

WESTERN CAPE  
**2020**  
STATE OF CONSERVATION **REPORT**



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# FOREWORD

Biodiversity in our country is characterised by a wide variety of ecosystem types, species abundance and high levels of endemism. While our biodiversity provides many benefits to the economy, and to people, it is unfortunately under threat.

According to the findings of World Wide Fund for Nature 2020 Living Planet Report: “Biodiversity, the rich diversity of life on Earth - is being lost at an alarming rate. The impacts of this loss on our well-being are mounting, and catastrophic impacts for people and planet loom closer than ever. Our relationship with nature is broken.”

One of our responses to the rapid global decline in the conservation status of species and ecosystems, is to provide annual snapshots on the status of conservation in the Western Cape, highlighting achievements, challenges, impacts and urgent actions that contribute towards a detailed review in the State of Biodiversity Reports which are published on a five-yearly

cycle. This is the first annual State of Conservation Report, representing the status of priority conservation indicators as at the end 2019.

While acknowledging the challenges, we celebrate some significant gains, particularly the expansion of the conservation estate. CapeNature’s Protected Areas are important for conserving ecosystems and species, as well as for socio-economic upliftment through job creation opportunities, particularly in the rural areas. They serve to protect the ecosystems that deliver important related services to people.

**Dr Razeena Omar, CEO**

In alignment with the Convention on Biological Diversity, CapeNature’s strategy for the period 2020-2025 contains targets that cross-pollinate those of the Post-2020 Biodiversity Framework, specifically as it relates to climate change and land-use change, and how these impact on ecosystem services.

**Coral Birss, Executive Director: Biodiversity Capabilities**



- Update IUCN Red List (Regional /Global) status of species indigenous to the Western Cape
- Integrate the National Biodiversity Assessment 2018
- Review recommendations from the State of Biodiversity Report 2017
- Review conservation actions, tools and initiatives
- Demonstrate implications of identified threats to biodiversity
- Reflect latest innovation, research and monitoring results



# CAPE NATURE

CapeNature, executive arm of the Western Cape Nature Conservation Board, is the provincial authority responsible for nature conservation in the Western Cape. CapeNature manages World Heritage Sites, provincial nature reserves and marine protected areas which supply ecosystem services to citizens, climate change resilience and access for ecotourism, research and environmental education.

- Implements biodiversity and environmental management legislation, policies, procedures and guidelines in the Western Cape
- Contributes to the development of biodiversity legislation and policies, provincially and nationally
- Monitors and reports on the state of biodiversity in the Western Cape



- ★ Head office
- ☆ Regional office
- 🌿 Reserve office
- ▲ Satellite office

## CapeNature Landscapes & Landscape Units (LU)

### LANDSCAPE WEST

- Matzikama LU
- Peninsula LU
- Ceder-Berg LU

### LANDSCAPE CENTRAL

- Kogelberg LU
- Witzenberg LU
- Boland LU

### LANDSCAPE SOUTH

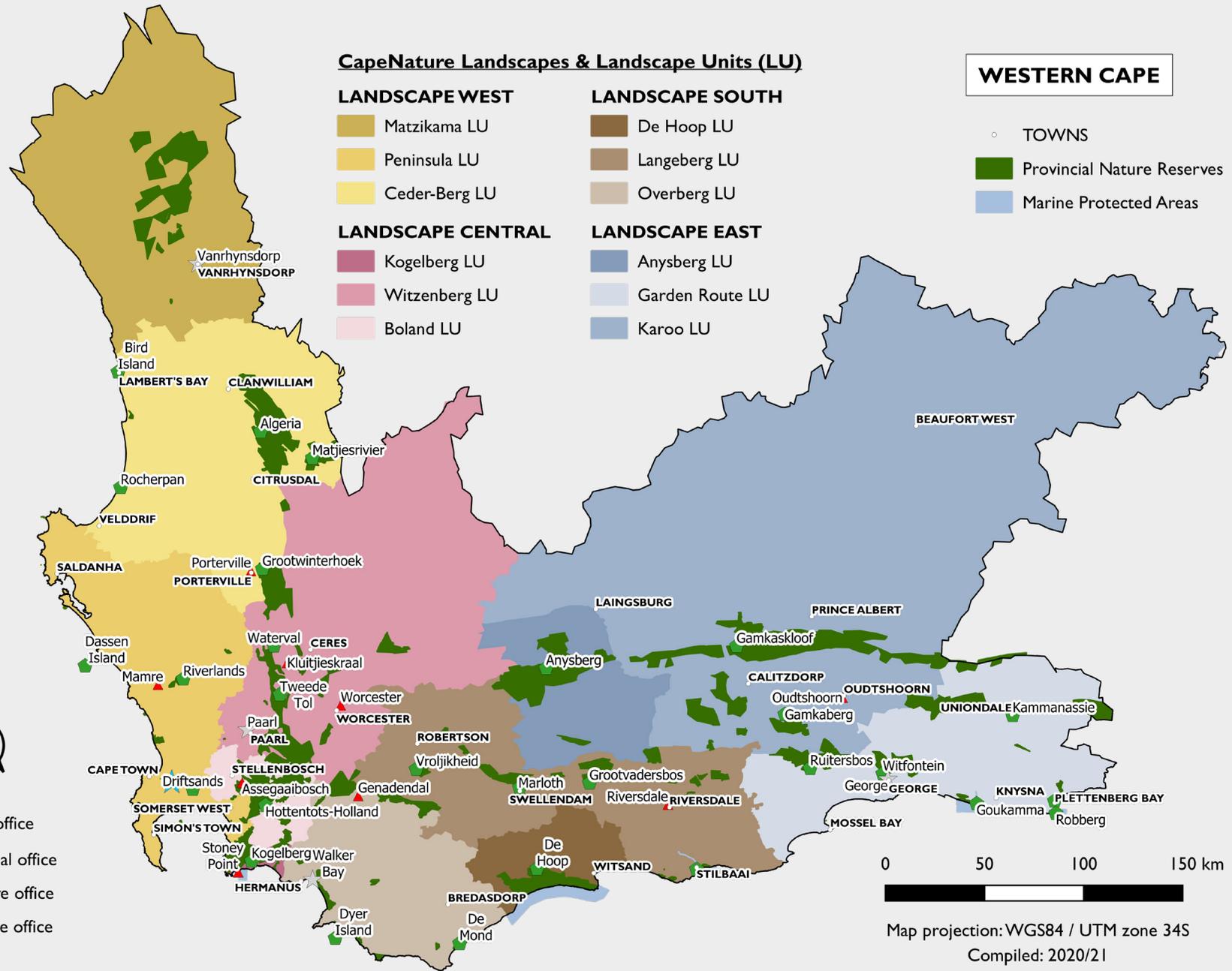
- De Hoop LU
- Langeberg LU
- Overberg LU

### LANDSCAPE EAST

- Anysberg LU
- Garden Route LU
- Karoo LU

## WESTERN CAPE

- TOWNS
- 🌿 Provincial Nature Reserves
- 🌊 Marine Protected Areas



Map projection: WGS84 / UTM zone 34S  
Compiled: 2020/21



# THE BIODIVERSITY OF THE WESTERN CAPE

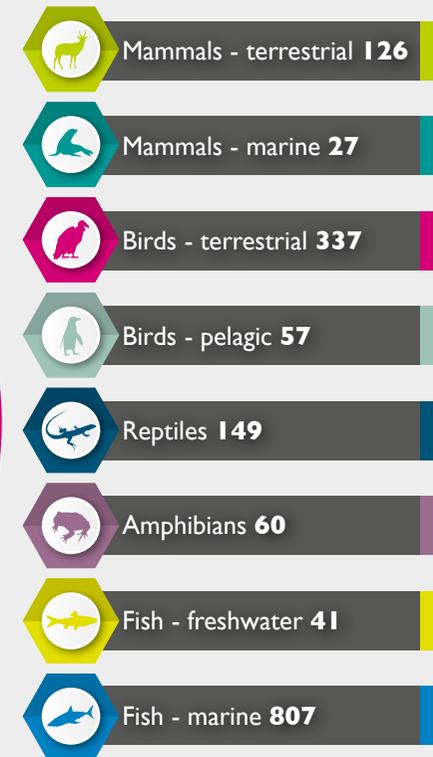
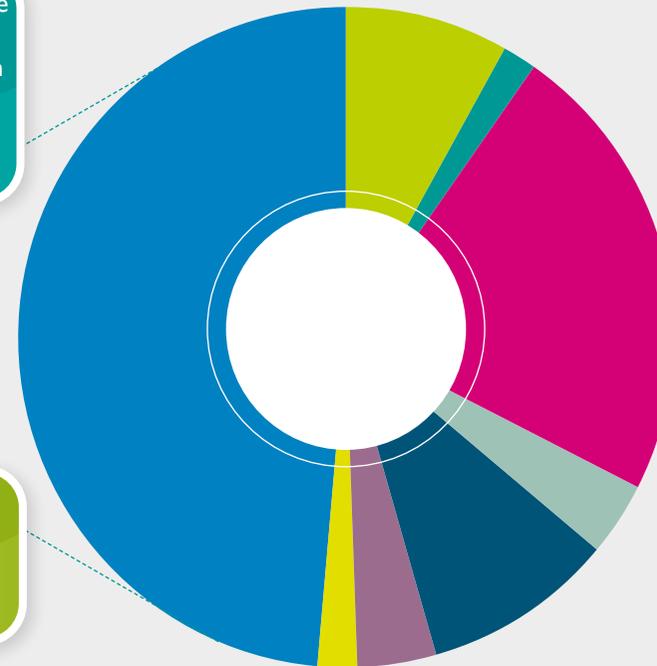
Biodiversity refers to all the variety of life that can be found as well as the communities that they form and the habitats in which they live.

CapeNature monitors the status of representative habitats, species of plants and animals and contributes to the development of a comprehensive inventory of biodiversity in the Western Cape.

Over 55 000 invertebrate species have been described in South Africa. The invertebrate fauna of the Western Cape is equally rich with 300 known types of butterflies, 965 arachnids, 84 dragonflies and damselflies, and 156 net-winged insects. Many only occur in this province and there are many more still to discover and document

Just over 1500 vertebrate species have been recorded in the Western Cape. These include terrestrial, marine and freshwater species

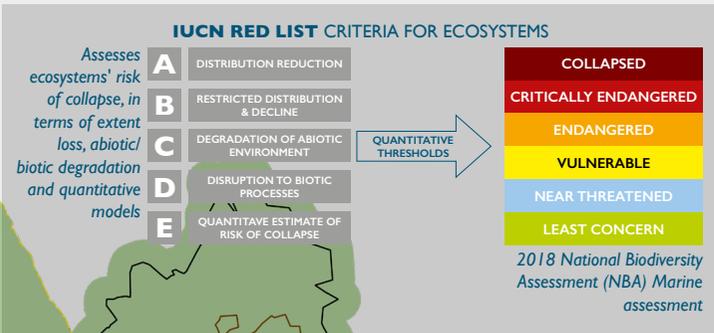
Over 13 000 plant species occur in the Western Cape making it a plant biodiversity hotspot



