

**Agreement on the Conservation of African-Eurasian  
Migratory Waterbirds (AEWA)**

**Draft International Multi-species Action Plan for the Conservation of  
Benguela Current Upwelling System Coastal Seabirds**

**Version for consultation with the Range States (July 2015)**

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*Prepared by BirdLife South Africa*

*With support from...*

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Milestones in the production of the plan:

[...]

Geographical Scope: This MSAP shall be implemented in the following countries – Angola, Namibia and South Africa, including their Exclusive Economic Zones (EEZs; 200 nautical miles).

Species Scope: This Multi-species Action Plan covers the following nine species – Jackass Penguin (*Spheniscus demersus*), Bank Cormorant (*Phalacrocorax neglectus*), Cape Cormorant (*Phalacrocorax capensis*), Cape Gannet (*Morus capensis*), African Oystercatcher (*Haematopus moquini*), Crowned Cormorant (*Microcarbo coronatus*), Damara Tern (*Sternula balaenarum*), Caspian Tern (*Sterna caspia*) and Greater Crested Tern (*Thalasseus bergii bergii*)

Reviews: This plan should be reviewed and updated every ten years (next review in 2026). An emergency review will be undertaken if there is a significant change to the species' status before the next scheduled review.

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Picture on the cover: tbd

PLEASE NOTE: The taxonomic order and names of species (*apart from some of the figures, which will be amended in the final draft*) follow the Handbook of the Birds of the World/BirdLife International Illustrated Checklist of the Birds of the World, Volume 1: Non-passerines, by Josep del Hoyo, Nigel J. Collar, David A. Christie, Andrew Elliot and Lincoln D.C. Fishpool (2014).

## Table of Contents

List of acronyms and abbreviations .....	4
Preface .....	5
Executive Summary .....	6
1. Scope .....	8
1.1. Geographic scope .....	8
1.2. Taxonomic scope .....	8
2. Biological assessment .....	10
2.1 African Penguin <i>Spheniscus demersus</i> .....	10
2.2 Bank Cormorant <i>Phalacrocorax neglectus</i> .....	12
2.3 Cape Cormorant <i>Phalacrocorax capensis</i> .....	13
2.4 Cape Gannet <i>Morus capensis</i> .....	15
2.5 African Oystercatcher <i>Haematopus moquini</i> .....	16
2.6 Crowned Cormorant <i>Microcarbo coronatus</i> .....	17
2.7 Damara Tern <i>Sternula balaenarum</i> .....	18
2.8 Caspian Tern <i>Hydroprogne caspia caspia</i> .....	19
2.9 Greater Crested Tern <i>Thalasseus bergii bergii</i> .....	21
3. Threats .....	23
3.1. Lack of food and low quality prey .....	23
3.2. Oil spills and oiling .....	24
3.3. Predation .....	25
3.4. Human disturbance .....	27
3.5. Lack of breeding habitat .....	27
3.6. Direct impact of fisheries .....	27
3.7. Disease .....	28
3.8. Environmental change .....	28
3.9. Mining and oil and gas exploitation .....	28
4. Policies and legislation relevant for management .....	32
International Level .....	32
Angola .....	37
Namibia .....	37
South Africa .....	41
Monitoring and research .....	44
Angola .....	44
Namibia .....	44
South Africa .....	45
5. Framework for action .....	46
5.1. Goal .....	46
5.2. Purpose .....	46
5.3. Objectives .....	46
5.4. Results and Actions .....	48
6. International Coordination of Action Plan Implementation .....	57
7. References .....	57

## ***List of acronyms and abbreviations***

ABNJ	Areas Beyond National Jurisdiction
ACAP	Agreement on the Conservation of Albatrosses and Petrels
AGO	Angola
APCP	African Penguin Conservation Project
ATF	Albatross Task Force
AEWA	African-Eurasian Waterbird Agreement
ATLAFCO	Ministerial Conference on Fisheries Cooperation among African States Bordering the Atlantic Ocean
BCC	Benguela Current Commission
BCLME	Benguela Current Large Marine Ecosystem
CBD	Convention on Biological Diversity
CMS	Convention on Migratory Species
CITES	Convention on the International Trade in Endangered Species
DAFF	Department of Agriculture, Forestry and Fisheries (South Africa)
DEA O&C	Department of Environmental Affairs: Branch Oceans and Coasts (South Africa)
EAF	Ecosystem Approach to Fisheries management
EIA	Environmental Impact Assessment
eKZN Wildlife	Ezemvelo KwaZulu-Natal Wildlife (South Africa)
IBA	Important Bird and Biodiversity Area
INIP	Instituto Nacional de Investigação Pesqueira (Angola)
IUCN	International Union for the Conservation of Nature
MaRe	Marine Research Institute (South Africa)
MARPOL	International Convention for the Prevention of Pollution from Ships
MFMR	Marine Fisheries and Marine Resources (Namibia)
MET	Ministry of Environment and Tourism (Namibia)
NAM	Namibia
NACOMA	Namibian Coast Conservation and Management Project
NIMPA	Namibian Islands Marine Protected Area
NGO	Non-Governmental Organisation
OPRC	International Convention on Oil Pollution Preparedness, Response and Cooperation
RFMO	Regional Fisheries Management Organisation
SADC	Southern African Development Community
SAMSA	South African Maritime Safety Association
SANCCOB	Southern African Foundation for the Conservation of Coastal Birds
SANParks	South African National Parks
SEAFO	South East Atlantic Fisheries Organisation
UNCLOS	UN Convention on the Law of the Sea
ZAF	South Africa

**Preface** *(to be included)*

CONSULTATION DRAFT - NOT FOR DISTRIBUTION

## Executive Summary

The Benguela Current Large Marine Ecosystem (BCLME) is recognised as a discrete biogeographical entity within the territorial waters of Angola, Namibia and South Africa. It has a diverse seabird assemblage, with several breeding endemic species. This Multi-species Action Plan covers nine species in the BCLME and parts of their non-breeding range that extend beyond the BCLME area. The species listed below are included because of their priority conservation status and categorisation under the African-Eurasian Waterbird Agreement (AEWA):

- Jackass Penguin (*Spheniscus demersus*): Endangered
- Bank Cormorant (*Phalacrocorax neglectus*): Endangered
- Cape Cormorant (*Phalacrocorax capensis*): Endangered
- Cape Gannet (*Morus capensis*): Vulnerable
- African Oystercatcher (*Haematopus moquini*): Near Threatened
- Crowned Cormorant (*Microcarbo coronatus*): Near Threatened
- Damara Tern (*Sternula balaenarum*): Near Threatened
- Caspian Tern (*Hydroprogne caspia caspia*): Least Concern
- Greater Crested Tern *Thalasseus bergii* (ssp. *bergii*): Least Concern

Many of these species rely on the same rocky, offshore island habitats for breeding, although the Damara and Caspian terns tend to breed on the mainland coast. Most species forage in nearshore waters, with only the Cape Gannet foraging further than 100 km from the coast. Five of these species rely on commercially exploited prey species. The Jackass Penguin, Cape Cormorant, and Cape Gannet, forage predominantly on sardine (*Sardinops sagax*) and anchovy (*Engraulis encrasicolus*) while the Bank Cormorant feeds on West coast rock lobster (*Jasus lalandi*; in South Africa). The other species feed on a variety of fish and invertebrates.

A lack of readily available and good quality prey affects the four species which feed on commercially exploited species. They have been impacted both by a shift in prey stocks (sardine as well as West coast rock lobster) in South Africa, localised fishing effects in South Africa and overfishing in Namibia. Other significant threats include oil spills (which affect the Jackass Penguin most strongly, but affects all species to some extent), displacement by seals (all but the Greater Crested Tern), and predation by terrestrial mammalian predators, Kelp Gulls and Cape fur seals (all species to varying degrees). Human disturbance, especially coastal construction, affects the species which breed on the mainland such as Damara Tern and African Oystercatcher. There are substantial gaps in knowledge of the impacts of marine mining, particularly bulk sediment mining, levels of seabirds bycatch in gillnet fisheries and the impacts of climate change. Direct mortality as bycatch in longline and trawl fishing operations only affects one species significantly - the Cape Gannet - and these threats are currently dealt with through other processes and are therefore not elaborated on here.

The vision of this plan is for “Abundant seabirds in a bountiful Benguela” and the goal is to restore Benguela seabird species to a favourable conservation status by 2040. Objectives to achieve that goal include: to manage fish stocks for their recovery and maintenance at agreed levels, to reduce the number of seabird deaths due to pollution, to minimise displacement and predation at colonies, and to fill key knowledge gaps on the impacts of threats, especially those relating to mining impacts and gillnet mortalities.

High priority actions proposed to reach these objectives include:

- Fish stock recovery actions such as identifying further ecologically meaningful biomass thresholds for forage fish stocks as they relate to seabird foraging requirements and establishing transboundary collaboration for coherent Marine Protected Areas networks to be established in the region. Increasing scientific capacity in the region is also a key part of addressing this action.
- Preventing seals from settling at sensitive sites.
- Developing and implementing protocols for the control of seals and Kelp Gulls involved in predation on seabirds as well as removing existing predators at key existing seabird breeding sites and excluding terrestrial mammalian predators from proposed new sites.
- Strengthening environmental management legislation and its implementation as it relates to coastal development.
- A suite of oil spill prevention actions from strengthening legislative frameworks for vessel oil spill responses to developing national oil spill contingency plans.
- Research into the effects of marine mining, and oil and gas exploration on seabirds.

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# 1. Scope

## 1.1. Geographic scope

This action plan covers the countries of Angola, Namibia and South Africa (**Figure 1**) including their Exclusive Economic Zones (EEZs; 200 nautical miles). It is intended to cover the entire Benguela Current Upwelling system but also includes those parts of the ranges of Benguela-endemic species that extend beyond the Benguela Current.



**Figure 1: The three countries covered in this plan.**

## 1.2. Taxonomic scope

Nine species from within the region are included in this plan (Table 1) because of their priority conservation status and categorisation under the African-Eurasian Waterbirds Agreement (AEWA) in Column A of Table 1 of the Agreement’s Action Plan. In most cases these species face similar threats, which can be addressed by similar actions.

**Table 1:** The International Union for the Conservation of Nature (IUCN) Red List status, global population trends and AEWA Table 1 categorisation of the nine species considered in this plan.

Common name	Species name	Current IUCN Red List category	Global population trend	AEWA Table 1 <sup>1</sup>

<sup>1</sup> Categories to be updated upon adoption of amendments to Table 1 by MOP6

**Column A**  
Category 1:

Jackass Penguin	<i>Spheniscus demersus</i>	Endangered	Decreasing	A: 1b B: 2a, 2c
Bank Cormorant	<i>Phalacrocorax neglectus</i>	Endangered	Decreasing	A: 1b, 2
Cape Cormorant	<i>Phalacrocorax capensis</i>	Endangered	Decreasing	A: 4
Cape Gannet	<i>Morus capensis</i>	Vulnerable	Decreasing	A: 1b B: 2a, 2c
African Oystercatcher	<i>Haematopus moquini</i>	Near Threatened	Increasing	A: 1c
Crowned Cormorant	<i>Microcarbo coronatus</i>	Near Threatened	Stable	A: 1c
Damara Tern	<i>Sternula balaenarum</i>	Near Threatened	Stable	A: 2
Caspian Tern	<i>Sterna caspia</i>	Least Concern	Increasing	A: 1c
Greater Crested Tern	<i>Sterna bergii</i> (ssp. <i>bergii</i> )	Least Concern	Stable	A: 2

- (a) Species, which are included in Appendix I to the Convention on the Conservation of Migratory species of Wild Animals;
- (b) Species, which are listed as threatened on the IUCN Red list of Threatened Species, as reported in the most recent summary by BirdLife International; or
- (c) Populations, which number less than around 10,000 individuals.

Category 2: Populations numbering between around 10,000 and around 25,000 individuals.

Category 3: Populations numbering between around 25,000 and around 100,000 individuals and considered to be at risk as a result of:

- (a) Concentration onto a small number of sites at any stage of their annual cycle;
- (b) Dependence on a habitat type, which is under severe threat;
- (c) Showing significant long-term decline; or
- (d) Showing large fluctuations in population size or trend.

Category 4: Species, which are listed as Near Threatened on the IUCN Red List of Threatened species, as reported in the most recent summary by BirdLife International, but do not fulfil the conditions in respect of Category 1, 2 or 3, as described above, and which are pertinent for international action.

#### Column B

Category 1: Populations numbering between around 25,000 and around 100,000 individuals and which do not fulfil the conditions in respect of Column A, as described above.

Category 2: Populations numbering more than around 100,000 individuals and considered to be in need of special attention as a result of:

- (a) Concentration onto a small number of sites at any stage of their annual cycle;
- (b) Dependence on a habitat type, which is under severe threat;
- (c) Showing significant long-term decline; or
- (d) Showing large fluctuations in population size or trend.

## 2. Biological assessment

### 2.1 Jackass Penguin *Spheniscus demersus*

**HISTORICAL DISTRIBUTION:** Breeding in South Africa and Namibia. Vagrant birds have been found as far as north as Gabon on the African west coast and east to Mozambique on the east coast.

**CURRENT DISTRIBUTION:** unchanged, although two South African colonies (Lamberts Bay (Bird Island) in 2006 and Geyser Island in 1996) and two Namibian colonies (North Reef and Pomona) have gone extinct.



**Figure 2:** Non-breeding distribution of the Jackass Penguin.

**MIGRATION:** No concentrated sites used during migration - juveniles tend disperse west and north along the coastline, often in a clockwise direction, but usually return to recruit at their natal colony. Adults also disperse in the non-breeding period but generally not as far. When breeding Jackass penguins may contract or expand their feeding range depending on food availability.

