

AFRICAN MARSH-HARRIER | *Circus ranivorus*

RE Simmons | Reviewed by: WR Tarboton



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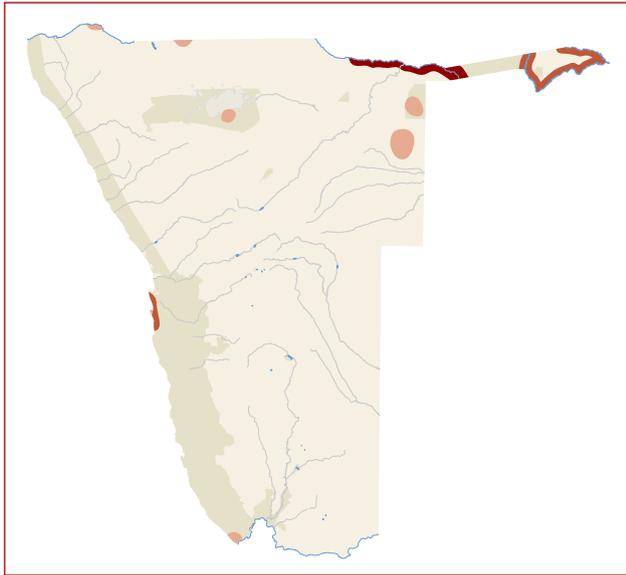
Conservation Status:	Endangered
Southern African Range:	Northern Namibia, northern Botswana, South Africa, Zimbabwe
Area of Occupancy:	15,300 km ²
Population Estimate:	600 birds
Population Trend:	Declining
Habitat:	Reed beds, floodplains, lake margins
Threats:	Wetland degradation, fires



DISTRIBUTION AND ABUNDANCE

This species is endemic to tropical wetlands of eastern and southern Africa, and is inexplicably absent from the West African and Ethiopian wetlands (Brown *et al.* 1982) where other migrant harriers occur (Simmons & Simmons 2000).

The bird's stronghold in southern Africa is the Okavango Delta, where reporting rates are greater than 13% (Simmons 1997c) but population figures are difficult to gauge. Populations in southern Africa are thought to have declined, with numbers in South Africa estimated at 3,000 to 5,000 pairs (Barnes 2000a). This figure



may need revising, given that core reed beds surveyed in 2002 in the Okavango Delta yielded a minimum of 300 to 400 birds (S Tyler unpubl.data). However, the only really accurate figures are the 500 to 1,000 pairs estimated from the wetlands of the former Transvaal (Tarboton & Allan 1984) and high densities of eight pairs per 10 km² in the southern Western Cape Province, South Africa (Simmons 1997c). Where wetlands have been drained or converted to agriculture, the bird has disappeared; alarmingly it has also disappeared from many wetlands that are still intact in Gauteng Province, South Africa (WR Tarboton pers. obs.). Its population may naturally fluctuate in core areas, as rodent populations and wetland flooding fluctuate with rainfall.

In Namibia, it is found only in the north-eastern regions including the Okavango River, and the Zambezi-Chobe and Kwando-Linyanti systems, with an area of occupancy of 15,300 km² (Simmons 1997c, Jarvis *et al.* 2001). The largest concentrations have been recorded in the Mahango area of the Bwabwata National Park (eight birds) and the Salambala Conservancy, Chobe River floodplain (nine birds). Birds are vagrant to the Orange River wetlands, Sandwich Harbour wetlands (Berry & Berry 1975), and the Cuvelai wetlands of northern Namibia (Simmons 1997c).

The density of birds along various riverine wetlands, which is probably an under-estimation of true numbers, has been recorded as follows: four birds per 10 km along the Chobe River (Robertson *et al.* 1998a), one bird per 10 km along the Zambezi River, three birds per 10 km along the Kwando River and eight birds per 10 km along the Okavango River (Jarvis *et al.* 2001). Extrapolating these figures to corresponding river lengths of 185 km, 155 km, 340 km and 470 km, respectively (Mendelsohn *et al.* 2002), yields a population estimate of approximately 570 birds in Namibia. Populations are almost certainly higher than this when



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wetlands such as the eastern floodplain of the Zambezi River and Lake Liambezi are inundated.



ECOLOGY

The African Marsh-Harrier prefers tropical wetlands, including floodplains, reed beds and lake margins, where it both forages and breeds. It is rarely found in drier habitats, although breeding birds are found occasionally in short sedges, fynbos, and even wheat stubble (Steyn 1982, Simmons 1997c, Kemp & Kemp 1998).

The peak of the egg-laying season in southern Africa is in September (38% of 123 records), extending over 120 days (Simmons & Simmons 2000). Breeding can occur throughout the year in northern South Africa (Tarboton & Allan 1984). It builds nests in reeds or on the ground (Steyn 1982), laying two to five eggs (with a mode of three), but rears few fledglings. In two studies in South Africa, only 1.1 to 1.6 young were reared per pair in a year; nest failure accounted for 52% of 25 monitored nests in the Wilderness Lakes, Western Cape Province and 30% of 10 monitored nests in the former Transvaal (Tarboton & Allan 1984, Simmons & Simmons 2000). There are no breeding records for this species from Namibia (Jarvis *et al.* 2001), although it is likely that it does breed here in the flooded wetlands of north-eastern Namibia.

