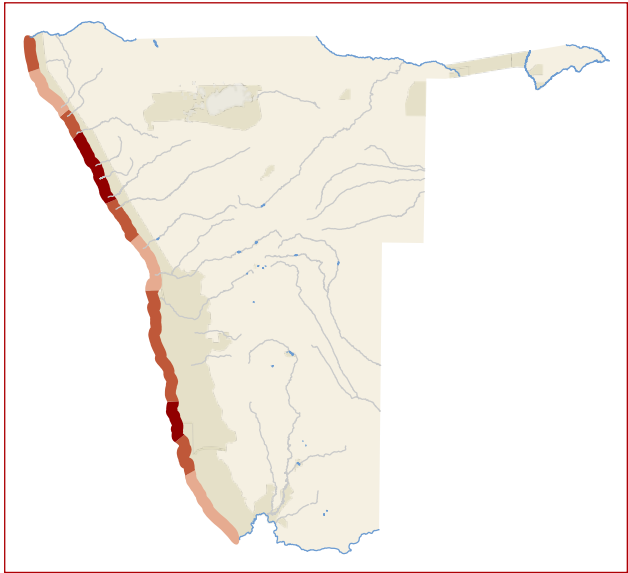


CAPE GANNET | *Morus capensis*

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DISTRIBUTION AND ABUNDANCE

Cape Gannets are endemic to southern Africa, breeding on six islands between Mercury Island, Namibia and Bird Island, Algoa Bay, South Africa (Kemper *et al.* 2007b). Non-breeding birds move well beyond their breeding range; Angolan waters constitute an important feeding and wintering area and are thought to be crucial for the survival of young gannets (Roux *et al.* 2007). Adults have been recorded to move up to 3,300 km and juveniles up to 6,800 km from their natal islands (du Toit *et al.* 2003). In Namibia, Cape Gannets breed at Mercury, Ichaboe and Possession islands. Breeding has ceased on Hollamsbird Island, the northern-most known breeding locality for the species, where gannets bred from at least 1828 to 1938 (Crawford *et al.* 1983, Shaughnessy 1984). Cape Gannets may have bred briefly on Halifax Island during the 1843 to 1845 guano rush, when seals were exterminated, but have not bred there since (Crawford *et al.* 1983). The total breeding population in Namibia, derived from counts of nesting gannets from aerial photographs, was estimated at 13,080 pairs in 2010/2011, with 2,200 pairs on Mercury Island, 10,500 pairs on Ichaboe Island and 380 pairs on Possession Island (J Kemper unpubl. data).



ECOLOGY

Cape Gannets are monogamous and breed in dense colonies on flat ground. Average longevity of breeders is 13 to 14 years (Barnes 2000a) and mean age at first breeding is four years (Crawford 1999). Cape Gannets

Conservation Status:	Critically Endangered
Southern African Range:	Coastal Namibia, South Africa
Area of Occupancy:	157,000 km ²
Population Estimate:	13,080 pairs
Population Trend:	Declining
Habitat:	Marine waters, within continental shelf, near-shore islands
Threats:	Insufficient food, by-catch in long-line fisheries, loss of suitable breeding habitat, disturbance, predation, pollution from oiling

show strong site fidelity (Klages 1994), returning to their natal colonies in late August to breed (du Toit *et al.* 2003, MFMR unpubl. data). Nests consist of a mound with a cup-shaped depression made of guano scraped together. One, or rarely two, eggs are generally laid (Jarvis 1974) between September and November, although late eggs and replacement clutches occur until February (MFMR unpubl. data). Most chicks fledge between January and April (Randall *et al.* 1981) and early-fledged chicks have a higher probability of survival than late-fledged chicks (Jarvis 1974). Fledglings will spend about two years at sea before returning to an island (Jarvis 1974).

Cape Gannets forage by shallow plunge-diving above the continental shelf up to about 100 km offshore (Dundee 2006, Lewis *et al.* 2006, Ludynia *et al.* 2012). They forage singly, in flocks or in multi-species feeding associations. Foraging areas and distances of breeding gannets may differ greatly between years and breeding localities (Grémillet *et al.* 2004, Dundee 2006). In Namibia, gannets historically fed predominantly on Sardine *Sardinops sagax* (Crawford *et al.* 1983), their preferred prey (Adams & Klages 1999). Since the collapse of Sardine stocks in Namibia in the early 1970s, the diet of breeding gannets is dominated by Horse Mackerel *Trachurus t. capensis*, Saury *Scomberesox saurus* and juvenile Snoek *Thyrsites atun*. Sardine and Anchovy *Engraulis capensis* are taken when available. Hake *Merluccius* spp., discards scavenged from behind trawlers, may dominate the diet (Crawford *et al.* 1985, Dundee 2006, Mullers *et al.* 2009, MFMR unpubl. data). Breeding gannets feeding on live, energy-rich prey were found to spend more time and energy foraging than those feeding predominantly on energy-poor fishery discards, but chick growth and chick survival rates were higher in chicks fed on a natural diet (Mullers & Navarro 2010).



THREATS

At the Namibian colonies, the decline in gannet numbers is mainly attributed to insufficient food, particularly through the reduction in Sardine stocks (Crawford *et al.* 2007a). Across its range, gannet population change appears to be driven by food availability during the breeding season (Lewis *et al.* 2006). This may result in a reduced number of birds attempting to breed (Crawford & Dyer 1995), lower breeding success (Crawford 1999), and poor recruitment (du Toit *et al.* 2003).