**POPULATION SIZE AND TREND (all breeding localities):**

Breeding location	Pairs	Year	Trend
<b>Overall<sup>1</sup></b>	<b>23 000</b>	<b>2013</b>	<b>Decreasing</b>
<b>Namibia<sup>2</sup></b>	<b>5 500</b>	<b>2013</b>	<b>Decreasing</b>
Hollams Bird Island	1	1988	Unknown
Sylvia Hill	11	2004	No data
Oyster Cliffs	45	2002	No data
Mercury Island	3 171	2011	Stable
Neglectus Islet	5	2008	No data
Ichaboe Island	661	2011	Decreasing
Penguin Island	3	2010	Unknown
Halifax Island	851	2011	Increased
Possession Island	594	2011	Stable
Plumpudding Island	86	2008	Stable
Sinclair Island	68	2008	Stable
<b>South Africa<sup>3</sup></b>	<b>18 640</b>	<b>2013</b>	<b>Decreasing</b>

Breeding location	Pairs	Year	Trend
Bird Is., Lambert's Bay	10	2005	Extinct
Marcus Island	23	2013	Decreasing
Vondeling Island	175	2012	Decreasing
Malgas Island	40	2012	Decreasing
Jutten Island	253	2013	Decreasing
Dassen Island	2 633	2013	Decreasing
Robben Island	1 364	2013	Decreasing
Boulders	553	2013	Decreasing
Seal Is., False Bay	31	2013	Decreasing
Stony Point	2 033	2013	Increasing
Dyer Island	1 250	2013	Decreasing
Geyser Island	0	2013	Extinct
Jahleel Island	164	2013	Decreasing
St Croix Island	7 657	2013	Decreasing
Stag Island	11	2012	Decreasing
Brenton Rock	17	2013	Decreasing
Seal Is., Algoa Bay	174	2013	Decreasing
Bird Is., Algoa Bay	2 486	2013	Decreasing

<sup>1</sup>[BirdLife International](#) 2013; <sup>2</sup>Kemper, African Penguin in press.; <sup>3</sup>Department of Environmental Affairs 2014 unpublished data.

**BREEDING SEASON:** Breeds throughout the year. South Africa: peak breeding season February to September; Namibia: peak breeding season October to February and a secondary peak between June and October.

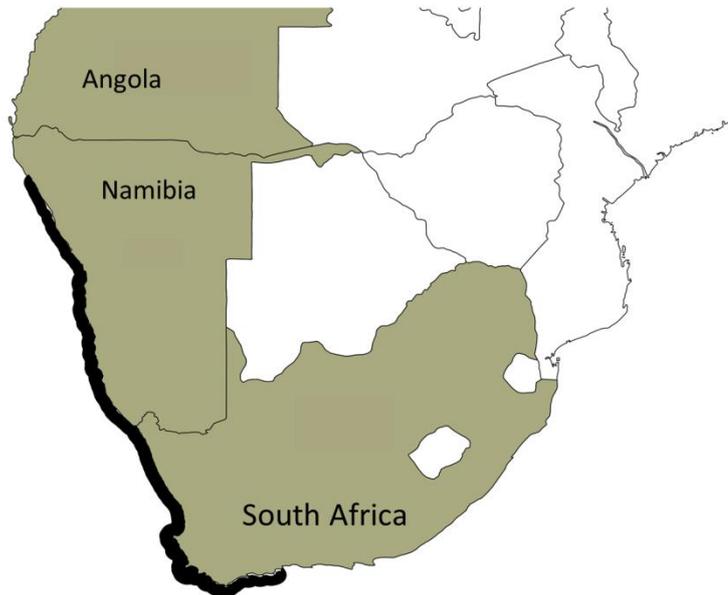
**HABITAT:** This species is marine and usually found in seas within 40 km of the shore, coming ashore on inshore islands or isolated areas of the mainland coast to breed, moult and rest. Breeding habitats range from flat, sandy islands with sparse or abundant vegetation, to steep rocky islands with practically no vegetation, although the former are preferred.

**KEY PREY SPECIES:** Pelagic shoaling fish, primarily anchovy (*Engraulis encrasicolus*) and sardine (*Sardinops sagax*).

## 2.2 Bank Cormorant *Phalacrocorax neglectus*

HISTORICAL DISTRIBUTION: Bred at 52 localities from Hollamsbird Island, Namibia, to Quoin Rock, South Africa

CURRENT DISTRIBUTION: unchanged



**Figure 3:** The breeding distribution of the Bank Cormorant.

MIGRATION: Adults are mostly sedentary and remain close to breeding colonies while juveniles may disperse up to 500 km from their breeding colonies.

POPULATION SIZE AND TREND (some important breeding localities):

Breeding location	Pairs	Year	Trend
<b>Overall</b>	<b>3 251 to 3 751</b>		<b>Decreasing</b>
<b>Namibia<sup>1</sup></b>	<b>2 600 to 3 100</b>	<b>2010</b>	<b>Decreasing</b>
Mercury Island	2 505	2010	Increasing
Ichaboe Island	217	2010	Decreasing
Penguin Island	70	2010	Decreasing
Seal Island	18	2010	Decreasing
North reef	14	2010	Decreasing
Albatross Rock	25	2008	Decreasing
Pomona Island	6	2008	Extinct
<b>South Africa<sup>2</sup></b>	<b>800</b>	<b>2013</b>	<b>Decreasing</b>
Boegoeberg stack	48	2011-2013	Decreasing
Bird Island, Lambert's Bay	0	2011-2013	Extinct
Groot Paternoster rocks	58	2011-2013	Decreasing
Cape Colombine rocks	99	2011-2013	Increasing
Marcus Island	35	2011-2013	Decreasing
Malgas Island	12	2011-2013	Decreasing
Jutten Island	24	2011-2013	Decreasing
Vondeling Island	3	2011-2013	Decreasing
Dassen Island	81	2011-2013	Decreasing
Robben Island	147	2011-2013	Decreasing

Dyer Island	13	2011-2013	Decreasing
Stony Point	46	2011-2013	Increasing

<sup>1</sup>Kemper, 2006 and Kemper *et al.* 2007; <sup>2</sup>Crawford *et al.* 2015

**BREEDING SEASON:** South Africa: May to October; Namibia: November to April

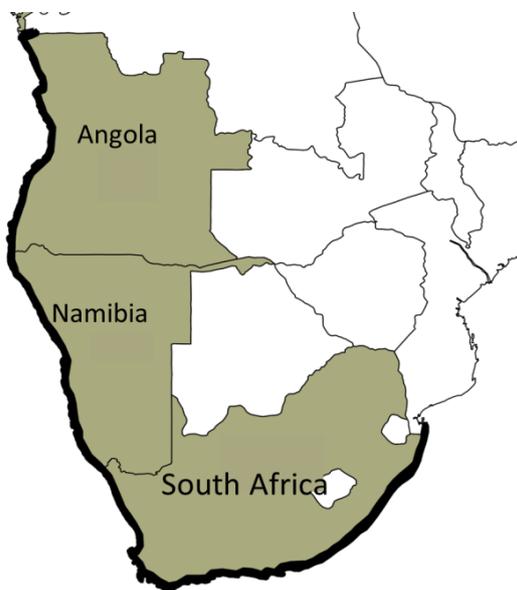
**HABITAT:** Rarely found more than 10 km offshore. Does not use estuaries or inland waters. Breeds on cliffs and surfaces of offshore islands, as well as man-made platforms close to the sea.

**KEY PREY SPECIES:** Namibia: pelagic goby (*Sufflogobius bibarbatus*), West coast rock lobster (*Jasus lalandi*). South Africa: West coast rock lobster (*J. lalandi*), Cape rock crab (*Plagusia chabrus*), several Klipfish spp (*Clinus* spp).

### 2.3 Cape Cormorant *Phalacrocorax capensis*

**HISTORICAL DISTRIBUTION:** From Cape Cross, Namibia, to Hole in the Wall, Eastern Cape, South Africa.

**CURRENT DISTRIBUTION:** Expanded in the north to include Ilha dos Tigres, southern Angola and retracted in the east to Seal Island, Eastern Cape, South Africa. Non-breeding range north to Lobito, Angola (vagrant to Gabon) and southern Mozambique. New breeding colonies were established at Robben Island, Knysna Heads and Stony Point in 2004, 2008 and 2010 respectively (Crawford *et al.* 2015).



**Figure 4:** The non-breeding range of the Cape Cormorant.

**MIGRATION:** Mainly sedentary but may disperse extensively post breeding. Regular visitor to KwaZulu-Natal during winter “sardine run”.

POPULATION SIZE AND TREND (some important breeding localities):

Breeding location	Pairs	Year	Trend
<b>Overall<sup>1</sup></b>	<b>92 000</b>	<b>2005/06</b>	<b>Decreasing</b>
<b>Namibia<sup>2</sup></b>	<b>57 400</b>	<b>2005</b>	<b>Decreasing</b>
Cape Cross North	1 234	2006	Decreasing
Cape Cross Central	250	2006	Decreasing
Swakopmund	30 311	2005	Decreasing
Bird Rock	1 167	2005	Decreasing
Ichaboe Island	16 366	2005	Decreasing
Mercury Island	1 590	2005	Decreasing
<b>South Africa<sup>3</sup></b>	<b>65 800</b>	<b>2013</b>	<b>Decreasing</b>
Mathew Island	629	2009-2013	Increasing
Bird Island, Lambert's Bay	115	2009-2013	Decreasing
Groot Paternoster	421	2009-2013	Increasing
Malgas Island	1 914	2009-2013	Decreasing
Jutten Island	7 329	2009-2013	Decreasing
Schaapen Island	2 108	2009-2013	Increasing
Meeuw Island	493	2009-2013	Increasing
Vondeling Island	5 017	2009-2013	Decreasing
Dassen Island	5 647	2009-2013	Decreasing
Robben Island	2 166	2009-2013	Decreasing
Dyer Island	36 283	2009-2013	Decreasing

<sup>1</sup>Crawford *et al.* 2007; <sup>2</sup>Kemper, 2006 and Kemper *et al.* 2007; <sup>3</sup>Crawford *et al.* 2015

**BREEDING SEASON:** Namibia and Western Cape peak breeding occurs September to February, in Algoa Bay peak breeding occurs August to December.

**HABITAT:** Mainly marine, found along the cold waters of the Benguela current, often less than 10 km off shore. Also occurs in brackish waters of lagoons, estuaries and harbours. It usually nests on flat surfaces of islands and guano platforms but also uses cliff ledges and artificial structures such as unused boats.

**KEY PREY SPECIES:** sardine (*S. sagax*), anchovy (*E. encrasicolus*), horse mackerel (*Trachurus capensis*) and pelagic goby (*S. bibarbatus*)

## 2.4 Cape Gannet *Morus capensis*

**HISTORICAL DISTRIBUTION:** Breeding at five localities in South Africa before 1978 (Crawford *et al.* 2015), and five localities in Namibia. Non-breeding north to Gabon and Mozambique.

**CURRENT DISTRIBUTION:** Breeding shift occurred after the 1960s (Crawford *et al.* 2015) and birds currently breed at three localities in South Africa, and three localities in Namibia.



**Figure 5:** Non-breeding distribution of the Cape Gannet.

**MIGRATION:** No concentrated migration sites, non-breeding adults and juveniles disperse. Juveniles tend to breed at natal colony. Regularly follows the eastward migration of sardines as far as southern KwaZulu-Natal.

**POPULATION SIZE AND TREND (all breeding localities):**

Breeding location	Pairs	Year	Trend
<b>Overall</b>	<b>135 463</b>		<b>Decreasing</b>
<b>Namibia<sup>1</sup></b>	<b>13 080</b>	<b>2010/11</b>	<b>Decreasing</b>
Mercury Island	2 200	2010/11	Decreasing
Ichaboe Island	10 500	2010/11	Decreasing
Possession Island	380	2010/11	Decreasing
<b>South Africa<sup>2</sup></b>	<b>122 383</b>	<b>2012/13</b>	<b>Increasing</b>
Bird Island, Lambert's Bay	8 907	2012/13	Decreasing
Malgas Island	20 252	2012/13	Decreasing
Bird Island, Algoa Bay	93 224	2012/13	Increasing

<sup>1</sup>Kemper, 2006 and Kemper *et al.* 2007; <sup>2</sup>Department of Environmental Affairs 2014 unpublished data

**BREEDING SEASON:** Year round but mostly mid-September to March.

**HABITAT:** Strictly marine. Nests on flat ground on offshore islands, but has been known to use island cliffs and man-made structures (e.g. guano platforms). It may forage up to 120 km offshore.

KEY PREY SPECIES: Pelagic shoaling fish primarily anchovy (*E. encrasicolus*) and sardine (*S. sagax*).

## 2.5 African Oystercatcher *Haematopus moquini*

HISTORICAL DISTRIBUTION: Distribution stretches along coasts and offshore islands of south and south-western Africa, from Lüderitz in Namibia to the Eastern Cape in South Africa. Vagrants have been recorded in Angola and Mozambique.

CURRENT DISTRIBUTION: Birds are regularly recorded during wetland counts at Walvis Bay and Mile 4 Saltworks in Namibia so are spreading northwards, probably due to spread of the Mediterranean mussel (*Mytilus galloprovincialis*).

MIGRATION: Juveniles tend to disperse at independence and can migrate up to 2 000 km to other nursery areas along the coast, and only return to their natal area after 2-3 years.

POPULATION SIZE AND TREND (all breeding localities):

Breeding location	Individuals	Year	Trend
<b>Overall</b>	<b>6 670</b>	<b>1997-2003</b>	<b>Increasing</b>
<b>Namibia<sup>1</sup></b>	<b>1 297</b>	<b>2003</b>	<b>Increasing</b>
Mercury Island	6	post-1997	Increasing
Ichaboe Island	23	post-1997	Increasing
Flamingo Island	142	post-1997	Increasing
Seal Island	6	post-1997	Decreasing
Penguin Island	34	post-1997	Decreasing
Shark Island	10	post-1997	Increasing
Halifax Island	77	post-1997	Increasing
Possession Island	386	post-1997	Increasing
Pomona Island	60	post-1997	Increasing
Kunene River-Orange River	379	post-1997	Decreasing
<b>South Africa<sup>1</sup></b>	<b>5 373</b>		<b>Increasing</b>
Malgas Island	129	post-1997	Increasing
Marcus Island	65	post-1997	Decreasing
Jutten Island	234	post-1997	Increasing
Schaapen Island	25	post-1997	Increasing
Meeuw Island	8	post-1997	Decreasing
Vondeling Island	117	post-1997	Increasing
Dassen Island	339	post-1997	Increasing
Robben Island	166	post-1997	Increasing
Seal Island (Mossel Bay)	9	post-1997	Increasing
St. Croix Island	20	post-1997	Increasing
Bird Island Group	14	post-1997	Stable
Orange River-Olifants River	79	post-1997	Decreasing
Olifants River-Cape Point	1 264	post-1997	Increasing
Cape Point-Mossel Bay	677	post-1997	Increasing
Mossel Bay-Port Elizabeth	726	post-1997	Increasing
Port Elizabeth-Kei River	637	post-1997	Increasing
Kei-River-Ramsgate	43	post-1997	Increasing

<sup>1</sup>Underhill, 2014

BREEDING SEASON: October-March

HABITAT: Exclusively coastal. Occurs on rocky, sandy and mixed (rocky and sandy) shores. It also occurs along estuaries, lagoons, coastal pans and coastal islands.

