Namibia
Coastal/Marine Bird Action Plan

Proceedings of a workshop
on 1 April 2008 at Swakopmund
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A BACKGROUND

Namibia’s Red Data birds

Excluding vagrant species, 676 bird species are currently known to occur within Namibia. Of these, 60 species (9%) are recognised as being under threat in Namibia’s new Red Data Book (Simmons & Brown 2006), which is going into press in 2008. This milestone publication evaluates all our bird species against a set of IUCN criteria, to determine whether they warrant special attention.

The birds under threat form four major groups:
- Inland wetland birds (19 species [32%; plus 3 raptor species = 37%])
- Birds of prey, especially scavenging birds (18 species [30%])
- Peripheral birds of the northern river systems that live in riparian, tropical habitats (8 species [13%])
- Coastal and marine birds (15 species [25%; plus 5 coastal wetland species = 33%)

Table 1: Twenty coastal/marine bird species are of special concern in Namibia

<table>
<thead>
<tr>
<th>Species</th>
<th>Conservation status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albatross</td>
<td></td>
</tr>
<tr>
<td>Atlantic Yellow-nosed</td>
<td>Endangered</td>
</tr>
<tr>
<td>Black-browed</td>
<td>Endangered</td>
</tr>
<tr>
<td>Shy</td>
<td>Near Threatened</td>
</tr>
<tr>
<td>Wandering</td>
<td>Vulnerable</td>
</tr>
<tr>
<td>Cormorant</td>
<td></td>
</tr>
<tr>
<td>Bank</td>
<td>Endangered (globally Vulnerable)</td>
</tr>
<tr>
<td>Cape</td>
<td>Near Threatened (globally Near Threatened)</td>
</tr>
<tr>
<td>Crowned</td>
<td>Near Threatened (globally Near Threatened)</td>
</tr>
<tr>
<td>Flamingo</td>
<td></td>
</tr>
<tr>
<td>Greater</td>
<td>Vulnerable</td>
</tr>
<tr>
<td>Lesser</td>
<td>Vulnerable (globally Near Threatened)</td>
</tr>
<tr>
<td>Gannet</td>
<td></td>
</tr>
<tr>
<td>Cape</td>
<td>Endangered (globally Vulnerable)</td>
</tr>
<tr>
<td>Grebe</td>
<td></td>
</tr>
<tr>
<td>Black-necked</td>
<td>Near Threatened</td>
</tr>
<tr>
<td>Gull</td>
<td></td>
</tr>
<tr>
<td>Harlan’s</td>
<td>Vulnerable</td>
</tr>
<tr>
<td>Oystercatcher</td>
<td></td>
</tr>
<tr>
<td>African Black</td>
<td>Near Threatened (globally Near Threatened)</td>
</tr>
<tr>
<td>Pelican</td>
<td></td>
</tr>
<tr>
<td>Great White</td>
<td>Vulnerable</td>
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<tr>
<td>Penguin</td>
<td></td>
</tr>
<tr>
<td>African</td>
<td>Endangered (globally Vulnerable)</td>
</tr>
<tr>
<td>Petrel</td>
<td></td>
</tr>
<tr>
<td>Northern Giant</td>
<td>Near Threatened</td>
</tr>
<tr>
<td>White-chinned</td>
<td>Vulnerable</td>
</tr>
<tr>
<td>Plover</td>
<td></td>
</tr>
<tr>
<td>Chestnut-banded</td>
<td>Near Threatened</td>
</tr>
<tr>
<td>Tern</td>
<td></td>
</tr>
<tr>
<td>Caspian</td>
<td>Vulnerable</td>
</tr>
<tr>
<td>Damara</td>
<td>Near Threatened; breeding endemic</td>
</tr>
</tbody>
</table>

The main threats to these species include habitat loss/degradation; oil and other forms of pollution; over fishing, particularly of pichiards; by-catch in fishing operations; and a lack of environmental awareness and local ownership of biodiversity resources.

Action plans for groups of birds under threat

Threats to cranes and other wetland birds in Namibia are being addressed by the Namibia Crane Action Plan, developed in May 2004 and implemented by the Namibia Crane Working Group in association with the Wetland Working Group of Namibia. Threats to raptors are likewise the focus of a Birds of Prey Action Plan and working group, Raptors Namibia, developed in March 2005. In both cases these plans/working groups are initiatives of and supported by Namibia Nature Foundation. The fourth, small group of
Peripheral birds is largely dependent on riparian forests, and work is ongoing with the Directorate of Forestry to protect this habitat.

With a view to addressing threats to the third Red Data group, namely coastal and marine birds (including offshore islands), a small, focused workshop was organized at Swakopmund on 1 April 2008 in order to build upon and support existing conservation initiatives, and to develop an action plan incorporating the entire coastline of Namibia. The aims of the workshop were to:

- Promote communication and cooperation among coastal/marine bird conservation stakeholders in Namibia;
- Develop a practical conservation action plan for coastal/marine birds; and
- Start implementation of the plan by means of establishing a coastal/marine bird working group.

The key activities of these working groups are to develop bird-related conservation partnerships, and to develop and implement action plans/strategies and biodiversity management programmes. This is done in consultation with local communities. The action plans form a basis for reporting back, measuring progress and deciding together on future actions. A special focus of these plans is to support both those institutions with a mandate to conserve birds, and civil society conservation groups (see below).

During 2009 (Year II), a follow-up workshop (or two smaller workshops) will be held to report back on and assess progress, and do further planning.

Programme partners

The coastal/marine bird action plan is being developed in partnership with the Namibia Nature Foundation (NNF), and the workshop was facilitated by Dr Chris Brown. The initial and follow up workshops are being funded and supported by the NACOMA Project. During 2008-2009, (limited) additional funding for some of the projects has been procured from the GEF Small Grants Programme.

Further partners include:

- Institutions with a mandate to conserve birds (e.g. Ministry of Environment & Tourism [MET], Ministry of Fisheries & Marine Resources [MFMR] and local municipalities) and
- Other civil society groups (e.g. the Coastal Environmental Trust of Namibia [CETN], the BirdLife International Albatross Task Force [ATF], Namibia Bird Club [N3C], Namibian Environment & Wildlife Society [NEWS], Wetland Working Group [WWG]);
- and many individuals in private capacity.

References:


23. Jan 2001 heavy sulphur eruptions. Many of the small Palaeoarctics came and fed in gardens etc.

28. Pectoral and Curlew Sandpiper are of similar size.


46. Pelican Point Peninsula must become part of Ramsar site. Have written several times to MET.

49-51. This is the reason why. Summer counts always over 20 000 birds. This year 50 000, 250 000 terns - Phil.

52. Biodiversity. Fur Seal, 5-6 pair Jackel breed here. Elephant seal 4-5 years. Redfooted Booby etc. And possibly others that we know not. Dolphin enter the lagoon and Heaviside here at point; even more reason for this area become included in the Ramsar site.

58. Just emphasising the same extract for our coastal IBA.

60. Dotted white line should come lower as this is the migration path of the Black Tern. Why have we not joined the AEWG? We should do this. Sent to DEA, Perm. Sec and Municipality. No reaction. Where are we going?

61. These are extracts from a paper written by Phil Hockey on this particular section of beach. The EIA stated that this was a sand beach. Say no more about the EIA. How can this be a sustainable development? This coast has the largest linear count of birds in the whole of southern Africa 6-700 birds per km.

64. Many of the large plants of Trianthema hercensis, which are endemic to the central area of our coast, have been destroyed and are yet to be researched, according to Dr. Sonja Loos.

65. These plants are home to this guy and many other animals.

74. There are 11 coastal birds which are on the Namibian Red Data list, of which the Crowned Cormorant is endemic to the Benguela current and nests only on the stays at bird island to our knowledge.

75. These are new and exciting wetlands, about 1.5 km to the east of the old ones. Lost G.C Grebe but hopefully they will return. Unfortunately Abaia a toxic spray was used with deadly results. I must congratulate the 2 Andrés of Water Waste and Environmental Management on what they have achieved. With the help also of Filip Els, now retired. I wish that we could get the co-operation from MET as I get from all the sections of this department of the municipality in particular David and Olavi.

77. This is last year's Google map of the 4 large ponds which we counted for the first time this Jan. Here we hope to follow Mark Anderson's example of creating an island for the Flamingos to breed on. Well over 4 000 birds were counted of which just under 3 000 were Lesser Flamingos.
82. Fantastic area for spectacular views, as good as Sandwich Harbour!

88. Thought that I would include this as it has all 3 albatross found here. Shy, Black-browed and Yellow-Nosed, with a Sub-antarctic Skua.

