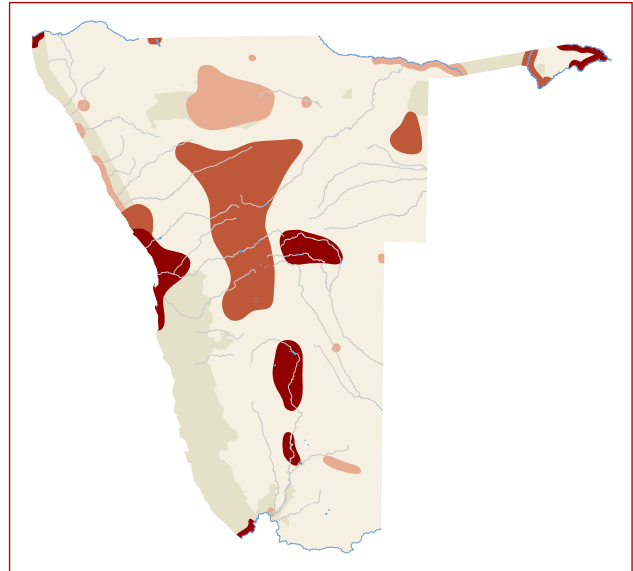


GREAT WHITE PELICAN (WHITE PELICAN) | *Pelecanus onocrotalus*

RE Simmons | Reviewed by: M de Ponte Machado; H Kolberg; AJ Williams

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Conservation Status:	Vulnerable
Southern African Range:	Namibia, Botswana, South Africa, Zimbabwe, Mozambique
Area of Occupancy:	90,300 km ²
Population Estimate:	3,000 to 4,000 birds; only four known breeding sites
Population Trend:	Possibly declining
Habitat:	Coastal waters, especially bays, large inland dams, sewage works
Threats:	Single mass breeding sites vulnerable to fluctuating water levels, disturbance, pollution

at 6,000 pairs (Urban 1984) or 20,000 adults (Wetlands International 2002). It is distributed mainly at Lake St. Lucia and the southern part of the Western Cape coast in South Africa, the Okavango Delta in Botswana, the Chobe River floodplain, Etosha Pan, the Kunene and Orange river mouths, on inland dams and along the central coast in Namibia (Williams & Borello 1997). There is a breeding colony at Ilha dos Tigres in southern Angola (Simmons *et al.* 2006b).

The Namibian population is concentrated at Lake Oponono, Ekuma River, Walvis Bay (including the Bird Rock guano platform), Sandwich Harbour, Hardap Dam, Naute Dam and the Orange River mouth (Table 2.8). Breeding colonies regularly occur on Hardap Dam, where up to 250 nests can be found on one or two small islands when water levels are appropriate (Williams & Randall 1995, Jarvis *et al.* 2001, H Kolberg unpubl. data). Small breeding numbers are also present at the Bird Rock guano platform north of Walvis Bay, where 100 to 200 pairs breed regularly (Whitelaw *et al.* 1978, Williams & Borello 1997). Between 2000 and 2004, pelicans bred in small numbers on islands inaccessible to predators at Sandwich Harbour (R Braby unpubl. data), but breeding ceased when the islands disappeared (H Kolberg pers. comm.).

The local population appears to have declined from the 3,000 pairs (approximately 6,000 birds) estimated to be breeding at Etosha Pan and Lake Oponono in 1971 (Berry *et al.* 1973) to about 3,000 adults in 2003. This figure was derived from annual wetland counts (summarised in Table 2.8). Pelicans