KEY PREY SPECIES: Limpets (*Scutellastra cochlear*), Mediterranean Mussel (*M. galloprovincialis*) and various invertebrates.

## 2.6 Crowned Cormorant *Microcarbo coronatus*

HISTORICAL DISTRIBUTION: Möwe Bay, Namibia to Cape Agulhas, Western Cape, South Africa

CURRENT DISTRIBUTION: Breeding at Bird Rock platform, Walvis Bay, Namibia extended the breeding range in Namibia 415 km northward and breeding in Tsitsikamma National Park, Eastern Cape extended the South African range 500 km eastward, although recent information suggests the latter site may have been opportunistic (R. Randall pers. comm.).

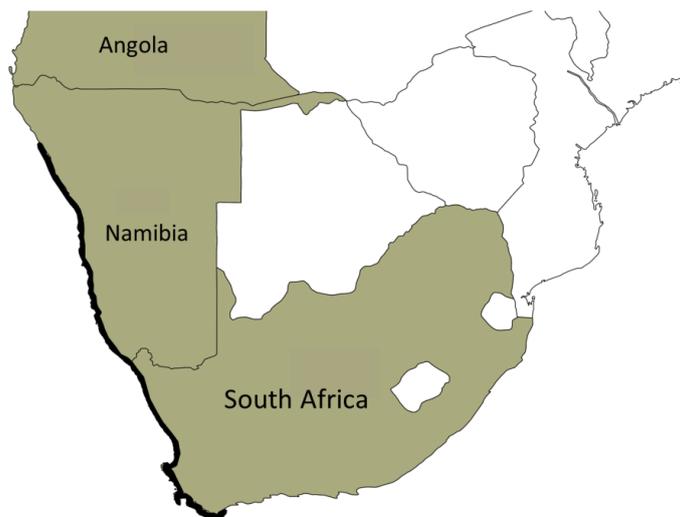


Figure 6: Breeding distribution of the Crowned Cormorant.

MIGRATION: Adults are mostly sedentary and remain close to breeding colonies while juveniles may disperse up to 500 km from their natal colonies.

POPULATION SIZE AND TREND (some important breeding localities):

Breeding location	Pairs	Year	Trend
<b>Overall</b>	<b>3 080</b>		<b>Stable</b>
<b>Namibia<sup>1</sup></b>	<b>1 180</b>	<b>2005/06</b>	<b>Stable</b>
Bird rock platform	98	1999/00	Increasing
Mercury Island	70	2010/11	No data
Ichaboe Island	335	2010/11	Increasing
Wolf Bay	135	1999/00	No data
Halifax Island	56	2010/11	No data
Seal Island	158	2010/11	No data
Possession Island	106	2007/08	No data
<b>South Africa<sup>2,3</sup></b>	<b>1 900</b>	<b>2012</b>	<b>Stable</b>
Bird Island, Lambert's Bay	87	2013	Increasing
Malgas Island	100	2013	Decreasing
Marcus Island	0	2013	Fluctuating
Jutten Island	14	2013	Fluctuating
Schaapen Island	187	2013	Fluctuating
Vondeling Island	24	2013	Fluctuating
Meeuw Island	53	2013	Fluctuating

Dassen Island	247	2013	Decreasing
Robben Island	106	2013	Decreasing
Dyer Island	102	2013	Decreasing

<sup>1</sup>Kemper *et al.* 2007; <sup>2</sup>Department of Environmental Affairs 2014 unpublished data; <sup>3</sup>Crawford *et al.* 2012b.

**BREEDING SEASON:** Breeding occurs throughout the year peaking from December to March in South Africa and from October to March in Namibia.

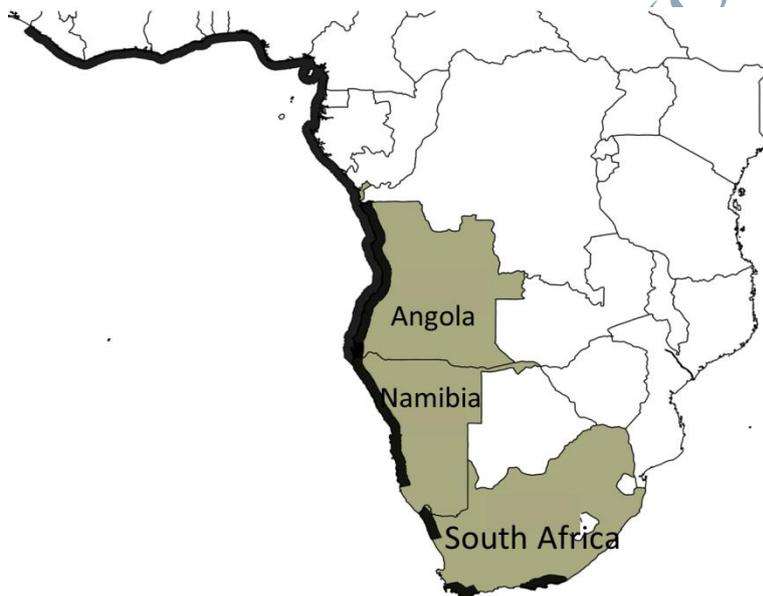
**HABITAT:** Occurs along coastal cliffs and offshore islands breeding in the Benguela Current, mostly between central Namibia and Cape Agulhas. It forages in coastal waters, estuaries and kelp beds.

**KEY PREY SPECIES:** slow-moving benthic fish, such as Clinidae especially *Clinus superciliosus* and Gobiidae, as well as crustaceans, molluscs and polychaete worms.

## 2.7 Damara Tern *Sternula balaenarum*

**HISTORICAL DISTRIBUTION:** Namibia and to Algoa Bay in South Africa; non-breeding Benin, Cameroon, Congo, Equatorial Guinea, Gabon, Ghana, Liberia, Nigeria and Togo.

**CURRENT DISTRIBUTION:** Largely unchanged but four breeding colonies have disappeared in the last century (north of Swakopmund, and Dolphin Beach, Namibia, and Port Nolloth and Kommetjie, South Africa) in several cases due to coastal development.



**Figure 7:** Non-breeding distribution of the Damara Tern.

**MIGRATION:** During the non-breeding season (July to October) they disperse north to West Africa. Most breeders have left breeding colonies by April and return in September/October.

POPULATION SIZE AND TREND (known breeding localities):

Breeding location	Pairs	Year	Trend
<b>Overall</b>	<b>Unknown</b>		<b>Unknown</b>
<b>Angola<sup>1</sup></b>	<b>&lt;100</b>	<b>2010</b>	<b>Unknown</b>
Bahia dos Tigres <sup>2</sup>	12	2009	No data
<b>Namibia<sup>3</sup></b>	<b>1 000 - 2 685</b>	<b>2011</b>	<b>Stable</b>
Möwe Bay to Swakopmund	248	2006/07	Stable
Swakopmund to Walvis Bay <sup>1</sup>	160	2010	Stable
Walvis Bay to Lüderitz	87	2004/05	Stable
Lüderitz to Orange river	76	2005/06	Stable
<b>South Africa<sup>4</sup></b>	<b>36</b>	<b>2011</b>	<b>Decreasing</b>
Brandfontein	2	1995/96	No data
De Mond and vicinity	15	2011/12	Stable
Port Nolloth	0	2011/12	No data
Eastern Cape <sup>5</sup>	25-29 pairs	2009/10	Stable

<sup>1</sup>Braby, 2010; <sup>2</sup>Simmons, 2010 (although 573 adults and fledglings were also recorded); <sup>3</sup>Braby, 2011; <sup>4</sup>Crawford *et al.* 2012a; <sup>5</sup>Whittington *et al.* 2015

BREEDING SEASON: September to April

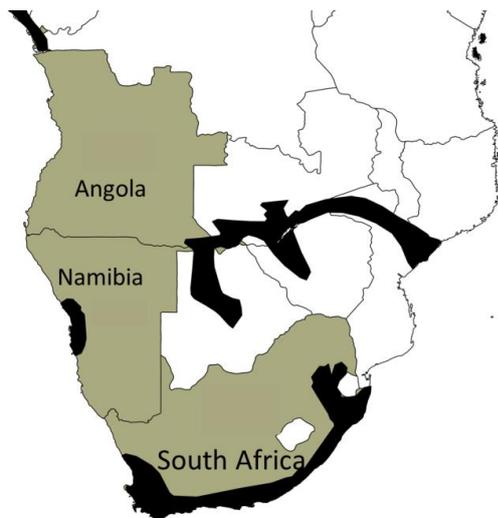
HABITAT: Coastal, breeds on gravel and stony plains, salt pans and in dune slacks. Can also breed on rock ledges, favouring sites that provide good visibility. Very few records of breeding on islands. During the non-breeding season, the species is found along high-energy coasts and salt-pans in the surf zone.

KEY PREY SPECIES: Small fish including mullet (*Mugilidae*), needle fish (*Tylosaurus* species), larval blennies (Blennidae), Cape silverside (*Atherina breviceps*) and anchovy (*E. encrasicolus*). The latter is the only commercially important prey species.

## 2.8 Caspian Tern *Hydroprogne caspia caspia*

HISTORICAL DISTRIBUTION: Large lakes and ocean coasts in North America, locally in Europe, Asia, Africa and Australasia. In Southern Africa the species was found at coastal and inland localities and breeds at 28 sites between Swakopmund, Namibia and Lake St Lucia, South Africa, although breeding has also been recorded at Ilha dos Tigres in Angola.

CURRENT DISTRIBUTION: unchanged



**Figure 8:** Non-breeding distribution of the Caspian Tern in Southern Africa.

**MIGRATION:** Four main migratory populations have been identified. The African population breeds in southern Africa and winters in north Zambia, Botswana and Angola.

**POPULATION SIZE AND TREND** (list of known breeding localities):

Breeding location	Pairs	Year	Trend
<b>Overall</b>	<b>Unknown</b>		<b>Unknown</b>
<b>Angola<sup>1</sup></b>	<b>88</b>	<b>2005</b>	<b>Unknown</b>
Ilha dos Tigres	88	2005	Unknown
<b>Namibia</b>			
Swakopmund <sup>1</sup>	18	1975	Unknown
Walvis Bay	48	2014	Unknown
Sandwich Harbour <sup>1</sup>	1	1977	Unknown
Possession Island	1	2014	Unknown
<b>South Africa<sup>2</sup></b>	<b>&gt;500</b>	<b>2011</b>	<b>Decreasing</b>
Heuningnes River Estuary <sup>3</sup>	35	2002/03	Unknown
Veldrif	69	2011	Unknown
Jutten Island	1	2011	Unknown
Meeuw Island	1	2011	Unknown
Schaapen Island	1	2011	Unknown
Robben Island	1	2011	Unknown
Keurbooms estuary	3	2006	Unknown
Redhouse Salt pans <sup>4</sup>	18	2008	Fluctuating
Lake St Lucia <sup>5</sup>	300	2015	Unknown
Port Elizabeth	13	2007	Unknown

<sup>1</sup>Kemper *et al.* 2007; <sup>2</sup>Crawford *et al.* 2012a; <sup>3</sup>Williams *et al.* 2004; <sup>4</sup>Crawford *et al.* 2009; <sup>5</sup>iSimangaliso Wetland Park, 2015;

**BREEDING SEASON:** Seasonal variations between localities (Namibia: December-March, Western Cape: October-January, Eastern Cape: February-June, KwaZulu-Natal: March-September).

**HABITAT:** Sheltered coastal embankments, preferably with sandy or muddy margins. They also occur on near-coastal and inland wetlands, especially lakes, waterholes, reservoirs, salt pans, rivers and creeks. The species is rarely seen beyond reefs in offshore locations. Along the coast occurs at sand-dunes, coastal lakes, offshore islands and salt pans.

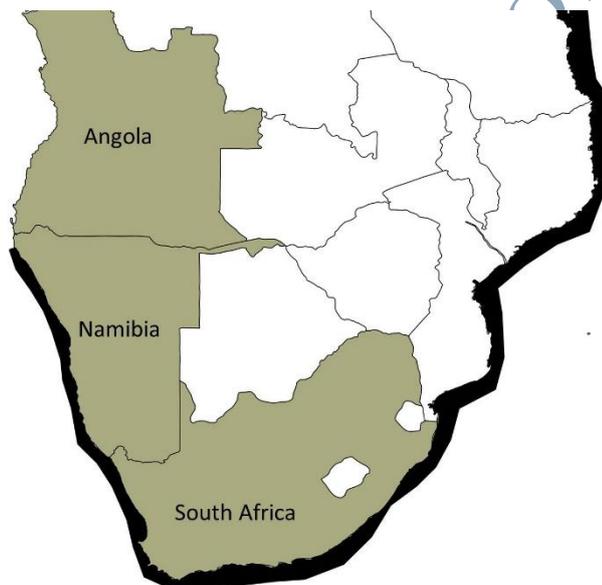
**KEY PREY SPECIES:** Fish (5-25 cm) include riverbream (*Acanthopagrus berda*), small kob (*Johnius belengerii*), sharptooth catfish (*Clarias gariepinus*), spotter grunter (*Pomadasys commersonii*), Mozambique tilapia (*Oreochromis mossambicus*), orangemouth glassnose (*Thryssa vitirostris*), southern mullet (*Liza richardsonii*) as well as soles and breams. They also feed on various marine and aquatic invertebrates and are known to prey on eggs and young birds.

## 2.9 Greater Crested Tern *Thalasseus bergii bergii*

Also known as the Greater Crested Tern

**HISTORICAL DISTRIBUTION:** Occurred along coasts of west-central Pacific, south-east Atlantic, and Indian Oceans. In southern Africa these birds are found around the coast, from Swakopmund in Namibia to the coast of Mozambique.