- Protection for the Ramsar Site is URGENT.
- Protection for the coastal area is URGENT.
- We need a road to the sewage pools and to look at a breeding island for flamingos.

5. Swakopmund

5.1 Bird counts (Mark Boorman, private)

I would like to give an overview of the current monitoring initiatives in and around Swakopmund. These activities are carried out by interested birders - however a representative of MET has accompanied us on most of our Swakop River Mouth counts.

Counts are submitted to the MET offices in both Swakopmund and Windhoek.

The longest standing monitoring has been of the Swakopmund Sewage Works. Counts were initiated in 1996 and are undertaken monthly. There is large breeding colony of Hartlaub's Gulls which shows very good fledging success. An all-time high of 3 650 was recorded in February 2008. This year, for the first time, a breeding colony of Kelp Gulls was recorded. It is planned to re-locate the sewage works to the northern end of town.

The Hartlaub's Gulls will then have to establish an alternative breeding site. Possibly the Municipality should be approached to integrate a bird friendly environment in their construction of the new works, including a secure breeding site, planned access and a hide for the birdwatching.

The Mile 4 Salt Works, north of Swakopmund, is privately owned and hosts good numbers of resident and migratory birds. It is both an important stopover and over-wintering site for these migrants. A remnant of the once-strong breeding colony of Damara Tern can be found here. Unfortunately disturbance and encroaching urbanisation has displaced them. However, pre- and post-breeding groups of these terns still use this area. Large numbers of Black-necked Grebe are often present. The pans serve as both diurnal and nocturnal roost for migratory terns. At times there can be at least 150 000 terns using this area, the majority being Common Tern with about 20% Black Tern. Both Lessor and Greater Flamingo use the pans as an "assembly point" prior to heading off to their breeding areas. Without doubt, the establishment of the pan system has benefited numerous species. This area is counted twice a year at the same time or as close as possible to the Walvis Bay and Sandwich Harbour counts.

The third area is the Swakop River Mouth. This special habitat is under constant pressure to be developed. So far, these attempts have fortunately been fended off. Some follow-up action is required to establish at what stage efforts are to conserve this habitat. Bird counts of the area immediately visible from the sea side of the Mouth were carried out in the past by Gisela Friede but were suspended due to safety concerns. A monthly count, initiated by Mike and Ann Scott, has taken place since October 2007.

All these counts form part of the African Waterbird Census, under the auspices of Wetlands International.
Discussion:

- The MET (Helgar) produces an annual summary of bird counts.
- In terms of the NACOMA S.E.A. this area receives a high conservation status.

5.2 Penguin rehabilitation (Dr Sandra Dantu, private)

I have been involved in bird rehab for about 14 years. Because of limited manpower and resources I have had to limit my efforts to vulnerable and flagship species. The focus of this presentation is the African Penguin as a rehab. subject.

African Penguins breed on islands all the way from Algoa Bay in the east to the islands off the coast of Namibia in the west. There are also 4 mainland colonies, being Boulders Beach and Stony Point in South Africa and Oyster Cliff and Sibuya Hills in Namibia.

All breeding sites are IBAs. The penguin is a specially protected bird in Namibia and is regionally endangered.

In Jessica Kemper’s PhD, she makes the bleak prediction that the African Penguin will be extinct by the end of the century if things continue as they are.

For the 11 years, ending December 2007, for which I have kept records, my data shows an eighty-six percent success in rehabilitating penguins for release back into the wild. Any bird that cannot survive in the wild is put to sleep. The aim is not to have scores of birds in a holding facility but to have birds going back and breeding. Ringing studies have shown that this does occur with penguins.

Let’s not let the sun set on penguins forever.

Discussion:

- Need a plan to formalize relationships involved in bird rehabilitation.
- Need to inform the public of rescue/rehabilitation procedures.

6. Birds of the West Coast & Cape Cross Lagoon (Rod Braby, ex-MET)

West Coast:

Bird Counts were conducted monthly on the west coast in the 1980s. Some of the counts were published by J. Tarr; however the vast majority of counts sit in the MET offices in Swakopmund, Ugabmund, Springbokwater and Moewe Bay. On a brief Damara Tern assessment done in January 2007 it was generally noted that the Damara Tern breeding colonies that had been active at this time in the 1980s are no longer the size they were then; some have no sign of breeding activity anymore. Birds are roughly concentrated around areas of biodiversity abundance, that is around rocky or mixed shorelines, whereas sandy beaches have only gulls, sandpipers, terns and white-fronted plover. By far the greatest concentration of birds is between Cape Cross and Sandwich Harbour.

*We need a national survey of flagship coastal bird species.*
Cape Cross Lagoon

Cape Cross’s birdlife was counted regularly between 1984 and 1996, thereafter MET senior personnel no longer supported this perceived non-essential service.

South of the seal viewing point and just east of the barrier beach are several lagoons, formed by the northward longshore drift and deposits from mainly the Omaruru River, forming an extension of a barrier beach. The barrier beach eventually connected the former islands which now form Cape Cross. Progressive drying up of the lagoons forms extensive salt deposits which are being mined. Damming of the Omaruru at Omwel could have deposit repercussions in the longer term if erosion forces are greater than accretion.

The pans are fed by seepage through or swash over the barrier beach; more recently flash floods from inland have also fed into these pans. Three sets of guano platforms have been erected over the lagoons. The guano probably leads to micro fauna and flora enrichment. The lagoons are fringed by salt-marsh vegetation.

These lagoons can support up to 11 000 birds apart from the significant Cape Cormorant population, which can amount to up to 14% of the world population during “good” times. The wetland can support up to 6 000 intra-African migrants, 4 000 Palearctic migrants and 1 000 coastal breeding species or “residents” (Williams 1991). The area can support up to 5 000 Flamingos, mainly Greater, a few (>20) African Black Oystercatchers, and up to 55 Chestnut-banded Plovers. The lagoon regularly supports up to 30 species at any time, on average between 3 000 and 7 000 birds. Other significant birds recorded here regularly are the Black-necked Grebe, 16% of the non-breeding population of the endemic southern African race.

The threats are mainly due to salt mining, beach erosion, uncontrolled tourism (fishing and 4×4 ORVs) and also occasional low-flying aircraft. It would be recommended to reinstate coastal counts and general monitoring of the above-mentioned threats here by MET, to limit access to the general public and to have Cape Cross registered as a RAMSAR site.


Discussion:

➢ 50 000 – 60 000 terns have been counted north of Cape Cross.
➢ There are many chameleons at Mle 26 – do they feed on birds’ eggs?

7. Birds of the Skeleton Coast Park and the Kunene Mouth: a unique wetland (John Paterson, ex-MET)

The Skeleton Coast Park stretches for approximately 500 km from the Ugab River in the South to the Kunene River, bordering Angola in the north. The park can be divided into two sections, the southern section from the Ugab to the Hoanib and the Hoanib to the Kunene. Seven ephemeral river courses reach the sea, bisecting the park, and the permanent Kunene forms the northern border. The coastline can be divided into three main broadly defined beach types i.e.: sandy beach, mixed and rocky. Sandy beach is the dominant type.

The coastal strip supports three wetland types:
➢ Ephemeral river mouths comprise tidally fed lagoons with, in some cases, additional water from springs and seeps upstream of the mouth. An example of this is the Hoanib River Mouth. These wetlands can be saline to hyper-saline.
Inland wetlands, though not on the coast, provide breeding and safe roosting habitat for some sea and shore birds. A good example of this is the Hoanib Oasis that has a heronry and White-breasted Cormorant breeding colony as well as a significant waterfowl population. These wetlands can be semi-saline to hyper-saline.

Permanent fresh water river mouth. The only example of this along the entire Namibian coast is the Kunene River Mouth. This is a unique site that is totally fluviually dominated with no typical estuarine characteristics. This system is totally fresh with no detected marine influence.

The Skeleton Coast Park coastal area has a high conservation requirement for many species of coastal birds. The park has several Damara Tern breeding areas and serves a pre-migration mustering area with flocks >5 000 of these birds being recorded. The area adjacent to the Hoanib River Mouth is an African Black Oystercatcher nursery area, with birds from the Western Cape using the area. Coastal bird densities of 30.39/km² have been recorded. A total of 119 species of birds have been recorded from the Kunene including the only regular occurrence of Royal Terns in the sub-region, that could support a niche tourism market. The Kunene River Mouth is a site of conservation importance with a suite of unique biodiversity to the sub-region. This site is a proposed Ramsar site and a regional Important Bird Area. The Kunene system warrants increased conservation status.

