

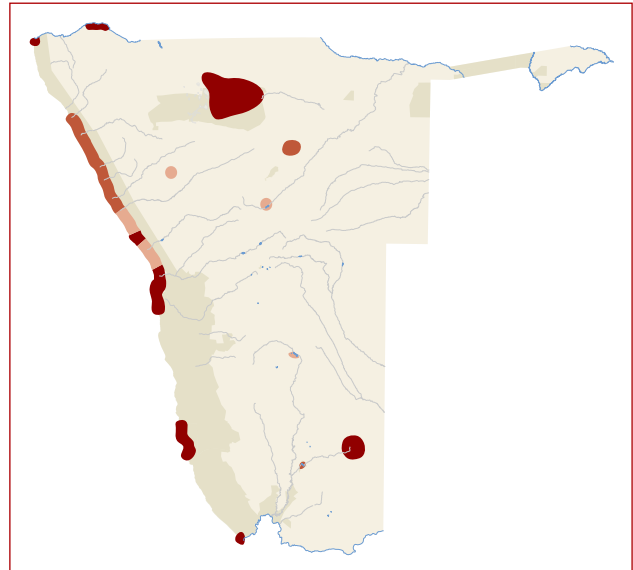
CHESTNUT-BANDED PLOVER | *Charadrius pallidus*

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Conservation Status:	Near Threatened
Southern African Range:	Namibia, Botswana, South Africa, Zimbabwe
Area of Occupancy:	30,000 km ²
Population Estimate:	11,100 birds
Population Trend:	Moderately increasing
Habitat:	Salt pans, saline coastal flats, salt works
Threats:	Pollution, climate change, human disturbance



works in Zimbabwe (rarely), Botswana and South Africa. It was recorded for Namibia at a reporting rate of 5% during the SABAP1 atlassing period (Tree 1997b) and occupies an area of 30,000 km² in Namibia (Jarvis *et al.* 2001). Although breeding and overall numbers tend to fluctuate between years, depending on whether flooding of inland sites has been favourable (Simmons *et al.* 2007), the Namibian population has increased moderately between 1991 and 2008 (Kolberg 2013b), but shows a downward trend through 2013 (Simmons *et al.* in press).



DISTRIBUTION AND ABUNDANCE

This species, endemic to Africa, occurs in two widely separated subspecies. *C. p. pallidus* is endemic to southern Africa and is found very patchily in its highly specialised niche – on salt pans and saline coastal flats. It breeds on the major inland pans of Etosha and the Makgadikgadi in Namibia and Botswana respectively, but also in coastal saline areas. Its core non-breeding quarters include the central Namibian coastal Ramsar sites of Walvis Bay and Sandwich Harbour (Tree 1997b, Jarvis *et al.* 2001). Here up to 96% of the subspecies' known population of 11,500 birds often congregates; the Cape Cross salt pans north of Walvis Bay also hold numbers exceeding 100 birds (Simmons *et al.* 2007). It is found as far north as the Kunene River mouth (Simmons *et al.* 1993) and is more common on the coast north of Walvis Bay and virtually absent south of Sandwich Harbour (Tree 1997b), appearing only around Lüderitz and at the Orange River mouth. Records of birds at Epupa Falls on the freshwater Kunene River (Tree 1997b) are somewhat unusual and require confirmation. Elsewhere in southern Africa, it occurs patchily on evaporation ponds at salt



ECOLOGY

The Chestnut-banded Plover feeds and breeds on highly saline pans, coastal flats and in artificial evaporation pans. Breeding birds typically occur at the edge of partially flooded inland pans, such as Etosha Pan and the surrounding salt pans, including Pan Points Pan, Natukanoaka Pan and the Omadhiya lakes (Jarvis *et al.* 2001, W Versfeld pers. obs.). Records of birds from the salt-clay pans between Aroab and Koes in the far south-east corner of Namibia (Tree 1997b) may well represent breeding birds, but this requires confirmation. Breeding records indicate that breeding occurs mainly at the coast (67% of 94 records) or inland at Etosha (33% of records). At the coast, eggs are laid mainly in April to June (79% of coastal records) while inland they have a more protracted laying season, from mainly December to June (90% of inland records) (Brown *et al.* 2015). Nests are typically scrapes in dry sand or on hard salt crust on the edge of salt pans or coastal flats well beyond the reach of water. One to three eggs are

laid (mean = 1.8) and with 80% of clutches comprising two eggs (n=81), but breeding success is unknown. Coastal salt works with their more dependable water levels are frequently used breeding sites (M Boorman unpubl. data), but nests have also been located at Cape Cross and Sandwich Harbour (R Braby unpubl. data). The diet and feeding ecology of this highly specialised wader are poorly known (Turpie 2005b). Preliminary studies indicate a different prey base for wading birds in the two locations (C Velasquez, P Hockey, RE Simmons unpubl. data).