Note: This biodiversity inventory is not exhaustive

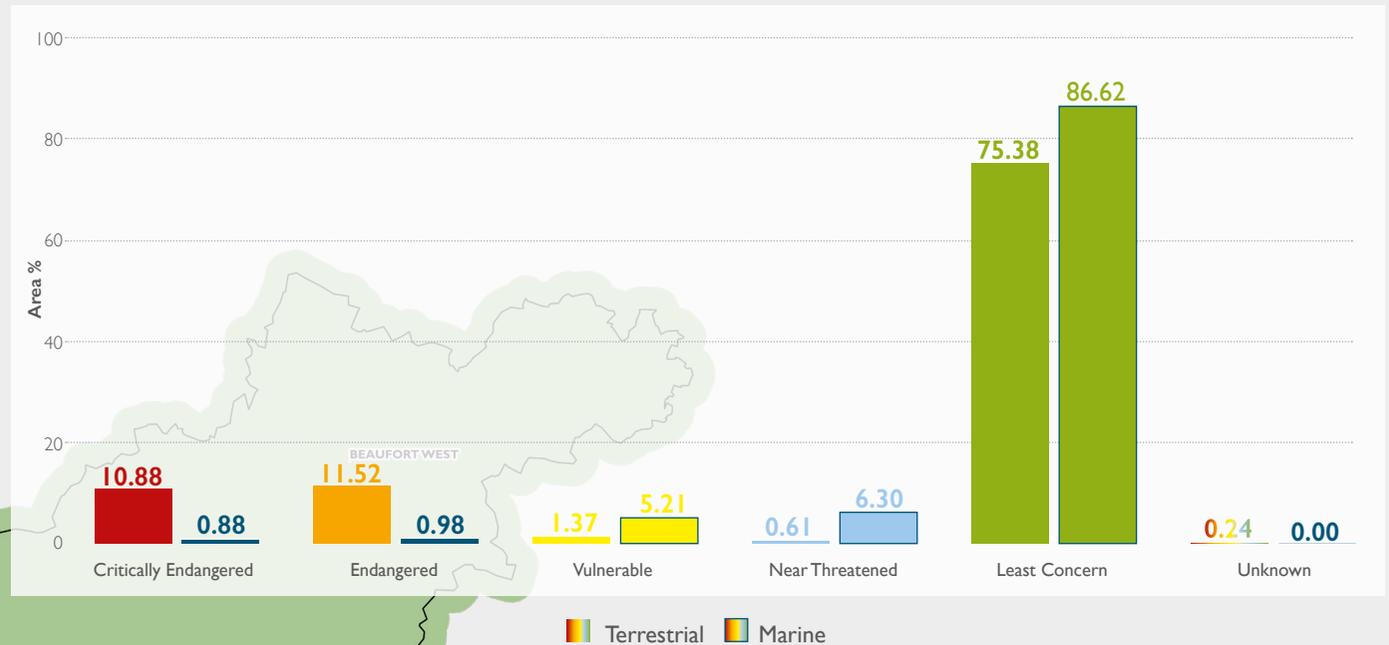


# THE STATUS OF WESTERN CAPE ECOSYSTEMS



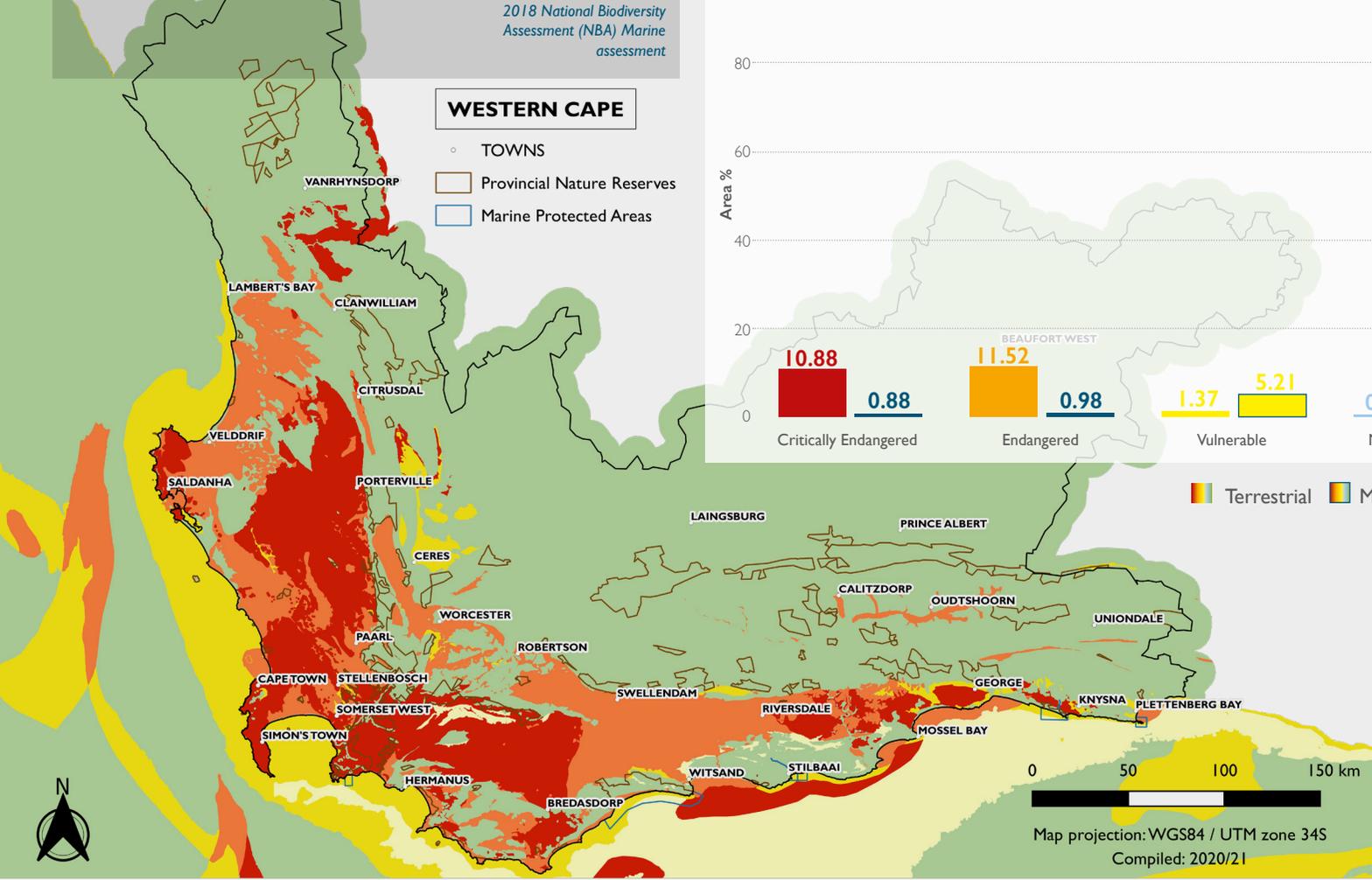
The Western Cape Province is classified according to the threat status of the ecosystem as **reported in the 2018 National Biodiversity Assessment**. **22.7%** of the Fynbos Biome is formally protected and approximately **31%** has been transformed. **7.8%** of the Succulent Karoo Biome is formally protected and approximately **5%** has been transformed.

Percentage area per Ecosystem Threat Status Category within Terrestrial and Marine Systems



**WESTERN CAPE**

- TOWNS
- ▭ Provincial Nature Reserves
- ▭ Marine Protected Areas



**NATIONAL BIODIVERSITY ASSESSMENT 2018**

**ECOSYSTEM THREAT STATUS**

- Critically Endangered
- Endangered
- Vulnerable
- Near Threatened
- Least Concern

Map projection: WGS84 / UTM zone 34S  
Compiled: 2020/21



# THE STATUS OF WESTERN CAPE MARINE ECOSYSTEMS

## IUCN RED LIST CRITERIA FOR ECOSYSTEMS

Assesses ecosystems' risk of collapse, in terms of extent loss, abiotic/biotic degradation and quantitative models

<b>A</b>	DISTRIBUTION REDUCTION
<b>B</b>	RESTRICTED DISTRIBUTION & DECLINE
<b>C</b>	DEGRADATION OF ABIOTIC ENVIRONMENT
<b>D</b>	DISRUPTION TO BIOTIC PROCESSES
<b>E</b>	QUANTITATIVE ESTIMATE OF RISK OF COLLAPSE

QUANTITATIVE THRESHOLDS

COLLAPSED
CRITICALLY ENDANGERED
ENDANGERED
VULNERABLE
NEAR THREATENED
LEAST CONCERN

2018 National Biodiversity Assessment (NBA) Marine assessment

CapeNature manages six Marine Protected Areas (MPAs) totalling **42 785.4 ha**. These MPAs represent **26** different ecosystems, of which:

**2**  
**CRITICALLY ENDANGERED**

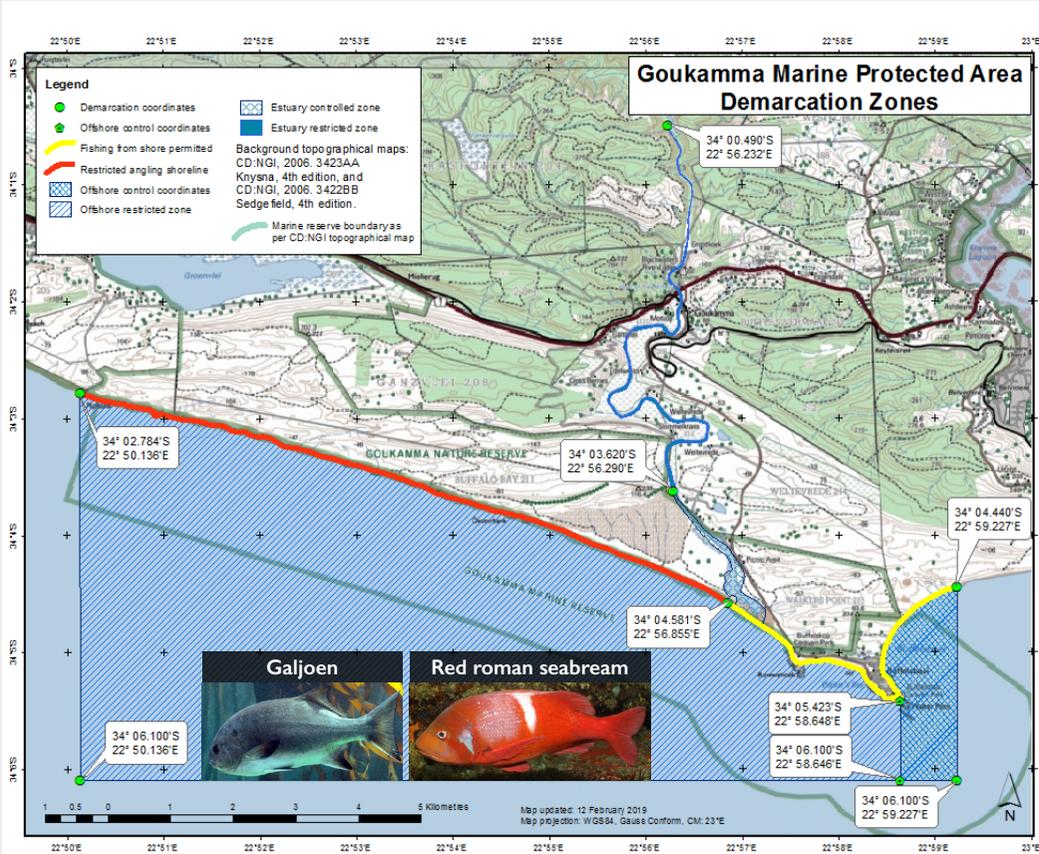
**2**  
**ENDANGERED**

**6**  
**VULNERABLE**

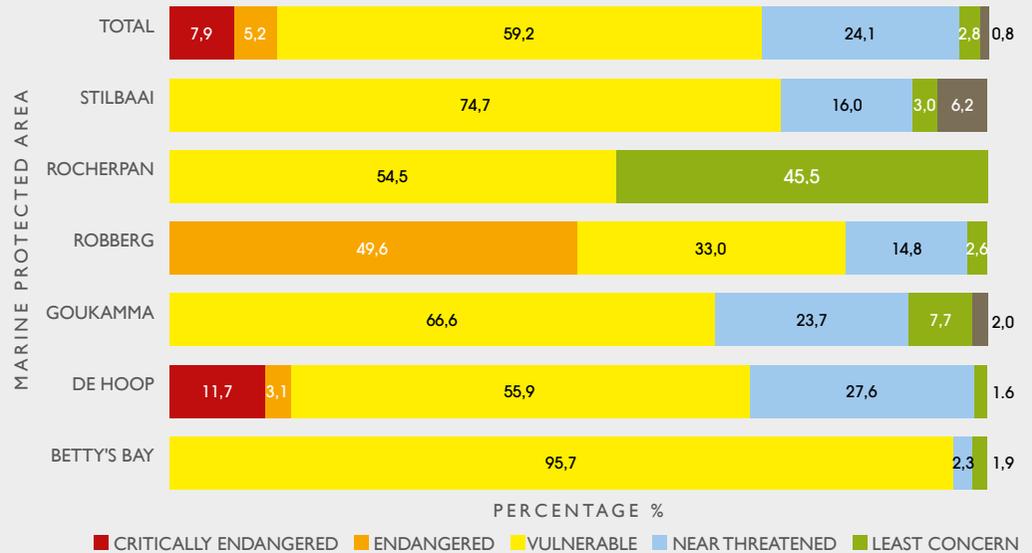
**3**  
**NEAR THREATENED**

**9**  
**LEAST CONCERN**

**4**  
**NOT YET ASSESSED**



## ECOSYSTEM THREAT STATUS PER MARINE PROTECTED AREA

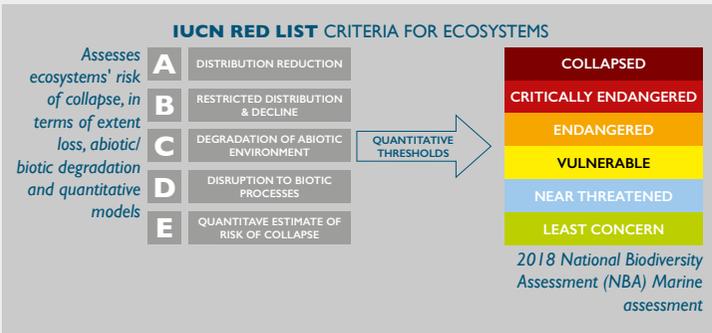


The extent of the boundary of the Goukamma MPA covers a portion of the reef that provides habitat for many threatened popular angling and commercial fish species, such as the endemic **red roman seabream** and the **galjoen**.

The National Department of Environmental Affairs, Forestry and Fisheries initiated the realignment and extension of the boundary for the protection of a significantly larger portion of the reef to ensure protection of reef habitats and provide sustainable angling resources.



# THE STATUS OF WESTERN CAPE FRESHWATER & WETLAND ECOSYSTEMS

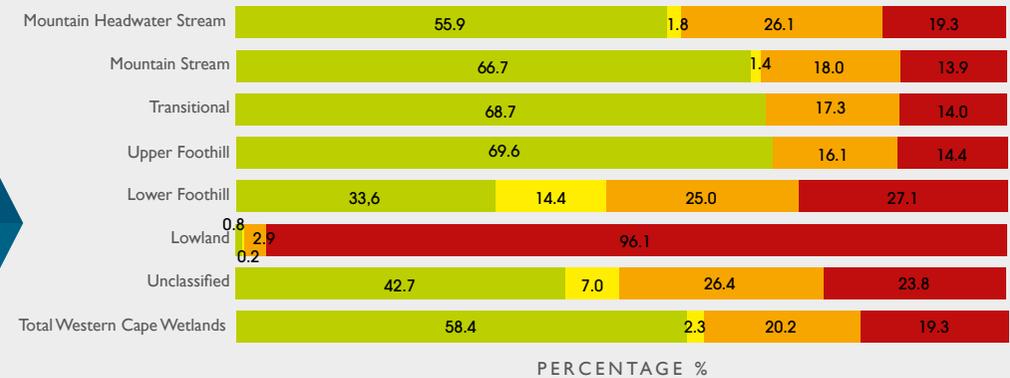


CapeNature, in partnership with the national and provincial departments for environmental affairs, water and sanitation, the South African National Biodiversity Institute (SANBI), Working for Wetlands, the South African Environment Observation Network (SAEON), the Expanded Freshwater and Terrestrial Environmental Observation Network (EFTEON), the World Wide Fund for Nature South Africa (WWF-SA) the Greater Cape Town Water Fund and The Nature Conservancy (TNC), conserves the Western Cape's freshwater and wetland ecosystems through ecological infrastructure projects, restoration projects, monitoring task teams, and freshwater and wetland forums.

Percentage Representation of Western Cape Freshwater Ecosystems Threat Status per Geomorphologic Category, 2018

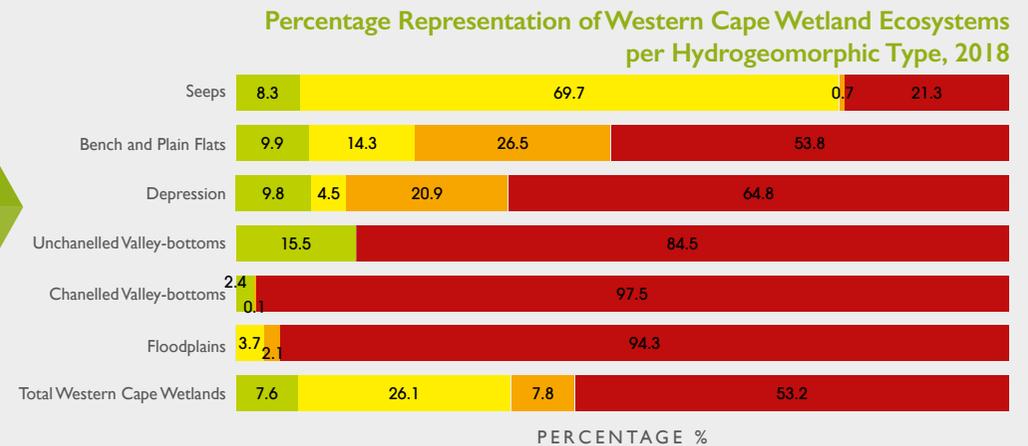
## WESTERN CAPE FRESHWATER ECOSYSTEMS:

- > 58 of the 222 different river ecosystem types in South Africa.
  - > Categorised into six geomorphological zones, represented in the adjacent graph.
  - > Support high levels of aquatic biodiversity, and a thriving agricultural sector.
- Six of South Africa's 22 Strategic Water Source Areas are in the Western Cape, of which five are largely located within CapeNature Protected Areas: Grootwinterhoek, Boland, Langeberg, Outeniqua and Swartberg Strategic Water Source Areas.
- CapeNature conserves fragile ecosystems by working in partnership with local municipalities, Department of Agriculture's LandCare, farmers and provincial and national resource management authorities to maintain the upper catchments and Strategic Water Source Areas, through the clearing of invasive alien plants, aimed at improving downstream water quality and quantity.