Despite the area falling within a park it is threatened by habitat destruction from mining, development and tourism. A further major threat is the climatic changes within the marine system, causing major habitat alterations and food depletions through oxygen depletion in the water and the failure of upwellings through wind direction shift.

These problems are compounded by the lack of institutional capability through a limited budget, limited human and infrastructural capacity, a lack of motivation and interest amongst staff at all levels and no continuity when staff are moved or leave.

To find out the current status of Damara Terns on the coast, the survey conducted in the 1990s must be repeated using the same methodology. A bi-annual bird count should be conducted along the entire Namibian coast by teams of private individuals assisted and accompanied by MET staff. These counts can serve to maintain continuity and promote awareness and motivation among MET staff. The Kunene River Mouth must have its conservation status reinforced by proclaiming the area as a Ramsar site.

Discussion:

- The alien Mediterranean mussel is now ailing along this part of the coast, also at Mile 4 (this mussel was a source of food for juvenile African Black Oystercatchers in the past).
- Why is the Kunene River Mouth not a proclaimed Ramsar site?
- There are a few records of Lappet-faced Vultures feeding on dead seals on the beach; further records are welcome (please email to pmbridge@iway.net).
SPECIES PRESENTATIONS

8. Damara Terns

8.1 The breeding success of the Damara Tern (*Sternula balaenarum*) in the Restricted Diamond Mining Area of Southern Namibia (Justine Braby\(^1\), Dr Jean-Paul Roux\(^2\) & Prof. Les G. Underhill\(^1\); presented by Rod Braby)

\(^1\)Animal Demography Unit, Department of Zoology, University of Cape Town, Rondebosch 7701, Cape Town, South Africa; justbraby@yahoo.com
\(^2\)Ministry of Fisheries and Marine Resources, Luderitz Marine Research, P.O. Box 394, Luderitz, Namibia

The Damara Tern (*Sternula balaenarum*) is a near-endemic, near-threatened seabird that breeds along the Namibian coastline. Its breeding range extends into the Spergebiet, a diamond mining area along the southern coast of Namibia about to be proclaimed as a National Park. A study is being conducted to investigate the potential impact of diamond mining on the breeding productivity of the Damara Tern at one mined locality, Elizabeth Bay, and three other nesting sites along the southern Namibian coastline. Diamond mining may impact the breeding productivity in several ways: habitat destruction, disturbance, and foraging efficiency due to sediment discharge. Parameters monitored are colony size, breeding success, chick growth and condition, and adult foraging success. Out of the four breeding sites monitored, Elizabeth Bay has the smallest number of nests. The number of nests has also decreased from 30 in 1979 (before modern mining), to 13 (during modern mining) in 2008. Nests were previously found in areas which have since been mined and are now unsuitable nesting habitats. The other non-mined sites were Marmor Pan (55 nests), Grossebucht (21 nests) and Hottentot’s Bay (80 nests). Breeding success and chick predation rates differ between sites. So far no differences in chick growth rates and adult foraging success could be established between mined and non-mined sites. Chick growth and condition, however, seem to depend on the distance between colony and feeding sites.

8.2 Monitoring of Damara Terns *Sternula balaenarum* on the central Namibian coast, 2006/07 (Sigl Braby, private; presented by Rod Braby)

The past breeding season, which ran from September 2006 through March 2007, was part of an ongoing monitoring project of the globally near threatened Damara Tern *Sternula balaenarum* along the central Namibian coast. The monitoring project provides information on human disturbance as well as predator increases between Swakopmund and Walvis Bay. The three breeding areas, Caution Reef, Horses’ Graves, and Dolphin Park, hold the densest population of breeding Damara Terns in the world. In the past, breeding success has become increasingly impacted by ORV activity and coastal development which has in turn caused the prohibition of recreational driving in sensitive breeding areas. This has led to an increased breeding productivity since. Of a total of 182 nests found this season, 96 successfully hatched (59%). Caution Reef had a total of 93 nests, and Horses’ Graves had a total of 69 nests. Recent housing developments have rendered breeding habitat at the Dolphin Park area useless for breeding Damara Terns. The Black-backed Jackal (*Canis mesomelas*) is responsible for the majority of egg predations (46 nests, 28%). One double-egg clutch was found this season.
9. The BirdLife International Albatross Task Force (Oli Yates/Meidad Goren)

Each year, over 300,000 seabirds are accidentally killed as bycatch in fishing operations. Of these, approximately 100,000 are albatrosses. This equates to around one albatross being killed every five minutes. Mortality of albatrosses and petrels in fisheries is the main threat to their populations and the impact is so great that 19 of 22 species of albatross are now in danger of extinction.

Since the realization of this needless slaughter, simple and cost-effective methods have been developed to massively reduce this unnecessary loss, which are highly effective when used correctly. An international collaborative effort is urgently required to promote adoption of these mitigation methods throughout target fishing fleets.

In 2006, BirdLife International and the RSPB formed the Albatross Task Force (ATF), the world’s first international team of mitigation instructors. The ATF works at-sea and on-shore to provide training and education in the use of mitigation measures to reduce the mortality of seabirds in longline and trawl fisheries.

The ATF’s principal goal is:

“To reduce bycatch of albatross and petrels in targeted fisheries, and ultimately to improve the conservation status of threatened seabirds.”

This goal requires a long-term relationship between environmental NGOs, local government and the fisheries sector to ensure that fishers receive adequate training and education regarding mitigation measure use, with at-sea practical reinforcement of that knowledge. By working and collaborating with fishers the reduction of seabird incidental bycatch in fisheries will be a much more achievable goal.

The ATF has locally employed team members in Southern Hemisphere countries where fisheries bycatch of albatrosses and petrels urgently needs to be reduced. Currently ATF teams are active in Argentina, Brazil, Chile, South Africa and Uruguay. Namibia is the newest member of our team and will work locally with key fisheries and internationally alongside the entire ATF to improve the conservation status of threatened seabirds.

Website: www.savethealbatross.net

Discussion:

➢ The task of the ATF is to work directly with the fisheries on-shore and at-sea. By helping train local fishery observers and encouraging capacity building, more comparable seabird bycatch data can be collected.
➢ Many skippers have their reservations in the beginning but become keen to co-operate once the project is explained to them, and even become involved in developing mitigation measures themselves.
➢ Training materials are required to ensure good dissemination of the role of the ATF and to facilitate correct use of mitigation measures.
➢ Effective and proven bycatch mitigation can be a marketing tool, for a greener product.
➢ ATF instructors also record other non-commercial fishery interactions, e.g. cetaceans, turtles, sharks.
10. The importance of wetlands along Namibia's desert coast for African waterbirds (Anthony J. Williams1 and Robert E Simmons2)

1Western Cape Nature Conservation Board, and Animal Demography Unit, University of Cape Town, Rondebosch 7701, South Africa
2DST/NRF Centre of Excellence at FritsPatrick Institute, University of Cape Town, Rondebosch 7701, South Africa

The Namib Desert coast stretches 1 480 km from Baia dos Tigres in southern Angola to the mouth of the Orange River in southern Namibia. Maximum counts from localities counted indicate that this coast can seasonally support over 170,000 waterbirds that breed in Africa. The Namib coast is especially important for 8 species. In terms of global populations it supports >90% of the world's Chestnut-banded Plovers Charadrius pallidus; 31% of Cape Teals Anas capensis; and 28% of African Black Oystercatchers Haematopus moquini. In terms of African endemic races it supports >90% of the Blacknecked Grebe Podiceps nigricollis gracile; and 33% of the White-fronted Plover Charadrius m. marginatus; and in terms of southern African subcontinental populations it supports 31% of Pied Avocets Recurvirostra avocetta, 13.7% of Greater Flamingos Phoenicopterus roseus and 10.3% of Lesser Flamingos Phoenicopterus minor. Three Namib coastal wetlands are of global significance for African waterbirds: the Walvis Bay Wetlands which support c. 120,000, Sandwich Harbour 19,000 and the Swakopmund Saltworks c. 10,000. All the sites important for African waterbirds enjoy some protection but Walvis Bay wetlands and Sandwich Harbour, two of the top ten coastal wetlands for waterbirds in sub-Saharan Africa, could be lost through long-term sea level rise.