DISTRIBUTION AND ABUNDANCE

This species is found throughout the African continent and in southern parts of Eurasia, as far east as Vietnam (del Hoyo *et al.* 1992). The global population is estimated at 94,000 pairs, of which 75,000 pairs are estimated to occur in Africa (Brown *et al.* 1982, del Hoyo *et al.* 1992); recent estimates are lacking. The southern African population is variously estimated

at Hardap Dam showed a five-fold increase from 800 birds in 1999 to 4,024 birds in early 2003 (Theron *et al.* 2003), a figure that must have included most of Namibia's pelican population and/or immigrants from elsewhere. Between 2005 and 2012 a mean of 724 birds were counted at Hardap Dam during summer (H Kolberg unpubl. data). Between 1991 and 2000, a mean of 2,718 birds were counted in Namibia (Table 2.8). This figure apparently dropped to a mean of 1,522 birds between 2007 and 2012, but it should be taken as a minimum population estimate because the coverage of wetland counts was not comprehensive during that period (H Kolberg unpubl. data). Given the variability in numbers of these birds over

the last four decades, it is probably best to say that numbers in Namibia average between 3,000 and 4,000 birds, with a decline discernable.

Census data suggest some decline in the population in South Africa. Lake St. Lucia has an estimated 2,000 breeding pairs (M Bowker pers. comm.) and Dassen Island averaged 420 pairs between 1988 and 2007, with a peak of 659 pairs in 2001 (de Ponte Machado 2010). This totals a maximum of 2,700 pairs in South Africa, fewer than the 3,500 pairs previously estimated by du Toit *et al.* (2003).

TABLE 2.8:

Summary of Great White Pelican numbers throughout Namibia from 1990 to 2003. Compiled from wetland counts coordinated by RE Simmons.

Locality	Mean number \pm 1SD	Maximum count	Number of counts	Observer
Kunene River mouth	58 \pm 52	149	5	R Braby, S Braine, RE Simmons
Mahango area (Bwabwata National Park)	17 \pm 19	30	2	M Paxton
Nyae Nyae	26 \pm 26	67	5	RE Simmons, S von Plato
Omatako Dam	141 \pm 185	600	10	R Braby, K Roberts
Otjivero Dam	9 \pm 13	30	7	Namibia Bird Club, S Mallet-Veale
Olushandja Dam	4 \pm 1	4	4	N Robson
Fischer's Pan (Etosha)	18 \pm 3	20	5	W Versfeld
Ekuma River (Etosha)	628 \pm 1,300	2,953	5	W Versfeld
Lake Oponono (Etosha)	95 \pm 181	500	7	W Versfeld
Cape Cross Salt Works	2 \pm 1	3	5	R Braby
Mile 4 Salt Works (Swakopmund)	14 \pm 10	34	12	R Braby, R Davis
Swakopmund Sewage Works	3 \pm 3	10	16	M Boorman, S Dantu
Swakop River mouth	5 \pm 5	13	12	O Friede
Caution Reef	28 \pm 18	40	2	R Braby
30 km beach Swakopmund to Walvis Bay	181 \pm 251	608	5	R Braby
Walvis Bay wetlands	325 \pm 238	932	25	K Wearne
Walvis Bay Sewage Works	65 \pm 74	223	8	K Wearne
Sandwich Harbour	170 \pm 136	612	28	R Braby, RE Simmons
Conception Bay	35 \pm 19	46	3	R Braby RE Simmons
Swakoppoort Dam	158 \pm 117	372	12	K Roberts
Avis Dam	16 \pm 19	29	2	S Mallet-Veale
Windhoek Sewage Works	22 \pm 36	95	8	Namibia Bird Club
von Bach Dam	54 \pm 33	106	9	MET staff
Friedenau Dam	8 \pm 2	10	4	D Ward
Oanob Dam	9 \pm 10	23	5	Namibia Bird Club
Hardap Dam	500 \pm 407	4,000	11	Various
Naute Dam	54 \pm 35	90	4	MET staff
Orange River mouth	138 \pm 146	473	15	M Anderson, H Kolberg
All coastal wetlands (10)	956		112	
All inland wetlands (18)	1,762		113	



ECOLOGY

The Great White Pelican generally prefers safe sites, such as islands in dams, artificial and natural islands offshore. More birds are found inland in Namibia than at the coast. Coastal colonies average 78 nests (n=5) and lay mainly in October and November, while inland colonies average over 1,000 nests (n=11) and lay mainly from April to August, with a peak in June and July (Brown *et al.* 2015). Clutch size varies from one to three, with the commonest being two eggs (n=590 clutches: Berry *et al.* 1973, Brown *et al.* 2015). Young are fledged from Hardap Dam virtually every year. The only mass breeding event recorded for Namibia was in 1971 from Lake Oponono, where 1,500 pairs abandoned their breeding attempt to join another 1,500 pairs on the flooded Etosha Pan (Berry *et al.* 1973). Birds commuted from Etosha (where there are no fish) to Lake Oponono, the closest source of fish, about 130 km to the northwest (Berry *et al.* 1973).

