

Threatened Species of the Northern Territory

SPEARTOOTH SHARK (BIZANT RIVER SHARK)

Glyphis glyphis

Conservation status

Australia: Critically Endangered

Northern Territory: Vulnerable



Photo: S. Ward

Description

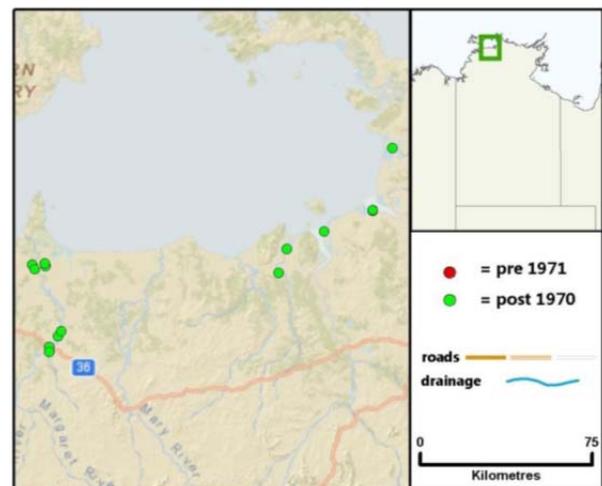
The speartooth shark is a medium sized whaler shark that grows to 2-3 m in length. The dorsal surface is grey and the ventral surface paler, with an inconspicuous pale stripe on the flanks. It has a short, broadly rounded snout and small eyes. The dorsal fins are similar in size and the anal fin is about the same size as the second dorsal fin (Last and Stevens 1994).

The taxon was formerly referred to as *Glyphis* sp. A, but recent taxonomic assessment has established its identity (Compagno *et al.* 2008; Wynen *et al.* 2009). The Wenlock River (west coast of Cape York Peninsula) population of *Glyphis glyphis* differs in pectoral fin colour from the Northern Territory (NT) specimens (H.K. Larson *pers. obs.*; S. Peverell, *pers. comm.*) but the significance of this (if any) is unknown.

Distribution

The distribution of this species is not well known. It occurs in the eastern Gulf of Carpentaria and some rivers of Cape York Peninsula, Queensland (QLD), and the Alligator rivers region across to the Adelaide

River, just east of Darwin, NT. The species also occurs in the Fly



Known locations of the speartooth shark

River area of New Guinea. Specimens from the Bizant River (QLD) were collected in shallow, freshwater upper reaches of the river, but none have been collected there since the original discoveries (in 1982). All the NT sharks came from brackish waters, with all records from the Adelaide River being from the mouth to 100 km upstream.

Conservation reserves where reported:
Kakadu National Park.

Ecology

Very little is known of the biology of the spartooth shark. The small eyes and slender teeth suggest that it is primarily a fish feeder adapted to life in turbid waters (Fowler 1997). Stomach contents of specimens from the Wenlock River (QLD) have included long-armed prawns (*Macrobrachium*), burrowing gobies (*Taenoides* or *Trypauchen*), gudgeons (*Prionobutis microps*), benthic-feeding jewfish (*Nibea squamosa*) and bony bream (*Nematalosa erebi*), indicating that the sharks hunted close to and among the soft substrate (Peverell et al. 2006). Species in this genus have low fecundity, small litters and breed every one or two years.

A recent acoustic tracking study (Pillans et al. ms) over several days showed that individual sharks move up and down stream in response to tidal cycles, traveling up to 25 km in a particular direction over one tidal cycle.

Conservation assessment

The species is listed as Endangered worldwide on the International Union for the Conservation of Nature (IUCN 2011) Red List of Threatened Species, based on IUCN criteria C2a(i), noting that this "species is presumably very rare ... surveys targeting freshwater and estuarine elasmobranchs in northern Australia in mid-late 2002 collected no *Glyphis* specimens, despite sampling in 136 sites in 38 rivers. It is inferred that the population contains fewer than 250 mature individuals."

Considerable progress has been made to reduce the impacts of commercial fishing (gill nets) and recreational fishing on *Glyphis* species. Commercial net fishing is prohibited in the mouth of the Adelaide River to protect *Glyphis* spp. However, threats from illegal fishing and habitat degradation remain. Pogonoski et al. (2002) recommended that its status in Australia should be Critically Endangered.

The spartooth shark may have a very limited distribution in the NT. The species is rare, occupies restricted habitat and is vulnerable to capture (Environment Australia 2000). However, juvenile specimens are not uncommon in the upper reaches of the Adelaide River system (T. Berra field logs, Museum and Art Gallery of the NT), and a total of at least 75 individuals have been reported from this River. In one recent study (Pillans et al. in manuscript), 28 individuals were captured over a 12 day period.

There is no evidence for decline in the known range of the species, but there are few early reports on which to base a population assessment (Environment Australia 2002). It is possible that the species has declined due to fishing pressure and other anthropogenic factors such as habitat alteration. The species is listed as Critically Endangered under the EPBC Act. In the NT it qualifies as **Vulnerable** due to:

- small areas of extent and occupancy;
- small number of known locations; and
- uncertainty of the current population trend.

Threatening processes

Potential threatening processes in NT waters include illegal fishing and interactions with commercial gill-nets. However, progress has been made to reduce harmful interactions. There may be some use of juveniles as bait for crab fisheries (H. Larson pers. comm.). Commercial net fishing is prohibited in the mouth of the Adelaide River to protect *Glyphis* spp. Deliberate capture and destruction of spartooth shark is illegal in the NT.

Conservation objectives and management

The managing authority for this species is the NT Department of Resources and Fisheries. A recovery plan for Sawfish and *Glyphis* species is currently being developed by the Australian Government Department of Sustainability, Environment, Water, Population and Communities.

Current recovery priorities are to:

- i. determine the distribution, abundance and status of the species across the NT;
- ii. monitor and limit the impacts of fishing in estuarine areas, and increasing compliance as any take of this species is illegal; and
- iii. education of fishers on the identification and protection of the spartooth shark as a degree of illegal take is probably due to misidentification and ignorance.

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when possible, to carry out a survey for the species

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