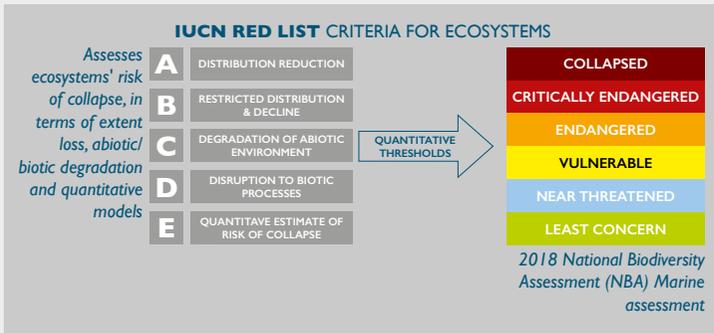
## WESTERN CAPE WETLAND ECOSYSTEMS:

- > 101 extremely diverse wetland types.
  - > Categorized into six hydrogeomorphic wetland types, represented in the adjacent graph.
  - > Have high levels of endemism.
  - > Provide essential ecosystem services such as water purification, flood attenuation and drought management.
- Wetlands managed by CapeNature include De Hoop Vlei (a Ramsar site), many sensitive seep wetlands in Mountain Catchment Areas and the mosaic of wetland areas in the Grootwinterhoek Nature Reserve.





# THE STATUS OF WESTERN CAPE TERRESTRIAL ECOSYSTEMS



## WESTERN CAPE TERRESTRIAL ECOSYSTEMS REPRESENT:

- **167** terrestrial ecosystems
- **13 489** recorded plant species, of which **6 776** (50.2%) are endemic
- **7** biomes: Fynbos; Succulent Karoo; Nama-Karoo; Albany Thicket; Forests; Grassland and Azonal Vegetation
- the Greater Cape Floristic Region - the smallest but most diverse of the six Floral Kingdoms of the world

CapeNature ensures the formal protection of **133** terrestrial ecosystems in the Western Cape covering **975 107.9 ha**, an increase of **49 908.4 ha** from the **925 199.4 ha** reported in 2017:

**16**  
**CRITICALLY ENDANGERED**

**19**  
**ENDANGERED**

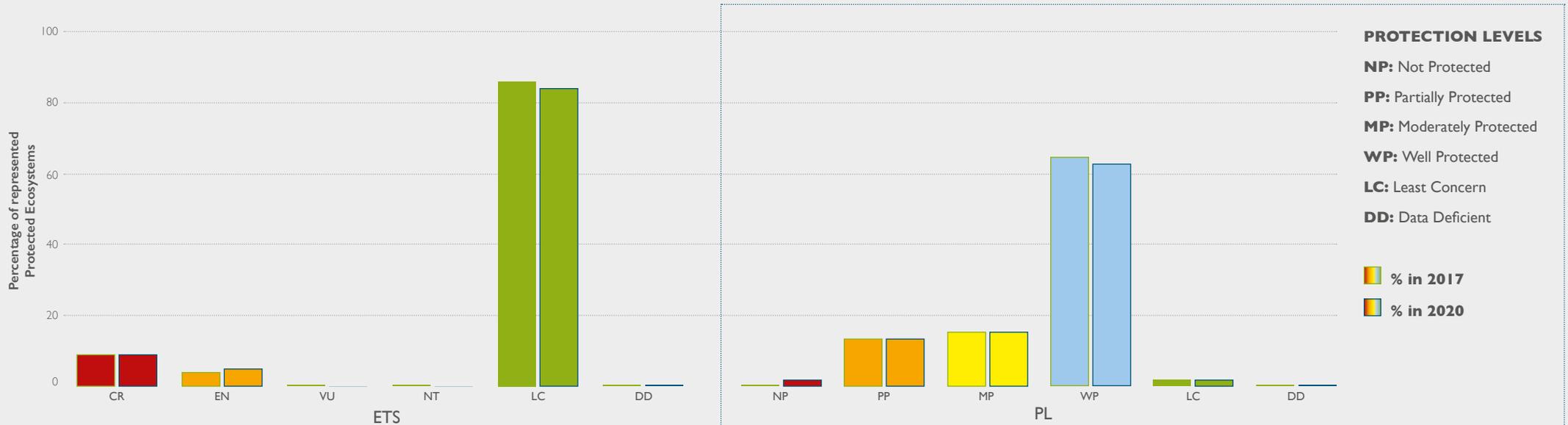
**7**  
**VULNERABLE**

**2**  
**NEAR THREATENED**

**83**  
**LEAST CONCERN**

**6**  
**DATA DEFICIENT (DD)**

Percentage of represented protected ecosystems per Ecosystem Threat Status (ETS) category and percentage of represented protected ecosystems per Protection Level (PL) category for 2017 and 2020



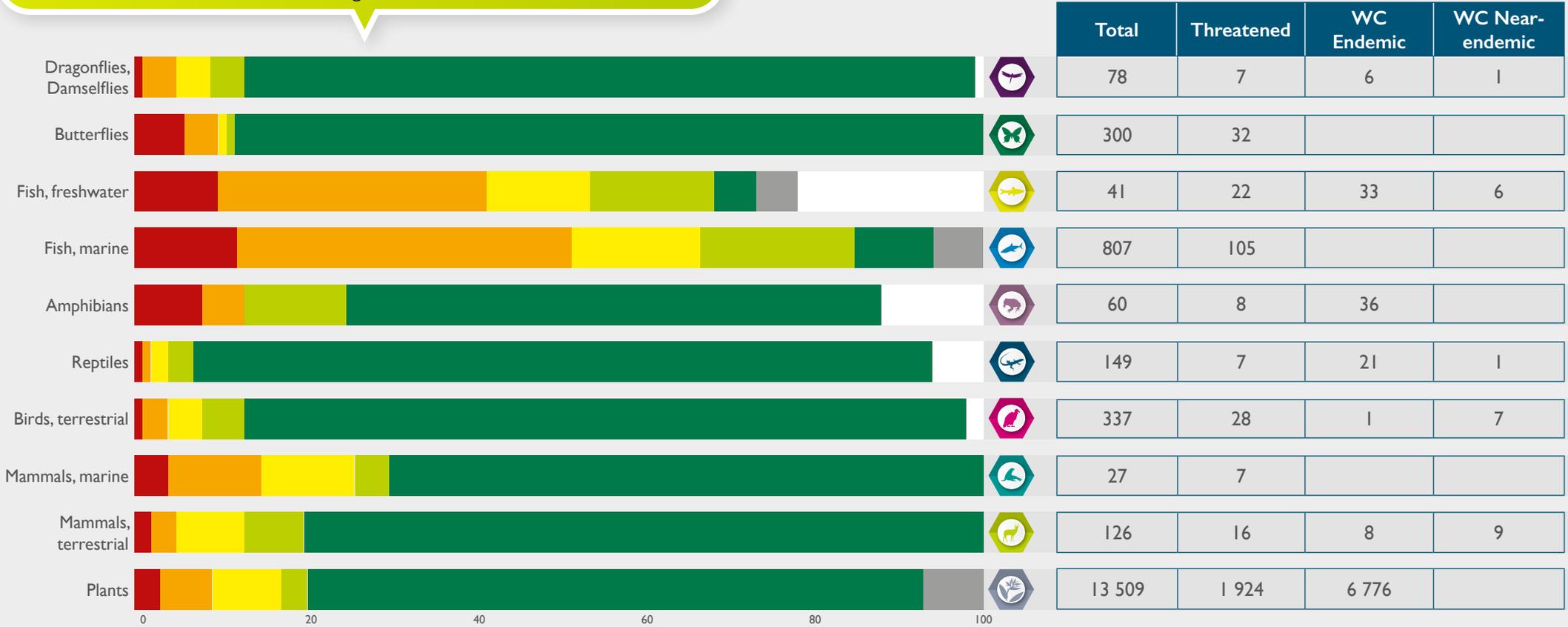
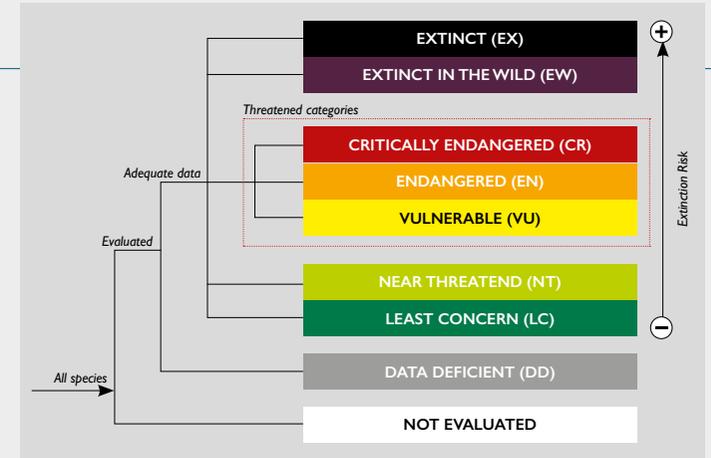


# THE STATUS OF WESTERN CAPE INDIGENOUS SPECIES

## HOW DEEP IN THE RED ARE WE?

The IUCN **Red List** is the world's most comprehensive information source on the global conservation status of wild species and their links to livelihoods. Far more than a list of species and their status, it is a tool to inform and catalyse action for biodiversity conservation, critical to protect the natural resources we need to survive.

This graph includes plant and animal groups for which South African conservation assessments (Regional IUCN Red Lists) have been done for the majority of members of the groups, and shows the percentages of the total number of known taxa in the Western Cape within the different IUCN threat categories





# THE STATUS OF WESTERN CAPE CONSERVATION ESTATE

CapeNature manages 16 Nature Reserve Complexes, comprising a total of **659 792 ha**, which includes **42 739.31 ha** of Marine Protected Areas.

- 87% of area of CapeNature-managed protected areas assessed score above the national threshold of 67% (Biennial METT-SA 2019-2020: Management Effectiveness Tracking Tool for South African Protected Areas).
- 11 Protected Area Complex Management Plans have been approved to date.

The CapeNature Protected Area Estate, totalling **976 639.98 ha**, includes CapeNature managed protected areas and formal stewardship sites supported by CapeNature.

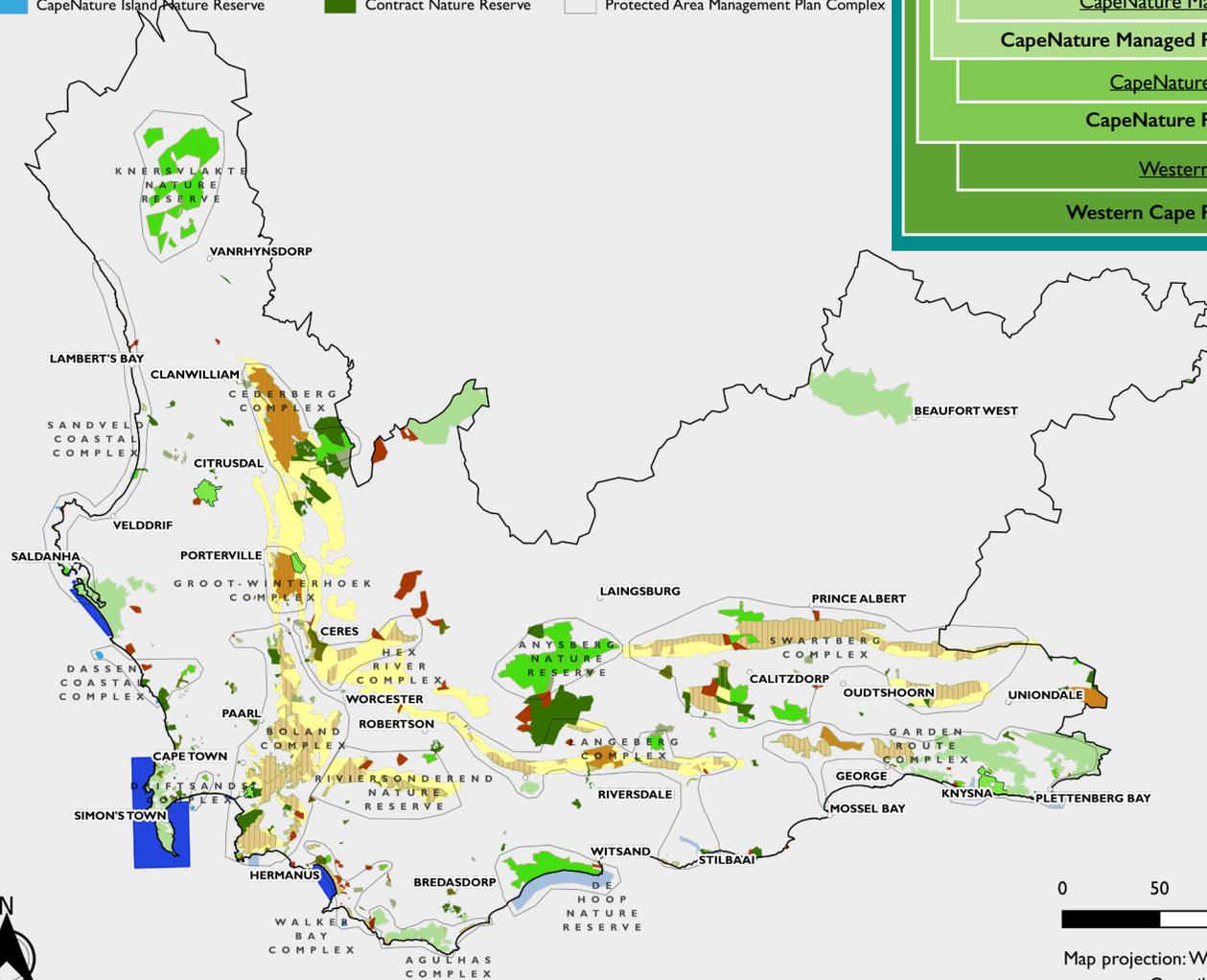
The Western Cape Protected Area Estate comprises approximately **1 894 570 ha** including National Parks, Local Authority Nature Reserves, Mountain Catchment Areas, Protected Environments, Private Nature Reserves and Marine Protected Areas.

