FRESHWATER SAWFISH

Pristis microdon

Conservation status
Australia: Vulnerable
Northern Territory: Vulnerable

Description
The freshwater sawfish is a medium sized sawfish with a body length up to 3 m although reputed to reach up to 7 m. The body is yellowish, slender and shark-like with a blade-like rostrum (snout) bearing 18-23 pairs of lateral teeth. The teeth start near the rostrum base, and are equally spaced. Like other rays, it has gill openings (5) on the ventral surface of the head. The body is yellowish to greyish with a white ventral surface. Pectoral fins are broadly triangular with broad bases and dorsal fins tall and pointed with the first dorsal fin positioned well forward of the pelvic fin origin. The lower lobe of the caudal fin is small and the posterior margin of the caudal fin concave (Last and Stevens 1994).

Distribution
The freshwater sawfish is known from several drainages in northern Australia from Western Australia to Queensland. In the Northern Territory, it occurs in the Keep, Victoria, Darwin, Adelaide, East and South Alligator, Daly, Goomadeer, Wearyan, McArthur and Robinson Rivers (MAGNT; Thorburn et al. 2003; Peverell et al. 2004).

Conservation reserves where reported:
Kakadu National Park.

Known locations of the Freshwater Sawfish.
• = post 1970.

Ecology
Freshwater sawfish prefer muddy bottoms of freshwater areas and upper reaches of estuaries. It has been reported to be primarily a marine/estuarine species, that spends its first 3-4 years in freshwater. Freshwater sawfish move into marine waters after the wet season, and during the wet season enter estuarine or more fresh waters to breed (Peverell 2005). They usually occur
in water greater than 1 m depth but may move into shallow water to feed (Wilson 1999). Sawfishes feed on slow-moving shoaling fish, which are stunned by sideswipes of the snout, and molluscs and crustaceans that are swept out of the mud by the saw (Allen 1982).

Freshwater sawfish are viviparous and produce from 1 to 12 young. In Queensland spawning occurs at the beginning of the wet season. This is a long-lived species: sexual maturity is attained at about 7 years; and the life span is about 40 years (S. Peverell unpubl.).

**Conservation assessment**

The species is listed as Critically Endangered worldwide on the 2006 IUCN Red List of Threatened Species, based on IUCN criteria A2abcd+3cd+4bcd, with “extreme and continued vulnerability to fisheries (evidenced by serious declines in virtually all known populations), compounded by habitat loss and degradation over most of its range. Remaining populations are now small, fragmented and Critically Endangered globally” [http://www.flnmh.ufl.edu/fish/organizati ons/ssp/RLassess2006.pdf; Cavanagh et al. 2003]. Pogonoski et al. (2002) recommended that its status in Australia should be Endangered.

The freshwater sawfish occurs in at least eight catchments in the Northern Territory and it is likely to occur in more. There is little information to determine changes in population sizes or ranges but the species is extremely vulnerable to gillnet fishing (Pogonoski et al. 2002; Thorburn and Morgan 2005). Serious declines are evident in overseas populations (Pogonoski et al. 2002) because of habitat loss and fishing impacts.

Although the freshwater sawfish is probably susceptible to gillnet fishing, there is no gillnet fishing allowed in freshwater in the NT. A few rivers are open to gillnet fishing a few kilometers upstream but not in freshwater reaches. There are no reports of by-catch of freshwater sawfish from any commercial fishery but they are caught by recreational fishers.

The species appears to be uncommon, which could be a natural consequence of being a large carnivore. There are no data to assess population trends, but relatively few individuals were recorded in recent targeted surveys. In the Northern Territory, it is classified as **Vulnerable** (under criterion A2d) based on a suspected population reduction of >30% over the last 10 years or three generations based on potential levels of exploitation.

**Threatening processes**

The impact of NT fishing practices on freshwater sawfish is largely unknown. Increasing development in the Northern Territory, resulting in degradation of riverine habitat may also threaten the species.

**Conservation objectives and management**

The managing authority for this species is the Fisheries section of the Department of Primary Industry, Fisheries and Mines. Currently there is no management program for the freshwater sawfish in the Northern Territory.

The research priorities are:
(i) to better clarify the status of the species in the Northern Territory; and
(ii) to assess impacts of commercial and recreational fishing operations in both estuarine and freshwater sections of rivers where they are known to occur.

**Compilers**

Helen Larson
Simon Stirrat
John Woinarski
[November 2006]
References


Last, P.R., and Stevens, J.D. (1994). *Sharks and Rays of Australia.* (CSIRO, Melbourne.)