Cape Gannets are killed in Namibia as incidental by-catch of longline and trawl fisheries (Petersen *et al.* 2007), but the scale of the impact on the Namibian gannet population is poorly known at present. Mortality by demersal and pelagic longline fisheries through the ingestion of hooks or by drowning after getting hooked and dragged underwater (Petersen *et al.* 2007, 2008c) is further evidenced by large numbers of longline hooks found on the Cape

Gannet colony on Ichaboe Island (more than 600 within two years: AJ Williams unpubl. data). Gannets are also killed by demersal and mid-water trawl fisheries when they become entangled in trawl nets or collide with warp cables (Watkins *et al.* 2008), although this goes largely unrecorded because dead birds are seldom hauled on board (S Petersen pers. comm.). Non-breeding gannets, including recently fledged birds, are targeted in Angolan waters, and possibly further north, by fishermen for food (Roux *et al.* 2007). The extent of this and its impact on the Namibian gannet population is difficult to assess (Crawford *et al.* 1983, Roux *et al.* 2007).

Individual seals prey on gannets at sea, particularly on fledgling juveniles (du Toit 2001, du Toit *et al.* 2004, MFMR unpubl. data). For example, between September 1991 and May 2000, 932 gannet mortalities were observed at Ichaboe Island, mainly through incidental observations (du Toit *et al.* 2004). Breeding at Hollamsbird Island ceased after gannets were displaced by Cape Fur Seals *Arctocephalus pusillus pusillus* (Shaugnessy 1984). Gannets at Mercury Island were threatened with displacement by Cape Fur Seals from the early 1980s, until seals were cleared from the island during the early 1990s (Crawford *et al.* 1989).

Cape Gannets are susceptible to oiling by fish oil from factories and fishing vessels processing fish aboard and, to a lesser extent, from fuel oil discharged by ships (du Toit & Bartlett 2001, Crawford *et al.* 2000, MFMR unpubl. data). They are also vulnerable to human disturbance during the breeding season and may desert nests, leaving eggs and small chicks exposed to predation by Kelp Gulls *Larus dominicanus* (MFMR unpubl. data). Guano harvesting has decreased breeding success and has caused delayed onset of breeding through the removal of too much guano (Crawford & Cochrane 1990). Disturbance created by guano harvesting may disturb breeding adults and can disrupt chick feeding (du Toit *et al.* 2003). Rain storms and large swells may cause nest flooding and chick mortality at some colonies (Crawford *et al.* 1986, MFMR unpubl. data).



CONSERVATION STATUS

Over the last three generations, the Namibian Cape Gannet population has declined by nearly 84% from an already depleted population of 79,961 pairs in 1978/79. It is therefore classified as *Critically Endangered*, according to IUCN Criterion A2(a) (IUCN 2012a). The continued decline in Namibia is offset by a stable to slightly increasing gannet population in South Africa (Crawford *et al.* 2007a). The species is listed as globally *Vulnerable* because of its small breeding range, a decrease in the overall population of more than 20% in the last three generations and a projected future decline of more than 20% in the next 40 years (IUCN 2012a). In South Africa, it is listed as *Vulnerable* (Taylor *et al.* in press)



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In 1956, when the first comprehensive aerial census of Cape Gannets was done, the Namibian population constituted 80% of the global population (Crawford *et al.* 2007a). Since then, it has declined by 94%, and in 2010 comprised a mere 9%. The decline is greatest at Possession Island (98%), while the population at Ichaboe Island, which once supported the world's largest colony and has contributed most to the regional decline, decreased by 94%.

The Cape Gannet has been included in Annex 2 of the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA). Because of its rapid decline, the Cape Gannet should be given *Specially Protected* status under any updated or new Parks and Wildlife legislation in Namibia. All three Namibian breeding islands have global Important Bird Area status (Simmons *et al.* 2001b) and are staffed by personnel from the Ministry of Fisheries and Marine Resources. They were declared nature reserves in 1987, while under South African authority, but this status lapsed in 1994, when they were handed over to Namibian authorities. Since 2009, the islands are part of the Namibian Islands' Marine Protected Area and access is strictly controlled (Currie *et al.* 2009). Guano was harvested from Ichaboe Island until 2010; the

guano harvesting license there will not be renewed when it expires in 2015.



ACTIONS

Regulations pertaining to the Marine Resources Act (Act 27 of 2000) and the Namibian Islands' Marine Protected Area need to be strictly enforced. Management and oil contingency plans need to be drafted for each island. Fisheries management needs to implement additional measures to promote the growth of Sardine stocks, for example through reduced quotas, no-take areas or closed seasons, and take the foraging needs of threatened top predators, such as the Cape Gannet, into account. The National Plan of Action for Seabirds, which stipulates mitigation measures to reduce seabird by-catch, needs to be ratified by the Namibian government, implemented and enforced. The impacts of the long-line and trawl fisheries on the Namibian gannet population need to be further quantified. Monitoring programmes should continue on the breeding islands, with aerial surveys conducted during the peak breeding season at least every second year. Research on the distribution and foraging ecology of non-breeding Cape Gannets should be prioritised to improve conservation management strategies.