11. Africa's Namib Desert Coast Supports >200,000 Holarctic Shorebirds (Tony J. Williams1 and Robert E. Simmons2)

1Western Cape Nature Conservation Board, and Animal Demography Unit, University of Cape Town, Rondebosch 7701, South Africa Tony.Williams@uct.ac.za
2DST/NRF Centre of Excellence at FritsPatrick Institute, University of Cape Town, Rondebosch 7701, South Africa harasser@bozoo.uct.ac.za

The Namib Desert coast stretches 1 480 km from Baia dos Tigres in southern Angola to the mouth of the Orange River in southern Namibia. Maximum counts from localities counted indicate that this coast can seasonally support over 200,000 Holarctic shorebirds belonging largely to 12 annually occurring species. Five species occur in numbers that form a significant proportion of the southern African flyway populations: Curlew Sandpiper Calidris ferruginea 35%; Sanderling Calidris alba 32%; Ruddy Turnstone Arenaria interpres 17.5%; Grey Plover Pluvialis squatarola 7.8%; and Red Knot Calidris canutus 1.6%. Two Namib coastal wetlands are of global significance: Sandwich Harbour and the Walvis Bay Wetlands which support 109,000 and 72,000 Holarctic shorebirds respectively. An additional five coastal localities support more than 5,000 shorebirds. Contrary to the global declines in shorebird numbers the three most numerous species along the Namib coast have experienced long-term increases, slight in the Ruddy Turnstone but marked in the Curlew Sandpiper and Sanderling. All sites important for shorebirds enjoy some protection but Sandwich Harbour and Walvis Bay wetlands, two of the top ten wetlands for shorebirds in sub-Saharan Africa, could be lost through long-term sea level rise.
12. **Age structure and roosts of African Black Oystercatchers in the Sperrgebiet and an estimate of Namibia’s total population (R.E. Simmons¹,², J. P. Roux³, P.A.R. Hockey³)**

1. Perrey FitzPatrick Institute of African Ornithology, University of Cape Town, Rondebosch 7701, South Africa
2. National Biodiversity Program, Directorate of Environmental Affairs, PBag13308, Windhoek, Namibia e-mail harrier@botzoo.uct.ac.za
3. P.O. Box 583 Lüderitz, Namibia e-mail: arctocephalus2003@yahoo.co.uk

African Black Oystercatchers are endemic to southern African shores and occur in unknown numbers on rocky stretches of coastlines in southern Namibia. We undertook a second survey of their populations in the seldom visited Sperrgebiet (Diamond Area) in November 2002, to look for colour ringed birds, and to assess age structures of all birds seen. We additionally collated all information from these surveys and wetland counts undertaken over the last 12 years to determine total population numbers for Namibia. We counted 205 birds in 78 km from Hotentot's Bay to Douglas Point (opposite Ichaboe Island) comprising 3 main roosts. Of 268 birds checked 15 carried rings, most of which originated from Seldanha Bay Islands or the Cape peninsula. Ageing by molt determined that 16% of 318 birds were first year old birds and the remainder 2-3 year old birds. A trend for increasing numbers of first year birds with distance north was uncovered in this region. Total populations in Namibia were determined in two ways: (i) using mean counts from 28 coastal wetlands and islands where oystercatchers are regular and (ii) using known density estimates over known distances of shoreline. The two methods gave estimates of 1,382 and 1,840 birds respectively. The higher figure represents 35% of the expected 4,800 world population, and is presumed more accurate because it includes all birds occurring between known concentrations of oystercatchers. We conclude that Namibia has a small but probably growing population of oystercatchers but the low numbers place this species in the IUCN red-list category as Near-Threatened in Namibia.
C. THE NAMIBIA COASTAL/MARINE BIRD ACTION PLAN

Mission
To conserve Namibia’s coastal and marine birds and their habitats, in partnership with the people who share these environments.

Priority Issues
1. Poor communication (local, national, regional and international)
2. Lack of information, incomplete data sets
3. Poor awareness/education; ignorance, apathy; negative attitudes, old mind-sets, tunnel vision
4. Habitat loss due to human disturbance and to unsustainable tourism, recreation, development and mining; unsustainable guano harvesting on islands in the past
5. Inadequate legislation/regulations and/or inadequate enforcement (e.g. National Oil Spill Contingency Plan, Marine Litter regulations; housing developments/mining being approved in sensitive areas without proper EIAs)
6. Lack of food availability for birds, in part due to overfishing or to poor resource management
7. Seabird bycatch by different fisheries; lack of implementation of mitigation measures
8. Lack of/inadequate protocols at local level e.g. for addressing oil spills and seabird rescue/rehabilitation
9. Lack of funding/sustainability for conservation initiatives

Actions
1. Promote communication and cooperation
   1.1 Establish a Namibia Coastal/Marine Bird Working Group
   1.2 Promote internal and external networking, information sharing, communication and cooperation in the actions below, using existing channels where possible
   1.3 Produce and disseminate a newsletter [Ann & Mike]
   1.4 Develop and maintain a website
   1.5 Promote good media relations and support
   1.6 Participate in relevant international meetings and fora
      ➢ Assess pros and cons of belonging to AEWAS [Holger]
2 Obtain/manage information

2.1 Investigate and monitor bird populations: numbers, distribution, breeding success (co-ordinate with neighbouring countries)
   - Conduct coordinated wetland and coastal bird counts 2x year; northern section of Walvis Bay - Swakopmund coast needs attention [MFMR, MET, CETN, birders]
   - Sandwich Harbour: conduct a sample vs. complete count [MET Holger/SPAN Project]
   - Continue to fine-tune monitoring of marine/island birds
   - Investigate environmental data being collected by Chamber of Mines

2.2 Assess/determine needs for further information
   - Damara Tern survey [Holger, Babys]
   - Investigate Oystercatcher Project [Ann & Mike and all interested parties]
   - Collect information on cormorants along length of coast

2.3 Collate/manage information, analyse data and provide feedback

3 Promote conservation awareness/education

3.1 Target relevant audiences, working through existing initiatives where possible
   - Promote media support
   - Schools, Polytechnic, UNAM
   - Target teachers, train the trainers
   - Local and national government institutions (e.g. MET/MFMR, municipalities)
   - Decision makers, planners, politicians
   - NGOs, bird/nature clubs, youth groups
   - Tour operators, guides and tourists, recreationists
   - Fishing industry

3.2 Produce and disseminate awareness/education materials and promote/facilitate conservation awareness activities, working through existing initiatives where possible
   - Actively involve public in the action plan
   - Newsletter, website, radio programmes, flyers/brochures, popular and technical reports, posters
   - Talks and outings for schools; competitions; school nature clubs
   - Build up libraries at schools, e.g. distribution of Roberts' Bird DVD, bird guide books

4 Manage coastal/marine bird populations and habitats by addressing threats

4.1 Develop and implement species and/or area-based action plans in consultation with local communities by:
   - Promoting awareness of conservation issues;
   - Agreeing on priorities and process at a meeting; and
   - Implementing and supporting actions

4.2 Promote conservation buy-in by decision makers, planners, politicians
   - Make good information on coastal and marine bird conservation aspects available for developing practical conservation measures
   - Promote the economic value of birds and their habitats in terms of tourism
4.3 Promote the enforcement of regulations
- Continue to lobby for conducting EIAs, and for implementing recommended mitigation measures
- Actively support the development of environmental management plans (including zoning of activities)

4.4 Implement an Ecosystem Approach to Fisheries (EAF) protocol in resource management plans (bring back the pelagics)

5 Update the National Oil Spill Contingency Plan (NOSCP)

5.1 Investigate/assess the existing plan (Jessica)
- Does it need updating? (case studies)
- NNF to take up with OPM, make recommendations on responsibilities and rehabilitation
- Determine accountability for mystery spills ("The polluter pays")
- Determine who is responsible for removing oil

5.2 Promote awareness and publicise details of the plan

6 Reduce seabird bycatch

6.1 Investigate seabird abundance/density/distribution

6.2 Determine to what extent the National Plan of Action (NPOA) is being adopted (in terms of the bycatch rate of birds/1000 hooks)

6.3 Promote the involvement of industry/government in the project
- Facilitators: Albatross Task Force
- Fisheries Observation Agency (FOA)
- Inspectors
- Owners/skippers/crews?