The contribution of Conservancies, Biodiversity Agreements, Biodiversity Partnership Areas and Private Nature Reserves to the Conservation Estate in the Western Cape will be assessed against criteria for Other Effective Conservation Measures, when finalized.

## Western Cape Conservation Estate

- |  |                           |  |
|--|---------------------------|--|
| CapeNature Wilderness Area             | National Park             | TOWNS                                  |
| CapeNature State Forest Nature Reserve | Wilderness Area           | Biodiversity Agreement                 |
| CapeNature Provincial Nature Reserve   | Forest Nature Reserve     | Protected Natural Environment          |
| CapeNature Contract Nature Reserve     | Provincial Nature Reserve | Private Nature Reserve                 |
| CapeNature Special Nature Reserve      | Mountain Catchment Area   | Marine Protected Area                  |
| CapeNature Marine Protected Area       | Local Nature Reserve      | Protected Area Management Plan Complex |
| CapeNature Island Nature Reserve       | Contract Nature Reserve   |  |

## WESTERN CAPE



Western Cape Conservation Estate	Area (hectares)
State Conservation Land vested with CapeNature	659 792
CapeNature vested State Land/Sea Protected Areas	659 792
CapeNature Managed Protected Areas	145 154 +
CapeNature Managed Protected Area Estate	786 258
CapeNature Protected Area Estate	90 825 +
CapeNature Protected Area Estate	976 640
Western Cape Protected Areas	985 815 +
Western Cape Protected Area Estate	1 894 570

0 50 100 150 km

Map projection: WGS84 / UTM zone 34S  
Compiled: 2020/21





# THE STATUS OF THREATS TO WESTERN CAPE BIODIVERSITY

## THREATS TO BIODIVERSITY

	Invertebrates	Freshwater Fish	Marine Fish	Plants Terrestrial Ecosystems	Reptiles Amphibians	Birds	Marine Mammals	Terrestrial Mammals	Freshwater Ecosystems	Marine & Coastal Ecosystems
Habitat Loss / Degradation										
Climate Change										
Too-frequent fire										
Biological Invasions										
Transport Infrastructure										
Unsustainable Harvesting										
Pollution										
Illegal Harvesting										
Illegal Trade										

■ DIRECT THREAT ■ INDIRECT THREAT

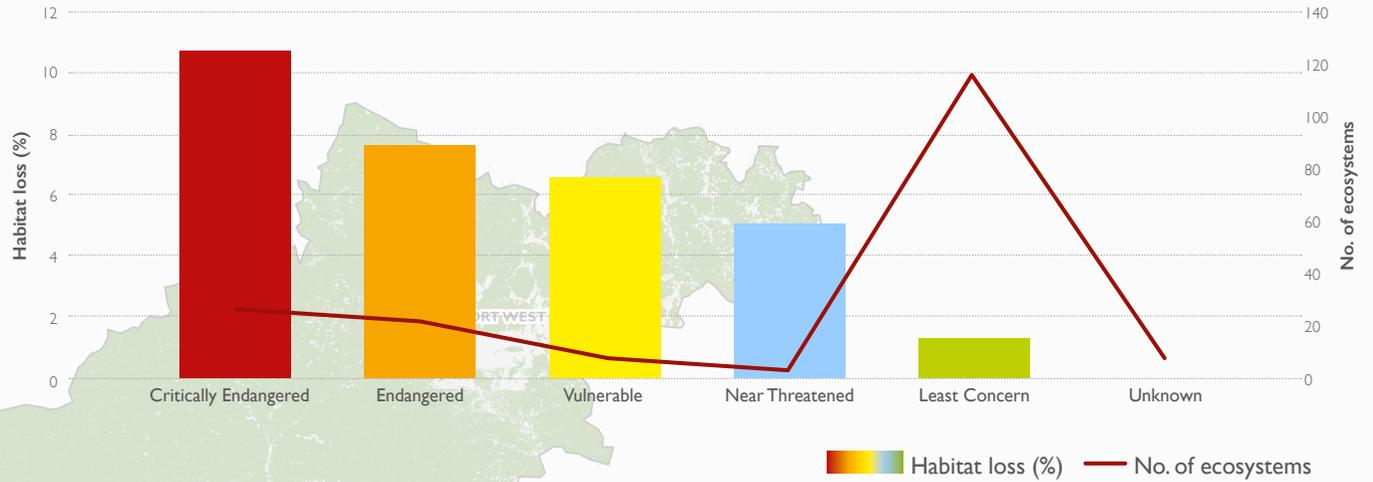


# THE STATUS OF HABITAT LOSS

Habitat loss is expressed as the change between two consecutive National Land Cover datasets: 2014 and 2018. Between 2014 and 2018, Critically Endangered ecosystems decreased in area by 10.7 % due to habitat loss. Similarly, Endangered, Vulnerable and Near Threatened ecosystems decreased by 7.6, 6.7 and 5.1 % respectively.



Percentage of Habitat Loss per Ecosystem Threat Status (ETS) Category



### Habitat Loss

- Lost Natural Habitat
- Intact Natural Habitat
- TOWNS
- Provincial Nature Reserves
- Marine Protected Areas



0 50 100 150 km

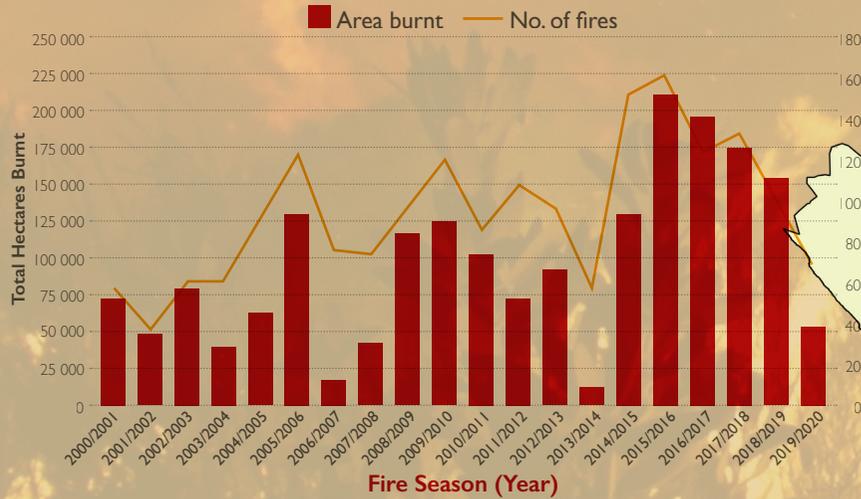
WESTERN CAPE

Map projection: WGS84 / UTM zone 34S

Compiled: 2020/21

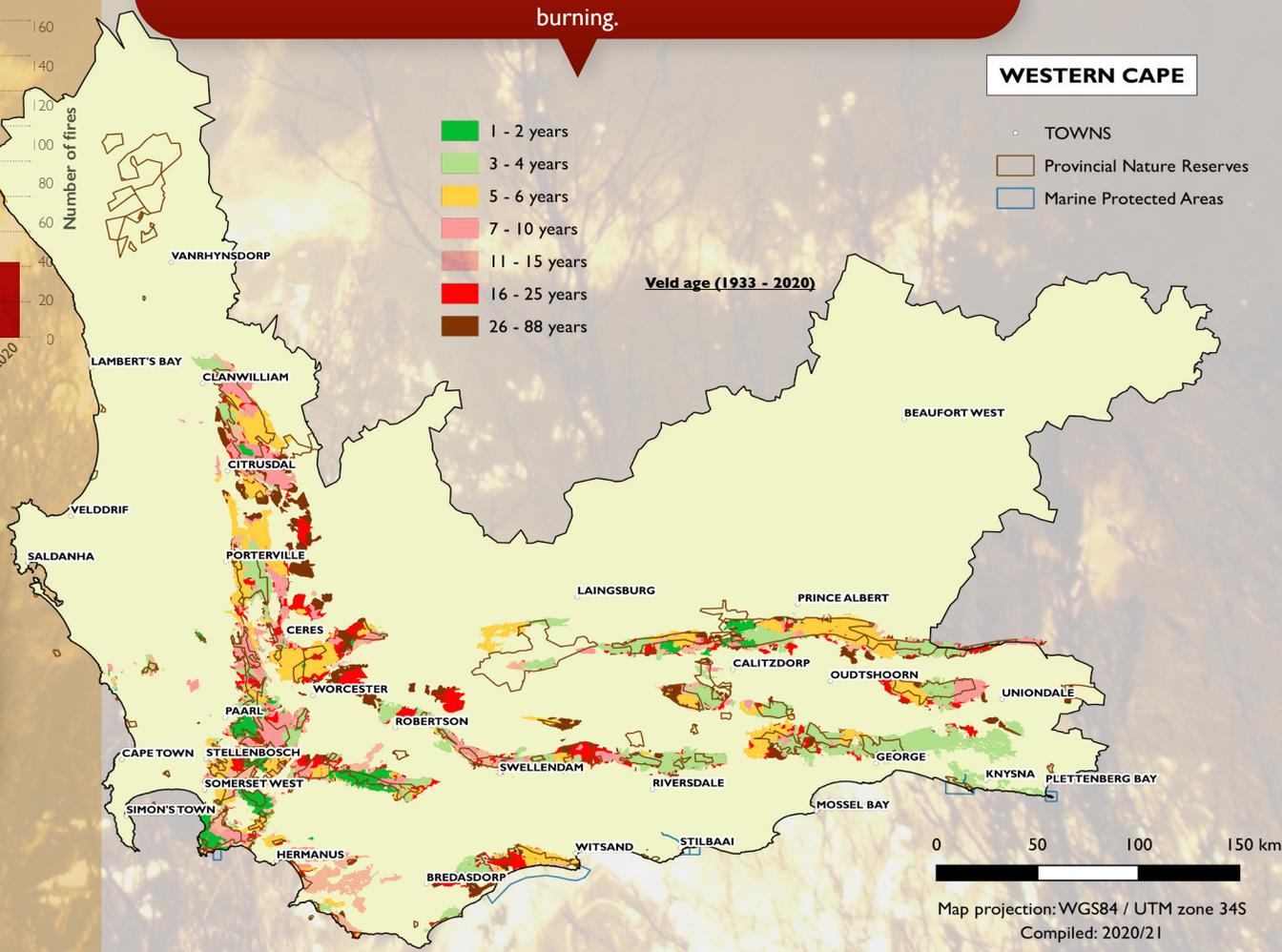


# STATUS OF FIRE



Veld Age Monitoring is used to provide a management indicator for assessing the impact of fires on biodiversity. Large portions of the natural vegetation in CapeNature managed protected areas are younger than 12 years, thus fire within CapeNature-managed protected areas is aimed at preventing young veld from burning.

The fynbos vegetation in the Western Cape is a fire-driven system. Too frequent fires, however, prevent plant species that take long to mature from setting seed and producing offspring. Apart from the most recent fire season, the number of fires and the area burnt has increased over the last 20 years on CapeNature managed protected areas. There are several factors that can influence the probability of a fire occurring including current weather conditions, age of the veld and fire suppression response.





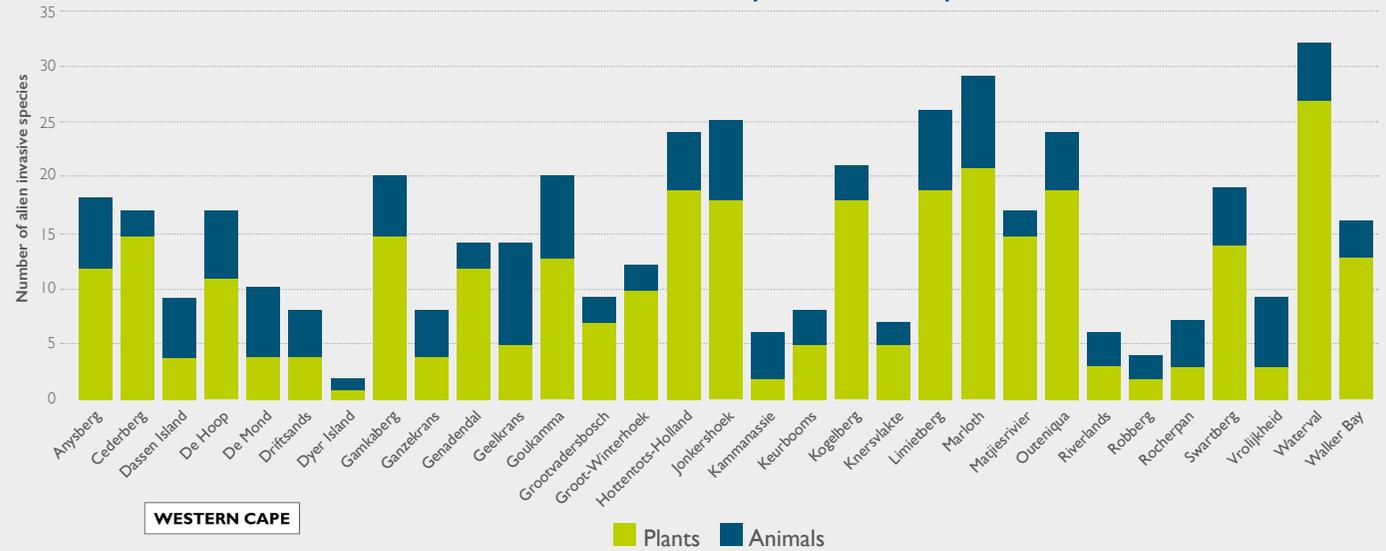
# THE STATUS OF BIOLOGICAL INVASIONS

Invasive species are a major threat to biodiversity and negatively impact entire ecosystems by:

- ▶ Transforming the structure and species composition
- ▶ Dominating or excluding native species
- ▶ Hybridising with native species
- ▶ Introducing and/or spreading diseases
- ▶ Causing severe declines or even localised extinctions of native biota

There are significant costs associated with invasive species, especially within the context of agricultural landscapes. The management of invasive species is resource intensive and requires ongoing resource allocation over a long period of time.

