

Reef Manta Ray, *Mobula alfredi*

Report Card assessment	Sustainable		
IUCN Red List Australian Assessment	Least Concern	IUCN Red List Global Assessment	Vulnerable
Global Assessors	Marshall, A., Barreto, R., Carlson, J., Fernando, D., Fordham, S., Francis, M.P., Herman, K., Jabado, R.W., Liu, K.M., Pacoureau, N., Rigby, C.L., Romanov, E. & Sherley, R.B.		
Australian Assessors	Kyne, P.M., Heupel, M.R., White, W.T., Simpfendorfer, C.A. (Shark Action Plan) & Rigby, C.L.		
Report Card Remarks	Australian fishing interactions infrequent and many aggregation sites protected within Marine Reserves. Listed on EPBC Act (Migratory), CITES Appendix II, CMS Appendices I & II.		

Summary

The Reef Manta Ray is a large pelagic ray found in tropical and subtropical waters of the Indo-Pacific. Due to its very low biological productivity, it is highly susceptible to exploitation. Globally, population declines have occurred due its very low biological productivity, current and ongoing high levels of industrial and artisanal fishing pressure, and demand for its meat and high-value gill plates. In Australia, it is caught infrequently and released as it has been a protected species in all Australian



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Commonwealth waters since 2012, and is protected in most state and Territory waters. The Reef Manta Ray has a high degree of residency and thus the Australian population has little connectivity with the global population. Further, many of its local aggregation sites are protected within Marine Reserves. Thus, the Reef Manta Ray is assessed as globally Vulnerable (IUCN) and in Australia, as Least Concern (IUCN) (Kyne et al. 2021) and Sustainable (SAFS). The species is listed as Migratory (EPBC Act) and listed on CITES Appendix II and CMS Appendices I & II.

Distribution

The Reef Manta Ray is found in tropical and subtropical waters throughout the Indian and Pacific Oceans (Lawson et al. 2017). It occurs across northern Australia in a wide range from Coffs Harbour (New South Wales - NSW) to Shark Bay (Western Australia - WA) with occasional records as far south as South West Rocks (NSW) and Perth (WA) (Last et al. 2016, Armstrong et al. 2020).

Stock structure and status

The Reef Manta Ray has a high degree of residency with small home ranges and little connectivity between widely separated sites (Marshall et al. 2019). The global population has declined due to current and ongoing high levels of exploitation and demand for its meat and high-value gill plates

throughout much of its distribution (Marshall et al. 2019). In Australia, where it is protected, the population is suspected to be stable (Kyne et al. 2021).

Fisheries

The Reef Manta Ray is targeted and caught incidentally in industrial and artisanal coastal and pelagic fisheries, including purse seines and gillnets, and is retained for its highly valued gill plates and for its meat (except in Australia) (Marshall et al. 2019). In Australia, it does not frequently interact with fisheries due to its pelagic inshore habitat and behaviour that limits its catchability in Australian fisheries (Kyne et al. 2021). *Mobula* spp. are very infrequently caught in gillnets in the Queensland (Qld) East Coast Inshore Fishery (Harry et al. 2011) and Gulf of Carpentaria Inshore Fishery. The Reef Manta Ray was assigned a precautionary high risk for both fisheries based mainly on their low productivity. However, fishing-related risks are being managed and interaction rates in these two inshore fisheries are not expected to have a significant or long-term impact on their sustainability (Jacobsen et al. 2021a,b). *Mobula* spp. interact infrequently with the Queensland East Coast Otter Trawl Fishery and may interact infrequently with the Gulf of Carpentaria Developmental Fishery, though due to the low levels of encounters, the risks to the species from these fisheries are considered negligible (Jacobsen et al. 2019). The species was caught very infrequently in the Qld Shark Control Program from 1962–2017 (Bayly 2017). If it is captured, it is likely released as it is a protected species in Australian Commonwealth waters since 2012 when it was listed as a migratory species under the *Environment Protection and Biodiversity Conservation Act 1999*, and is protected in most state and Territory waters. Many of its local aggregation sites are protected within Marine Reserves (Kyne et al. 2021).

Habitat and biology

The Reef Manta Ray is pelagic and mainly inshore around coral and rocky reefs from the surface to a depth of 432 m (Weigmann 2016, Marshall et al. 2019). Maximum size is 500 cm disc width (DW) (possibly to 550 cm DW) and maximum age estimated to 45 years (Last et al. 2016, Weigmann 2016, Marshall et al. 2019). Males mature at 3–13 years and 270–300 cm DW and females at 8–17 years and 300–350 cm DW (Marshall et al. 2019). Litter size is one large pup (130–150 cm DW) born on average every 4–5 years (Marshall et al. 2019).

Longevity and maximum size	Longevity: estimated 45 years Max size: 500 cm DW
Age and/or size at maturity (50%)	Males: 3–13 years, 270–300 cm DW Females: 8–17 years, 300–350 cm DW

CAAB Code: 37 041005

Link to IUCN Page: <https://www.iucnredlist.org/species/195459/68632178>

Link to page at Shark References: <https://shark-references.com/species/view/Mobula-alfredi>

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