6.4 Promote education/public awareness

6.5 Wield constitution

6.6 Check bycatch legislation and summarize it (pamphlet)
- Only commercial species?
- Birds included?

6.7 Include bycatch mitigation in legislation
- Dumping legislation? (cercasses?)
- How are boats set up? – BCLME

6.8 Address observer issues for data collection
- Training/workshops/courses
- Payment for "extra" work?
- Space on vessels (FOA)

6.9 Develop a steering committee on bycatch (ICAT)
- Engage with industry
- Promote "buy-in" by promoting observers as data collectors, not law-enforcers
- Sound out industry on how to tackle ATF
7 Develop a seabird rescue/rehabilitation protocol

7.1 Publicise central contact points for seabird rescue through:
  ➢ newspapers (Namib Times);
  ➢ signs (e.g. airport); and
  ➢ fishing permits

7.2 Promote public awareness of protocol, e.g. to avoid chasing birds unnecessarily (to go with fishing permits)

8 Promote project sustainability

8.1 Work through existing channels and initiatives wherever possible

8.2 Promote training and skills development through existing organizations/initiatives
  ➢ Polytechnic, UNAM
  ➢ Nat Bird Club, NamRingers

8.3 Determine needs and targets for further capacity building, e.g.
  ➢ General public, especially youth and volunteers
  ➢ Government institutions

8.4 Compile and submit funding proposals

D ACKNOWLEDGEMENTS

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<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
<th>Email</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anderson Mark</td>
<td>Tourism Env Cons NCape</td>
<td><a href="mailto:manderse@nactecape.gov.za">manderse@nactecape.gov.za</a></td>
<td>064 662 7520 / 081 275 7270</td>
</tr>
<tr>
<td>Berry Hu Dr + Conny</td>
<td>Private</td>
<td><a href="mailto:ecoguide@way.net">ecoguide@way.net</a></td>
<td></td>
</tr>
<tr>
<td>Bethune Shirley</td>
<td>Wetland Working Group</td>
<td><a href="mailto:belhu@way.net">belhu@way.net</a></td>
<td></td>
</tr>
<tr>
<td>Boorman Mark</td>
<td>Private</td>
<td><a href="mailto:felix@mweb.com.za">felix@mweb.com.za</a></td>
<td>064 402 785</td>
</tr>
<tr>
<td>Braby Justine</td>
<td>Private</td>
<td><a href="mailto:jrooby@yahoo.com">jrooby@yahoo.com</a></td>
<td>064 248 345</td>
</tr>
<tr>
<td>Braby Rod</td>
<td>NACOMA</td>
<td><a href="mailto:rrobby@nacom.org.za">rrobby@nacom.org.za</a></td>
<td>064 403 696 / 081 246 696</td>
</tr>
<tr>
<td>Braby Sigi</td>
<td>Private</td>
<td><a href="mailto:rby@msafrica.com">rby@msafrica.com</a></td>
<td>054 401 651</td>
</tr>
<tr>
<td>Brown Chris Dr</td>
<td>NF</td>
<td><a href="mailto:bc@nf.org.za">bc@nf.org.za</a></td>
<td>064 248 345</td>
</tr>
<tr>
<td>Bridgewater Peta + Marilyn</td>
<td>Private, CETN</td>
<td><a href="mailto:pmbridge@way.net">pmbridge@way.net</a></td>
<td>064 220 443</td>
</tr>
<tr>
<td>Cadle Nathalie</td>
<td>NACOMA</td>
<td><a href="mailto:ncadle@nacom.org.za">ncadle@nacom.org.za</a></td>
<td>064 403 905</td>
</tr>
<tr>
<td>Cooper Trygve</td>
<td>MET</td>
<td><a href="mailto:metvco@way.net">metvco@way.net</a></td>
<td></td>
</tr>
<tr>
<td>Dartu Sandra Dr</td>
<td>Private</td>
<td><a href="mailto:felix@mweb.com.za">felix@mweb.com.za</a></td>
<td>064 402 755</td>
</tr>
<tr>
<td>Dausab Andres</td>
<td>MET</td>
<td></td>
<td>064 205 9712</td>
</tr>
<tr>
<td>Davies Rob</td>
<td>MET</td>
<td></td>
<td>064 404 576</td>
</tr>
<tr>
<td>De la Harpe Colin</td>
<td>EnviroClub DeDuine</td>
<td>cdela@<a href="mailto:harpe@nambat.net">harpe@nambat.net</a></td>
<td>064 242 033</td>
</tr>
<tr>
<td>Demasius Eckart</td>
<td>Swakopmund Munic</td>
<td><a href="mailto:etemasius@swakmnmunic.com.za">etemasius@swakmnmunic.com.za</a></td>
<td>064 410 4337</td>
</tr>
<tr>
<td>Denker Helge</td>
<td>NEWS</td>
<td><a href="mailto:director@news.namib.org">director@news.namib.org</a></td>
<td></td>
</tr>
<tr>
<td>Dreyer Nels</td>
<td>Mola Mola Tours</td>
<td><a href="mailto:md@mvweb.com.za">md@mvweb.com.za</a></td>
<td></td>
</tr>
<tr>
<td>Dühr Einor</td>
<td>Private, NEWS</td>
<td><a href="mailto:einor@way.net">einor@way.net</a></td>
<td>064 406 637</td>
</tr>
<tr>
<td>Dühr Max</td>
<td>Private</td>
<td><a href="mailto:marodem@way.net">marodem@way.net</a></td>
<td></td>
</tr>
<tr>
<td>Friede Gisela</td>
<td>Private</td>
<td><a href="mailto:gfriede@way.net">gfriede@way.net</a></td>
<td></td>
</tr>
<tr>
<td>Goren Melard</td>
<td>Albatross TF</td>
<td><a href="mailto:pegal@vialife.org.za">pegal@vialife.org.za</a></td>
<td>072 1599 3314</td>
</tr>
<tr>
<td>Hamukwaya Ferdie</td>
<td>MFMR</td>
<td><a href="mailto:hamukwaya@mnfr.gov.na">hamukwaya@mnfr.gov.na</a></td>
<td>064 410 5711</td>
</tr>
<tr>
<td>Hartman Adam</td>
<td>Namibian</td>
<td><a href="mailto:edam@namibian.com">edam@namibian.com</a></td>
<td>064 246 5945</td>
</tr>
<tr>
<td>Kemper Jessica Dr</td>
<td>MFMR</td>
<td><a href="mailto:jemper@mnfr.gov.na">jemper@mnfr.gov.na</a></td>
<td>064 240 415</td>
</tr>
<tr>
<td>Keilberg Holger</td>
<td>MET</td>
<td><a href="mailto:holger@mvweb.com.za">holger@mvweb.com.za</a></td>
<td>064 284 2554</td>
</tr>
<tr>
<td>Leinert Merlijn</td>
<td>CTAN Two Tours</td>
<td><a href="mailto:lev@mvweb.com.za">lev@mvweb.com.za</a></td>
<td></td>
</tr>
<tr>
<td>Lennoson Avich</td>
<td>Tourism operator</td>
<td><a href="mailto:lennso@mvweb.com.za">lennso@mvweb.com.za</a></td>
<td></td>
</tr>
<tr>
<td>Louit Rudj</td>
<td>SRT</td>
<td><a href="mailto:sral@nambacoast.org.za">sral@nambacoast.org.za</a></td>
<td></td>
</tr>
<tr>
<td>Louw Aan</td>
<td>CETN</td>
<td><a href="mailto:nambor@africa.com.za">nambor@africa.com.za</a></td>
<td></td>
</tr>
<tr>
<td>Maketi Cleitus</td>
<td>MET</td>
<td><a href="mailto:cmakte@met.gov.na">cmakte@met.gov.na</a></td>
<td>064 404 576</td>
</tr>
<tr>
<td>Makuli Olavi</td>
<td>Municipality</td>
<td><a href="mailto:omakuli@afriaorg.co.za">omakuli@afriaorg.co.za</a></td>
<td>064 214 206 / 081 303 3161</td>
</tr>
<tr>
<td>Mate Mebo</td>
<td>ATF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Montjenes Jeanne</td>
<td>Kayak Tours</td>
<td><a href="mailto:jeanne@namicola.com">jeanne@namicola.com</a></td>
<td>064 277 2262</td>
</tr>
<tr>
<td>Middendorff Gudrun</td>
<td>Namb Bird Club</td>
<td><a href="mailto:gudrun@way.net">gudrun@way.net</a></td>
<td>064 243 3665</td>
</tr>
<tr>
<td>Mujeni Timo</td>
<td>NACOVA</td>
<td><a href="mailto:tmujen@way.net">tmujen@way.net</a></td>
<td>064 403 695</td>
</tr>
<tr>
<td>Mukharo RS</td>
<td>MET</td>
<td></td>
<td>064 205 971</td>
</tr>
<tr>
<td>Nexe Bruno</td>
<td>Turnstone Tours</td>
<td><a href="mailto:buno@aficanet.com.za">buno@aficanet.com.za</a></td>
<td></td>
</tr>
<tr>
<td>Paterson John</td>
<td>MET (Ex) / ATF</td>
<td><a href="mailto:joh@paterson.etc.net">joh@paterson.etc.net</a></td>
<td></td>
</tr>
<tr>
<td>Potgieter Berdine</td>
<td>Municipality</td>
<td><a href="mailto:bpotgieter@vitalnet.com.za">bpotgieter@vitalnet.com.za</a></td>
<td>064 410 4340 / 081 285 5305</td>
</tr>
<tr>
<td>Roux JP</td>
<td>MFMR</td>
<td><a href="mailto:jroux@mnfr.gov.na">jroux@mnfr.gov.na</a></td>
<td>064 203 415</td>
</tr>
<tr>
<td>Roux Sue</td>
<td>CETN</td>
<td><a href="mailto:seafood@way.net">seafood@way.net</a></td>
<td>064 243 4945</td>
</tr>
<tr>
<td>Scotia Mike &amp; Ann Dr</td>
<td>NBGWG Prof, CETN</td>
<td><a href="mailto:eccentre@mvweb.com.za">eccentre@mvweb.com.za</a></td>
<td>064 404 866 / 081 284 5130</td>
</tr>
<tr>
<td>Smith Jana</td>
<td>Namib Times</td>
<td><a href="mailto:reports@mvweb.com.za">reports@mvweb.com.za</a></td>
<td>064 304 3745</td>
</tr>
<tr>
<td>Stannion Roy</td>
<td>Saltworks</td>
<td><a href="mailto:roy@saltw.com">roy@saltw.com</a></td>
<td></td>
</tr>
<tr>
<td>Sullivan Ben</td>
<td>Albatross TF</td>
<td>brt@<a href="mailto:saltworks@mvweb.com.uk">saltworks@mvweb.com.uk</a></td>
<td></td>
</tr>
<tr>
<td>Tzillo Beau</td>
<td>MFMR</td>
<td><a href="mailto:btzillo@mnfr.gov.na">btzillo@mnfr.gov.na</a></td>
<td>064 410 1150 / 081 258 7755</td>
</tr>
<tr>
<td>Underhill Les Prof.</td>
<td>Univ. Cape Town</td>
<td><a href="mailto:la@abroad.ac.za">la@abroad.ac.za</a></td>
<td></td>
</tr>
<tr>
<td>Uwa-Khob Arnold</td>
<td>MET</td>
<td><a href="mailto:spuitas@blue.com.za">spuitas@blue.com.za</a></td>
<td>064 223 345</td>
</tr>
<tr>
<td>Uushona David</td>
<td>Municipality</td>
<td><a href="mailto:duushona@afria.org.co.za">duushona@afria.org.co.za</a></td>
<td>064 214 305</td>
</tr>
<tr>
<td>Van Zyl Ben Dr</td>
<td>MFMR</td>
<td><a href="mailto:hvanzyl@mnfr.gov.na">hvanzyl@mnfr.gov.na</a></td>
<td>064 410 1150</td>
</tr>
<tr>
<td>Wakens Barry</td>
<td>Albatross TF</td>
<td><a href="mailto:tavelmar@vitalnet.com.za">tavelmar@vitalnet.com.za</a></td>
<td></td>
</tr>
<tr>
<td>Weirio Keith</td>
<td>CETN</td>
<td><a href="mailto:ccb@mvweb.com.za">ccb@mvweb.com.za</a></td>
<td>064 205 055 / 081 314 6555</td>
</tr>
<tr>
<td>Wilsach Jonathan</td>
<td>Misai</td>
<td><a href="mailto:jonathan.wilsach@msit.org">jonathan.wilsach@msit.org</a></td>
<td></td>
</tr>
<tr>
<td>Wilson Mabel</td>
<td>CETN</td>
<td><a href="mailto:blwil@mvweb.com.za">blwil@mvweb.com.za</a></td>
<td></td>
</tr>
<tr>
<td>Yates Oli</td>
<td>Albatross TF</td>
<td><a href="mailto:oj_yates@yahoo.co.uk">oj_yates@yahoo.co.uk</a></td>
<td>+56 51 289 068</td>
</tr>
</tbody>
</table>
APPENDIX 1: LIST OF WORKSHOP SLIDE PRESENTATIONS*

