Shortfin Mako, *Isurus oxyrinchus*

Report Card assessment	**Depleting**		
IUCN Red List Australian Assessment	Vulnerable	IUCN Red List Global Assessment	Endangered
Assessors	Rigby, C.L., Barreto, R., Carlson, J., Fernando, D., Fordham, S., Francis, M.P., Jabado, R.W., Liu, K.M., Marshall, A., Pacoureau, N., Romanov, E., Sherley, R.B. & Winker, H.		
Australian Assessors	Kyne, P.M., Heupel, M.R., White, W.T. & Simpfendorfer, C.A. (Shark Action Plan)		
Report Card Remarks	Low and managed catches in Australia but likely has connectivity with the remainder of the fished and unmanaged Indo-West Pacific population. Listed on EPBC Act (Migratory), CITES Appendix II, and CMS Appendix II.		

Summary


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The Shortfin Mako is a large bodied, highly mobile, pelagic shark that is widespread throughout tropical and temperate waters of all oceans. The species comprises three known subpopulations: Atlantic, Eastern North Pacific, and Indo-West Pacific. The Shortfin Mako is a targeted species, a bycatch in tuna longline fisheries, and is an important coastal recreational species. The Atlantic subpopulation appears to have undergone a significant decline, catches decline rapidly in the Mediterranean from where it then disappeared, and conversely it appears to have been relatively stable in the Eastern North Pacific. In many regions, there is inadequate management resulting in continuing fishing pressure. It has high value meat and fins, is long lived with late age at maturity for females that only breed every three years. Therefore, it is assessed as globally Endangered (IUCN). The Indo-West Pacific subpopulation, which includes Australia, is captured by tuna and shark longline fisheries throughout much of its range. In the Indian Ocean, it is considered fully to over-exploited. In the Western Pacific its status is uncertain, but shows some evidence of decline followed by stabilisation. Catches in Australia are low, and there are regulations in Australian managed pelagic longline fisheries that limit its retention. Although species-specific data are not currently available from the Indo-West Pacific, given the declines observed in the Indo-West Pacific are likely based on continuing high levels of exploitation. Therefore, the Indo-West Pacific subpopulation is assessed as Vulnerable (IUCN) including in Australia (Kyne et al. 2021) and Depleting (SAFS) given the likely connectivity with the Indo-West Pacific population. It is listed on the EPBC Act (Migratory), CITES Appendix II and CMS Appendix II.

Distribution

The Shortfin Mako is a cosmopolitan species. The Indo-West Pacific subpopulation occurs from the western Indian Ocean across to the eastern Pacific Ocean. It is found throughout Australian waters, with the exception of the Arafura Sea, Torres Strait, and Gulf of Carpentaria (Last and Stevens 2009).

Stock structure and status

The Shortfin Mako comprises three known subpopulations: Atlantic, Eastern North Pacific, and Indo-West Pacific. In the North Atlantic, significant declines have been recorded and management measures introduced to limit catches. In the Mediterranean, the catches rapidly declined from 1950–1970 and the Shortfin Mako eventually disappeared (Cailliet et al. 2009). In the Eastern North Pacific, the population appeared relatively stable from 1994–2003 (Cailliet et al. 2009). A recent stock assessment for the western Pacific yielded highly uncertain results but suggested some historic decline but that current fishing levels are above those that would result in a population crash (Large et al. 2022). Analysis of catch rate data in the Indian Ocean suggest that the population is currently fully or overfished, but remain below historic levels (Ramos-Cartelle et al. 2020).

Fisheries

The Shortfin Mako has high quality meat which is marketed fresh, frozen, smoked, and dried-salted for human consumption along with the fins (Compagno 2001). Throughout much of its range in the Indo-West Pacific region, the species is targeted by shark longline fisheries, hook and line, and gillnet fisheries and is a bycatch of pelagic tuna longline fisheries. It is also targeted by recreational fisheries in New Zealand, South Africa, and Australia. The fishing pressure has been high for over 50 years (Anderson and Simpfendorfer 2005, ICCAT 2005, White et al. 2006). Finning and discarding has also been reported to be occurring in offshore and high seas fisheries (Anderson and Simpfendorfer 2005), but anti-finning regulations should have curtailed most of this practice. In Australian waters, it is mostly taken as bycatch in the two offshore pelagic longline fisheries targeting tuna and billfish. Strict regulations regarding trip and retention limits for sharks in these fisheries limits their impact on the species. However, because this is a regional stock, Australia is only one of many sources of mortality relevant to its assessment.

Habitat and biology

The Shortfin Mako is found in pelagic and continental shelf waters, occurring from the surface to depths of at least 500 m (Compagno 2002). The species have been reported to make extensive movements of thousands of kilometres (Cailliet et al. 2009). Maximum size is approximately 400 cm total length (TL) (Compagno 2001). Maximum age is estimated at 29–32 years. Males mature at 7–9 years and 195–204 cm TL and females at 18–21 years and 265–307 cm TL (Cliff et al. 1990, Francis and Duffy 2005, Bishop et al. 2006, Natanson et al. 2006). Litter size is 4–25 pups and females breed every three years (Mollet et al. 2000).

Longevity and maximum size	Longevity: estimated 29–32 years Max size: ~400 cm
Age and/or size at maturity (50%)	Males: 7–9 years, 195–204 cm Females: 18–21 years, 265–307 cm

CAAB Code: 37 010001

Link to IUCN Page: https://www.iucnredlist.org/species/39341/2903170

Link to page at Shark References: http://shark-references.com/species/view/Isurus-oxyrinchus

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