As the world's smallest marsh-harrier, this species is a buoyant flier, flap-sailing at one to three metres over

wetland vegetation (Simmons & Simmons 2000). It hunts mainly small mammals (74% frequency: Kemp & Dean 1988, Simmons *et al.* 1991), but other prey include passerines and waterbirds (23% of 374 observed items), frogs (2%) and fish (1%: Simmons & Simmons 2000). It is known to raid mixed heron and egret colonies and weaver nests to eat eggs and chicks (Steyn 1982, RE Simmons unpubl. data). Foraging success is significantly higher when hunting mammals (41% of 58 observed attempts) than when chasing birds (13% of 24 observed attempts).



THREATS

The African Marsh-Harrier suffers from habitat degradation through high human population pressure along Namibia's northern rivers. Along the banks of the Okavango River, for example, human populations average 50 to 100 people per km² and cattle, which number over 120,000 head in the Zambezi region, graze and trample floodplain wetlands (Mendelsohn & Roberts 1997). With human pressure comes the use of fire. Harriers are especially susceptible to fires that ravage Namibia's northern regions throughout its main breeding period from August to December. By the end of 1996, about 3,000 individual fires had burned about 60% of the entire surface area of the Kavango and Zambezi regions (Mendelsohn & Roberts 1997). Wetland degradation (rather than loss) is the most insidious factor diminishing population size in South Africa, since many intact wetlands no longer support harriers (WR Tarboton pers. comm.). This may arise from a lack of prey or due to disturbance, considering that harriers are intolerant of human disturbance during breeding and desert nests at an early stage (RE Simmons pers. obs.).

Pesticides such as DDT and Dieldrin are sprayed commonly in the Zambezi region (Schlettwein *et al.* 1991) and DDT residues are known to occur in harrier eggs (de Kock & Simmons 1988). However, a study on a population of African Marsh-Harriers in southern South Africa found no apparent influence of DDT residues on output or adult survival (de Kock & Simmons 1988). Spraying of molluscicides in core nesting habitat of the Okavango waterways occurs but has unknown effects on bird populations. This harrier's propensity to scavenge exposes it to direct poisoning. There is one such recorded case in South African wetlands, where an adult female and her brood were killed (RE Simmons unpubl. data). The threats posed by direct poisoning to this species have not yet been quantified in northern Namibia.

Climate change is a possible challenge to this species, as it is to many wetland-dependent birds, because a predicted decline in rainfall is likely to lead to reduced runoff into areas such as the Okavango River and other key wetland habitats. Drier areas will provide greater access to mammalian predators, and will lead to reduced breeding of wetland small mammals and birds that form the diet of

this species. Both factors are likely to be detrimental to the African Marsh-Harrier.



CONSERVATION STATUS

This species is classified as *Endangered* because of its small population of about 600 birds, which is thought to have declined in the last 20 years through loss of breeding habitat due to the frequent use of fires in north-eastern Namibia and wetland degradation from cattle farming (Mendelsohn & Roberts 1997). Like the Black Harrier *Circus maurus*, the African Marsh-Harrier's conservation status has been elevated in South Africa following the realisation that its wide distribution hides the very low and decreasing density at which it occurs (Barnes 2000a). It was classified as *Vulnerable* in South Africa due to a suspected 20% decrease and loss of wetlands (Barnes 2000a), but was reclassified as *Endangered* in 2015 (Taylor *et al.* in press). Population size there is almost certainly lower than the 3,000 to 5,000 pairs estimated for South Africa, given its low numbers in the core areas of the Okavango Delta (S Tyler unpubl. data), and the loss of birds from key wetlands in the former Transvaal, South Africa (WR Tarboton pers. obs.). It is not listed as globally threatened (IUCN 2012a). The entire expanse of the Zambezi region's wetlands has been designated as one of Namibia's 21 Important Bird Areas (Simmons *et al.* 2001b), although this does not confer any legal protective status to the wetlands. It should also be accorded *Specially Protected* status in revised or new Namibian Parks and Wildlife legislation.



ACTIONS

Considering that cattle farming and human population pressure in northern Namibia is likely to increase in future years (doubling every 19 years: Mendelsohn & Roberts 1997) the best action to protect the regions' wetlands is to formally conserve parts of the larger wetland systems as national parks, such as the new Babwata National Park. This should include transfrontier parks that link Namibia with the Chobe National Park in Botswana (Barnard *et al.* 1998). Concurrently the conservancy programme of the Ministry of Environment and Tourism should promote further conservancies, such as Salambala, which border important wetlands such as the Chobe River floodplain (Mendelsohn & Roberts 1997). African Fish-Eagles *Haliaeetus vocifer* and African Marsh-Harriers can be used as indicator species to monitor the health and progress of this action. Research programmes should assess the breeding success, population density and pesticide uptake of this species in selected areas in the north-east of Namibia. The use of fire for farming purposes should also be managed as its inappropriate use, particularly in wetland systems, may ultimately reduce species diversity (of plants and animals) and force numerous wetland-dependant birds and mammals out of their habitats.