**CURRENT DISTRIBUTION:** Same as historical distribution, although new breeding sites have become available at salt and sewage works.



**Figure 9:** Non-breeding distribution of the Greater Crested Tern in southern Africa.

**MIGRATION:** After breeding, it migrates away from colonies. Many fledglings move to nursery areas on the south east coast of South Africa (Plettenberg Bay to KwaZulu-Natal), although some disperse northwards. Older birds remain in the vicinity of breeding areas 30 - 100 km. Birds are often nomadic between breeding localities.

POPULATION SIZE AND TREND (list of known breeding localities):

Breeding location	Pairs	Year	Trend
<b>Overall<sup>1</sup></b>	<b>9 000</b>	<b>2007</b>	<b>Increasing</b>
<b>Namibia<sup>1</sup></b>	<b>1 258</b>	<b>2007</b>	<b>Unknown</b>
Ichaboe Island	200	2007	Unknown
Halifax Island	1 003	2007	Unknown
Possession Island	55	2007	Unknown
<b>South Africa<sup>2</sup></b>	<b>10 100</b>	<b>2013</b>	<b>Stable</b>
Western Cape Islands <sup>3</sup>	13 747	2011	Stable
Eastern Cape <sup>3</sup>	565	2010	Unknown

<sup>1</sup>Kemper *et al.* 2007; <sup>2</sup>Crawford *et al.* 2015; <sup>3</sup> Crawford *et al.* 2012a

BREEDING SEASON: January - September (peak: February - March)

HABITAT: Inhabits tropical, subtropical and temperate coastlines and forages in shallow waters coastal waters, estuaries, coral reefs, bays, harbours and inlets. They nest along sandy or rocky coastlines, showing a preference for offshore islands.

KEY PREY SPECIES: Pelagic fish (sardine (*S. sagax*), anchovy (*E. encrasicolus*) and pelagic goby (*S. bibarbatu*s).

### 3. Threats

Threats were ranked based on the scope (proportion of population affected), severity (the speed of the decrease) and irreversibility of the threat (Conservation Measures Partnership, 2013) – see overview in Table 2. The overall rank of the threat was determined considering its effect across the suite of species concerned<sup>2</sup>. A summary of the threats is presented below but more details can be found in **Error! Reference source not found.** (page XX).

Nine main threats affect the AEWA-listed seabird species in the Benguela ecosystem. The most severe threat, which impacts most species, is poor food availability. This is driven by a combination of historical overfishing, the risk of current overfishing at small spatio-temporal scales, and large-scale shifts in the abundance and distributions of prey species. As seabird populations shrink, smaller impacts, such as predation by seals, gulls and pelicans, can become more significant at particular colonies.

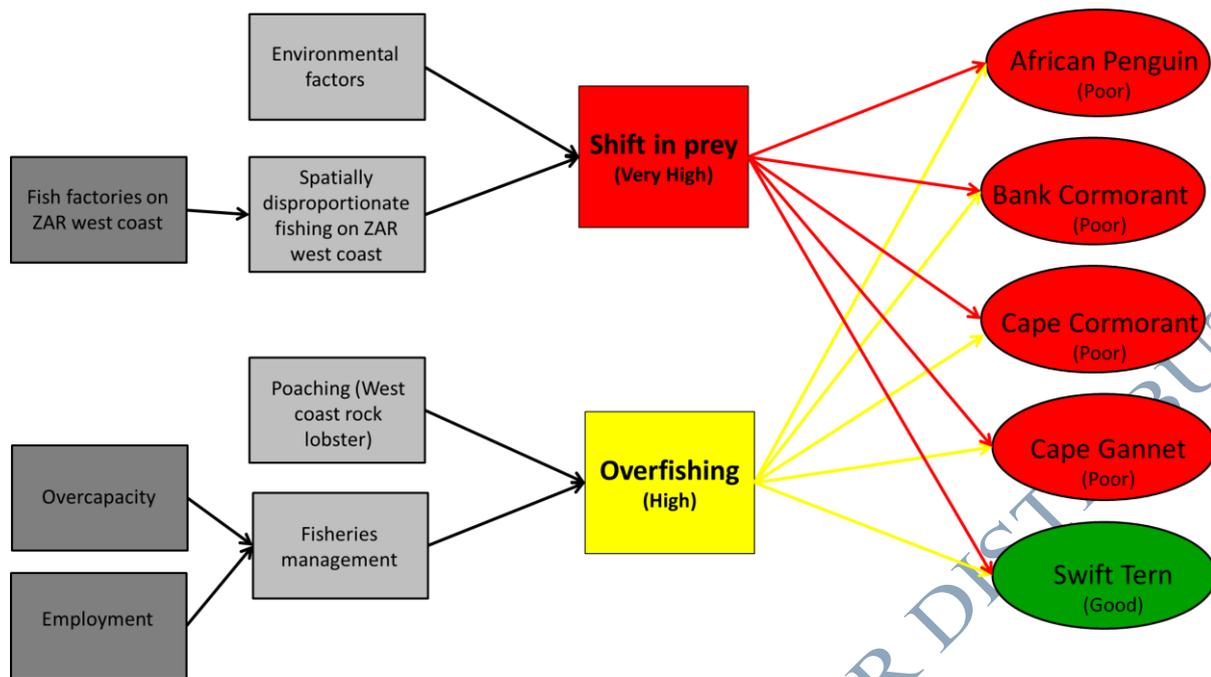
Climate change is a concern, but its impacts other than that of sea-level rise and increased storms flooding low-lying breeding localities, are difficult to predict and even more difficult to mitigate. Environmental change is likely influencing changes in the distributions of several prey species, which for some seabirds has led to mismatches in the locations of their breeding localities and prey and consequent population decreases (e.g. Crawford *et al.* 2015). The potential environmental impacts of marine mining, in particular phosphate mining, have caused deep consternation across fisheries and environmental sectors in South Africa and Namibia, and there is a moratorium on this activity in Namibia. Bulk sediment mining's impacts on seabirds are unknown.

#### **3.1. Lack of food and low quality prey – Rank: very high**

Lack of preferred prey species, and consequent reliance by some species/populations on lower-quality prey, is one of the main factors causing low breeding success of the Jackass Penguin, Cape Gannet and Cape and Bank cormorants (Lewis *et al.* 2006; Roy *et al.* 2007; Coetzee *et al.* 2008; Grémillet *et al.* 2008; Crawford *et al.* 2011, 2014, 2015). Excluding the Bank Cormorant, whose main prey species is pelagic goby in Namibia and West Coast rock lobster in South Africa (Crawford *et al.* 1985, 2008), the remaining bird species forage mainly for sardine and anchovy. In the Benguela system, relatively discrete stocks of both sardine and anchovy are found to the north and south of an area of intense upwelling near Lüderitz, Namibia (Crawford, 1998).

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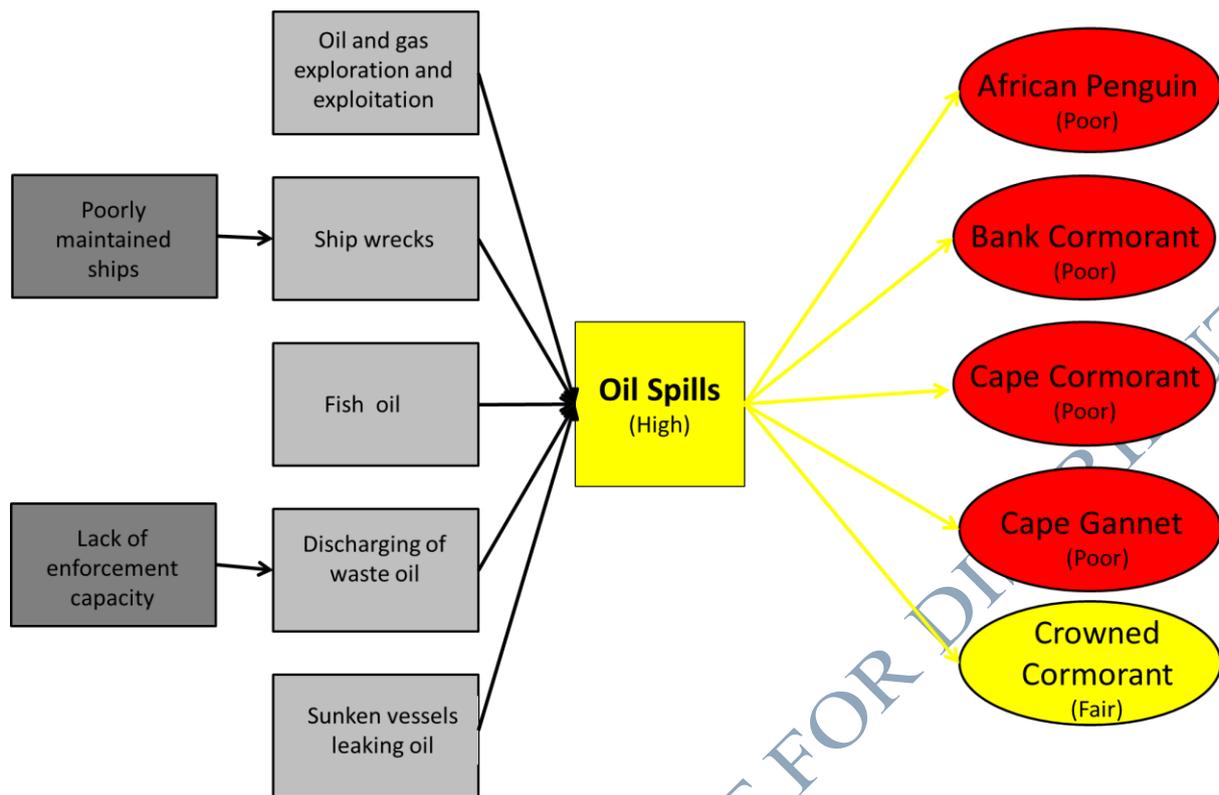
<sup>2</sup> Following the methodology of the Open Standards for the Practice of Conservation (Conservation Measures Partnership, 2013)



**Figure 10:** The factors contributing to the threats (grey) relating to availability of food (and threat rank) and the species that are affected (and population status).

### 3.2. Oil spills and oiling - Rank: high

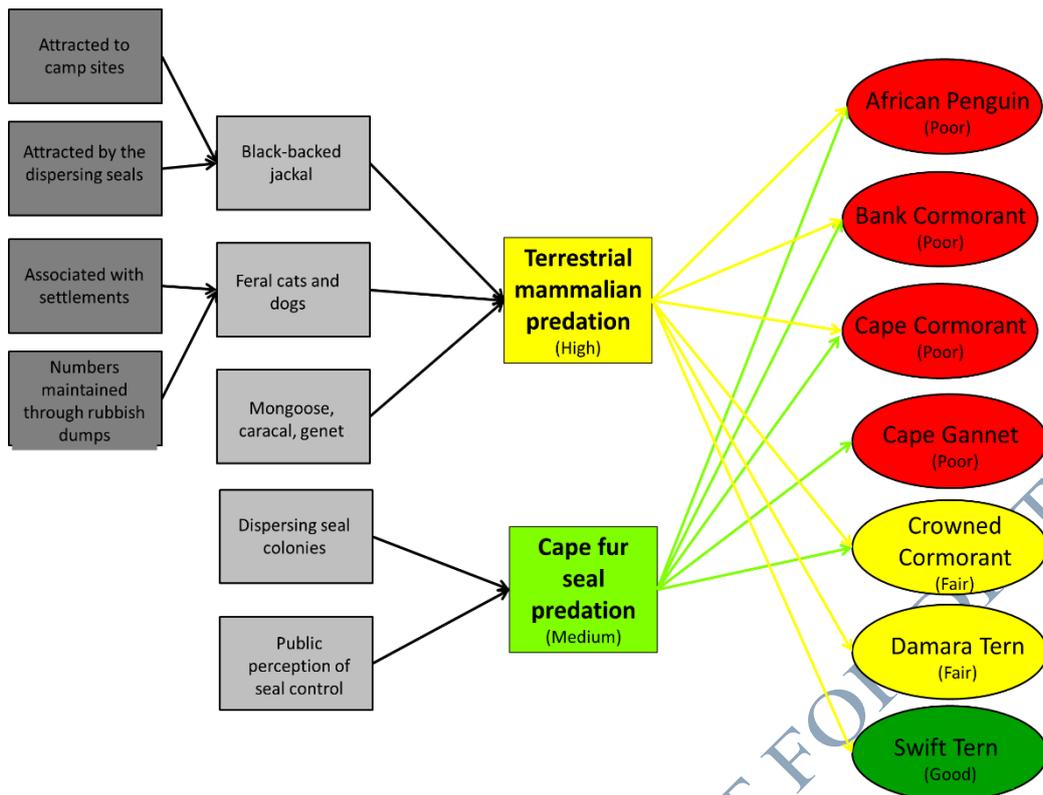
All species are at risk from oiling and South Africa is a global hotspot for oil pollution (Wolfaardt *et al.* 2009). Oil pollution causes feathers to clump, leading to a breakdown in their insulating properties. As a result birds become hypothermic and are forced to leave the sea. Birds then dehydrate, mobilize stored energy reserves and may lose up to 13% of their body mass within a week and unless rescued will starve to death (Underhill *et al.* 1999; Wolfaardt *et al.* 2009).