THREATS

The dependence of over 90% of its population on just two coastal sites (Walvis Bay and Sandwich Harbour) puts the Chestnut-banded Plover at risk. The site at Walvis Bay, where up to 9,900 birds have been counted (H Kolberg unpubl. data), is adjacent to Walvis Bay Harbour, which is prone to pollution in the form of fuel- and fish oils, paint and bilge water dumping, as well as siltation from sand deposited in the lagoon (Berry 1976b, Wearne 1997). Increasing industrialisation in and around Walvis Bay further amplifies the threat of water pollution. Sandwich Harbour is virtually free of pollution, but is a highly dynamic wetland that may occasionally, depending on tides, winds and long-shore drift, experience siltation or drying out of critical mudflat feeding areas (Berry & Berry 1975, Wilkinson *et al.* 1989, Simmons 1991). Thus, both sites can expect to be compromised as feeding locations at certain times and this may jeopardise the Chestnut-banded Plover's long-term survival. It is arguable whether the construction of salt works has increased the possible range of habitats or population size of this species (Tree 1997b) because they are often sited on areas that are naturally salty and may in the long term lead to the silting up of sites that are otherwise washed with high tides or flooded with river water following substantial rains.

With global warming and sea level rise (IPCC 2001) this species may be susceptible to more flooding of its coastal sites – a possible advantage – but its inland breeding will almost certainly experience less frequent flooding as rainfall decreases, reducing breeding success as it appeared to do during the dry 1980s and 1990s. Water abstraction from the Abenab aquifers to the south-east of Etosha's main pan has already resulted in less water reaching the pan from the east (Christelis & Struckmeier 2001). The salt pans to the west are used for salt abstraction and the Omadhiya lakes outside the national park boundaries are used by local herdsman to water their cattle. Their dogs and the snares they set in the vicinity of their temporary camps (W Versfeld pers. obs.) will negatively affect this and other wetland species dependent on these temporary wetlands. Breeding may also be disrupted in the northern sections of Sua Pan in Botswana

that are prone to human disturbance in the form of quad bikers (M Herremans in Tree 1997b).



CONSERVATION STATUS

The southern African subspecies is designated here as *Near Threatened* because the population fluctuates around 11,500 individuals, and the majority is, at critical times of year, concentrated at only two virtually adjacent sites on the Namibian coast. About 51% of its relatively small occupied area in Namibia occurs within protected areas (Jarvis *et al.* 2001). It is also one of a handful of bird species that occurs in four of Namibia's Ramsar sites – Etosha, Walvis Bay, Sandwich Harbour and the Orange River mouth (Kolberg 2002). Its dependence on just a few critical non-breeding areas will always put this specialised species at some risk, and for this reason, Namibian Parks and Wildlife legislation should afford it *Specially Protected* status. While the Etosha main pan is protected inside the Etosha National Park, Makgadikgadi Pan does not have any formal protection and thus one of the two main breeding sites remains open to quad bikers and off-road users (M Herremans in Tree 1997b, G McCulloch pers. comm.). The species is considered *Near Threatened* globally (IUCN 2012a) and in South Africa (Taylor *et al.* in press) and is included in Annex 2 of the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) and in Appendix II of the Convention for the Conservation of Migratory Species of Wild Animals (CMS).



ACTIONS

The threat of pollution and/or siltation in the Walvis Bay region must be addressed. The banning of any form of pollution entering coastal waters around Walvis Bay and ensuring the means to efficiently contain any accidental spills are among the most important conservation measures for this and numerous other wetland birds that use this area. Studies of the feeding ecology at Walvis Bay and Sandwich Harbour and of breeding success will help to determine why this species prefers more saline areas, and if it is more successful in such areas. Ultimately, all of the above-mentioned measures will aid our ability to protect this southern African endemic.

It is unclear what proportion of the Chestnut-banded Plover population breeds inland on the Etosha and Makgadikgadi pans and thus how reliant this species is on the large salt pans of southern Africa. This information may become important as summer rainfall diminishes over southern Africa under climate change scenarios (IPCC 2001, Midgley *et al.* 2001, Simmons *et al.* 2004), presumably reducing the quality and quantity of the breeding habitat for this and other species that depend on salt pans.