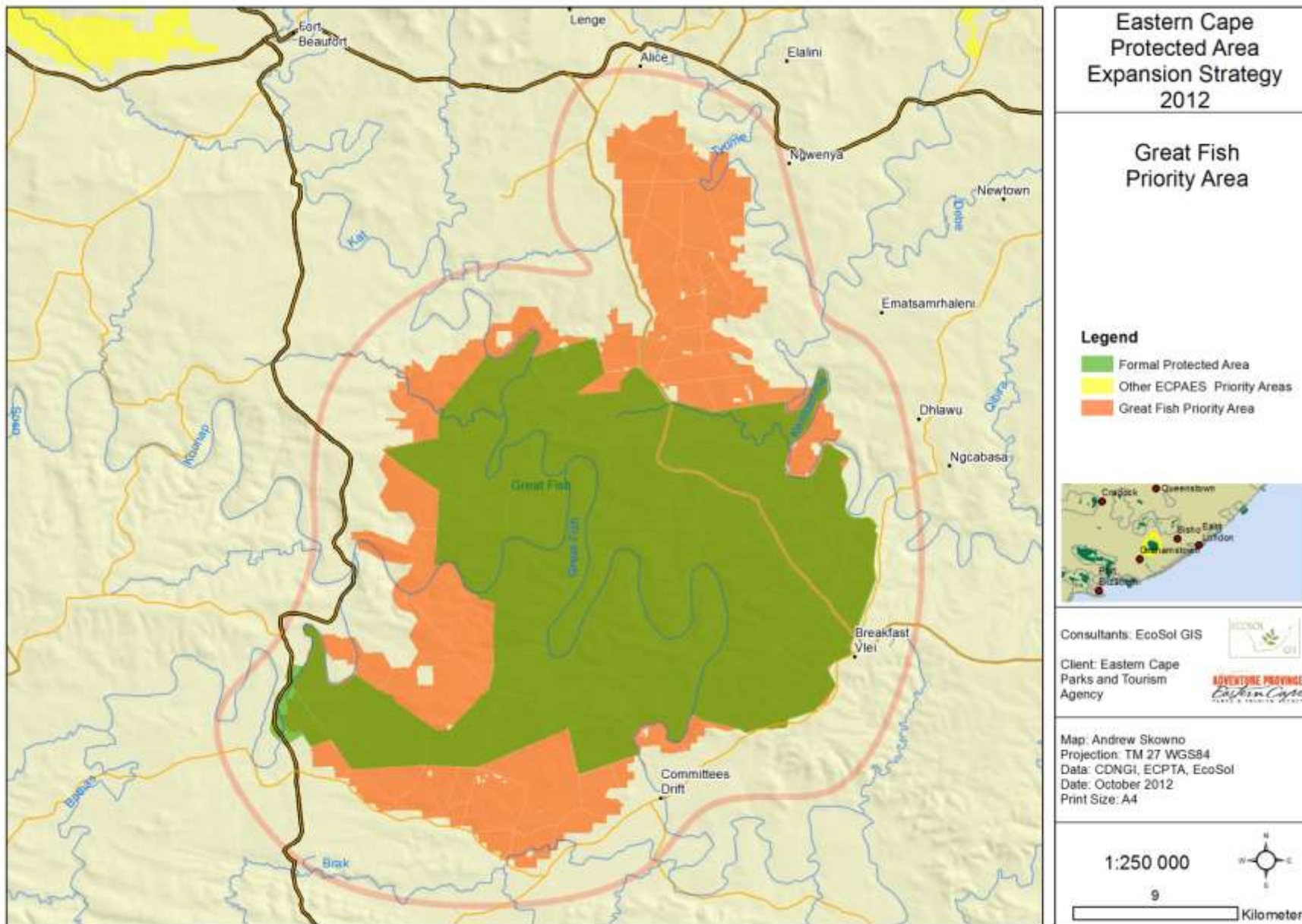


Figure 68: Great Fish ECPAES Priority Area

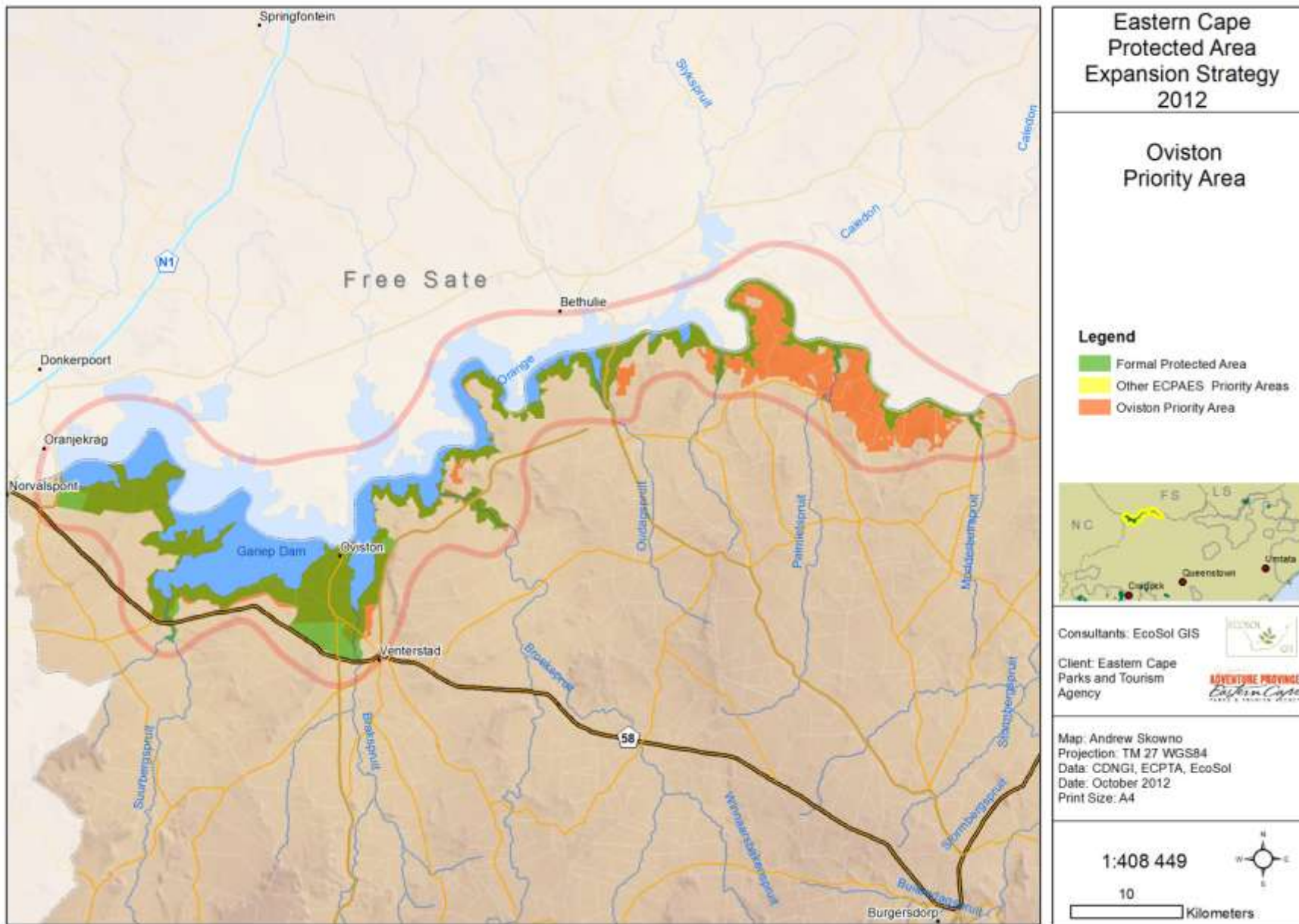


Figure 69: Oviston ECPAES Priority Area

Marais, Wanda

Subject: FW: Proposed Ingeprop Inyanda-Roodeplaat Wind Farm Project: Final Scoping Report
Attachments: Renewable Energy Generation Plant Setbacks to Eskom Infrastructure - Signed.pdf; Eskom requirements for work in or near Eskom servitudes WIND (3).doc

From: John Geeringh [<mailto:GeerinJH@eskom.co.za>]
Sent: 23 March 2015 01:18 PM
To: vchauke@environment.gov.za
Cc: Port Elizabeth
Subject: Proposed Ingeprop Inyanda-Roodeplaat Wind Farm Project: Final Scoping Report

Reference Number: 14/12/16/3/3/2/464

Please find attached Eskom requirements for works at or near Eskom infrastructure.

