

# RUFOUS-BELLIED HERON | *Ardeola rufiventris* (*Butorides rufiventris*)

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<b>Conservation Status:</b>	Endangered
<b>Southern African Range:</b>	Namibia, Botswana, peripheral to South Africa, Zimbabwe
<b>Area of Occupancy:</b>	25,700 km <sup>2</sup>
<b>Population Estimate:</b>	About 1,200 birds
<b>Population Trend:</b>	Unknown
<b>Habitat:</b>	Tropical rivers, floodplains, ephemeral wetlands, inland dams
<b>Threats:</b>	Over-fishing and degradation of riparian wetlands

## DISTRIBUTION AND ABUNDANCE

This secretive species is endemic to central and southern Africa, and is mostly found in Mozambique, the Democratic Republic of Congo and Botswana's

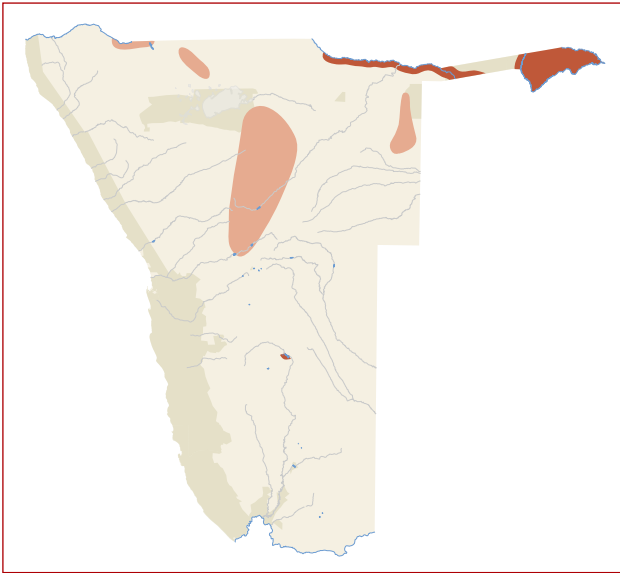
Okavango Delta (del Hoyo *et al.* 1992). In southern Africa, it is rare everywhere; the only concentrations are found in the perennial tropical swamps of the Okavango Delta in Botswana, and the Linyati and Chobe floodplains in Namibia (Allan 1997a). Elsewhere in Namibia, it is found on the Zambezi River, in the ephemeral Tsumkwe Pans when they are flooded (Hines 1993), rarely in the north-central regions, and as a vagrant to some dams in central Namibia (Allan 1997a). The global population is estimated at about 25,000 individuals (Wetlands International 2002). Populations in Botswana are surprisingly small, given the abundance of suitable habitat, with 34 birds in 65 km of Chobe River (or 97 birds extrapolated for the whole river), and one bird in 200 km in the swamps of the Okavango Delta (Tyler 2001).

The Namibian population was estimated using density estimates from Namibia's perennial rivers (data in Jarvis *et al.* 2001 and D Allan unpubl. data for Okavango River) and multiplying by the length of the river (from Mendelsohn *et al.* 2002). This gives a total of 1,156 birds (Table 2.7) or a Namibian population of about 1,200 birds, 5% of the estimated global population. The secretive nature of this species means that these may be underestimates. Its range in Namibia covers 25,700 km<sup>2</sup>, of which only 15% falls within protected areas such as Nkasa Rupara (Mamili) and Mudumu National Parks (Jarvis *et al.* 2001).

## ECOLOGY

The Rufous-bellied Heron breeds in trees in small – often mixed-species – colonies, numbering from one to 80 nests (Tarboton 2001). In Botswana, it breeds from February to October, with a peak in August and September (Skinner 1997). There are three breeding records from Namibia for this species, with eggs laid in March, April and September. A nest with four young was found in April in the Nyae Nyae Conservancy (Jarvis *et al.* 2001). In view of its year-round presence and high reporting rate of more than 25% on the Okavango and Chobe rivers during the SABAP1 reporting period (Allan 1997a), it almost certainly breeds in these areas, although no colonies have been investigated to date. Breeding success and ecological factors that may limit its population are poorly known.

It prefers densely vegetated tropical rivers and swamps, where sedges, papyrus and reeds are dominant (Allan 1997a). It is also found foraging slowly through aquatic



**TABLE 2.7:**

Estimated number of Rufous-bellied Herons in Namibia, using density estimates from Namibia's perennial rivers (Jarvis *et al.* 2001, Mendelsohn *et al.* 2002, D Allan unpubl. data).

Locality	Bird density (birds per km)	Estimated total number of birds
Kunene River		20
Okavango River	6.5	306
Kwando River and Linyanti Swamps	4.0	340
Chobe and Zambezi Rivers	9.8	340
Tsumkwe Pans		30
Mahango Game Reserve		20
Wetlands of the north-central regions		100
<b>Total</b>		<b>1,156</b>

grasses on wide river floodplains such as those of the Okavango River (M Paxton pers. obs.), and is vagrant to small inland dams and temporarily flooded wetlands (Hines 1993, Allan 1997a). It usually feeds solitarily on small fish, frogs, crustaceans and worms (Uys & Clutton-Brock 1966, del Hoyo *et al.* 1992).



### THREATS

This species may suffer from habitat degradation in the future; any development that impacts on wetland integrity and/or flow patterns such as weirs, dams, diversions, hydro schemes, channelisation and restriction of flow of water to floodplains, is likely to alter the habitat for the fish and frogs that are prey to this heron and thus have a direct negative impact on the population of this species. Human

population density along the Okavango River is high (Mendelsohn *et al.* 2002), and the intense fishing pressure (Hay *et al.* 2000) has decreased avian species richness by half (37 species to 17 species) in a period of two to three years, and the linear density of other wetland species by half, from 674 birds to 321 birds per 10 km (Simmons 2003). The use of mosquito nets to take all sizes of fish (M Paxton pers. obs.) has damaged the biological integrity of the river by disturbing the composition of fish communities (Hay *et al.* 1996). This is likely to influence all fish-eating species foraging along the Okavango River and may well have led to a reduction in heron populations there. Considering that there are few formally protected areas along the Okavango River, this degradation will continue to influence this and other species.



### CONSERVATION STATUS

This species is classified as *Endangered* because of its small population size in Namibia. It is not a *Rare and Peripheral* species, because its Namibian population is estimated at 4% of the total African population. There is no known or suspected decline in population size, because its elusive nature and unknown breeding activity make it difficult to monitor. However, the habitat in which it occurs is threatened and declines may therefore occur undetected. It is not classified as globally threatened (IUCN 2012a), nor is it considered threatened in South Africa (Taylor *et al.* in press), because it is only vagrant there, with a few breeding records (Tarboton 1967, Taylor *et al.* 1999). Thus, this classification is the first Red Data book entry for this species. The species is included in Annex 2 of the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA), in Appendix II of the Convention for the Conservation of Migratory Species of Wild Animals (CMS) and should be given *Specially Protected* status in Namibia.



### ACTIONS

Research on this species is an urgent priority. Studies of breeding success and the extent of breeding colonies through areas such as the Zambezi region floodplains are required to monitor basic breeding ecology. In particular, population monitoring should be undertaken on the Okavango River downstream of Andara to determine the effect of flood level alteration on population density and breeding. Conservation management is required for this species once its breeding ecology is understood better. The establishment of conservation areas along critical sections of the Okavango River will benefit this species as well as other threatened birds, such as the African Skimmer *Rynchops flavirostris* and Pel's Fishing Owl *Scotopelia peli*.