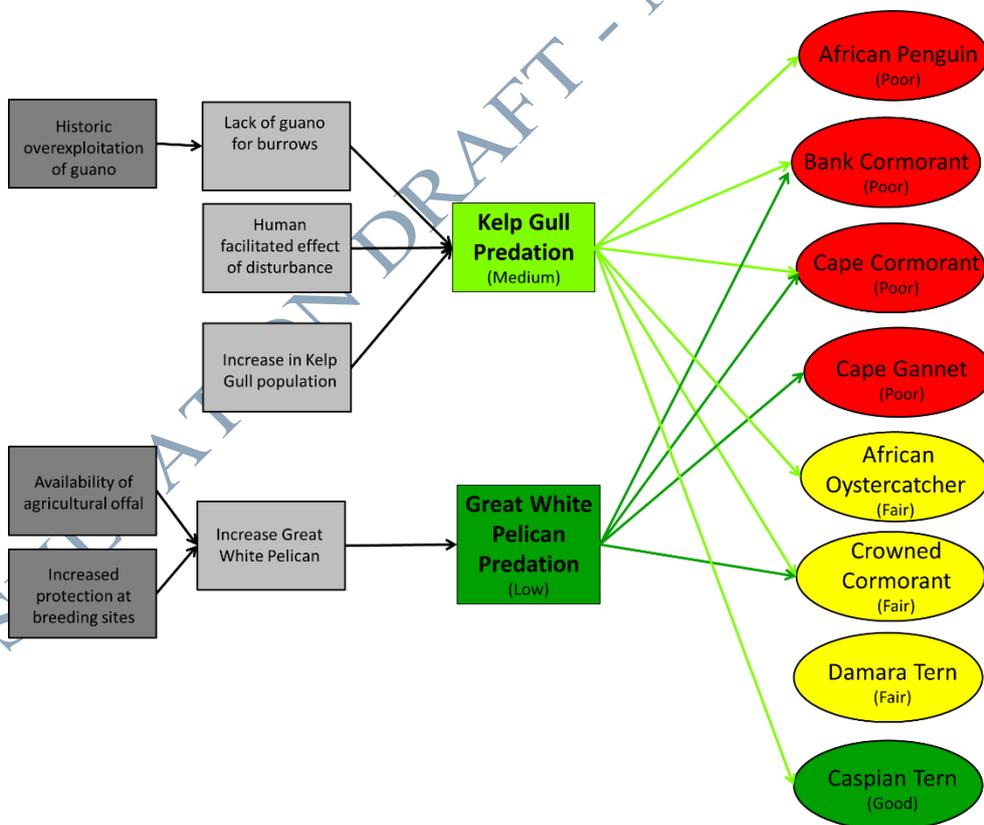
**Figure 11:** The factors contributing to the threats (grey) relating to oil spills (and threat rank) and the species that are affected (and population status). While all species are potentially susceptible to oiling, the above species are the most regularly oiled.

### 3.3. Predation – Rank: high to low (predators ranked separately in Table 2)

Most of the seabird species covered by this Action Plan are at risk from Kelp Gull (*Larus dominicanus*) predation of their eggs and small chicks, particularly when adults are disturbed and force to leave their nests. Jackass Penguins, Cape Gannets and the three cormorant species are also at risk from predation at sea by the Cape fur seal (*Arctocephalus pusillus*) and from the Great White Pelican *Pelecanus onocrotalus* which predares on chicks. The Damara Tern is vulnerable to predation by terrestrial mammalian predators (generally Black-backed Jackals *Canis mesomelas*) and other aerial predators (most frequently Pied Crow *Corvus albus* and Kelp Gull).



**Figure 12:** The factors contributing to the threats (grey) relating to mammalian predation (and threat rank) and the species that are affected (and population status). *(Will be added)*



**Figure 13:** The factors contributing to the threats (grey) relating to seabird predation (and threat rank) and the species that are affected (and population status).

### 3.4. Human disturbance – Rank: medium

All seabirds are vulnerable to human disturbance, especially during breeding but Bank, Cape and Crowned cormorants as well as the Damara Tern are particularly sensitive. Human visitors during breeding can cause abandonment of nests resulting in egg and chick loss to predators or mortality during these stages from heat or cold stress. Coastal development projects affect these species in a more lasting manner due to the loss of habitat.

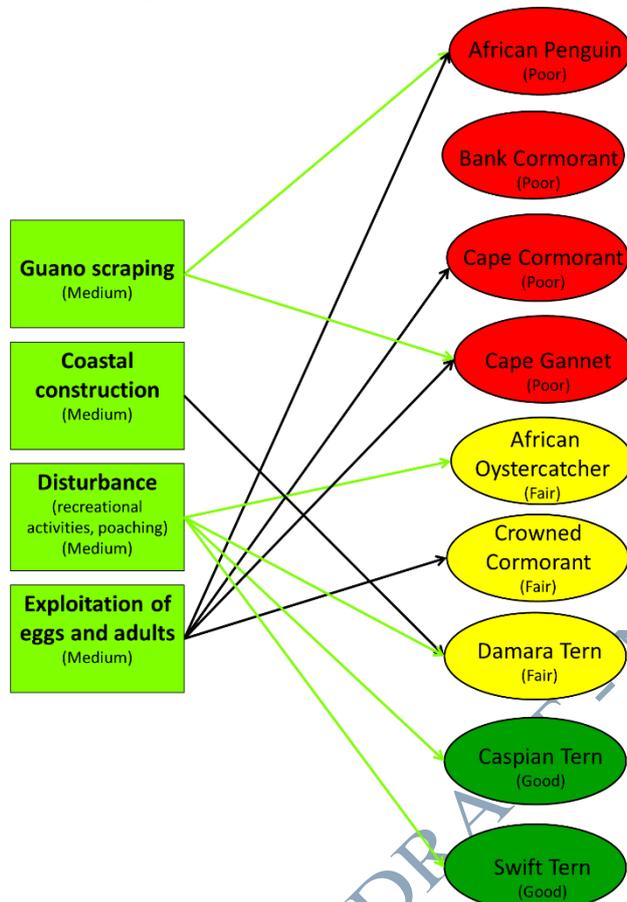


Figure 14: The threat of human disturbance (and threat rank) and the species that are affected (and population status).

### 3.5. Lack of breeding habitat – Rank: medium

Lack of suitable or suboptimal breeding habitat affects the Jackass Penguin, the Damara Tern and the three cormorant species. Lack of breeding habitat can be due to human interference, such as construction, displacement by seals or other seabird species or lack of suitable nest building material (e.g. guano).

### 3.6. Direct impact of fisheries – Rank: low

Fisheries can cause direct impacts on seabirds through bycatch and entanglement in fishing gear. The Cape Gannet is the only species covered by this plan that is directly affected by the trawl (entanglement in the nets or warp cable strikes) and longline fisheries (accidental hooking). Surface

diving species (the cormorants and Jackass Penguin) are presumed to be at risk from drowning in gillnets and other floating debris.

### **3.7. Disease – Rank: low**

Of the species covered by this Action Plan, the Cape Cormorant is most sensitive to disease, with several outbreaks of various diseases, including coccidiosis, pneumonia and avian cholera *Pasteurella multocida*, having occurred in the last 50 years (for more details see **Error! Reference source not found.**).

Environmental change - Rank: high to low (different aspects of environmental change were ranked separately, Table 2 )

The Benguela Current Large Marine Ecosystem (BCLME) is a highly variable system but sustained environmental changes such as Benguela Niños, Agulhas intrusions and changes in winds have the potential to impact the ecosystem in unpredictable ways (Timmerman *et al.* 1999; Shannon & Toole, 2003). The effects of global climate change are also likely to be felt through unpredictable changes to weather and sea conditions. Sea level rise was identified as a threat which will affect those seabirds that breed on low-lying islands (Jackass Penguin, Cape Gannet, African Oystercatcher and the three cormorant species).

### **3.8. Mining and oil and gas exploitation - Rank: unknown**

Both onshore and offshore mining have the potential to threaten seabirds in the region. The Damara Tern and possibly the African Oystercatcher are most at risk from shore-based mining activities. Offshore phosphate mining, and oil and gas drilling are not yet established in the region so the threats are unknown but these activities could potentially have significant impacts on the entire ecosystem.

**Table 2:** Threats to each species were ranked based on the scope, severity and irreversibility of the threat. Blank cells indicate that particular threat did not affect that species

Threats	Jackass Penguin	Bank Cormorant	Cape Cormorant	Cape Gannet	African Oystercatcher	Crowned Cormorant	Damara Tern	Caspian Tern	Greater Crested Tern	Summary Threat Rating
<b>Lack of food and low quality prey</b>										
Shift of prey stocks	Very High	High	High	Very High					Medium	Very High
Overfishing	High	High	High	High					Low	High
Overexploitation of mussels					Low					Low
<b>Oil spills and oiling</b>										
Oil spills	High	Very High	Medium	Medium	Low	Low	Low	Low	Low	High
<b>Lack of breeding habitat</b>										
Displacement by seals	Low	Very High	Low	Low	Low	Low	Low	Low		High
<b>Direct impact of fisheries</b>										
Entanglement	Low	Low	Low	Low		Low				Low

Threats	Jackass Penguin	Bank Cormorant	Cape Cormorant	Cape Gannet	African Oystercatcher	Crowned Cormorant	Damara Tern	Caspian Tern	Greater Crested Tern	Summary Threat Rating
Longline and trawl fishing				Medium						Low
<b>Predation</b>										
Terrestrial mammalian predators	Low	Low	Low			Low	Very High		Low	High
Cape fur seal	Medium	High	Medium	Medium		Low				Medium
Kelp Gull	Medium	Low	Low	Low	Low	Low	Low	Medium		Medium
Great White Pelican		Low	Low	Low		Low			Low	Low
<b>Human disturbance</b>										
Human disturbance	Low	Low	Low	Low	Medium	Low	High	Low	Low	Medium
Guano harvesting	High			Low						Medium
Coastal construction							High			Medium
Exploitation of eggs and adults	Low		Low	Low			Low			Low
<b>Diseases</b>										

Threats	Jackass Penguin	Bank Cormorant	Cape Cormorant	Cape Gannet	African Oystercatcher	Crowned Cormorant	Damara Tern	Caspian Tern	Greater Crested Tern	Summary Threat Rating
Diseases	Low	Low	Medium			Low				Low
<b>Environmental Change</b>										
Sea-level rise	Medium	Medium	Medium	Very High	Medium	Medium				High
Sand swamping					Low		Low			Low
Flooding (storms)	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Extreme heat and cold	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Harmful algal blooms	Low	Low	Low							Low
<b>Mining, and oil and gas exploration</b>										
Phosphate extraction from seabed	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Renewable energy development	Unknown	Unknown	Unknown	Unknown		Unknown				Unknown

## 4. Policies and legislation relevant for management

### International Level

Of the three countries covered by this Action Plan, South Africa is the only Contracting Party to AEWA at the time of writing. Parties to AEWA are obliged to 'take co-ordinated measures to maintain migratory waterbird species in a favourable conservation status or to restore them to such a status', and to this end must implement the measures prescribed by Article III of the Agreement and the Agreement Action Plan. Paragraphs 4.3.7 - 4.3.10 of the Action Plan are especially relevant for seabirds, and call for actions to minimise the impact of fisheries on migratory waterbirds (including by addressing incidental killing and bycatch, as well as unsustainable fishing which causes depletion of food resources); to control marine pollution; and to eliminate or otherwise to mitigate the threat from non-native terrestrial predators to breeding migratory waterbirds on islands and islets.

The AEWA provision on marine pollution requires Parties to 'establish and effectively enforce adequate statutory pollution controls in accordance with international norms and legal agreements, particularly as related to oil spills, discharge and dumping of solid wastes'. There are several international agreements which address these issues: for instance, the International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC), International Convention for the Prevention of Pollution from Ships (MARPOL) and the Protocol to the London Dumping Convention (Table 3). All three of the countries under consideration are Parties to the OPRC and MARPOL and are thus subject to these Conventions' obligations, regardless of whether or not they are Parties to AEWA. Angola and South Africa are Parties to the Protocol to the London Dumping Convention.

All three countries are Parties to the Convention on Biological Diversity (CBD), which seeks to promote the conservation and wise use of wetlands, which include marine features such as estuaries, deltas and tidal flats. These features will have relevance to the tern species.

All three countries are Parties to the United Nations Convention on the Law of the Sea (UNCLOS), and Namibia and South Africa are Parties to the related UN Fish Stocks Agreement. These instruments are relevant to the sustainable management of fish stocks. However, the latter agreement applies only to Areas Beyond National Jurisdiction (ABNJ), except for its provisions on the promotion of the use of the precautionary principle and the compatibility of conservation and management measures. The precautionary principle advocates caution in situations when information is uncertain or unreliable and does not allow the lack of information to be used as a reason to postpone conservation actions.

The Benguela Current Commission (BCC) is a multi-sectoral, inter-governmental initiative of Angola, Namibia and South Africa. The Commission aims to promote regional cooperation to ensure the conservation and sustainable use of the natural resources of the Benguela Current Large Marine Ecosystem. In 2013, the three governments signed the Benguela Current Convention, which commits these countries to *inter alia* preventing and eliminating pollution, reversing (where possible) and preventing habitat destruction, protecting vulnerable species and improving human capacity and infrastructure. The BCC therefore has an important coordinating role to play in implementing this plan, and in addressing threats to species that cross national boundaries.

In South Africa and Namibia, bycatch of seabirds (mostly albatrosses and petrels, but also Cape Gannets) is being addressed by the Albatross Task Force (ATF), which works with the longline and trawl fisheries to implement seabird bycatch mitigation measures (BirdLife International, 2012). Although the Agreement on the Conservation of Albatrosses and Petrels (ACAP) deals only with albatross and petrel species, their bycatch mitigation factsheets are of relevance to the prevention of bycatch of the Cape Gannet, the only species in this plan to be accidentally caught or killed in trawl and longline fisheries.

Several Regional Fisheries Management Organisations (RFMOs) operate in the region, although only two are of relevance to this plan. The South East Atlantic Fisheries Organisation (SEAFO) promotes the management of sedentary and straddling fish stocks in the region. The Cape horse mackerel (*Trachurus capensis*) is the only fish managed by this organisation that is also a prey source for one of the seabirds in this plan. Importantly for sustainable fisheries management, SEAFO advocates an Ecosystem Approach to Fisheries (EAF) and the use of the precautionary principle. The Convention through which the Ministerial Conference on Fisheries Cooperation among African States Bordering the Atlantic Ocean (ATLAFCO) was established obliges Contracting Parties to cooperate in the management and conservation of shared stocks, protect and preserve the marine environment, share data, and where possible, harmonise fisheries policies. All three of the countries under consideration participate in SEAFO, while Angola and Namibia are Member States of ATLAFCO.

All three countries are Parties to the Southern African Development Community (SADC) Protocol on Fisheries, which provides for the harmonisation of the legislation of Contracting Parties in order to better manage shared fish resources, including information sharing and law enforcement.