Regards


John Geeringh (Pr Sci Nat)
Senior Consultant Environmental Management

Eskom GC: Land Development
Megawatt Park
D1Y39
P O Box 1091
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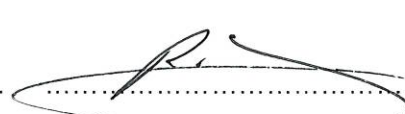
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CONTENTS

	Page
EXECUTIVE SUMMARY	3
1. INTRODUCTION.....	4
2. SUPPORTING CLAUSES	4
2.1 SCOPE	4
2.1.1 Purpose.....	4
2.1.2 Applicability	5
2.2 NORMATIVE/INFORMATIVE REFERENCES	5
2.2.1 Normative.....	5
2.2.2 Informative	5
2.3 DEFINITIONS	5
2.3.1 Disclosure Classification.....	6
2.4 ABBREVIATIONS	6
2.5 ROLES AND RESPONSIBILITIES	6
2.6 PROCESS FOR MONITORING	6
2.7 RELATED/SUPPORTING DOCUMENTS	6
3. DOCUMENT CONTENT	6
3.1 INTERNATIONAL SETBACK COMPARISON	6
3.2 ESKOM APPROACH FOR WIND FARMS.....	7
4. AUTHORISATION	8
5. REVISIONS.....	8
6. DEVELOPMENT TEAM	9

FIGURES

Figure 1: Horizontal Axis Wind Turbine	8
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EXECUTIVE SUMMARY

In recent decades, the use of wind turbines, concentrated solar plants and photovoltaic plants have been on the increase as it serves as an abundant source of energy. This document specifies setbacks for wind turbines and the reasons for these setbacks from infrastructure as well as setbacks for concentrated solar plants and photovoltaic plants. Setbacks for wind turbines employed in other countries were compared and a general setback to be used by Eskom was suggested for use with wind turbines and other renewable energy generation plants.

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1. INTRODUCTION

During the last few decades, a large amount of wind turbines have been installed in wind farms to accommodate for the large demand of energy and depleting fossil fuels. Wind is one of the most abundant sources of renewable energy. Wind turbines harness the energy of this renewable resource for integration in electricity networks. The extraction of wind energy is its primary function and thus the aerodynamics of the wind turbine is important. There are many different types of wind turbines which will all exhibit different wind flow characteristics. The most common wind turbine used commercially is the Horizontal Axis Wind Turbine. Wind flow characteristics of this turbine are important to analyse as it may have an effect on surrounding infrastructure.

Wind turbines also cause large turbulence downwind that may affect existing infrastructure. Debris or parts of the turbine blade, in the case of a failure, may be tossed behind the turbine and may lead to damage of infrastructure in the wake path.

This document outlines the minimum distances that need to be introduced between a wind turbine and Eskom infrastructure to ensure that debris and / or turbulence would not negatively impact on the infrastructure.

Safety distances of wind turbines from other structures as implemented by other countries were also considered and the reasons for their selection were noted.

Concentrated solar plants and photovoltaic plants setbacks away from substations were also to be considered to prevent restricting possible power line access routes to the substation.

2. SUPPORTING CLAUSES

2.1 SCOPE

This document provides guidance on the safe distance that a wind turbine should be located from any Eskom power line or substation. The document specifies setback distances for transmission lines (220 kV to 765 kV), distribution lines (6.6 kV to 132 kV) and all Eskom substations. Setbacks for concentrated solar plants and photovoltaic plants are also specified away from substations.

2.1.1 Purpose

Setbacks for wind turbines and power lines / substations are required for various reasons. These include possible catastrophic failure of the turbine blade that may release fragments and which may be thrown onto nearby power lines that may result in damage with associated unplanned outages. Turbulence behind the turbine may affect helicopter flight during routine Eskom live line maintenance and

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inspections that may lead to safety risk of the aircraft / personnel. Concentrated solar plants and photovoltaic plants setback away from substations were required to prevent substations from being boxed in by these renewable generation plants limiting line route access to the substations.

2.1.2 Applicability

This document is applicable to the siting of all new and existing wind turbines, concentrated solar plants and photovoltaic plants near power lines and substations.

2.2 NORMATIVE/INFORMATIVE REFERENCES

2.2.1 Normative

1. <http://www.envir.ee/orb.aw/class=file/action=preview/id=1170403/Hiiumaa+turbulence+impact+EMD.pdf>.
2. <http://www.energy.ca.gov/2005publications/CEC-500-2005-184/CEC-500-2005-184.PDF>
3. <http://www.adamscountywind.com/Revised%20Site/Windmills/Adams%20County%20Ordinance/Adams%20County%20Wind%20Ord.htm>
4. http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=PA11R&RE=1&EE=1
5. <http://www.wind-watch.org/documents/european-setbacks-minimum-distance-between-wind-turbines-and-habitations/>
6. <http://www.publications.parliament.uk/pa/ld201011/ldbills/017/11017.1-i.html>
7. http://www.caw.ca/assets/pdf/Turbine_Safety_Report.pdf
8. Rogers J, Slegers N, Costello M. (2011) A method for defining wind turbine setback standards. Wind energy 10.1002/we.468