Numbers of NEMBA listed alien invasive species recorded per nature reserve



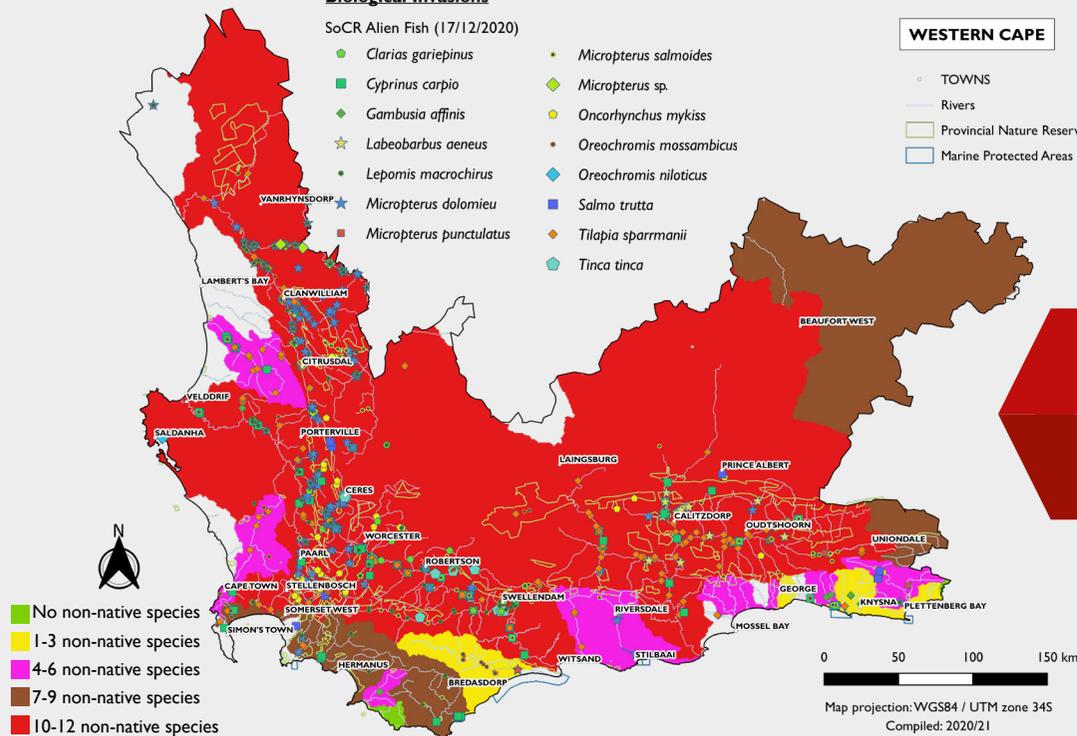
## Biological Invasions

SoCR Alien Fish (17/12/2020)

- |                                  |                                  |
|----------------------------------|----------------------------------|
| ● <i>Clarias gariepinus</i>      | ● <i>Micropterus salmoides</i>   |
| ■ <i>Cyprinus carpio</i>         | ◆ <i>Micropterus</i> sp.         |
| ◆ <i>Gambusia affinis</i>        | ● <i>Oncorhynchus mykiss</i>     |
| ★ <i>Labeobarbus aeneus</i>      | ● <i>Oreochromis mossambicus</i> |
| ● <i>Lepomis macrochirus</i>     | ◆ <i>Oreochromis niloticus</i>   |
| ★ <i>Micropterus dolomieu</i>    | ■ <i>Salmo trutta</i>            |
| ■ <i>Micropterus punctulatus</i> | ◆ <i>Tilapia sparrmanii</i>      |
|                                  | ● <i>Tinca tinca</i>             |

## WESTERN CAPE

- TOWNS
- Rivers
- Provincial Nature Reserves
- Marine Protected Areas

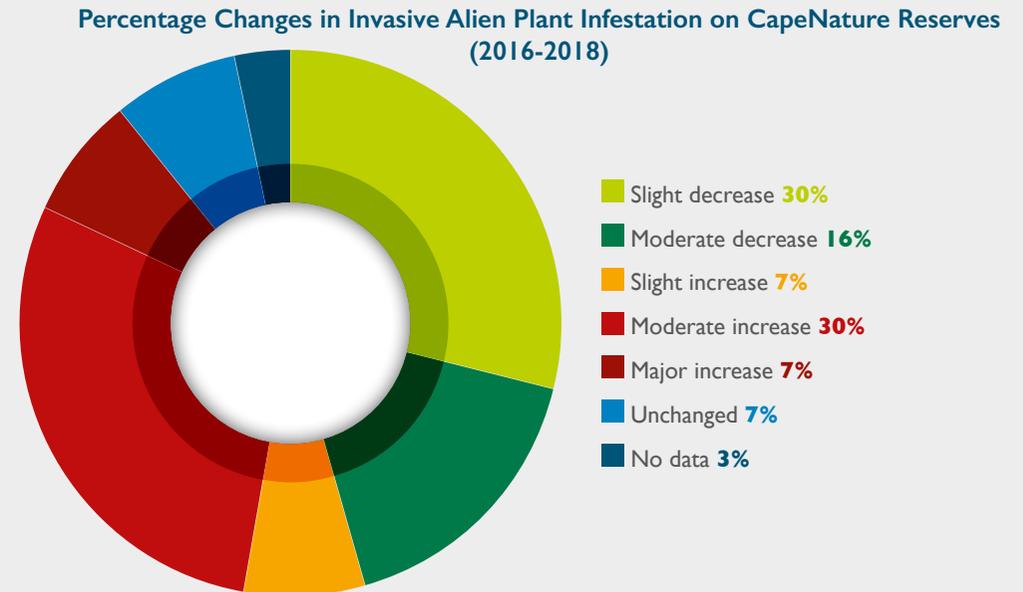
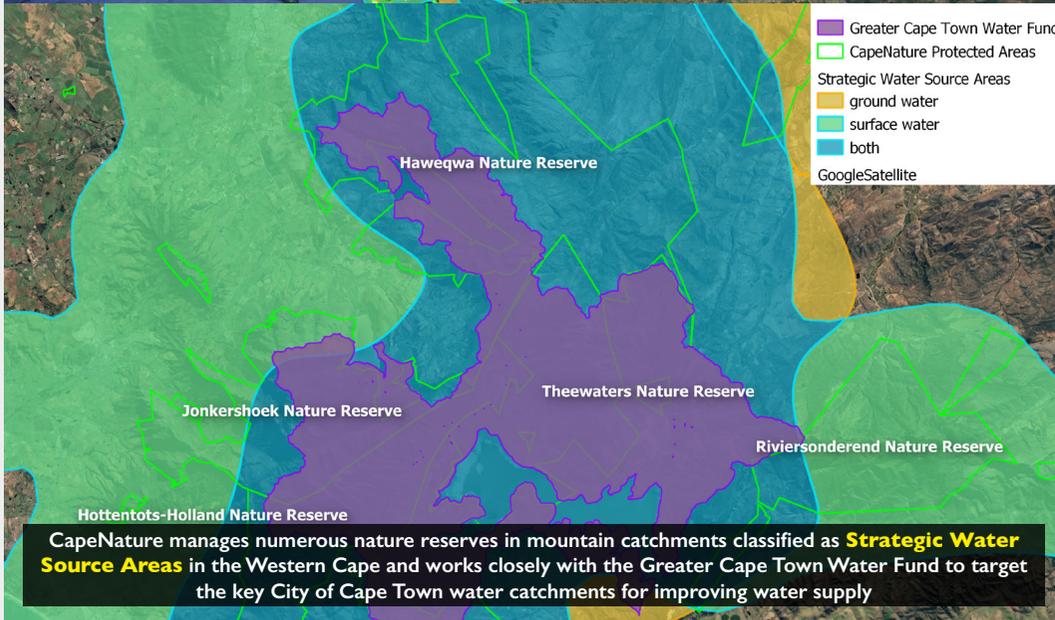
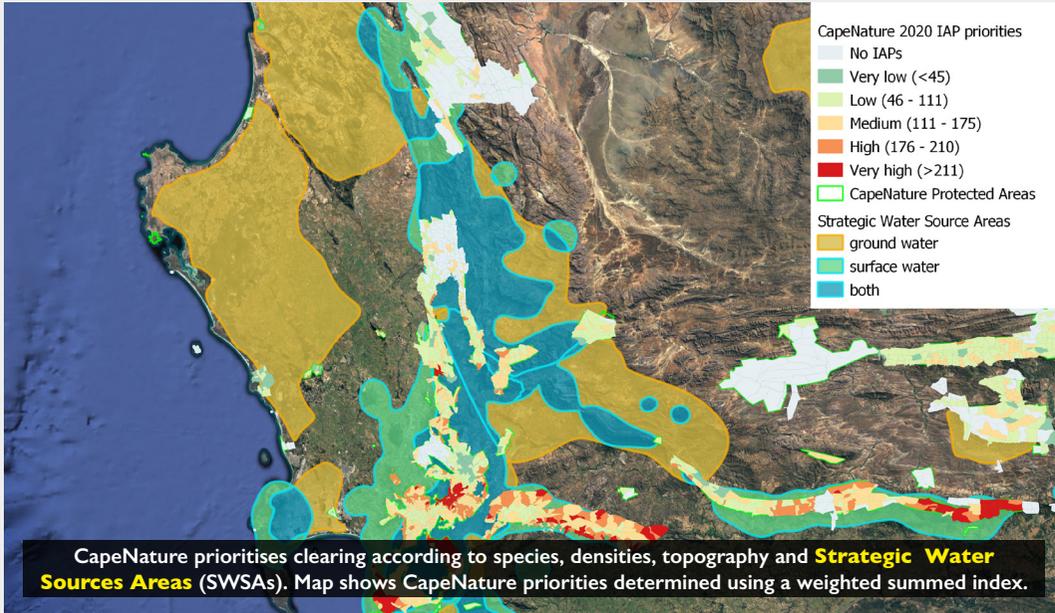


## INVASIVE FRESHWATER FISH: UNDER WATER AND OUT OF SIGHT

- ▶ To date, 15 alien freshwater fish species have been introduced throughout the Western Cape Province
- ▶ Invasive fish species are the primary threat to the long term survival of the majority of indigenous fish species through direct predation and competition for resources
- ▶ Management of invasive fish is challenging as many invasive fishes are considered **conflict species**, i.e. species that are of socio-economic importance, but also have a known negative ecological impact. Local examples are black bass (*Micropterus* spp.) and rainbow trout (*Oncorhynchus mykiss*)



# THE STATUS OF INVASIVE ALIEN PLANTS SPECIES (IAPS)





# BIODIVERSITY CRIME RESPONSE 2019-2020

**40** CRIMINAL DOCKETS OPENED

**6**  
National Prosecuting Authority declined to prosecute

**34**  
National Prosecuting Authority proceeding with prosecution

**82** FINES ISSUED

**17**  
Fishing without a license

**42**  
Possession of protected fauna or flora without documentation

**19**  
Picking of protected flora

**4**  
Other

**14**  
Still under investigation

**20**  
Completed

**R150 150**  
Admission of guilt fines issued

**5**  
Plea bargains

**8**  
Still ongoing

**7**  
Convictions



Illegal possession of 1 026 succulent plants. Both accused fined R500 000 or sentenced to 2 years imprisonment



Illegal possession of Armadillo girdled lizards. Both accused sentenced to 8 years direct imprisonment





# POLLUTION RESPONSE

## DIESEL SPILL IN THE GROOT RIVER IN THE SWARTBERG NATURE RESERVE

The Groot River, located within the greater Gouritz River system, is a fish sanctuary area of national importance and home to four indigenous freshwater fish species of conservation importance: the smallscale redfin *Pseudobarbus asper*, slender redfin *Pseudobarbus tenuis*, chubbyhead barb *Enteromius anoplus* and the Cape kurper *Sandelia capensis*.



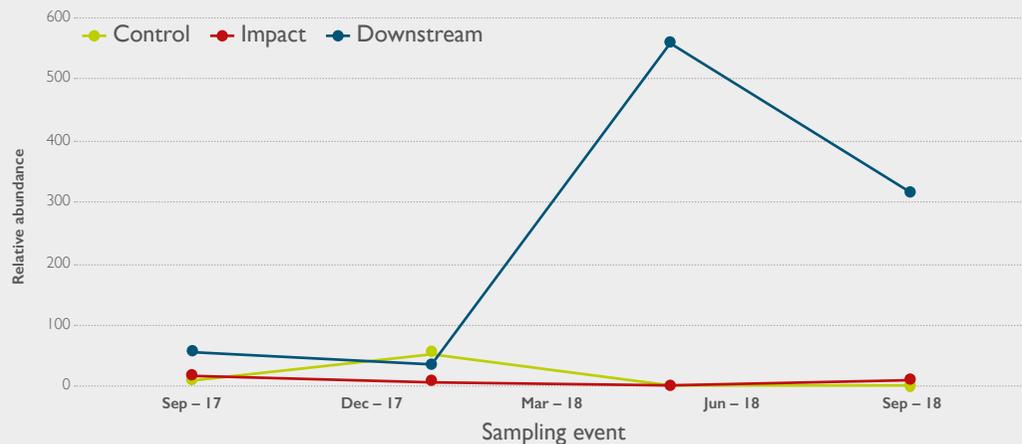
In August 2017, 40 000L of diesel spilled into the Groot River. Spill containment measures included containment berms, removal of contaminated soils and the use of absorbent materials to soak up diesel for later removal.

Diesel spills into an aquatic environment can have severe and long-term impacts. CapeNature conducts seasonal monitoring to quantify the impacts of the spill on the resident fish community.