South Africa is further a Party to the Abidjan Convention (Convention for Cooperation in the Protection, Management and Development of the Marine and Coastal Environment of the Atlantic Coast of the West, Central and Southern Africa Region), and is thus obliged to take action to prevent and control pollution of the Convention area and to implement sound environmental management of natural resources.

**Table 3**), which *inter alia* formalises the need to establish protected areas (including developing guidelines for their management) and to develop or maintain necessary legislation for the protection of threatened species. Internationally, three species are listed as Endangered on the IUCN Red List, one is Vulnerable, three are Near Threatened and two are of Least Concern (Table 1). While threatened status on the Red List does not directly confer legal protection, it provides an incentive for species protection. In addition, threatened and Near Threatened species on the IUCN Red List are included in Column A of AEWA's Table 1, resulting in legal obligations to ensure that the taking of these species is prohibited or occurs within the framework of an international species action plan (depending on the species' categorization within Column A).

CITES (to which all three countries are also Parties) regulates the international trade in wild animals and plants to ensure that this practice does not threaten their survival. The Jackass Penguin is the only species under consideration that is listed by CITES (Appendix II). This means that all Parties to the Convention have an obligation to regulate the international trade of this species to avoid overutilisation which might threaten its survival.

Of the other international agreements pertaining to biodiversity conservation, Angola and South Africa are Parties to the Convention on Migratory Species (CMS). CMS provides a framework for international cooperation for conservation measures across the range of a migratory species. However, all the species under consideration that are covered by CMS are listed on Appendix II, in respect of which the Convention imposes no direct conservation obligations, but simply requires that Parties endeavour to conclude ancillary Agreements (of which AEWA is an example). Four of the species are listed on CMS Appendix II: Jackass Penguin, and Damara (listed as *Sternula balaenarum*), Caspian (listed as *Hydropogone caspia*, Western Eurasian and African population) and Greater Crested Terns. Namibia and South Africa are contracting Parties to the Ramsar Convention on Wetlands, which seeks to promote the conservation and wise use of wetlands, which include marine features such as estuaries, deltas and tidal flats. These features will have relevance to the tern species.

All three countries are Parties to the United Nations Convention on the Law of the Sea (UNCLOS), and Namibia and South Africa are Parties to the related UN Fish Stocks Agreement. These instruments are relevant to the sustainable management of fish stocks. However, the latter agreement applies only to Areas Beyond National Jurisdiction (ABNJ), except for its provisions on the promotion of the use of the precautionary principle and the compatibility of conservation and management measures. The precautionary principle advocates caution in situations when information is uncertain or unreliable and does not allow the lack of information to be used as a reason to postpone conservation actions.

The Benguela Current Commission (BCC) is a multi-sectoral, inter-governmental initiative of Angola, Namibia and South Africa. The Commission aims to promote regional cooperation to ensure the conservation and sustainable use of the natural resources of the Benguela Current Large Marine Ecosystem. In 2013, the three governments signed the Benguela Current Convention, which commits these countries to *inter alia* preventing and eliminating pollution, reversing (where possible) and preventing habitat destruction, protecting vulnerable species and improving human capacity and infrastructure. The BCC therefore has an important coordinating role to play in implementing this plan, and in addressing threats to species that cross national boundaries.

In South Africa and Namibia, bycatch of seabirds (mostly albatrosses and petrels, but also Cape Gannets) is being addressed by the Albatross Task Force (ATF), which works with the longline and trawl fisheries to implement seabird bycatch mitigation measures (BirdLife International, 2012). Although the Agreement on the Conservation of Albatrosses and Petrels (ACAP) deals only with albatross and petrel species, their bycatch mitigation factsheets are of relevance to the prevention of bycatch of the Cape Gannet, the only species in this plan to be accidentally caught or killed in trawl and longline fisheries.

Several Regional Fisheries Management Organisations (RFMOs) operate in the region, although only two are of relevance to this plan. The South East Atlantic Fisheries Organisation (SEAFO) promotes the management of sedentary and straddling fish stocks in the region. The Cape horse mackerel (*Trachurus capensis*) is the only fish managed by this organisation that is also a prey source for one of the seabirds in this plan. Importantly for sustainable fisheries management, SEAFO advocates an Ecosystem Approach to Fisheries (EAF) and the use of the precautionary principle. The Convention through which the Ministerial Conference on Fisheries Cooperation among African States Bordering

the Atlantic Ocean (ATLAFCO) was established obliges Contracting Parties to cooperate in the management and conservation of shared stocks, protect and preserve the marine environment, share data, and where possible, harmonise fisheries policies. All three of the countries under consideration participate in SEAFO, while Angola and Namibia are Member States of ATLAFCO.

All three countries are Parties to the Southern African Development Community (SADC) Protocol on Fisheries, which provides for the harmonisation of the legislation of Contracting Parties in order to better manage shared fish resources, including information sharing and law enforcement.

South Africa is further a Party to the Abidjan Convention (Convention for Cooperation in the Protection, Management and Development of the Marine and Coastal Environment of the Atlantic Coast of the West, Central and Southern Africa Region), and is thus obliged to take action to prevent and control pollution of the Convention area and to implement sound environmental management of natural resources.

**Table 3: The relevant international agreements to which each of the countries under consideration is party.**

Instrument	Description	Angola	Namibia	South Africa
Convention on Biological Diversity (CBD)	Obligations <i>inter alia</i> regarding the creation of protected areas and maintaining legislation to protect threatened species	X	X	X
International Union for the Conservation of Nature (IUCN)	Focuses on valuing and conserving nature, ensuring effective and equitable governance of its use, and deploying nature-based solutions to global challenges in climate, food and development.	X (Ministere de l'Urbanisme et de l'Environment)	-	X (Department of Environmental Affairs)
Convention on the International Trade of Endangered Species of Wild Fauna and Flora (CITES)	Regulates the international trade in wild animals and plants.	X	X	X
Convention on Migratory Species (CMS)	Provides a framework for international cooperation for conservation measures across the range of a migratory species.	X	-	X
Ramsar Convention on Wetlands	Promotes the wise use of wetlands.	-	X	X
UN Convention on the Law of the Sea (UNCLOS)	Obligations regarding, <i>inter alia</i> , the conservation and management of marine living resources (including consideration of effects on species dependent upon harvested species), and protection of the marine environment.	X	X	X

<b>Instrument</b>	<b>Description</b>	<b>Angola</b>	<b>Namibia</b>	<b>South Africa</b>
Agreement for the Implementation of UNCLOS relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UN Fish Stocks Agreement)	Obligations regarding the conservation and sustainable use of straddling and highly migratory fish stocks (including assessment of impacts on, and adoption of conservation and management measures for, species dependent on target stocks).	-	X	X
International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC)	Obligations for addressing oil pollution incidents.	X	X	X
International Convention for the Prevention of Pollution from Ships (MARPOL)	Obligations regarding the prevention of pollution by ships from operational or accidental causes.	X	X	X
1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter	Obligations regarding the prohibition and regulation of dumping at sea.	X	-	X
Benguela Current Commission (BCC)	Promotes a science-based approach to the conservation and sustainable use of natural resources in the Benguela Current Large Marine Ecosystem through regional cooperation. Participating countries are Parties to the Benguela Current Convention.	X	X	X
Convention for Cooperation in the Protection, Management and Development of the Marine and Coastal Environment of the Atlantic Coast of the West, Central and Southern Africa Region (Abidjan Convention)	Obligations regarding the prevention and control of pollution of the Convention area and the sound environmental management of natural resources.	-	-	X
Southern African Development Community (SADC) Protocol on Fisheries	Promotes responsible and sustainable use of living aquatic resources. Obligations regarding shared resources and the harmonisation of legislation.	X	X	X
South East Atlantic Fisheries Organisation (SEAFO)	Created through the Convention on the Conservation and Management of Fishery	X	X	X

Instrument	Description	Angola	Namibia	South Africa
	Resources in the South East Atlantic Ocean; promotes the sustainable use of sedentary and straddling fish stocks			
Ministerial Conference on Fisheries Cooperation among African States Bordering the Atlantic Ocean (ATLAFCO)	Created through the Convention on Fisheries Cooperation among African States Bordering the Atlantic Ocean. Promotes effective and active co-operation between Member States for conservation and sustainable development of fisheries in the region.	X	X	-

### **Angola**

The Environment Framework Act (No. 5 of 1998), which provides the foundation for environmental protection in Angola, contains broad provisions on, inter alia, the protection of biodiversity; establishment of protected areas; performance of environmental impact assessments (these being further addressed in the Decree on Environmental Impact Assessment (No. 51/04 of 23 Jul. 2004)); and environmental licences for activities which may have significant environmental impacts (these being further addressed in the Decree on Environmental Licensing (No. 59/07 of 13 Jul. 2007)).

The Decree on Environmental Protection for the Petroleum Industry (No. 39/00 of 10 Oct. 2000) provides for the protection of the environment in the course of both onshore and offshore 'petroleum activities' – which include activities related to, inter alia, the prospecting, exploration, production and transportation of oil and its by-products. The Decree includes provisions on both preventing and responding to oil spills.

### **Namibia**

The Marine Resources Act (No. 27 of 2000) provides for the conservation of the marine ecosystem and the responsible use of marine resources. The Act defines 'marine resources' to include all marine organisms, as well as guano and anything naturally derived from or produced by such organisms. It is thus applicable to both seabirds themselves and prey species. Regulations published under this Act (the 2001 Regulations Relating to the Exploitation of Marine Resources) include specific protections for seabirds (including, *inter alia*, penguins, cormorants, gannets, terns, and oystercatchers) and the eggs thereof; as well as provisions on the regulation of fisheries and protection of the marine environment. The Water Resources Management Act (No. 11 of 2013) is also relevant for the management and protection of estuaries (these being included in the Act's definition of 'watercourse'), while the Prevention and Combatting of Pollution at Sea by Oil Act (No. 6 of 1981) provides Namibia's legislative framework for preventing and responding to oil pollution. Other statutes which are relevant insofar as they regulate activities which present threats to seabirds include the Minerals Prospecting and Mining Act (No. 33 of 1992), Petroleum (Exploration and Production) Act (No. 2 of 1991), and Environmental Management Act (No. 7 of 2007) (under which activities are listed which require environmental impact assessments).

Several seabird breeding sites have been declared Important Bird and Biodiversity Areas (IBAs; Table 4). While IBAs do not necessarily provide any legal protection, their identification helps with prioritisation for designation of protected areas and other conservation initiatives.

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**Table 4:** The policies and legislation applicable to the species covered by this Action Plan in Namibia as well as the protection status of their breeding sites.

<b>Common name</b>	<b>Marine Resources Act (2000)</b>	<b>Parks and Wildlife Management Bill (2002)</b>	<b>Namibian Red Data Book (2015)</b>	<b>Protected area status</b>	<b>Global IBAs</b>
Jackass Penguin	Protected	Protected	Endangered	All islands protected in Namibian Islands Marine Protected Area (NIMPA)	Mercury, Ichaboe, Penguin, Halifax, Possession islands
Bank Cormorant	Not listed	Protected	Endangered	All islands protected in NIMPA	Mercury, Ichaboe, Seal and Penguin islands
Cape Cormorant	Protected	Protected	Endangered	Most breeding sites fall into the NIMPA, Skeleton Coast, Dorob, Cape Cross, Namib-Naukluft, or Tsau//Khaeb National Parks	Cape Cross lagoon, Ichaboe Island, Mile 4 saltworks, Possession Island, Sandwich Harbour, Sperrgebiet
Cape Gannet	Protected	Protected	Critically Endangered	All islands protected in NIMPA; all sites global IBAs	Mercury, Ichaboe, Possession islands
African Oystercatcher	Protected	Protected	Near Threatened	All breeding sites fall within the Namib-Naukluft and Tsau//Khaeb NP as well as NIMPA	Lüderitz Bay islands, Mercury Island, Mile 4 saltworks, Namib-Naukluft Park, Possession Island, Sandwich Harbour, Sperrgebiet, Walvis Bay
Crowned Cormorant	Protected	Not listed	Near Threatened	All sites except Bird Rock included in the NIMPA, the Namib-Naukluft NP or the Tsau//Khaeb NP	Ichaboe Island, Lüderitz Bay islands, Mercury Island, Namib-Naukluft Park, Possession Island, Tsau//Khaeb NP
Damara Tern	Protected	Protected	Near Threatened	All breeding sites are in National Parks; Ramsar Site: Sandwich Harbour	Mile 4, Namib-Naukluft, Walvis Bay to Swakopmund Beach, Sandwich Harbour, Sperrgebiet, Possession Island

Caspian Tern	Protected	Protected	Vulnerable	Potential breeding sites fall into the Skeleton Coast, Dorob Namib-Naukluft and Tsau//Khaeb National Parks, the NIMPA and the Hardap Recreation Resort;	Mile 4, Walvis Bay, Sandwich Harbour, Possession Island and Sperrgebiet IBAs
Greater Crested Tern	Protected	Protected	Least Concern	Potential breeding sites fall into the Skeleton Coast-, Dorob-Namib-Naukluft- and Tsau//Khaeb National Parks, the NIMPA	Cape Cross lagoon, Lüderitz Bay islands, Sandwich Harbour, Sperrgebiet, Walvis Bay

## ***South Africa***

All seabirds occurring in South Africa are protected by the Sea Birds and Seals Protection Act (No. 46 of 1973). The act provides for the control of certain islands and rocks as well as the protection of seabirds from capture, killing, and use of their eggs, feathers and guano. The National Environment Management: Protected Areas Act (No. 57 of 2003) protects many seabird breeding colonies while the National Environment Management: Biodiversity Act (No. 10 of 2004) makes provision for the compilation of biodiversity management plans (including for migratory species in order to give effect to South Africa's international obligations). Only one such management plan, for the African Penguin (which is listed as a protected species under the Act), has been undertaken in South Africa (Table 5). The African Penguin is also covered by the National Environmental Management: Biodiversity Act (No. 10 of 2004): Convention on International Trade in Endangered Species (CITES) Regulations. All island breeding sites are protected as nature reserves and managed by national or provincial conservation bodies. South Africa is currently revising the Threatened or Protected Species (TOPS) regulations but all species in this plan are listed by the regulations as protected. The TOPS regulations set out permit requirements for restricted activities (e.g. the hunting, capturing, killing, importing, exporting etc. of any listed species) and the regulation of facilities that may transport, hold or keep captive any of the listed species (e.g. captive breeding facilities, rehabilitation centres etc.)