This species feeds on large fish by surface swimming, often in groups that funnel fish until they can be caught by the enclosing circle of pelicans (del Hoyo *et al.* 1992), particularly during moonlit nights (RE Simmons pers. obs.). They often feed on discarded fish parts in Walvis Bay and Swakopmund (R Braby pers. obs.) and are also known to round up cormorant chicks and eat them where they occur (Berry 1976a).



THREATS

The breeding success of the Great White Pelican has been curtailed by the natural drying of ephemeral pans and lakes in northern Namibia. Nest robbing at Lake Oponono, where the pelican colony reportedly has been raided by local inhabitants and their dogs (Berry *et al.* 1973), also contributes to breeding failure. Oil pollution may become a threat for birds breeding at the coast at Walvis Bay, where fish oils are sometimes released into the harbour and disperse northwards (Berry 1976b, K Wearne pers. comm.). The increase in shipping traffic will also increase the chances of oil spills and ship-borne pollution affecting birds. Gene flow between the Namibian and South African populations appears limited and there is evidence of demographic bottlenecks for the Namibian and Western Cape populations (de Ponte Machado 2010).

Elsewhere, potential threats include collision with power lines, recreation and tourism disturbing colonies, and Benguela Niño events or commercial exploitation of fresh water fish diminishing the prey base (du Toit *et al.* 2003).



CONSERVATION STATUS

This subspecies is classified as *Vulnerable* because of its small population of between 3,000 and 4,000 birds, roughly half of the estimated 6,000 birds present in 1971. Thus, there is some evidence of long-term decline in Namibia, although this may be due to the nomadic nature of pelicans traveling long distances to suitable breeding localities (Berry *et al.* 1973, del Hoyo *et al.* 1992). The Namibian population was considered to be stable between 1991 and 2008 (Kolberg 2010). While the bird has adapted well to inland dams and sewage works, as evidenced by the greater numbers occurring inland than at the coast, these habitats are widely scattered across the landscape, causing its population to be fragmented across southern Africa. More importantly, it has only two regular breeding sites in Namibia (Hardap Dam, Bird Rock guano platform) and a small breeding population.

This species is not globally threatened (IUCN 2012a), and in South Africa was uplisted from *Near Threatened* (Barnes 2000a) to *Vulnerable* (Taylor *et al.* in press). The Great White Pelican is listed in Appendices 1 and 2 of the Convention for the Conservation of Migratory Species of Wild Animals (CMS) and in Annex 2 of the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA). It should be given *Specially Protected* status in revised or new Namibian Parks and Wildlife legislation.



ACTIONS

Further genetic research and ringing of individuals is needed to understand if (and to what degree) interchange occurs between the widely dispersed breeding colonies in the region. Results from ringing activities indeed suggest long-distance movements between coastal and inland sites (D Heinrich, M de Ponte Machado pers. comm.) and between Namibia and South Africa (J Kemper pers. obs.). Further research and annual monitoring at all breeding colonies, particular at Hardap Dam, is required to determine annual breeding success, dispersal patterns of young birds and fluctuations in population sizes. Co-ordinated counts across the entire southern African range are needed to ascertain the regional population status, and additional genetic information is required to determine the taxonomic status of southern African Great White Pelicans compared to those from elsewhere in Africa (du Toit *et al.* 2003, de Ponte Machado 2010). Breeding birds in Namibia are generally protected within parks (Etosha National Park, Sandwich Harbour, Hardap Dam) or occur in inaccessible areas such as guano platforms and islands. Habitat protection and management is therefore probably unnecessary at present.