2.2.2 Informative

None

2.3 DEFINITIONS

Definition	Description
Setback	The minimum distance between a wind turbine and boundary line/dwelling/road/infrastructure/servitude etc.
Flicker	Effect caused when rotating wind turbine blades periodically cast shadows
Tip Height	The total height of the wind turbine ie. Hub height plus half rotor diameter (see Figure1)

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2.3.1 Disclosure Classification

Controlled disclosure: controlled disclosure to external parties (either enforced by law, or discretionary).

2.4 ABBREVIATIONS

Abbreviation	Description
None	

2.5 ROLES AND RESPONSIBILITIES

All personnel involved in the positioning wind turbines, concentrated solar plants and photovoltaic plants near power lines/substations must follow the setbacks outlined in this guideline.

2.6 PROCESS FOR MONITORING

Approval by Eskom in writing.

2.7 RELATED/SUPPORTING DOCUMENTS

None

3. DOCUMENT CONTENT

3.1 INTERNATIONAL SETBACK COMPARISON

Wind Turbine setbacks employed by various countries were considered. It was found that setbacks were determined for various reasons that include noise, flicker, turbine blade failure and wind effects. The distances (setbacks) varied based on these factors and were influenced by the type of infrastructure

Wind turbine setbacks varied for roads, power lines, dwellings, buildings and property and it was noted that the largest setbacks were employed for reasons of noise and flicker related issues [1-7]. Very few countries specified setbacks for power lines.

The literature survey [1-7], yielded information about studies and experiments were conducted to determine the distance that a broken fragment from a wind turbine might be thrown. Even though of low probability of hitting a power line [5.0×10^{-5}]^[8], the distances recorded were significant [750m]^[8]

Setbacks were thus introduced to prevent any damage to Eskom infrastructure.

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Wind turbines may also cause changes in wind patterns with turbulent effects behind the hub. These factors dictate the wind turbine setbacks specified in this document.

Concentrated solar plants and photovoltaic plants also can limit access into the substation for power lines of all voltages. A setback distance must therefore be employed to prevent the substation from being boxed in by these generation plants. These setback distances are specified in this document.

3.2 ESKOM REQUIRED SETBACKS

- Eskom requires a setback distance of 3 times the tip height of the wind turbine from the edge of the closest Eskom servitude (including vacant servitudes) for transmission lines.
- Eskom requires a setback distance of 1 times the tip height of the wind turbine from the edge of the closest Eskom servitude (including vacant servitudes) for distribution Lines.
- Eskom must be informed of any proposed wind turbine, concentrated solar plants and photovoltaic activity within a 5 km radius of a substation. No wind turbine structure shall be built within a 2 km radius of the closest point of the substation. Where concentrated solar plants and photovoltaic structures fall within a 2 km radius of the closest point of a substation, Eskom should be informed in writing during the planning phase of the construction of such plant or structure.
- Applicants must show that Eskom radio telecommunication systems (mainly microwave systems) will not be affected in any way by wind turbines.

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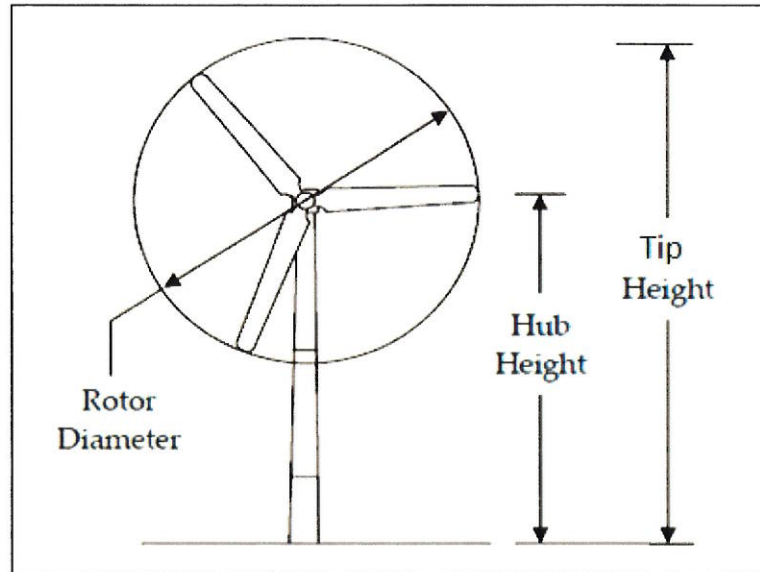


