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Threatened Species Make Up Half of Shark Catches at Indonesia's Muncar Fishing Port

Ecology & Evolution * Biodiversity * Business & Economic Theory

A conservation study published in the journal Oryx and highlighted by Mongabay reveals that 50 percent of shark catches landed at Muncar fishing port on the southeastern coast of East Java, Indonesia, belong to species classified as threatened on the International Union for Conservation of Nature (IUCN) Red List. Analyzing daily landing logs from 2023 to 2024 alongside GPS vessel tracks and fisher interviews, lead author Osmaleli, Hollie Booth, and Indonesian fisheries researchers found that the Critically Endangered scalloped hammerhead (Sphyrna lewini) alone accounted for 11.7 percent of all recorded shark landings.

Indonesia ranks among the world's largest shark-fishing nations, yet small-scale and mixed-gear coastal ports often lack species-level catch monitoring. Because sharks grow slowly, mature late, and produce few offspring, heavy mortality of threatened species in coastal fisheries can rapidly deplete regional populations.

What Landing Logs and GPS Tracking Revealed in Muncar

To build a detailed picture of what vessels were catching and where they operated, the research team combined portside landing inspections with GPS tracking and interviews with local fishers in Muncar. Across the multi-year survey, half of all recorded shark catches came from IUCN-threatened species, and roughly one-third of the documented species are listed under the Convention on International Trade in Endangered Species (CITES), which regulates cross-border trade in fins and meat.

Alongside the Critically Endangered scalloped hammerhead (11.7 percent of recorded catches), fishers frequently landed vulnerable silky sharks (Carcharhinus falciformis), spinner sharks (Carcharhinus brevipinna), blacktip reef sharks (Carcharhinus melanopterus), and Endangered pelagic thresher sharks (Alopias pelagicus).

| Port Survey Metric | | Observed Muncar Record (2023-2024) | | Conservation Significance |

| IUCN-Threatened Share | | 50% of all recorded shark catches | | Half of landings come from at-risk species |

| CITES-Listed Share | | ~One-third of recorded shark species | | Subject to international trade restrictions |

| Scalloped Hammerhead (Sphyrna lewini) | | 11.7% of total recorded catches | | Critically Endangered species heavily represented |

| Other Key Threatened Species | | Silky, spinner, blacktip reef, & pelagic thresher sharks | | Spans pelagic and coastal reef-associated guilds |

Targeted Vessels Drive the Highest Threatened Volumes

One of the most actionable findings from the Oryx study is that threatened shark landings were not spread evenly across the entire Muncar fleet. While relatively few vessels specifically targeted sharks, those targeted boats accounted for the largest volumes of threatened species brought ashore -- whereas most mixed-gear boats caught smaller numbers incidentally.

That concentration creates a practical opening for fisheries managers. Rather than imposing blanket bans that could penalize thousands of small-scale fishers catching other seafood, conservation programs can focus gear-modification rules, spatial-temporal fishing closures, and livelihood-support incentives directly on the small subset of vessels responsible for the bulk of threatened-shark mortality.

Balancing Marine Conservation With Coastal Livelihoods

In coastal East Java, shark meat and fins contribute to household incomes and local food supply chains, meaning conservation interventions succeed best when paired with viable economic alternatives. By mapping exactly which vessel types, fishing grounds, and seasons drive catches of scalloped hammerheads and pelagic threshers, the Muncar study gives Indonesian policymakers and conservation groups an empirical roadmap to protect endangered marine predators while safeguarding community livelihoods.

References & Primary Sources

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