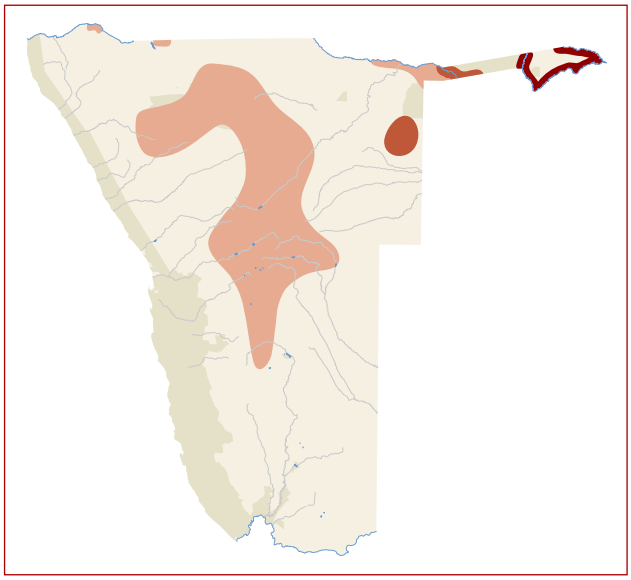
SADDLE-BILLED STORK | *Ephippiorhynchus senegalensis*

RE Simmons | *Reviewed by: AJ Williams*

Conservation Status:	Endangered
Southern African Range:	Namibia, Botswana, South Africa, Zimbabwe, Mozambique
Area of Occupancy:	35,400 km²
Population Estimate:	Fewer than 200 birds
Population Trend:	Fluctuating
Habitat:	Pans in wooded and open habitat
Threats:	Increased human use of water and declining rainfall



DISTRIBUTION AND ABUNDANCE

This species is endemic and widespread, but uncommon throughout sub-Saharan Africa, where it is not necessarily limited to large wetlands (del Hoyo *et al.* 1992). Its core area in southern Africa is the Okavango Delta in Botswana, where reporting rates average above 25% (Benn 1997) and a population of 286 birds was estimated (Mangubuli & Motalaote in Tyler 2001).

In Namibia, it is limited to scattered records from the Kunene River and Namibia's central regions, including Etosha National Park, but is more common in the Nyae Nyae Conservancy and all the major rivers and floodplains of the north-east, and particularly on the Chobe floodplain and the Linyanti Swamps (Benn 1997). Elsewhere in southern Africa it occurs in South Africa, where it is mostly limited to the Kruger National Park, in Zimbabwe, where it occurs along the Zambezi River, and throughout the central and southern regions, and in Mozambique, where it is patchily distributed (Benn 1997, Anderson 2005a).

Its population in southern Africa is estimated at fewer than 650 pairs, of which 500 pairs have been estimated for Zimbabwe (Coulter 1992); this is, however, probably too high (Benn 1997). In Namibia it is thinly spread. Wetland counts from 1990 to 2001 suggest that its population numbers fewer than 200 birds (Table 2.9). These counts also indicate that birds are resident throughout the year, but that numbers fluctuate along the same waterways (M Herremans unpubl. data). Reporting rates in northern Namibia suggest that birds are more common in spring than at any other time (Benn 1997). Namibia thus holds up to 2% of the global population, estimated to number between 10,000 and 25,000 birds (Wetlands International 2002). The area occupied in Namibia is 35,400 km², of which 26% occurs in protected areas (Jarvis *et al.* 2001).

TABLE 2.9:

Estimated numbers of Saddle-billed Storks, using density extrapolations and bird count data from Jarvis *et al*. 2001, RE Simmons, M Paxton, M Herremans, PT Lambrechts unpubl. data.

Locality	Bird density (birds per 10 km)	Estimated numbers of birds
Tsumkwe Pans		17
Ekuma River		1
Lake Oponono		7
Fischer's Pan		1
Magango Game Reserve		3
Kwando and Linyanti Swamps	3	102
Chobe and Zambezi Rivers	0.8	27
Farm Küb		1
Total		**159**

ECOLOGY

The Saddle-billed Stork is found in a variety of often fairly dry areas with aquatic habitat nearby, including woodlands with pans and marshes, as well as rivers and floodplains (Hancock *et al.* 1992, Benn 1997). Breeding peaks in February to March in Zimbabwe and in April to June in northern South Africa (Benn 1997). Of only six breeding records from Namibia (Brown *et al*. 2015), egg-laying took place in April (one), June (two), July (two) and August (one), from the Namutoni and Otavi regions and Lupala Island region in the Nkasa Rupara (Mamili) National Park (Jarvis *et al.* 2001). It feeds mainly on fish up to 500 g in mass, but also takes frogs, crabs, shrimps, reptiles, small mammals and young birds (del Hoyo *et al.* 1992).

THREATS

This species suffers from habitat degradation brought about by human population pressure along all of Namibia's north-east rivers (Mendelsohn & Roberts 1997, Mendelsohn *et al.* 2002). 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, may alter flood regimes, potentially decreasing fish breeding opportunities. Over-fishing by artisanal fishermen along the Okavango River has already decreased the biological integrity of the river (Hay *et al.* 1996). Direct poisoning or persecution is not recorded.

CONSERVATION STATUS

The Namibian population is classified as *Endangered* because of its small population of fewer than 200 individuals. There are no confirmed declines because of the difficulty in censusing this species and its nomadic movements around southern Africa's wetlands (Hancock *et al.* 1992, Kolberg 2011d). The majority of Namibia's population occurs in swamps or rivers that are inaccessible to direct disturbance by man, and some breeding has recently (2000) been recorded from protected areas such as the Nkasa Rupara (Mamili) National Park in the Kwando/Linyanti triangle (Jarvis *et al*. 2001).

It is not classified as globally threatened because of its widespread, though uncommon nature (IUCN 2012a). Although the population in South Africa, most of which occurs in the Kruger National Park, has been stable for probably 200 years, it is classified as *Endangered* there because of a small population size, numbering 50 to 75 pairs (Barnes 2000a, Taylor *et al*. in press). Recent habitat degradation suggests a decline in available habitat of at least 20% (Barnes 2000a). It is also considered threatened in Mozambique (Parker 1999). Locally, it should be given *Specially Protected* status.

ACTIONS

As with many of the northern wetland species, surveys of poorly known areas (Zambezi eastern floodplain, Linyanti Swamps) are required to understand population density and particularly the breeding ecology of this species in Namibia. Aerial surveys of mammals undertaken by the Ministry of Environment and Tourism should include larger bird species, such as storks and cranes that can be identified from the air. Conservation measures may be required outside protected areas to safeguard breeding attempts from disturbance. Environmental assessments of all developments that might impact on riverine/wetland habitat, habitat quality and river flow within the range of this species must give high priority to the requirements of this species. The continuing over-fishing of the Okavango River by artisanal fishermen (Hay *et al.* 2000) also has multiple ripple effects on fauna occurring downstream. Specific nursery areas that can provide some protection to dwindling fish populations should be established, particularly in floodplain habitats, for example at the confluence of the Cuito and Okavango rivers. These could be conservancies or strict reserves where fishing of any description is restricted or banned. This would benefit several other threatened species, including Pel's Fishing Owl *Scotopelia peli* and the African Skimmer *Rynchops flavirostris*.