*Available in CD format on request

Area presentations

1. Orange River Mouth (Holger Kolberg)
2. Coastal and marine birds: Namibia's offshore islands (Dr Jessica Kemper & Dr J-P Roux)
3. Sandwich Harbour (Holger Kolberg)
4. Walvis Bay Ramsar Site and Associate Wetlands (Keith Wearn)
5. Swakopmund — penguin rehabilitation (Dr Sandra Dantu)
6. Coastal birds of the Skeleton Coast Park (John Peterson)
7. The Kunene Mouth: a unique wetland (John Peterson)

Species presentations

8. Damara Terns
   8.1 The influence of mining activity on the breeding productivity and population dynamics of the Damara Tern (Sterna balaenarum): causative factors and rehabilitation measures (Justine Braby, Dr Jean-Paul Roux & Prof. Les G. Underhill; presented by Rod Braby)
   8.2 Damara Tern Monitoring — Caution Reef and Gravel Plains, 2006/07 (Sigi Braby, private; presented by Rod Braby)
   9.1 Albatross Task Force: international situation
   9.2 Albatross Task Force: southern Africa and Namibia
10. The trials and tribulations of African Penguins in Namibia (Dr Jessica Kemper)
Annex 1

List of workshop power point presentations

A. Area presentations

1. Orange River Mouth (Holger Kolberg)
2. Coastal and Marine Birds: Namibia’s Offshore Islands
   (Jessica Kemper & J-P Roux)
Coastal and marine birds: Namibia's offshore islands

J. Kemper and J-P. Roxx

Ministry of Fisheries and Marine Resources:
- Regular monitoring of Mercury, Ichthys, Hailmarsh, Possession Islands (GLMMA)
- Annual surveys of other islands, adm hoc surveys of SH cave, Nolocuast Islet
- No recent (short-term) surveys around Diamante
- Occasional aerial surveys of research platforms (during seal census)
- Few (opportunist) surveys of seabirds at sea

Ministry of Fisheries and Marine Resources: other monitoring activities
- Breeding success of some species (AP, CG, BC)
- Diet (AP, CG, BC)
- Foraging ecology using telemetry (AP, CG, BC)
- Other demographic parameters (e.g. survival, fledging, banding)

Species monitored regularly at the four 'main' islands:
- African Penguin (AP, BC, LC)
- Cape Gannet (CG, BC)
- Common Tern (LT, LC)
- Sooty Gannet (LT, LC)
- Kelp Gull (LC, LT)
- Gull-billed Tern (LT)
- Sooty Tern (data species ser载体, LT, LC)

African Penguins
- 93% of Namibian population monitored regularly
- 33% of global population in 1956, now 10%
- 1% by 40% in last 30 years

Cape Gannets
- Only breed at 6 islands globally; 3 are in Namibia
- 204,000 breeding pairs in 1956 in Namibia, now only 70,400
- ↑ in SA but ↓ overall
**Bank Cormorants**
- Mercury Island hosts 65% of global breeding population.
- Population crash in 1994-95, particularly at Ichaboe Island.
- Population recovering at Mercury, but not overall.
- Small population size, high concentration at each site puts species at high risk of extinction.

**Cape Cormorant**
- Numbers fluctuate between years.
- Generally decreasing.
- Dependent on small pelagic fish stock size and distribution.

**African Black Oystercatchers**
- Namibia's coast nursery area for juveniles.
- Possession (~200 pairs).
- ~20-30 pairs at Halibax (up to 350 individuals).
- Suspect good numbers at Prince's, Seal and Penguin Islands, few nests on coast.
- Population range increase in SA due to invasion of Mediterranean mussel.

**Conservation management**
**Recent progress / successes and gaps**
1. **Nationally**
   - Special protection status for some species (Draft Parks and Wildlife Management Bill 2002).
   - NFMP rehabilitation programme improved since 2002.
2. **Regionally**
   - Work towards concerted conservation action between key range states.
     - Habitat protection
     - Rehabilitation programmes
     - Information exchange

**Proposed MPA**
2. Regionally...
The BCLME Programme (2004-2007)

Top Predator Project

- Analysis of seabird monitoring data
- Revision of conservation status of seabirds in the BCLME
- First Angolan seabird surveys

Top Predator Advisory Group to advise BCLME on seabird conservation management issues.

