

MANTA RAYS

Giant manta (Manta birostris), reef manta (Manta alfredi), and Manta cf. birostris proposed for Annex 3

The largest genus of rays with an especially conservative life history



Overview

The giant manta ray and the reef manta ray, with a third putative species endemic to the Caribbean region, are the largest ray species attaining sizes over five meters disk width. They have especially conservative life histories, rendering them vulnerable to depletion. Despite evidence for long migrations, regional populations appear to be small, sparsely distributed, and fragmented, meaning localized declines are unlikely mitigated by immigration. Two manta ray species have recently been reassessed for the IUCN Red List and both are considered to be 'Vulnerable' on this listing. Giant mantas were also recently listed on Appendix I and II under the Convention on Migratory Species (CMS), and both species are listed in Appendix II of the Convention on International Trade of Endangered Species (CITES). Listing of manta rays in Annex 3 of SPAW would thus be consistent with international agreements and would be compliant with criteria 4 (IUCN), 5 (CITES) and 6 (regional cooperation). Criterion 1 is met due to the decline and fragmentation of the populations.

- Exceptionally vulnerable rays due to extremely slow reproduction
- Regional small, sparsely distributed, and fragmented populations
- Subject to overfishing due to increasing demand for gill plates for Chinese medicine
- Included on the IUCN Red List of Threatened Species as "Vulnerable"
- Listed on Appendix II of CITES, Appendix I of CMS, and the CMS MoU sharks

Biology and distribution

The giant manta and reef manta can reach disc widths of 700 cm and 500 cm, respectively. Both appear to be relatively long-lived species, attaining ages of over 30 years. There is very little information about the reproductive biology or ecology of this species although reports of litter size consistently mention only a single offspring.

The giant manta ray occurs in tropical, sub-tropical and temperate waters of the Atlantic, Pacific and Indian Ocean. The reef manta prefers tropical and subtropical waters. A possible subspecies *Manta cf. birostris* appears to be a regional endemic in the Gulf of Mexico, the Caribbean, and along the eastern coast of the United States. A global investigation of major aggregation sites revealed that the giant manta ray might be a more oceanic and a more migratory species than the reef manta.

Population status

The IUCN assessed the conservation status of both the giant manta and the reef manta as Vulnerable, which means their populations are declining and at considerable risk of becoming endangered.

A particular threat is the targeting either species of manta ray at critical habitats or aggregation sites, where individuals can be caught in large numbers in a short time frame. Regional populations of both species appear to be small, and localized declines are unlikely to be mitigated by immigration. This situation is exacerbated by the conservative life

The main threat to manta rays is fishing, both targeted and incidental. Specifically for the Caribbean exploitation rates are unknown because of lacking landings data from fisheries. Practices associated with (eco)tourism may impact the

Conservation action

Manta ray products do have a high value in international trade markets. Their gill rakers are particularly sought after and are used in Asian medicinal products. Manta rays are protected under CITES Appendix II, which means the international trade in wild specimens or their parts is strictly regulated to avoid utilization incompatible with their survival. Manta spp. are also listed in Appendix I and II under the Convention on Migratory Species (CMS).

The reef manta and giant manta are protected in all waters where EU fleets are allowed to fish according to the EU TAC and quota regulation (EU 2016/71).

Manta rays are migratory species. Rare or seasonal sightings of the giant manta suggest that this species undergoes significant seasonal migrations. And satellite tracking studies revealed that mantas are capable of making large migrations of >1100 km. However, genetic data suggest that regional populations are rather small, with a high degree of fragmentation between them. And moreover, tracked individuals have demonstrated a degree of site fidelity to specific regions, as well as critical habitats within them.



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history of these rays, which constrain their ability to recover from a depleted state.

Depletion has been documented in several monitored subpopulations, including Mexico. Fishermen and divers in other regions have offered much anecdotal evidence of population declines over the last decade as a result of increased fishing. Overall, the rate of population reduction appears to be high in several regions, up to as much as 80% over the last three generations (approximately 75 years), and globally a decline of >30% is strongly suspected.

species as well, so producing guidelines for sustainable tourism that are adhered to by the tourists and tour operators alike could also be considered.