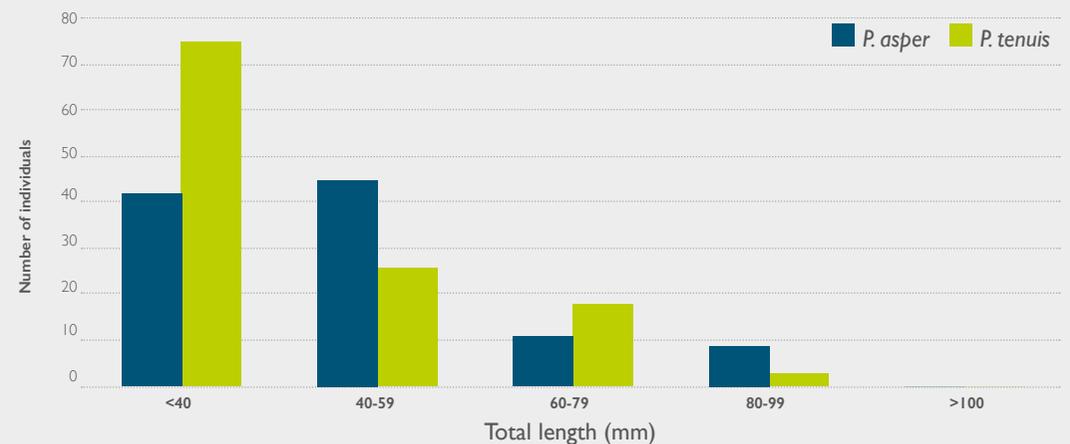


The Groot River at (a) the downstream sampling site and (b) at the impacted site during clean-up efforts

- Reduction in fish abundance in the impacted and downstream areas.
- One year later fish abundances were still low in the impacted area but numbers were higher in the downstream areas: a result of successful spawning combined with fish migrating out of the affected area.



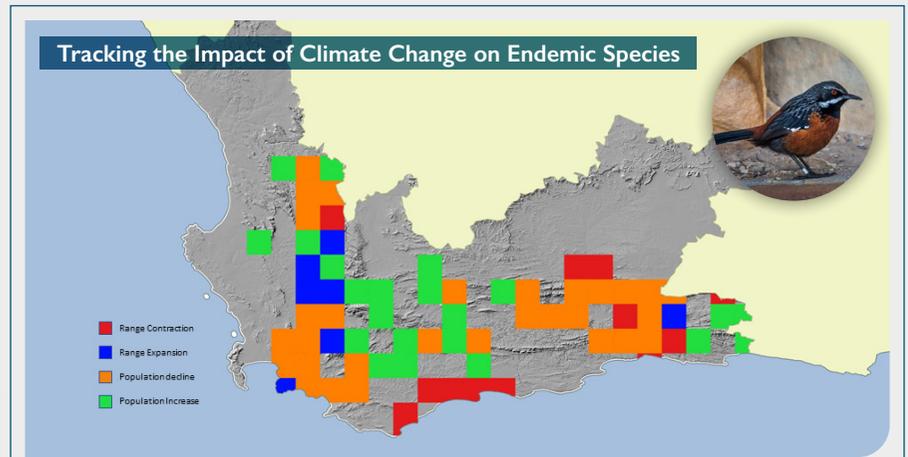
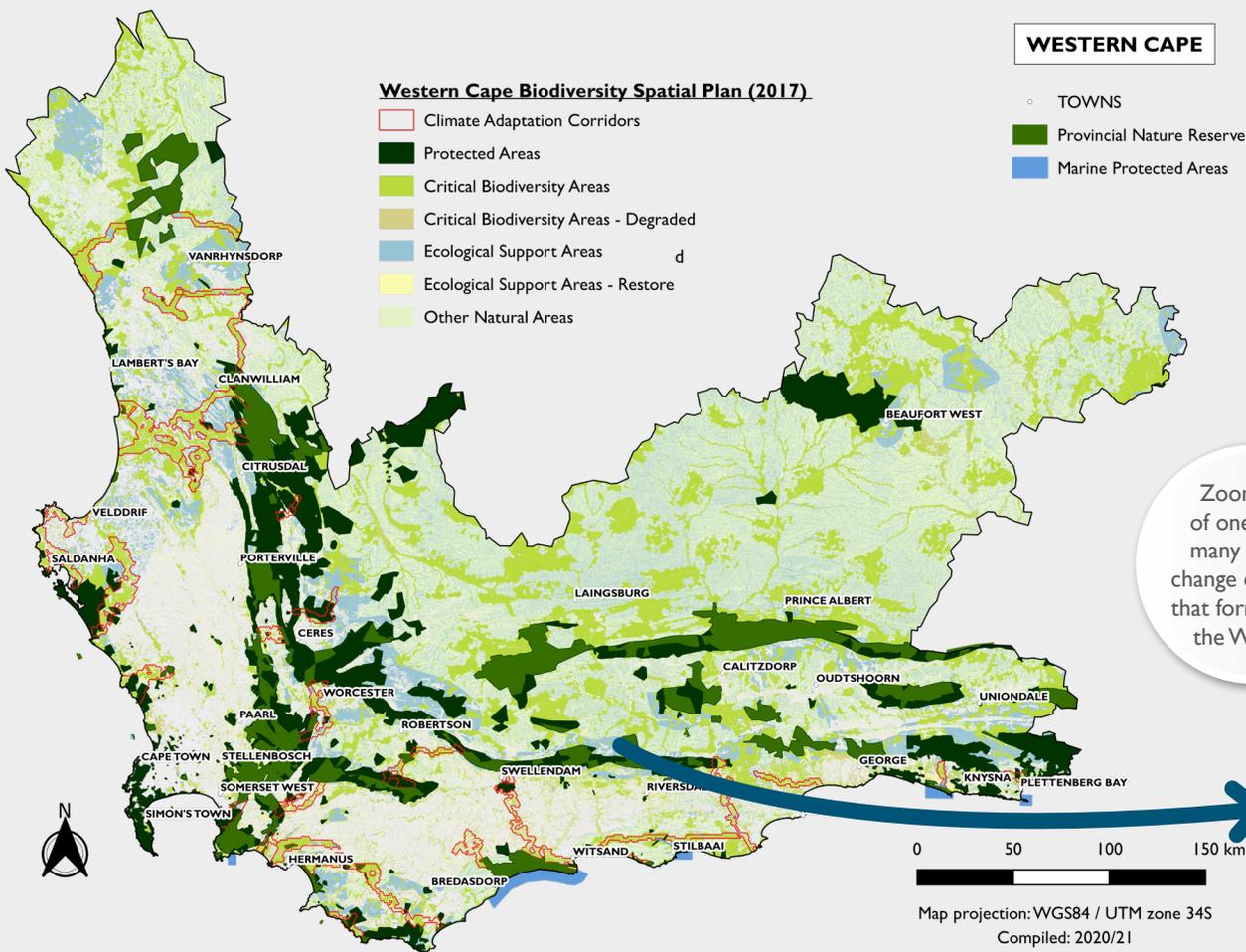
- The number of fish per size class for downstream areas one year after the spill. For both redfin species, small fish dominated the population, indicating successful spawning.





# CLIMATE CHANGE RESPONSE

- Between 2017 and 2020, the percentage area of climate change corridors within protected areas increased from 2,5 % to 10,68 %
- CapeNature's target focused Protected Area Expansion Strategy is informed by the Western Cape Biodiversity Spatial Plan (BSP) where ecological infrastructure and ecological corridors (**climate change adaptation features**) allow functional habitat connectivity, facilitating movement of species in response to environmental change
- Mitigation on CapeNature reserves includes low carbon footprint eco-developments



The map compares historical (1987-1991) and recent (2007-present) distribution range of the Cape Rock-jumper. This endemic species prefers higher lying areas and is susceptible to increasing temperatures. There is a strong indication that the changes depicted in the map are due to climate change. High altitude CapeNature reserves protect rock-jumper habitat.

Zoom-into one of the many climate change corridors that form part of the WC BSP.

**Location Information**

Lat: -33.342114 | Lon: 19.121424

Surveyor-General **Resource Layers**

**BSP 2017 Reasons**

Summary 1: Climate adaptation corridor (14.8), Ecological processes (8.8), River Type (2.72), SA Vegetation Type (12.97), Threatened Plant (1), Threatened Vertebrate (12.97), Water resource protection (11.27), Wetland Type (4.82)

Feature 1: Breede Shale Renosterveld (LT)

Feature 2: Cape Mountain Zebra



# CAPENATURE'S CONSERVATION STRATEGIES

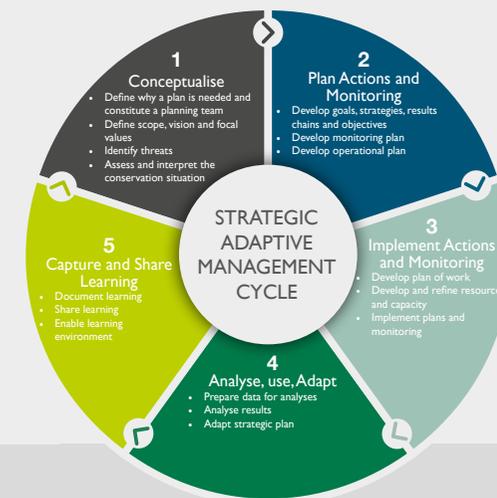
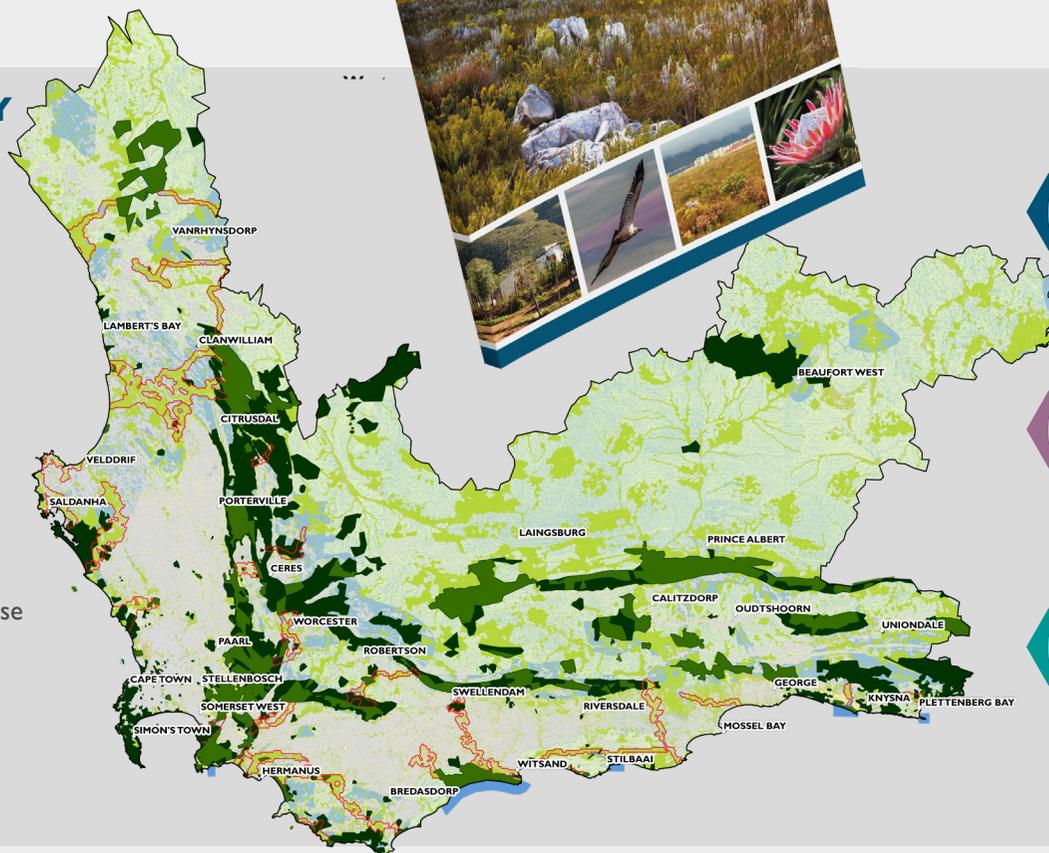
Implementation of conservation action, following a strategic adaptive management approach, is guided by management tools and informants, such as:

- Western Cape Biodiversity Spatial Plan
- Western Cape Protected Area Expansion Strategy
- Western Cape State of Biodiversity Report
- Protected Area Management Plans
- Biodiversity Management Plans for Species
- Nature Conservation Policies
- The Provincial Biodiversity Strategy and Action Plan (PBSAP) a sector based and joint Western Cape Department of Environmental Affairs and Develop Planning, and CapeNature initiative



## WESTERN CAPE BIODIVERSITY SPATIAL PLAN & IMPLEMENTATION STRATEGY

- Developed by CapeNature and the Western Cape Department of Environmental Affairs and Development Planning, published in 2017
- Updated every five years
- Nationally endorsed conservation planning methodology
- Spatial informant for identifying priority areas for the protection of biodiversity and ecological infrastructure
- Consists of spatial data and is accompanied by a handbook with contextual information and land use guidelines
- Accompanied by an accessible and simplified "Overview of the 2017 WC BSP"