A range of other South African legislation is relevant for addressing the threats faced by seabirds. Fisheries management is governed by the Marine Living Resources Act (No. 18 of 1998), which recognizes the needs to, *inter alia*, apply precautionary approaches, protect the ecosystem as a whole (including species which are not targeted for exploitation), and preserve marine biodiversity as principles which decision-makers must consider in implementing this statute. Several statutes seek to protect the marine environment from pollution by oil and other harmful substances, and thereby implement South Africa's international commitments concerning marine pollution. These include the Marine Pollution (Control and Civil Liability) Act (No. 6 of 1981), the Marine Pollution (Prevention of Pollution from Ships) Act (No. 2 of 1986), and the Marine Pollution (Intervention) Act (No. 64 of 1987). The National Environmental Management: Integrated Coastal Management Act (No. 24 of 2008) is also relevant insofar as it contains provisions on dumping at sea. The statute further provides the overarching framework for coastal management in South Africa and is thus an important tool through which to control development and other activities in the coastal environment, as is the environmental authorisation process established by the National Environmental Management Act (No. 107 of 1998). The use of estuaries specifically is additionally governed by the National Water Act (No. 36 of 1998); while a regulatory framework for mining and oil and gas exploitation is provided by the Mineral and Petroleum Resources Development Act (No. 28 of 2002).

**Table 5:** The policies and legislation applicable to the species covered in this Action Plan in South Africa as well as the protection status of their breeding sites.

<b>Common name</b>	<b>Management Plans</b>	<b>Status in Red Data Book of South Africa, Lesotho and Swaziland</b>	<b>Protected Area status</b>	<b>Global IBAs</b>
Jackass Penguin	Species Biodiversity Management Plan	Endangered (2015)	All breeding sites are under management of nature conservation authorities, except Robben Island, managed by Robben Island Museum	Algoa Bay Islands Nature Reserve, Bird Island (Lambert's Bay), Boulders Beach, Dassen Island, Dyer Island Nature Reserve, Overstrand, Robben Island National Historical Monument, West Coast National Park and Saldanha Bay islands
Bank Cormorant	None	Endangered (2015)	Most important breeding sites <sup>1</sup> are under management of nature conservation authorities	Dassen Island, Dyer Island Nature Reserve, Overstrand, Robben Island National Historical Monument, West Coast National Park and Saldanha Bay islands
Cape Cormorant	None	Endangered (2015)	Most important breeding sites <sup>1</sup> are under management of nature conservation authorities	Dassen Island, Dyer Island Nature Reserve, False Bay Nature Reserve, Orange River Mouth Wetlands, Robben Island National Historical Monument, West Coast National Park and Saldanha Bay islands
Cape Gannet	National Plan of Action for Reducing the Incidental Catch of Seabirds in Longline Fisheries	Vulnerable (2015)	All breeding sites are under management of nature conservation authorities	Algoa Bay Island Nature Reserve, Bird Island, West Coast National Park and Saldanha Bay islands

African Oystercatcher	None	Near Threatened (2000)	Most important breeding sites <sup>1</sup> are under management of nature conservation authorities	Alexandria coastal belt, Algoa Bay Island Nature Reserve, Dassen Island, De Hoop Nature Reserve, Dwesa and Cwebe Nature Reserves, Dyer Island Nature Reserve, Maitland - Gamtoos coast, Rietvlei Wetland Reserve, Robben Island National Historical Monument, Swartkops Estuary - Redhouse and Chatty Saltpans, West Coast National Park and Saldanha Bay islands
Crowned Cormorant	None	Near Threatened (2015)	Most important breeding sites <sup>1</sup> are under management of nature conservation authorities	Dassen Island, Dyer Island Nature Reserve, Overstrand, Robben Island National Historical Monument, West Coast National Park and Saldanha Bay islands
Damara Tern	None	Critically Endangered (2015)	Breeding sites in the Eastern Cape protected by Greater Addo Elephant National Park but other sites in the province are not protected	Alexandria coastal belt, Heuningnes river and estuary system, Orange River Mouth Wetlands
Caspian Tern	None	Near Threatened (2015)	Breeding sites on islands largely protected, while mainland sites are not	Lake St Lucia and Mkuze Swamps, Lower Berg river wetlands
Greater Crested Tern	None	Not assessed	Breeding sites on islands largely protected, while mainland sites are not	Dassen Island, Dyer Island Nature Reserve, False Bay Nature Reserve, Lower Berg river wetlands, Robben Island National Historical Monument, West Coast National Park, Saldanha Bay islands, Algoa Bay islands

<sup>1</sup>Those listed for each species under Section **Error! Reference source not found.:** **Error! Reference source not found.**

## Monitoring and research

There are differing levels of monitoring taking place in each of the three countries due to differences in capacity and resources. Research projects underway on each species are listed in **Error! Reference source not found.**

### Angola

There is little regular monitoring of seabirds in Angola. In 2003, the BCLME, Instituto Nacional de Investigação Pesqueira (INIP) and University Agostinho Neto conducted the first at-sea census of seabirds in Angolan waters. Additional censuses were conducted in 2005 (winter) and 2014 (summer and winter). Ten species were frequently encountered, of which only two are considered in this plan (Cape Gannet and Cape Cormorant).

### Namibia

Three seabird breeding islands are permanently staffed (Mercury, Ichaboe, Possession islands) and these sites have regular counts (Table 6) while other sites are counted on an ad hoc basis. Monitoring programmes for the Namibian Islands Marine Protected Area (NIMPA) is being developed and a draft management plan for these islands<sup>3</sup> is also nearing completion. All the birds on this list will also be counted during the wetland bird counts if they should be present at the count sites.

**Table 6:** The monitoring frequency and organisations responsible for this at Namibian seabird breeding sites.

Common name	Monitoring action	Organisation responsible
Jackass Penguin	Four main islands (~96%) counted bi-monthly (moult) and monthly (nests) Additional sites censused once a year at most	Marine Fisheries and Marine Resources (MFMR), African Penguin Conservation Project (APCP)
Bank Cormorant	Monthly counts at staffed islands with ad hoc counts at other sites	MFMR
Cape Cormorant	No annual census although aerial surveys at large colonies may take place during seal census, but are not necessarily at breeding peak. Ground censuses may be done at smaller colonies; Mercury, Ichaboe, Possession permanently staffed	Aerial censuses organised and conducted by MFMR, DEA South Africa, Namibian Coast Conservation and Management Project (NACOMA)
Cape Gannet	Annual Cape Gannet census (last done 2010) 3 sites surveyed. All sites are at permanently-staffed islands; other monitoring is being done there (ringing/breeding success/some diet)	MFMR, DEA South Africa, NACOMA
African Oystercatcher	Counted incidentally during bi-annual wetland counts, counted opportunistically at other times	Ministry of Environment and

<sup>3</sup> NIMPA is made up of 11 natural islands and islets stretching 400 km from Hollamsbird Island to Sinclair Island, extending 30 km out from the coast.

<b>Common name</b>	<b>Monitoring action</b>	<b>Organisation responsible</b>
		Tourism (MET) and volunteers; MFMR
Crowned Cormorant	Counted monthly at Mercury, Ichaboe, Halifax, Possession islands; ad hoc counts at other islands	MFMR
Damara Tern	Horses Graves and Caution Reef surveyed annually, other sites less often	NACOMA, R Braby, J Braby
Caspian Tern	Counted incidentally during bi-annual wetland counts, counted opportunistically at other times	Ministry of Environment and Tourism (MET) and volunteers; MFMR
Greater Crested Tern	Counted incidentally during bi-annual wetland counts, counted opportunistically at other times	Ministry of Environment and Tourism (MET) and volunteers; MFMR

### ***South Africa***

South African authorities conduct annual censuses of 12 seabirds, including Jackass Penguin, Cape Gannet, Greater Crested Tern, and Cape, Crowned and Bank cormorants. Opportunistic information on the Damara and Caspian terns is collected. All major seabird breeding sites (15) are surveyed annually, with some sites being visited monthly. These surveys are organized by Department of Environmental Affairs, CapeNature, South African National Parks and eKZN Wildlife. Many of the breeding sites have management plans in place.

## 5. Framework for action

### 5.1. Goal

Restore Benguela seabird species to favourable conservation status<sup>4</sup> by 2040.

### 5.2. Purpose

The purpose of this plan is to stop further declines and maintain current population size and breeding distribution area of species covered by this Action Plan by 2025.

**Table 7:** The current status of the populations of the nine species is shown as well as the population size required for these species to be in a “Good” or “Very Good” state.

Species	Current Status <sup>1</sup>	Current population size	Unit	Good
Jackass Penguin	Poor	23 000	Breeding pairs	90 000
Bank Cormorant	Poor	3 250	Breeding pairs	10 000
Cape Cormorant	Poor	94 808	Breeding pairs	250 000
Cape Gannet	Poor	135 463	Breeding pairs	250 000
African Oystercatcher	Fair	6 670	Individuals	9 000
Crowned Cormorant	Fair	3 080	Breeding pairs	5 000
Damara Tern	Fair	2 685	Breeding pairs	5 000
Caspian Tern	Good	>500	Breeding pairs	
Greater Crested Tern	Good	9 000	Breeding pairs	

<sup>1</sup>Poor: restoration increasingly difficult, may result in extirpation

Fair: outside acceptable range of variation, requires human intervention

Good: indicator within acceptable range of variation, some human intervention may be needed to maintain this status

Very good: indicator within acceptable range of variation, no human intervention needed

### 5.3. Objectives

1. To manage anchovy and sardine stocks so that they recover to and do not fall below one third of maximum levels

**Indicator:** Estimated sardine and anchovy stocks reach agreed levels by 2025

**Means of Verification:** Official stock estimates from each country

2. To reduce fisheries bycatch of Cape Gannets to levels that do not impact population demographics

**Indicator:** No measurable impact of bycatch on adult survival rates

**Means of Verification:** Adult survival rates

3. To minimise displacement and predation at colonies

**Indicator:** Displacement by seals does not disrupt breeding seabirds and breeding failure

<sup>4</sup> Target population sizes identified for each species in Table 7

rate due to predation by gulls and seals does not exceed 10% at at-risk colonies by 2020

**Means of Verification:** Colony monitoring

4. To minimise disturbance to colonies by construction and recreational activities  
**Indicator:** No colonies are destroyed or deserted as a result of construction or recreational activities after 2018  
**Means of Verification:** Colony monitoring
5. To reduce the number of seabird deaths due to pollution (i.e. oil and other hazardous and noxious substances)  
**Indicator:** By 2020, all three countries have adequate measures in place to reduce the likelihood of spills occurring and adequate capacity to respond quickly which has been effectively preventing incidents of spills and their impacts on seabirds  
**Means of Verification:** National reports to the Working Group detailing progress on implementing the measures agreed in this action plan
6. To minimise impact of sea-level rise on the population size  
**Indicator:** By 2025, risk assessments of priority sites completed and mitigation measures investigated and implemented  
**Means of Verification:** Risk assessments, mitigation measures in place
7. To fill key knowledge gaps on the impacts of threats, especially those relating to mining impacts and gillnet mortalities  
**Indicator:** By 2025, monitoring and research plans are in place  
**Means of Verification:** Reports and scientific publications

## 5.4. Results and Actions

**Table 8:** Results, actions, time scales and responsibilities

Result	Action	Priority <sup>1</sup>	Timescale <sup>2</sup>	Organisations responsible
<b>Objective 1. To manage anchovy and sardine stocks so that they recover to and do not fall below one third of maximum levels</b>				
1.1. Forage fish stocks* have recovered to agreed levels	1.1.1. Identify further ecologically meaningful biomass thresholds for forage fish stocks as they relate to seabird foraging requirements.	High	Short	Benguela Current Commission (BCC) to coordinate <b>AGO:</b> Ministries of Fisheries and Environment, INIP <b>NAM:</b> MFMR, APCP <b>ZAF:</b> DEA O&C, DAFF, Marine Research Institute (MaRe)
	1.1.2. Support Angola to manage fish stocks and pressures on fish stocks (human fishing pressure and other impacts such as seals). This requires dedicated research to understand fisheries and predator-prey interactions.	Medium	Short	BCC <b>AGO</b> Ministries of Fisheries and Environment
	1.1.3. Identify when fishing pressure impacts stocks most critically, taking into account natural variability of stocks and manage fisheries accordingly (e.g. reduced quotas, closed seasons/areas as appropriate, including through a fisheries management plan).	Medium	Short	<b>AGO:</b> Ministries of Fisheries and Environment, INIP <b>NAM:</b> MFMR, APCP <b>ZAF:</b> DEA O&C, DAFF, Marine Research Institute (MaRe) Stock assessment teams
	1.1.4. Undertake fisheries management strategy evaluation by externals on a regular basis.**	Medium	Every 5 years	As above
1.2. Spatial management implemented	1.2.1. Establishment of a bilateral Angola-Namibia stock assessment and management working group	Medium	Short	BCC

Result	Action	Priority <sup>1</sup>	Timescale <sup>2</sup>	Organisations responsible
	to coordinate the development and implementation of spatial management plans for shared fish stocks.			<b>AGO:</b> Ministry of Fisheries <b>NAM:</b> MFMR
	1.2.2. Establish transboundary collaboration for coherent MPA networks to be established in the region, including pelagic/offshore MPAs for fishery management and seabird conservation purposes. Ensure that these contribute to national CBD Aichi Biodiversity Targets for protected areas (target 11)	Medium	Short	BCC, national departments responsible for marine protected areas
	1.2.3. South Africa to implement revised quota system taking into account the presence of two sardine stocks to reduce risk of localised depletion.	High	Immediate	DAFF
1.3. Science and ecosystem considerations are integrated into fisheries management, quota setting and recovery planning	1.3.1. Increase scientific capacity (e.g. fill posts with appropriately qualified and experienced personnel and create new posts as required).	High	Ongoing	<b>AGO:</b> Ministry of Fisheries <b>NAM:</b> MFMR <b>ZAF:</b> DAFF
	1.3.2. Integrate research programmes into building management capacity and vice versa; build stronger links between academic marine research initiatives to management. Promote collaborative research between national and international bodies.	Medium	Ongoing	<b>AGO:</b> Ministry of Fisheries <b>NAM:</b> MFMR <b>ZAF:</b> DAFF
	1.3.3. Promote the influence of scientific advice in fisheries management through inclusion of ecosystem approaches in decision-making processes.	Medium	Medium	<b>AGO:</b> Ministry of Fisheries <b>NAM:</b> MFMR <b>ZAF:</b> DAFF, DEA
1.4. Controlled fishing zones are established around key breeding islands where appropriate, to avoid local depletion	1.4.1. Investigations and reports or scientific papers published describing core foraging areas during different stages for each species, in collaboration with other range states especially with regards to Damara Tern migrations.	High	Ongoing, completed within 5 years	<b>AGO:</b> Ministries of Environment and Fisheries, INIP <b>NAM:</b> MET, with MFMR <b>ZAF:</b> DEA O&C Universities and NGOs