2. Regionally...
The BCLME Programme (2004-2007)

Effects of Longline Fisheries on Seabirds

- Major bycatch to seabirds

2. Regionally...
The BCLME Programme (2004-2007)

Marine Litter Programme

EAT Project (including Ecological Risk Assessment of 3 fisheries)

- Assess effect of fisheries on bycatch and food availability to predators/biodiversity buffers
- Food web effects of fisheries
- Ecological sustainability of fisheries

2. Regionally...
The BCLME Programme (2004-2007)

Collapse of small pelagic stocks (bilchard, anchovy) a major threat to ecosystem, including to top predators

2. Regionally...
The BCLME Programme (2004-2007)

Some other gaps
(at national and regional levels)

- Essential fish habitat identification and protection
3. Sandwich Harbour (Holger Kolberg)
Sandwich Harbour
Holger Kolberg

(6 - 100,000) land
1:1 regional population
uncontrolled tourism
WALVIS BAY RAMSAR SITE AND ASSOCIATE WETLANDS


- The Walvis Bay Ramsar Site is considered to be the most important coastal wetland in southern Africa for waterbirds and among the top 10 coastal wetlands in Africa for seabirds.
- The Walvis Bay Lagoon is over 3000 years old.
- The associate wetlands consist of the coastal lagoon and the new evaporation ponds.

Each Contracting Party shall promote the conservation of wetlands and waterfowl by establishing nature reserves on wetlands, whether they are included in the List or not, and provide adequately for their protection.

- The Contracting Parties shall encourage research and the exchange of data and publications regarding wetlands and their flora and fauna.
- The Contracting Parties shall endeavour through management to increase waterfowl populations on appropriate wetlands.

Orientation
Avoid new impacts by ensuring EA studies done prior to new development tenders.
Flyways are broad corridors used by migrating birds. For wading birds, eight Flyways have been defined in the world. In Europe and Asia there are five Flyways. These are, (from East to West), the East Asian-Australasian, the Central Asia/India, the West Asia/Africa, the Mediterranean/Black Sea and the East Atlantic Flyway.
- Flyways are a useful concept for the management and conservation of migratory wading birds. The birds often use many countries within a flyway during their migration.

- Conservation agreements are made between countries which are based on the principle of shared birds within a flyway.

- Approximately 1,500,000 Palearctic birds make use of the central Namibian East Atlantic Flyway of which some 500,000 remain here on our central coast. The other million proceed to the Namibian southern coast, South Africa and the Antarctic.

- Shoal type: The rocky inshore comprise a wide, gently sloping sandy roadway steeply bordered. Functionally, therefore, life is a rocky shore.

- At low tide, the lower shore supports high densities of feeding waders, including resident (long-distance) migratory species. By global standards, these densities are extremely high for any inshore habitat (including estuaries and seagrasses).

- Because an upwelling has already taken place in the north of Dolphin Beach (at Langebaan and Langebaan Akker) (the ecological explanation for the development of the upwelling), it is expected that the upwelling should continue. The negative environmental impact of further development is cumulative, and it seems that the area should receive a higher level of protection. Such coastal areas should be identified as important areas in the Perentjeshof.
5. Swakopmund – Penguin Rehabilitation (Dr Sandra Dantu)
African Penguin

A Bird in Trouble

Conservation Status

- 'specially protected bird' in Namibia
  (Draft Parks & Wildlife Management Bill of 2004)
- globally vulnerable since 1996
  (3rd International Penguin Conference)
- ratified by IUCN in 2002
- regionally endangered
- breeding sites are global IBA's

Latest Prediction

The Namibian population of African Penguins has decreased at 2.3-2.5% per year between 1990 and 2004. At this rate the population will halve by 2035 and is likely to go extinct before the end of the 21st century.

Results – 86% success

<table>
<thead>
<tr>
<th>Year</th>
<th>Numbers</th>
<th>Funge Victims</th>
<th>Removed</th>
<th>Died</th>
<th>Put to Sites</th>
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<td>6</td>
<td>7</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>2007</td>
<td>5</td>
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<td>-</td>
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<tr>
<td>Total</td>
<td>17</td>
<td>134</td>
<td>61</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
6. Coastal Birds of the Skeleton Coast Park (John Paterson)
Coastal birds of the skeleton coast park

Presented by John Paterson

- The Skeleton Coast Park has approximately 500 km of coastline that can be divided into two sections:
  - 1 Southern section
  - 2 Northern section
- The coast comprises three main types:
  - 1 Sandy
  - 2 Rocky
  - 3 Mixed

There are three types of wetland along the Skeleton Coast supporting coastal birds:

- 1: Coastal ephemeral wetlands at river mouths
- 2: Permanent river mouths
- 3: Permanent springs inland from the beach
Hoanib River Mouth
- Typical coastal wetland
- Ephemeral
- Fed by river flow, springs and high tides
- Can be brackish to hyper saline

Kunene River Mouth
- Unique
- Permanent fresh water river mouth
- No marine influence

Oasis
- Not coastal
- Fresh water
- Mainly waterfowl
- Heronary
- White-breasted cormorant colony

Conservation aspects
- There are several Damara tern breeding areas
- Damara tern congregate in large flocks (<5,000) prior to migration
- African black oystercatcher nursery area at Hoanib River mouth
- Kunene River Mouth is a regional IBA
- Kunene supports the only regular Royal tern occurrence in Southern Africa

The Kunene has 119 bird species recorded
- Up to 30.39 birds/km-1 of beach have been recorded

Threats
- Habitat destruction and disturbance through Mining and development
- Tourism through disturbance and off road driving
- Diminished food availability and destruction of intertidal biodiversity caused by climatic conditions and HAB's
Restraints

- MET budget allowance
- Capacity, both human and infrastructure
- Motivation
- Continuity

Way Forward

- Repeat past Damara tern survey
- Bi-annual coastal bird count by private sector team with MET staff
- Proclamation of Kunene as Ramsar site
7. The Kunene Mouth: a Unique Wetland (John Paterson)
THE KUNENE RIVER MOUTH: A UNIQUE WETLAND

- The Kunene River Mouth is adjacent to the Angola/Benguela Front.

- The Kunene River is 12.5 km long.
- Discharge: 106,500 m³/s
- The mouth is approximately 1.5 km wide.
- Tidal currents cause a maximum flow of 1.5 km/h, suggesting there is no area of net current.

Structure and definition

- The Kunene River Mouth is a braided fluvially dominated freshwater river mouth.
- Formed from aeolian sands originating from the adjacent dunes.
- No marine influence.
- Coarse sands with no estuarine functions result in a system with low benthic community.
- The Kunene River Mouth can therefore be classified as a river mouth forming a coastal wetland.
Key Biodiversity

- Green turtles
- Nile soft-shelled turtle
- Nile crocodile
- Water lagoon
- Python
- Royal tern
- Giant fresh water prawn

Bird Diversity

- 119 species
  - Resident waders 8
  - Palaeartic migrants 22
  - Resident waterbirds 31
  - Seabirds 19
  - Other 39
The influence of mining activity on the breeding productivity and population dynamics of the Damara Tern Sterna balaenarum: causative factors and rehabilitation measures

- Lays one small cryptic egg in a scrape on the ground
- Can breed up to 7km inland, this is done to avoid shore predators
- Breeds here in summer, migrates to West Africa in winter

The Damara Tern Sterna balaenarum

- Small seabird that breeds in small scattered colonies along the Namibian coastline
- Classified as near threatened (EN) on the IUCN red list
- The Damara Tern is breeding at the Erongo
- It has held several conservation efforts from the Namibian Conservation authorities for 25 years and the IUCN included it in the World Heritage List in 2007
- Yet to be included as a Species of Special Concern under the Ramsar and WHC convention

BREEDING AREAS STUDIED

- Areas at Okahandja
- At Walvis Bay
- At Lamberts Bay
- At Swakopmund
Monitoring of breeding sites

- Finding nests
- Recording no of OTs found in area
- Recording predators found in area (e.g. foxes)
- Re-finding nests and chicks
- Egg length and breadth measured
- Egg mass is recorded at every nest visit
- Chicks are caught and measured until fledging
- Chicks are found and caught at every trip
- Measurements are taken of head, basis, toe and wing counts
- Mass is recorded at every trip
- Fish specimens are collected
- Metal rings are placed on the leg of each chick, caught for purposes of later identification (AFFRING). 66 chicks have been ringed thus far.

Elizabeth Bay

- Attempts have been made to catch adults
- Seven adults have been caught thus far
- Measurements are taken and metal rings are placed on the leg

Possible mining impacts

HABITAT:
- Open-cut mining could destroy nesting habitat
- So far, nesting nest found at 1 km from mining activity (colony in the dunes)
- However, apparently nests were previously found in areas that have since been mined and have now become acceptable breeding habitat (Johnson, 1979)

FEEDING:
- Previous studies (Simmonds, 2000) suggest that the introduction of sediment into the bay has been detrimental to breeding burrows (note: this was a short-term study). Creek area in Crois de Bucht.
- Sample sites far away from sites that fish for statistical significance.
Breeding Success

- Total nests this season came to 10; nests were found in October 2006 and the breeding site was deserted by the end of January 2007.
- Small colony size compared with other colonies.
- Breeding population also appears to have decreased significantly 1997 found up to 50 breeding pairs at Elizabeth Bay, whereas between the Karama and Duneed (1km) approximately 800 nests were found in 1996.
- No nests found in previously remated areas such as flats and outfalls from the road to the site.
- Nest predation common.