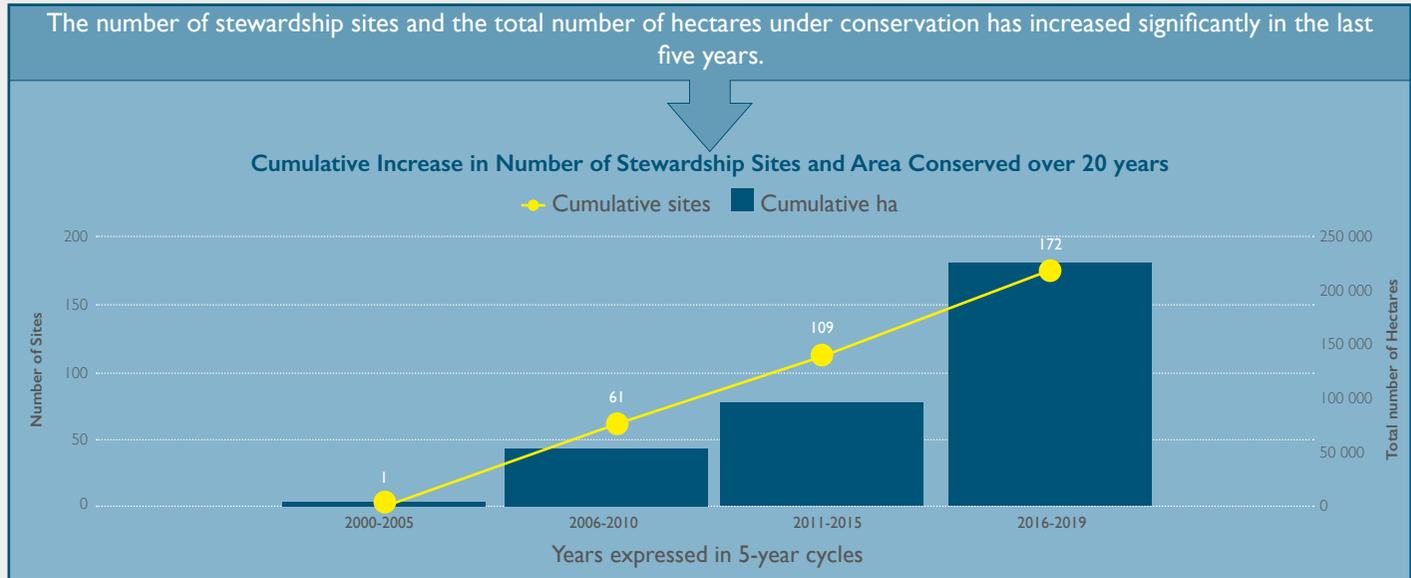


# STATUS OF THE WESTERN CAPE PROTECTED AREA EXPANSION STRATEGY

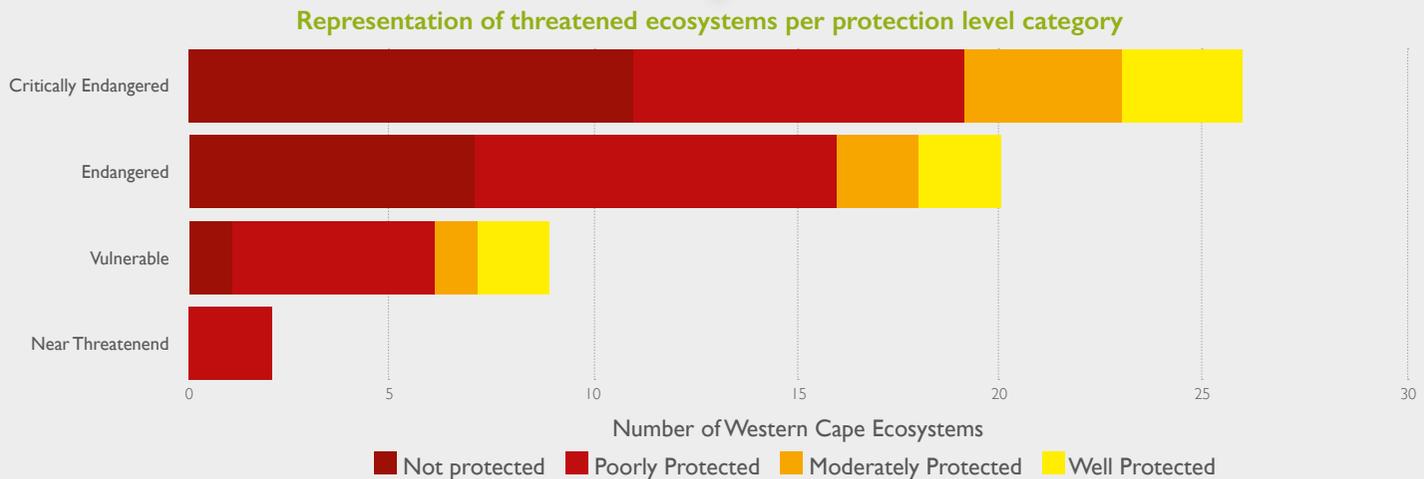
The **Western Cape Protected Area Expansion Strategy** (WC PAES 2015 to 2020) aligns with and informs the National Protected Area Expansion Strategy (NPAES). Provides guidance for strategic increase in the protected area network. Updated every 5 years.

- Added 63 sites covering **127 809.2 ha** to the conservation estate
- Added 12 sites representing the most poorly protected Critically Endangered ecosystems in the province
- Secured 14 sites representing unique freshwater ecosystems in five of the six district municipalities:
  - City of Cape Town (3); Cape Winelands (1); Eden (4); Overberg (3); West Coast (3)
- Secure protection of habitats for Threatened Species
  - Cape mountain zebra at 10 sites
  - Riverine rabbit at 1 site
  - Bird congregation sites at 1 site
  - Endemic fish at 5 sites
  - Endemic butterflies at 2 sites
  - Plant hotspots at 10 sites

<b>36 666.20 ha</b>	representing Threatened Ecosystems
<b>105 918.95 ha</b>	representing Habitats for Threatened Species (CR, EN & VU)
<b>14 973.60 ha</b>	representing Climate Change Corridors



The Western Cape Protected Area Expansion Strategy aims to increase representation of threatened ecosystem types in the conservation estate.



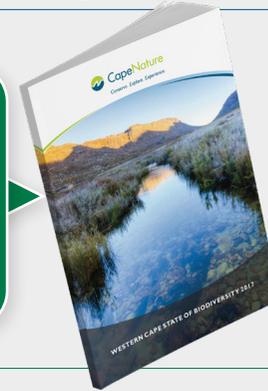


# STATUS OF RECOMMENDATIONS

## STATE OF BIODIVERSITY REPORT 2017

### THE WESTERN CAPE STATE OF BIODIVERSITY REPORT (SoBR)

- Published every five years since 2002
- Provides updates on the state and conservation status of ecosystems and species of the Western Cape Province
- Adjunct to the Western Cape State of the Environment Report (SoER) and the Provincial Biodiversity Strategy and Action Plan (PBSAP) published by the Western Cape Department of Environmental Affairs and Development Planning



Total Taxa in Western Cape	Threatened (2017)	Threatened (2020)	Number of actions identified per taxonomic group in the WC State of Biodiversity Report 2017				Number of actions identified in the WC SoBR 2017	Number WC SoBR 2017 identified actions implemented
			0	5	10	15		
41	22	22	Freshwater fish			8	8	
807	unknown	<b>105</b>	Marine fish			None identified	Not applicable	
60	9	<b>8</b>	Amphibians			17	16	
149	8	<b>7</b>	Reptiles			10	9	
337	28	<b>28</b>	Birds			8	6	
27	7	<b>7</b>	Marine mammals			6	6	
126	17	<b>16</b>	Terrestrial mammals			21	19	
13 509	1 866	<b>1 924</b>	Plants			7	5	

■ Not Implemented 
 ■ Implemented 
 ■ Long-term



# CAPENATURE'S CONSERVATION TOOLS

CapeNature procured and is configuring a Conservation Management System known as CMSi to support strategic adaptive management. CMSi harnesses GIS and database technology in a single tool that serves as the primary warehouse for all data related to reserve management and biodiversity.



**1** CapeNature Protected Area Management Plans

**2** BÖLAND MOUNTAIN COMPLEX PART OF THE CAPE FLORAL REGION PROTECTED AREAS WORLD HERITAGE SITE, WESTERN CAPE, SOUTH AFRICA Protected Area Management Plan 2019 - 2029

**2** WC Protected Area Expansion Strategy

**3** WESTERN CAPE BIODIVERSITY SPATIAL PLAN HANDBOOK 2017

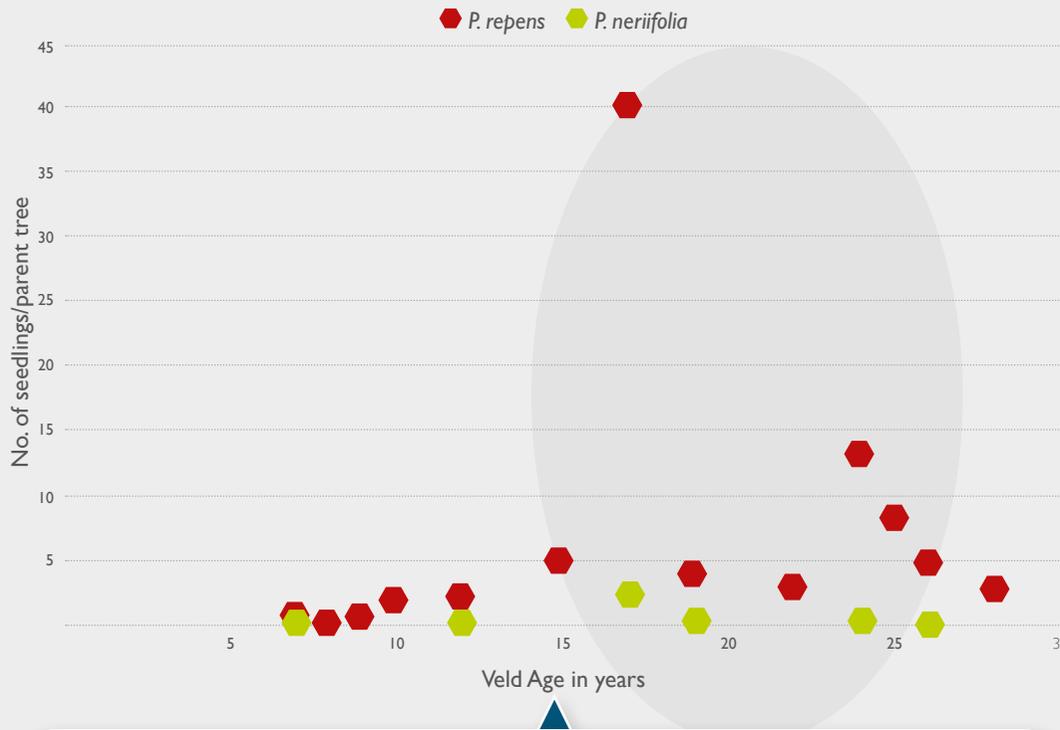
**3** Integrated Catchment Management Strategy

**3** Compliance and Enforcement Strategy



# MONITORING IMPACTS FIRE FREQUENCY AND PROTEA RECRUITMENT

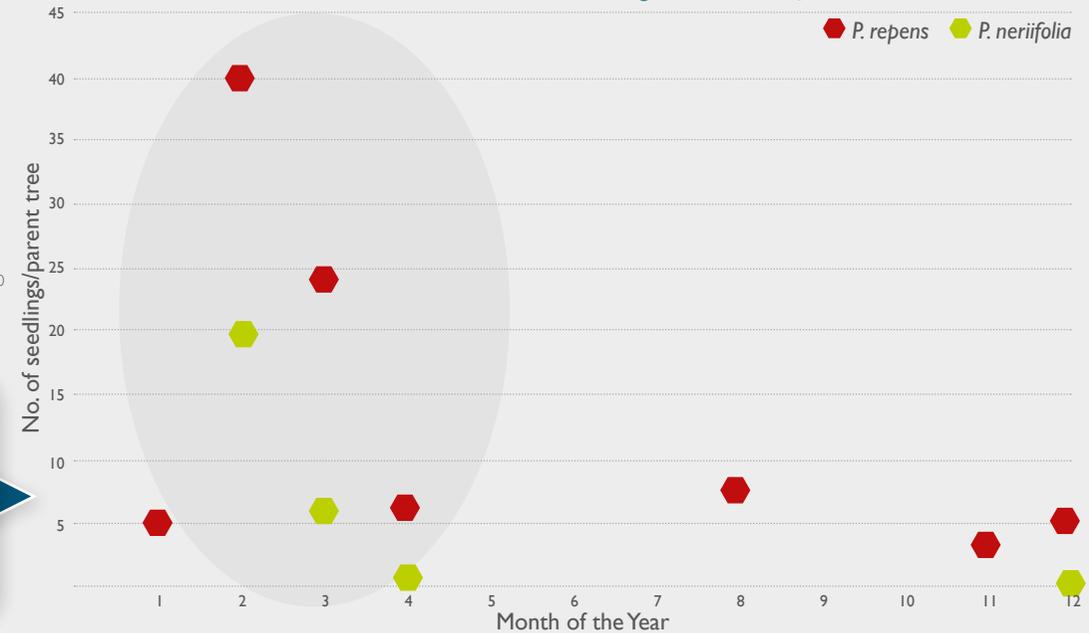
For Proteas to form dense stands they need to reproduce large numbers of seedlings that survive to reproduce the next generation of plants. Proteas depend on fire to reproduce. The number of seedlings produced by a parent plant is dependent on the timing of and the interval between fires.



Flower, burnt out flower and seedling of *Protea repens*



Flower, burnt out flower and seedling of *Protea neriifolia*



The two graphs show the relationship between the number of seedlings produced by *Protea repens* and *Protea neriifolia* relative to veld age and the season in which the fire occurred.

The number of seedlings produced was maximized when the intervals between fires were between 15 and 25 years and when the fires occurred in February, March and April (months 2 – 4).

\*Data is for the Gamkaberg World Heritage Site for fires occurring between 1980 to 2019.

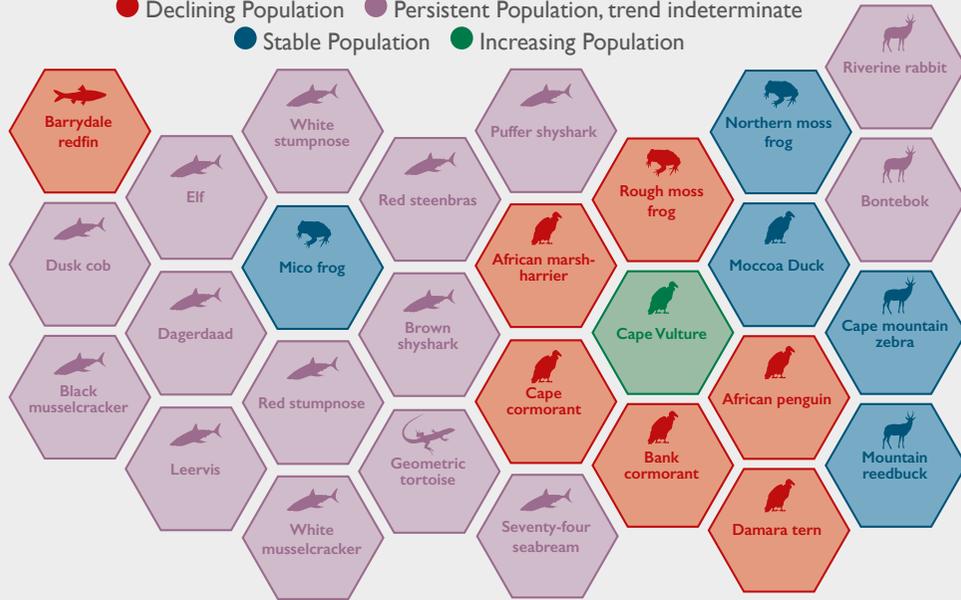


# MONITORING AND SURVEILLANCE PRIORITY SPECIES

CapeNature identified 146 terrestrial and freshwater species and 218 marine species for surveillance and monitoring in the Western Cape and tracks population trends for the identified priorities as indicated below.

## Population Trends for Priority Species Monitored or Surveyed - 2020

- Declining Population
- Stable Population
- Increasing Population
- Persistent Population, trend indeterminate



### Riverine rabbit *Bunolagus monticularis* (Critically Endangered)

Surveillance and monitoring of this species is reliant on partnerships with the Endangered Wildlife Trust (EWT) and private land owners who have contributed to a significant expansion of the known distribution range of this species in the Western Cape.