Result	Action	Priority <sup>1</sup>	Timescale <sup>2</sup>	Organisations responsible
	1.4.2. Relate core foraging areas back to fishing zones/activities/catch and effort levels to design MPAs.	Medium	Ongoing and within 2 years of completion of 1.4.1	<b>AGO:</b> Ministries of Environment and Fisheries, INIP <b>NAM:</b> MET, with MFMR <b>ZAF:</b> DEA O&C
<b>Objective 2. To reduce fisheries bycatch of Cape Gannets to levels that do not impact population demographics</b>				
2.1. Cape Gannet mortalities in longline and trawl fisheries are minimised	2.1.1. Ensure that the use of proven mitigation measures is in permit conditions of relevant fisheries and that this is complied with.	Essential	Ongoing	<b>AGO:</b> Ministry of Fisheries <b>NAM:</b> MFMR <b>ZAF:</b> DAFF NGOs (Albatross Task Force)
<b>Objective 3. To minimise displacement and predation at colonies</b>				
3.1. Displacement of seabirds by seals is minimised	3.1.1. Prevent seals from settling at sensitive sites.	High	Ongoing	Management authorities at seabird colonies in <b>NAM</b> and <b>ZAF</b>
	3.1.2. Mitigate effects of existing displacements of seabirds by seals, e.g. by placing pipes for penguins to nest in and maintaining sea walls.	High	As appropriate	Management authorities at seabird colonies in <b>NAM</b> and <b>ZAF</b>
3.2. Predation of seabirds by seals, gulls, pelicans and terrestrial mammals is minimised	3.2.1. Develop and implement protocols for the control of seals and Kelp Gulls involved in predation on seabirds.	High	Ongoing	Seabird colony management authorities <b>AGO:</b> Ministry of Environment <b>NAM:</b> MFMR <b>ZAF:</b> DEA
	3.2.2. Remove/relocate existing predators at key existing seabird breeding sites and exclude terrestrial mammalian predators from proposed new sites	Essential	Medium	Seabird colony management authorities, NGOs
	3.2.3. Improve management of rubbish dumps and removal of seal carcasses to prevent Kelp Gulls and terrestrial mammalian predators	Medium	Ongoing	<b>NAM:</b> MET, municipal authorities

Result	Action	Priority <sup>1</sup>	Timescale <sup>2</sup>	Organisations responsible
	approaching/colonising important breeding colonies of seabirds, especially Damara Terns.			<b>ZAF:</b> DEA, municipal authorities
	3.2.4. Deter Great White Pelicans involved in predation on seabirds from key colonies.	Medium	Ongoing	CapeNature, SANParks
<b>Objective 4. To minimise disturbance to colonies by construction and recreational activities</b>				
4.1. Adequate legal frameworks and administrative capacity in place to manage coastal development without jeopardising seabird breeding habitat	4.1.1. Strengthen environmental management legislation especially fast tracking environmental legislation in Namibia.	High	Immediate	<b>AGO:</b> Ministry of Environment, others? <b>NAM:</b> MET, MFMR <b>ZAF:</b> DEA, CapeNature, SANParks
	4.1.2. Strengthen implementation of the environmental legislation.	High	On-going	<b>AGO:</b> Ministry of Environment, others? <b>NAM:</b> MET, MFMR <b>ZAF:</b> DEA
4.2. Human disturbance of coastal seabirds is reduced and controlled	4.2.1. Improve awareness, crime prevention and law enforcement.	High	On-going	<b>AGO:</b> Ministry of Environment, others? <b>NAM:</b> MET, MFMR <b>ZAF:</b> DEA, Cape Nature, SANParks
	4.2.2. Improvement of maintenance of access management structures (e.g. fences).	High	On-going	<b>AGO:</b> Ministry of Environment, others? <b>NAM:</b> MET, MFMR <b>ZAF:</b> DEA, Cape Nature, SANParks
<b>Objective 5. To reduce the number of seabird deaths due to pollution (i.e. oil and other hazardous and noxious substances)</b>				
5.1. The number of oil spills is reduced	5.1.1. All countries to ensure that there is a legislative framework to ensure that vessels are sea worthy, have oil/effluent (or emergency/disaster) spill response plans and that they take responsibility to comply with relevant international	Essential	Immediate	International Maritime Organisation Governments <b>NAM:</b> Ministry of Works and Transport

Result	Action	Priority <sup>1</sup>	Timescale <sup>2</sup>	Organisations responsible
	laws and treaties governing sea going vessels. Mechanisms should also be in place to prevent decision making deadlocks and delays in implementation of legislation.			ZAF: SAMSA, DEA: Oil Pollution
	5.1.2. Formulate a MOU between Angola, Namibia and South Africa with regard to oil and pollution response in order to assist with capacity and resources in oil/pollution response.	High	Immediate	Central Governments under the framework of the BCC, include CITES if movement of animals is involved
	5.1.3. Investigate means to develop a fund that shipping/oil companies contribute to, which would be used to support rehabilitation efforts, especially important in incidents when the responsible party cannot be identified.	High	Immediate	International maritime Organisation
	5.1.4. Ensure all Oil, Mining and other industries involved in resource extraction have oil/effluent (or emergency/disaster) spill response plans; that there is reference made to 'polluter pays principles.' Reconsider legislation regarding EIAs for prospecting activities, ensuring that EIAs are required for all prospecting activities.	Essential	Immediate	Relevant industries in all countries. <b>AGO:</b> Ministry of Environment <b>NAM:</b> Ministry of Works and Transport, Ministry of Mines and Energy, MET <b>ZAF:</b> DEA and Department of Transport, Department of Mineral and Energy Resources

Result	Action	Priority <sup>1</sup>	Timescale <sup>2</sup>	Organisations responsible
	5.1.5. Implement environmental surveillance to identify oil spills and subsequently identify and track vessels at sea which may release pollutants.	Medium	Immediate	<b>AGO:</b> Ministries of Agriculture, Energy and Fishing <b>NAM:</b> Directorate of Maritime Affairs within Ministry of Works and Transport <b>ZAF:</b> SAMSA, DEA: O&C and Coasts) and Department of Transport
	5.1.6. Explore designating sites as sensitive marine areas under International Maritime Organisation and consequent rerouting of shipping.	Essential	Immediate	Relevant industries in all countries. <b>AGO:</b> Ministry of Environment <b>NAM:</b> Ministry of Works and Transport, Ministry of Mines and Energy, MET <b>ZAF:</b> DEA and Department of Transport
5.2. Countries are adequately prepared for oil spills	5.2.1. Develop and maintain national, and where relevant, regional Oil (and other Hazardous and Noxious Substances) Spill Contingency Plans. ***	Essential	Immediate with annual updates	<b>AGO:</b> Ministry of Environment <b>NAM:</b> Ministry of Works and Transport <b>ZAF:</b> DEA, SAMSA and Department of Transport
	5.2.2. Develop and regularly update individual seabird colony oil spill contingency plans (in line with the relevant National and Regional Oil Spill Contingency Plan). These plans are to include shoreline clean up strategies for the islands.	Essential	Immediate with annual updates	<b>AGO:</b> Ministry of Fisheries, NGOs <b>NAM:</b> MFMR <b>ZAF:</b> Relevant island management authorities (South African National

Result	Action	Priority <sup>1</sup>	Timescale <sup>2</sup>	Organisations responsible
				Parks (SANParks), CapeNature, Robben Island Museum)
	5.2.3. Conduct training in order to familiarise stakeholders with updated oil spill contingency plans and mitigation and response techniques.	Essential	Ongoing	<b>AGO:</b> relevant NGOs and oil and mining companies <b>NAM:</b> Relevant NGOs and oil and mining companies <b>ZAF:</b> SAMSA and NGOs and oil and mining companies
5.3. Responses to oil spills are adequate and appropriate	5.3.1. Effective monitoring for oil pollution through aerial flights.	High	When appropriate	<b>AGO:</b> Ministry of Environment <b>NAM:</b> MET, MFMR and NGOs <b>ZAF:</b> DEA: Oil Pollution and NGOs
	5.3.2. Implement response as per contingency plans.	Essential	When appropriate	All affected stakeholders identified in the contingency plans
	5.3.3. Each country to ensure that there is a means to effectively rehabilitate seabirds.	High	Immediate	<b>AGO:</b> Ministry of Environment <b>NAM:</b> MFMR <b>ZAF:</b> DEA CITES and veterinary authorities
	5.3.4. Develop techniques for rescue and rehabilitation of cormorants.	High	Immediate	Relevant authorities responsible for wildlife management, veterinary issues, rehab experts
5.4. Effects of oiling are monitored	5.4.1. Determine the number of birds impacted in oiling events and the success of implemented response measures.	Essential	Ongoing	<b>AGO:</b> Ministry of Environment <b>NAM:</b> MFMR

Result	Action	Priority <sup>1</sup>	Timescale <sup>2</sup>	Organisations responsible
				ZAF: DEA
<b>Objective 6. To minimise impact of sea-level rise on population sizes</b>				
6.1. Effects of sea level rise are mitigated at the most important and vulnerable seabird colonies	6.1.1. Create a sea level rise working group with representatives from each country to conduct a risk assessment that will prioritise vulnerable colonies and investigate different technical solutions/mitigation measures (e.g. sea wall, platforms, artificial islands, coastal barriers).	High	Short (establishment of working group) Long (activities of group)	<b>AGO:</b> Ministry of Environment <b>NAM:</b> MET <b>ZAF:</b> DEA Managing authorities at each colony with the support of local academic institutions
	6.1.2. Implement appropriate mitigation measures at priority sites.	High	Long	Managing authorities at each colony
	6.1.3. Restore/improve breeding habitat on islands/sites where higher level space is available but habitat unsuitable (e.g. provision of nest boxes).	Medium	Long	Managing authorities at each colony
<b>Objective 7. To fill key knowledge gaps on the impacts of threats, especially those relating to mining impacts and gillnet mortalities</b>				
7.1 The impacts of mining (especially phosphate mining) and oil and gas exploration on seabirds in the region are identified	7.1.1. Research and monitoring programmes underway.	High	Medium	<b>AGO:</b> <b>NAM:</b> MFMR, MET <b>ZAF:</b> DEA, DAFF Research institutions, NGOs
	7.1.2. Seabirds are considered in all EIAs that cover these activities.	High	Immediate and ongoing	<b>AGO:</b> <b>NAM:</b> MFMR, MET <b>ZAF:</b> DEA, DAFF, Department of Mineral and Energy Resources
7.2. Levels of directed take of Cape Gannets are quantified	7.2.1. Determine the degree of directed take of Cape Gannets in AGO by artisanal fishers.	Medium	Short	NGOs and universities/research institutions <b>AGO:</b> Ministry of Fisheries

Result	Action	Priority <sup>1</sup>	Timescale <sup>2</sup>	Organisations responsible
7.3. Cormorant mortalities in gillnets, lobster pots and other fishing gear are quantified	7.3.1. Investigate the scale of the problem in AGO, NAM and ZAF.	Medium	Medium	NGOs and universities/research institutions <b>AGO:</b> Ministry of Fisheries <b>NAM:</b> MFMR <b>ZAF:</b> DAFF

<sup>1</sup>Essential: Very effective (Both impact and feasibility are very high)  
High: Effective (Both impact and feasibility are at least high)  
Medium: Less effective (Both impact and feasibility are at least medium)  
Low: Not effective (At least one of impact and feasibility is low)

<sup>2</sup> Immediate: completed within the next year.  
Short: completed within the next 3 years.  
Medium: completed within the next 5 years.  
Long: completed within the next 10 years.  
Ongoing: currently being implemented and should continue.  
Completed: completed during preparation of the action plan.

#### Supporting notes on actions:

- \*1.1: The stocks in question are Sardines (and some anchovy) in Namibia, Sardine and Anchovy in South Africa and Sardine, horse mackerel and Sardinella in Angola.
- \*\*1.1.4: The BirdLife International marine Important Bird and Biodiversity Areas programme provides a useful, standardised tool for establishing the geographical scope and thresholds for what constitutes 'core'
- \*\*\*2.2.1: This would include
  - a) Conducting Risk Assessments for spills of Oil and Hazardous and Noxious Substances to inform strategies within the National Oil Spill Contingency Plan.
  - b) Identify areas (all colonies and areas used by both foraging breeders and non-breeders) that are particularly vulnerable to pollution.
  - c) Identify wrecks along the coastline that have the potential to cause chronic pollution.
  - d) Determine, document and implement actions to prevent oil from escaping from the wrecks identified in point
  - e) Clearly identify roles, responsibilities and mandates of the various government departments (at all levels) involved in preparedness, planning and response to oil (including hazardous and noxious substances) spills

## 6. International Coordination of Action Plan Implementation

Appropriate organizational and management structures are vital to the successful and coordinated implementation of the Action Plan. To this end, an AEWA International Working Group (IWG) for the Benguela Current Upwelling System Coastal Seabirds consisting of designated government representatives and national experts from all range states as well as experts from the international conservation community will be convened by the AEWA Secretariat following the adoption of the plan. The IWG will coordinate and guide the implementation and further development of the activities foreseen in the Action Plan. Under the framework of the Action Plan and the International Working Group, range states are encouraged to establish National Working Groups and to develop and adopt National Multi-species Action Plans for the Benguela Current Upwelling System Coastal Seabirds.

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