Conservation News

Marine conservation in Indonesia's Senayang Islands: addressing threats to dugongs and hawksbill turtles within the coral triangle

The Senayang Islands in the Riau Archipelago, Indonesia, with their abundant coral reefs and inclusion in the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security, have become a vital area for marine species. These ecosystems provide safe breeding, feeding and migration grounds for threatened marine fauna (Hadi et al., 2020, *The Status of Indonesian Coral Reefs 2019*). The islands are natural habitats for the dugong *Dugong dugon* and hawksbill turtle *Eretmochelys imbricata*, categorized as Vulnerable and Critically Endangered on the IUCN Red List, respectively. Other migrating marine animals, such as sharks, green turtles, dolphins and whales, are often observed by the local community, passing these islands on their migration routes.

In May 2024, the Serindit Philosophy Centre, a youth-led non-profit organization from Batam Island, conducted fieldwork in the Senayang Islands, supported by Denver Zoo through the Women in Conservation Award. Our activities included research and awareness campaigns about dugongs and hawksbill turtles, as well as mapping seagrass distribution and identifying hawksbill nesting sites. We also engaged an ecologist from the National Research and Innovation Agency of Indonesia to ensure scientific data collection ran alongside community engagement. Our research identified a 185-ha seagrass bed, primarily composed of *Enhalus acoroides*, a key food source for dugongs (Herandaru et al., 2019, *Panduan Survei dan Monitoring Duyung dan Lamun*). Through our fieldwork, we estimate that dugongs frequently inhabit c. 4,615 ha of marine area around the islands. We found hawksbill turtle nesting sites on Belading, Kapal Kecil and Kapal Besar Islands, on sandy beaches shaded by mangroves or coconut trees, and surrounded by coral reefs, a primary food source for hawksbill turtles.

Dugongs and hawksbill turtles face severe threats from bycatch, hunting and poaching in the area. Dugong hunting persists, and local fish traps called *Kelong* worsen bycatch in some seasons. In 2002, c. 12 dugongs were captured and exploited without being released. Local communities remain largely unaware of these threats, leading to the depletion of many nesting sites by predators or poachers. Through our environmental education we reached 19 preschool and 78 high school students, using educational books to increase their knowledge of the two species.

We emphasize the need for a robust conservation strategy, including community-based efforts, in situ and pseudo in situ conservation for hawksbill turtles, and further research on dugongs.

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