Photo: EWT



#### FRESHWATER FISH

#### MARINE FISH

#### AMPHIBIANS

#### REPTILES

#### BIRDS

#### TERRESTRIAL MAMMALS



Adult geometric tortoise



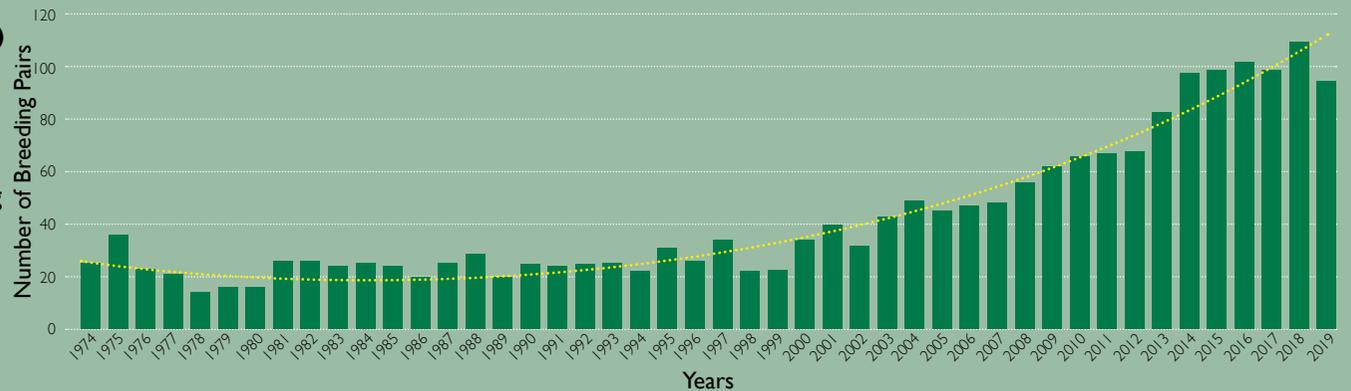
The conservation detection dog team at work

### Geometric tortoise *Psammodromus geometricus* (Critically Endangered)

Surveillance and monitoring of this species is enabled through partnerships with the Southern African Tortoise Conservation Trust. Mark-recapture and monitoring projects implemented by CapeNature employing a conservation detection dog team.

### Cape vulture *Gyps coprotheres* (Endangered)

The Cape vulture colony in De Hoop Nature Reserve is the only colony of this species within the Western Cape. Monitoring of breeding pairs has been ongoing since the mid-1970s and results indicate a steady increase in breeding pairs.



Vulture fitted with ID tags for long term monitoring.



# PARTNERSHIPS FOR CONSERVATION SUCCESSES

CapeNature acknowledges the importance of collaboration in sustaining biodiversity conservation and the Biodiversity Economy. CapeNature values and pursues working with communities, private landowners, civil society, conservation organisations, researchers, tertiary institutions and other spheres of government to deliver on conservation targets.

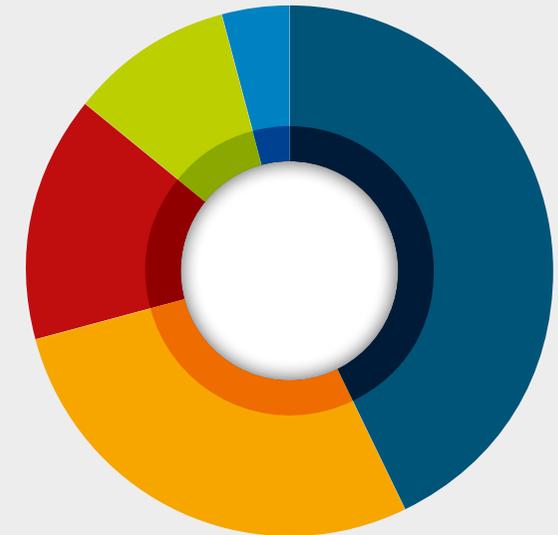
CapeNature engages in numerous, valued, formal and informal working collaborations.

The partners with whom the entity has formal agreements for biodiversity conservation, are listed below.

The Nature Conservancy spent **R3 753 596** clearing **3 833.13 hectares** of invasive plants on CapeNature-managed land (March 2019 to March 2020)

Greater City of Cape Town Water Fund, The Nature Conservancy, CapeNature, World Wide Fund for Nature - SA, Working on Fire (High Altitude Teams) and the City of Cape Town spent **R11 242 158.29** clearing invasive plants on **8 624 hectares** in seven priority areas

Percentage of Hectares Cleared, 2019 to 2020



- The Nature Conservancy **43%**
- CapeNature **28%**
- Working on Fire (High Altitude Team) **15%**
- WWF-SA **10%**
- City of Cape Town **4%**



# FURTHER READING BIBLIOGRAPHY AND LINKS

## BIBLIOGRAPHY

1. Bates MF, Branch WR, Bauer AM, Burger M, Marais J, Alexander GJ & de Villiers MS. 2014. Atlas and Red List of the Reptiles of South Africa, Lesotho and Swaziland. Suricata 1. South African National Biodiversity Institute, Pretoria. [http://biodiversityadvisor.sanbi.org/wp-content/uploads/2015/11/Suricata\\_1\\_2014.pdf](http://biodiversityadvisor.sanbi.org/wp-content/uploads/2015/11/Suricata_1_2014.pdf)
2. CapeNature. 2017. Western Cape Province State of Biodiversity 2017. Internal Report CapeNature. Stellenbosch. <https://www.capenature.co.za/about-us/2017-statebiodiversity-report-downloads/>
3. Marr SM, Impson ND & Tweddle D. 2012. An assessment of a proposal to eradicate non-native fish from priority rivers in the Cape Floristic Region, South Africa. African Journal of Aquatic Science. 37(2):Pages 131-142. <http://www.tandfonline.com/page/terms-and-conditions>
4. Mecenero S, Ball JB, Edge DA, Hamer ML, Henning GA, Krüger M, Pringle EL, Terblanche RF & Williams MC. 2013. Conservation Assessment of Butterflies of South Africa, Lesotho and Swaziland: Red List and Atlas. Safronics (Pty) Limited and the Animal Demography Unit. [https://www.researchgate.net/publication/279847777\\_Conservation\\_Assessment\\_of\\_Butterflies\\_of\\_South\\_Africa\\_Lesotho\\_and\\_Swaziland\\_Red\\_List\\_and\\_Atlas](https://www.researchgate.net/publication/279847777_Conservation_Assessment_of_Butterflies_of_South_Africa_Lesotho_and_Swaziland_Red_List_and_Atlas)
5. Minter LR, Burger M, Harrison JA, Braack HH, Bishop PJ & Kloepfer D. 2004. Atlas and Red Data Book of the Frogs of South Africa, Lesotho and Swaziland. SI/MAB Series 9. Smithsonian Institute, Washington DC. [https://www.researchgate.net/profile/Marius-Burger-2/publication/48378776\\_Atlas\\_and\\_Red\\_Data\\_Book\\_of\\_the\\_Frogs\\_of\\_South\\_Africa\\_Lesotho\\_and\\_Swaziland/links/56e4139508ae98445c1eef2c/Atlas-and-Red-Data-Book-of-the-Frogs-of-South-Africa-Lesotho-and-Swaziland.pdf](https://www.researchgate.net/profile/Marius-Burger-2/publication/48378776_Atlas_and_Red_Data_Book_of_the_Frogs_of_South_Africa_Lesotho_and_Swaziland/links/56e4139508ae98445c1eef2c/Atlas-and-Red-Data-Book-of-the-Frogs-of-South-Africa-Lesotho-and-Swaziland.pdf)
6. Mucina L & Rutherford MC. 2006. The Vegetation of South Africa, Lesotho and Swaziland. Strelitzia 19. South African National Biodiversity Institute, Pretoria. <https://www.sanbi.org/wp-content/uploads/2018/05/Strelitzia-19.pdf>
7. Nel JL, Murray KM, Maherry AM, Peterson CP, Roux DJ, Driver A, Hill L, van Deventer H, Funke N, Swartz ER, Smith-Adao LB, Mbona N, Downsborough L & Nienaber S. 2011. Technical Report for the National freshwater Ecosystem Priority Areas project. Report to the Water Research Commission. WRC Report No. 1801/2/11. [https://www.researchgate.net/profile/Nikki-Funke/publication/265385669\\_Technical\\_Report\\_for\\_the\\_National\\_Freshwater\\_Ecosystem\\_Priority\\_Areas\\_Project/links/5790cb0708ae64311c119cca/Technical-Report-for-the-National-Freshwater-Ecosystem-Priority-Areas-Project.pdf](https://www.researchgate.net/profile/Nikki-Funke/publication/265385669_Technical_Report_for_the_National_Freshwater_Ecosystem_Priority_Areas_Project/links/5790cb0708ae64311c119cca/Technical-Report-for-the-National-Freshwater-Ecosystem-Priority-Areas-Project.pdf)
8. Samways MJ & Simaika JP. 2016. Manual of Freshwater Assessment

for South Africa: Dragonfly Biotic Index. Suricata 2. South African National Biodiversity Institute, Pretoria. <http://opus.sanbi.org/handle/20.500.12143/5654>

9. Sink KJ, van der Bank MG, Majiedt PA, Harris LR, Atkinson LJ, Kirkman SP, Karenyi N. 2019. South African National Biodiversity Assessment 2018. Technical Report Volume 4: Marine Realm. South African National Biodiversity Institute, Pretoria. <http://hdl.handle.net/20.500.12143/6372>
10. Sintayehu DW. 2018. Impact of climate change on biodiversity and associated key ecosystem services in Africa: a systematic review. Ecosystem Health and Sustainability. Taylor & Francis Group and Science Press. 4(9):Pages 225 – 239. <https://www.tandfonline.com/doi/pdf/10.1080/20964129.2018.1530054?needAccess=true>
11. Skowno AL, Poole CJ, Raimondo DC, Sink KJ, Van Deventer H, Van Niekerk L, Harris LR, Smith-Adao LB, Tolley KA, Zengeya TA, Foden WB, Midgley GF & Driver A. 2019. National Biodiversity Assessment 2018: The status of South Africa's ecosystems and biodiversity. Synthesis Report. South African National Biodiversity Institute, an entity of the Department of Environment, Forestry and Fisheries, Pretoria. Pages 1–214. <http://hdl.handle.net/20.500.12143/6362>
12. Skowno AL, Raimondo DC, Poole CJ, Fizzotti B & Slingsby JA. 2019. South African National Biodiversity Assessment 2018. Technical Report Volume 1: Terrestrial Realm. South African National Biodiversity Institute, Pretoria. <http://hdl.handle.net/20.500.12143/6370>
13. Skelton PH. 1977. South African Red Data Book – Fishes. A report for the National Programme for Environmental Sciences. South African National Scientific Programmes Report No. 14, July 1977, Pretoria. <http://hdl.handle.net/10204/2369>
14. Taylor MR, Peacock F & Wanless RM. 2015. The 2015 Eskom Red Data Book of Birds of South Africa, Lesotho and Swaziland. BirdLife South Africa, Johannesburg. <https://www.birdlife.org.za/media-and-resources/the-eskom-red-data-book-of-birds/>
15. Underhill LG, Loftie-Eaton M & Navarro R. 2018. Dragonflies and damselflies of the Western Cape – OdonataMap Report, August 2018. Biodiversity Observations. 9(7):Pages 1-21. <https://journals.uct.ac.za/index.php/BO/article/view/643/554>
16. Van Deventer H, Smith-Adao L, Collins NB, Grenfell M, Grundling PL, Impson D, Job N, Lötter N, Ollis D, Petersen C, Shermann P, Sieben P, Snaddon K & Van der Colff D. 2019. South African National Biodiversity Assessment 2018: Technical Report. Volume 2b: Inland Aquatic (Freshwater) Realm. CSIR report number CSIR/NRE/ECOS/IR/2019/0004/A. South African National Biodiversity Institute, Pretoria. <http://hdl.handle.net/20.500.12143/6230>

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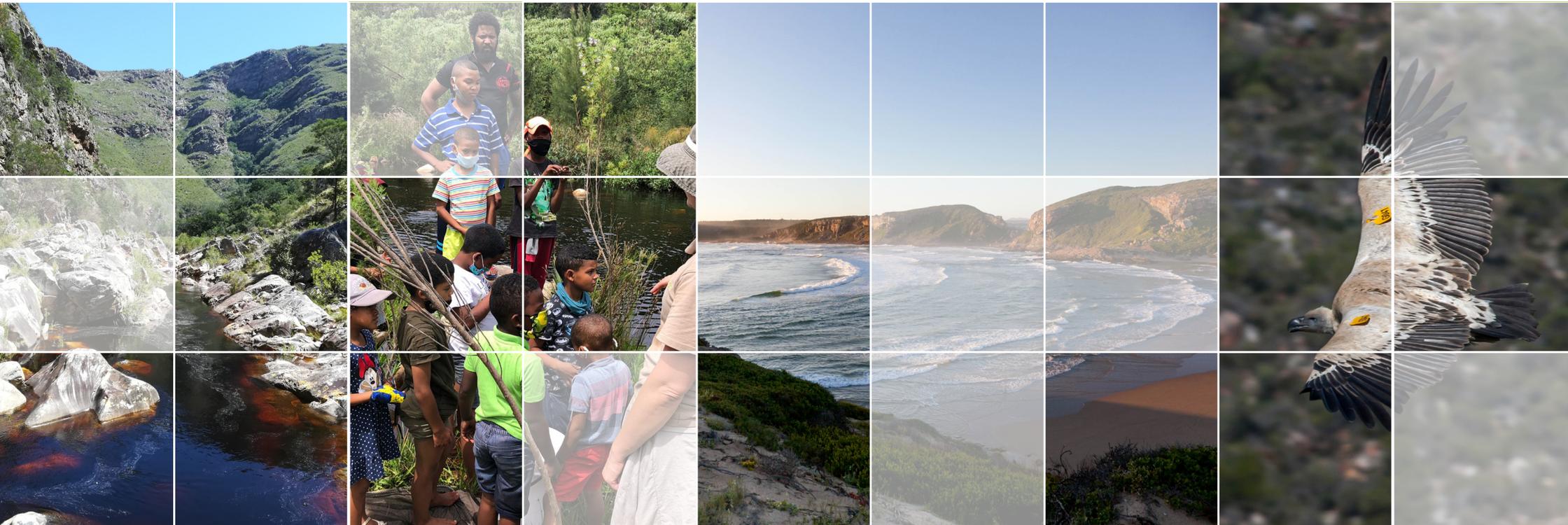
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Environmental Affairs and  
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