Figure 1: Horizontal Axis Wind Turbine ^[2]

4. AUTHORISATION

This document has been seen and accepted by:

Name & Surname	Designation
V Naidoo	Chief Engineer
Dr P H Pretorius	Electrical Specialist
J Geeringh	Snr Consultant Environ Mngt
B Haridass	Snr Consultant Engineer
R A Vajeth	Acting Snr Manager (Lines)

5. REVISIONS

Date	Rev.	Compiler	Remarks
November 2013	0	J W Chetty	First Publication - No renewable energy generation plant setback specification in existence

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6. DEVELOPMENT TEAM

The following people were involved in the development of this document:

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Vivendhra Naidoo (Chief Engineer)

Dr Pieter H Pretorius (Electrical Specialist)

John Geeringh (Snr Consultant Environ Mngt)

Bharat Haridass (Snr Consultant Engineer)

Riaz A Vajeth (Acting Snr Manager (Lines))

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Eskom requirements for work at or near Eskom infrastructure.

1. Eskom's rights and services must be acknowledged and respected at all times.
2. Eskom shall at all times retain unobstructed access to and egress from its servitudes.
3. Eskom's consent does not relieve the developer from obtaining the necessary statutory, land owner or municipal approvals.
4. Any cost incurred by Eskom as a result of non-compliance to any relevant environmental legislation will be charged to the developer.
5. If Eskom has to incur any expenditure in order to comply with statutory clearances or other regulations as a result of the developer's activities or because of the presence of his equipment or installation within the servitude restriction area, the developer shall pay such costs to Eskom on demand.
6. The use of explosives of any type within 500 metres of Eskom's services shall only occur with Eskom's previous written permission. If such permission is granted the developer must give at least fourteen working days prior notice of the commencement of blasting. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued in terms of the blasting process. It is advisable to make application separately in this regard.
7. Changes in ground level may not infringe statutory ground to conductor clearances or statutory visibility clearances. After any changes in ground level, the surface shall be rehabilitated and stabilised so as to prevent erosion. The measures taken shall be to Eskom's satisfaction.
8. Eskom shall not be liable for the death of or injury to any person or for the loss of or damage to any property whether as a result of the encroachment or of the use of the servitude area by the developer, his/her agent, contractors, employees, successors in title, and assignees. The developer indemnifies Eskom against loss, claims or damages including claims pertaining to consequential damages by third parties and whether as a result of damage to or interruption of or interference with Eskom's services or apparatus or otherwise. Eskom will not be held responsible for damage to the developer's equipment.
9. No mechanical equipment, including mechanical excavators or high lifting machinery, shall be used in the vicinity of Eskom's apparatus and/or services, without prior written permission having been granted by Eskom. If such permission is granted the developer must give at least seven working days' notice prior to the commencement of work. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued by the relevant Eskom Manager

Note: Where and electrical outage is required, at least fourteen work days are required to arrange it.

10. Eskom's rights and duties in the servitude shall be accepted as having prior right at all times and shall not be obstructed or interfered with.
11. Under no circumstances shall rubble, earth or other material be dumped within the servitude restriction area. The developer shall maintain the area concerned to Eskom's satisfaction. The developer shall be liable to Eskom for the cost of any remedial action which has to be carried out by Eskom.
12. The clearances between Eskom's live electrical equipment and the proposed construction work shall be observed as stipulated by *Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993)*.
13. Equipment shall be regarded electrically live and therefore dangerous at all times.
14. In spite of the restrictions stipulated by Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), as an additional safety precaution, Eskom will not approve the erection of houses, or structures occupied or frequented by human beings, under the power lines or within the servitude restriction area.
15. Eskom may stipulate any additional requirements to highlight any possible exposure to Customers or Public to coming into contact or be exposed to any dangers of Eskom plant.
16. It is required of the developer to familiarise himself with all safety hazards related to Electrical plant.
17. Any third party servitudes encroaching on Eskom servitudes shall be registered against Eskom's title deed at the developer's own cost. If such a servitude is brought into being, its existence should be endorsed on the Eskom servitude deed concerned, while the third party's servitude deed must also include the rights of the affected Eskom servitude.

John Geeringh (Pr Sci Nat)

Senior Consultant Environmental Management
Eskom GC: Land Development