Grosse Bucht

- Only 800m from the beach.
- Jackal predation is common here.
- Nest number limited by space.
- Breeding habitat comprises 700m².

Breeding Success

- Total of nests here this season came to 10; nests were found on the 15th October 2006 and the breeding site was deserted by 3rd February 2007.
- Predation was low, possibly due to lack of JACKAL population this year, in contrast to Karama and Duneed.
- Breeding habitat comprises 700m².
- No nests found in previously remated areas such as flats and outfalls from the road to the site.
- Nest predation common.

Marmora Pan

- Have found 10 nests here; nests were found in October 2006 and the breeding site was deserted by the end of January 2007.
- Small colony size compared with other colonies.
- Breeding population also appears to have decreased significantly.
- No nests found in previously remated areas such as flats and outfalls from the road to the site.
- Nest predation common.
Hottentot Bay (Anigab Pan)

Breeding Success
- Nest total of 77
- Probably most productive and successful colony in Namibia
- Due to cryptic nature of nests here as well as sheer size of breeding habitat only a fraction of nests have probably been found
- A full predators more frequent
- Pan 29km by 7km
- Closer to 150 nests here
Overall Success

Chick Growth Rates

Conclusion

- Data collection is running smoothly thanks to the dedicated team.
- Two seasons (2007-2008 and 2008-2009) will allow us to analyze the growth trends and population changes.
- Provisional estimates have yet to prove to be a success.
- Next season more adults will be caught to assess the condition of adults between colonies.

Acknowledgements

- Thank you to Megan Murtagh for her help in the collection of data during the past field season.
- Thank you to Namdeb for their continued support on the project.
- Thank you to MET and MFMR.

- Condition of chicks measured as growth of head versus mass gain.
- Looks normal, no outliers and no significant difference between the colonies.
8.2 Damara Tern Monitoring – Caution Reef and Gravel Plains, 2006/07 (Sigi Braby)
Damara Tern Monitoring
Caution Reef & Gravel Plains

2006/7 Season

Introduction:
- Population est. 7,000. 15% breed in Namibia (September through March).
- The greatest density of breeding Damara Terns are found on the central Namib coast, especially Walvis Bay and Swakopmund. The three areas are known as Caution Reef, Horses Graveyard, and Gravel Plains.
- In the past, breeding success was impacted by ORV activity, and to a lesser extent by nesting development. In November 2005, conservation measures at the former sites started to take effect limiting ORV access. These measures have been highly successful and have led to an increase in breeding success.
- The monitoring and protection have been supported through the NNF and donors such as Keating Uniforms, RLG Tana, Kedzdar, Walsh Mills, and many others.

Habitat
- The habitat of Caution Reef is mainly open sand dunes within a barred gravel ridge that is protected by nesting birds. The national road runs through the centre.
- The habitat at Gravel Plains is different in that the visibility is blocked by the dunes and there is no direct access to the sea for fishing vessels. This area comprises a series of sandbar and beaches along the coast containing a number of gravel slits where the terns breed.

Methods:
- The recording of nesting birds was done by vehicle on a daily basis from September through February, postures are monitored on the beach close to the Swakop River mouth through March.
- Approximately the same route has been used since 2005. The birds are spotted from a vehicle using binoculars and nests are found by waiting for the adults to return to incubate the eggs. All nests are photographed using a digital camera.
- The location of the nests is recorded using a GPS and all data are recorded on nest record sheets. All known egg measurements are taken at this stage has already been completed. A day after hatching the chick is ringed using a metal ring on the right leg and a blue colouring on the left leg. Adults are caught using a陷阱 controller strong flag with a metal clip on the flag. Once caught the terns are weighed, measured for wing length, and general condition is recorded.

Results:
- Caution Reef:
  - A total of 85 eggs and 8 chicks were located
  - One double egg clutch was found
  - A total of 20 Adults were trapped
  - A total of 12 Jackals were seen in the area
- Gravel Plains:
  - A total of 64 eggs and 5 chicks were located
  - One unusual white oblong egg was found
  - A total of 12 Adults were trapped
Double Clutch

Success Rate Caution Reef
- The presence of 12 Jackals played a major role in the poor hatching success.
- It is not known how many eggs were re-laid.

Success Rate Gravel Plains
- Very few Jackals were actually seen — only tracks.
- It is not known how many eggs were re-laid.

Overall Success Rate

<table>
<thead>
<tr>
<th>Monitoring Outcomes Partial Since 2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>繁殖管理</td>
</tr>
<tr>
<td>哺乳动物种类</td>
</tr>
<tr>
<td>鸟类种类</td>
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<tr>
<td>人类活动</td>
</tr>
<tr>
<td>水中捕食</td>
</tr>
<tr>
<td>幼年幼鱼</td>
</tr>
<tr>
<td>非繁殖</td>
</tr>
</tbody>
</table>
9. BirdLife International Albatross Task Force  
(Oli Yates & Meidad Goren)

9.1 International Situation (Albatross Task Force)
And Namibia??

Important to get more data.
National Plan Of Action in place.

Thank you!
Introduction

- 300,000 seabirds
- 100,000 albatrosses
- 15 of 22 species of albatross threatened with extinction

Fisheries

- 1 billion hooks every year
- Threatening albatrosses
- Three months

Pelagic longlining for tuna and swordfish

- 2,500 hooks suspended over 130 km

Demersal longlining for hake

Bottom trawling

Warp cables
Solutions:

- Education & awareness
- Legislation & fisheries regulations
- Mitigation measures
- International collaboration

Project locations

<table>
<thead>
<tr>
<th>Country</th>
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<th>Type of Survey</th>
<th>Start date</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Africa</td>
<td>Three</td>
<td>Fecal / Lung, Liver</td>
<td>2006</td>
</tr>
<tr>
<td>Brazil</td>
<td>Three</td>
<td>Fecal / Lung, Liver</td>
<td>2009</td>
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<tr>
<td>Chile</td>
<td>Three</td>
<td>Fecal / Lung, Liver</td>
<td>2007</td>
</tr>
<tr>
<td>Uruguay</td>
<td>Two</td>
<td>Fecal / Lung, Liver</td>
<td>2007</td>
</tr>
<tr>
<td>Argentina</td>
<td>Two</td>
<td>Fecal / Lung, Liver</td>
<td>2008</td>
</tr>
</tbody>
</table>

Data collection

Education & awareness
9.2 Southern Africa and Namibia (Albatross Task Force)
Once a year, an African Penguin has to moult to replace his worn diving suit...

...First go to sea and get fat.

and grow new ones while fasting for 3 weeks.

Meanwhile, the fledged chicks (juveniles) are at sea, learning the fishing trade.

They only return to land for their moult about one year later.

BUT:

not all is well with the African Penguins in Namibia...

MFMR regularly monitors penguin numbers at the 4 main islands (96% of the penguins in Namibia)
Penguin numbers are decreasing alarmingly:

Endangered in Namibia

Halifax Island, 1939...

Halifax Island, 2008...

What are the main threats to African Penguins in Namibia today?

Not enough good fish in the sea

This leads to:

- Low proportion of penguins breeding
- Unsuccessful breeding attempts
- Poor juvenile survival
- Poor adult survival (in extreme conditions)
Monitoring what penguins eat...

A fine penguin meal...

is carefully sorted and analysed...

Monitoring where penguins feed...

Attaching a logger...

Back at the nest with the chick
Use this information for conservation management

e.g. for the design of a Marine Protected Area encompassing all Namibian penguin breeding islands and foraging ranges

Poor quality nesting habitat

but most nest on the surface

and fry on a hot day

or have their eggs and small chicks eaten by Kelp Gulls
Providing artificial nests on Halifax Island

The penguins like them.

and they breed more successfully than on the surface!

(Cronic) oiling

...can cope with about 60 penguins

(with the help of Sandra Daniels, Mark Brown and Hartmut Winterhach from Swakopmund, Air Namibia and Bay Air)
Any more than that and we would have a major crisis on our hands!

Also rehabilitate injured and sick penguins:

Rehabilitated penguins are banded and released (and future progress monitored)

More needs to be done to save the African Penguin:

- Improved oil pollution legislation and enforcement
- A National Oil Spill Contingency Plan that works in an emergency
- More good quality fish in the sea bring back the penguins!

Thank you