


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 pre-school 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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## Turning the tide for sharks: Important Shark and Ray Areas

Two years after the Important Shark and Ray Areas project was launched, nearly two-thirds (63.8%) of global marine waters have been examined and 4.3% are identified as

critical habitats for the persistence of sharks, rays and chimaeras (hereafter sharks). Although the initiative has been a turning point for the conservation of sharks, bold actions are required to safeguard the future of these species. More than one-third of sharks are categorized as threatened on the IUCN Red List of Threatened Species. Over the last century, fisheries have had a large and cumulative impact on sharks and this threat is being compounded by habitat loss and climate change. Area-based conservation can play a critical role in reversing population declines by reducing mortality, increasing resilience, providing refuge from threats, and supporting population recovery. Important Shark and Ray Areas are now equipping resource managers with the information needed to incorporate sharks into conservation planning.

As of January 2025, Important Shark and Ray Areas have been delineated in six of the 13 regions worldwide: Central and South American Pacific, Mediterranean and Black Seas, Western Indian Ocean, Asia, Polar Waters, and New Zealand and Pacific Islands. So far, 868 scientists, citizen scientists, fishers and resource managers have been engaged in the identification process and contributed to the delineation of 590 Important Shark and Ray Areas incorporating 327 species (one-quarter of all shark species globally). Important Shark and Ray Areas factsheets, spatial layers and regional compendiums are available at [sharkrayareas.org/e-atlas](https://sharkrayareas.org/e-atlas). Over 210 spatial data requests have been received from 51 jurisdictions, and Important Shark and Ray Areas are increasingly featured in scientific publications. Important Shark and Ray Areas have been incorporated into other area-based conservation approaches such as the Nosy Be Important Shark and Ray Area being recognized as a Key Biodiversity Area. Parties to the Convention on the Conservation of Migratory Species of Wild Animals adopted a decision to engage with the Important Shark and Ray Areas process and consider identified areas in their spatial planning and conservation action (including when updating National Biodiversity Strategies and Action Plans). In line with their growing use in conservation efforts, grant making initiatives are also now increasingly prioritizing Important Shark and Ray Areas.

The most recent Important Shark and Ray Areas workshop was held in January 2025 to assess critical habitats in the South American Atlantic and South American Inland Waters regions. The assessment of the remaining five regions (European Atlantic, North America and Caribbean Atlantic, African Atlantic, Australia and Southeast Indian Ocean, and North American Pacific) is intended for completion by 2027. This timeline will ensure resource managers and policy makers are provided with the information needed to consider sharks in conservation planning when meeting their political commitments under Target 3 of the Convention on Biological Diversity Global Biodiversity Framework to protect 30% of land and sea by 2030. Through a global, collaborative and open-access process, Important Shark and Ray Areas are bringing attention to the conservation needs of

sharks and providing evidence-based information to ensure the long-term survival of these iconic species.

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## Lost and found: discovery of the painted swellshark *Cephaloscyllium pictum* in Timor-Leste

During a survey of Timor-Leste's deep-sea environment (water depth > 200 m), we have recorded the first live video footage of a painted swellshark *Cephaloscyllium pictum*. We conducted this survey using low-cost deep-sea cameras developed by the National Geographic Society Exploration Technology Lab (Giddens et al., 2021, *Frontiers in Marine Science*, 7, 601411).

*Cephaloscyllium pictum* was described in 2008 from five specimens collected at fish markets in Lombok and Bali, Indonesia (Last et al., 2008, *CSIRO Marine & Atmospheric Research Paper*, 022, 358). Four of the five specimens were collected in 2002, with the fifth collected at the Tanjung Luar fish landing site in Lombok on 12 July 2004. To our knowledge, this species has never been observed in the wild, and little is known about its ecology, habitat or behaviour.

On 17 and 18 November 2024, our deep-sea cameras captured footage of this species at two sites off Dili, Timor-Leste, at depths of 570 and 536 m. The habitat at both sites consisted of steep rocky slopes. At each site, the shark returned to the camera several times, and in the second instance the female shark interacted with the bait and made several passes in front of the camera. This is a new species record for Timor-Leste and extends the species' known range by > 1,100 km.

Although sharks and rays are protected in Timor-Leste, there is a dearth of information on their diversity and distribution, especially for deep-sea species. Recently, the IUCN Species Survival Commission Shark Specialist Group identified four Important Shark and Ray Areas along the north coast of Timor-Leste based on diver observations ([sharkrayareas.org/e-atlas](https://sharkrayareas.org/e-atlas)). However, in situ research is critical to inform conservation, especially for deep-sea species where diver observations are not possible.

*Cephaloscyllium pictum* is categorized as Data Deficient on the IUCN Red List because of the limited information

available. Approximately 33% of chondrichthyan species are threatened, with this number increasing to c. 40% if Data Deficient species (which may be threatened) are included (Dulvy et al., 2021, *Current Biology*, 31, 4773–4787). The discovery of the painted swellshark off Timor-Leste highlights the importance of modern, cost-effective technologies to survey the deep sea and locate these lost sharks before they vanish.

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## Eels: uncertain impacts of proposed CITES listings

The European eel *Anguilla anguilla* is listed in CITES Appendix II, regulating its international trade. In October 2024, in preparation for the 20th meeting of the Conference of the Parties in Uzbekistan in 2025, the Directorate-General for the Environment of the European Commission sent letters to all CITES Parties within the range of the European eel and all other anguillids *Anguilla* spp., to inquire whether moving the species to Appendix I would help ensure its survival, and whether a genus-level listing in Appendix II would help ensure that international trade is both legal and sustainable.

Listing the European eel in Appendix I, which prohibits international commercial trade, would effectively terminate all commercial exploitation of the species, given that both eel fisheries and aquaculture rely on the international trade in glass eels (few countries harbour both a glass eel fishery and eel aquaculture). However, contribution to the species' survival could be minimal, as non-fishing threats remain. Eel aquaculture in Europe could transition to other species, such as the American eel *Anguilla rostrata*, which requires comparable aquaculture conditions. However, this species is already facing significant pressure from legal and illegal fishing. The relocation of European eel aquaculture to countries where there are fisheries is another potential consequence, although the associated costs would be high. Evaluation and improvement of EU-wide measures under the *European Council Regulation (EC) No 1100/2007 Establishing Measures for the Recovery of the Stock of*