

# The Conservation Status of Pelagic Sharks and Rays

## Report of the IUCN Shark Specialist Group Pelagic Shark Red List Workshop

Tubney House, University of Oxford, UK, 19–23 February 2007

Compiled and edited by

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This report describes the results of a thematic Red List Workshop held at the University of Oxford's Wildlife Conservation Research Unit, UK, in 2007, and incorporates seven years (2000–2007) of effort by a large group of Shark Specialist Group members and other experts to evaluate the conservation status of the world's pelagic sharks and rays. It is a contribution towards the IUCN Species Survival Commission's Shark Specialist Group's "Global Shark Red List Assessment." The Red List assessments of 64 pelagic elasmobranch species are presented, along with an overview of the fisheries, use, trade, and management affecting their conservation.

Pelagic sharks and rays are a relatively small group, representing only about 6% (64 species) of the world's total chondrichthyan fish species. These include both oceanic and semipelagic species of sharks and rays in all major oceans of the world. No chimaeras are known to be pelagic.

Experts at the workshop used established criteria and all available information to update and complete global and regional species-specific Red List assessments following IUCN protocols. These assessments were agreed upon by consensus throughout the SSG network prior to submission to the IUCN Red List of Threatened Species™. Overall, 32% of the world's pelagic sharks and rays (20 species) are threatened, which includes 6% that are Endangered and 26% that are Vulnerable. A further 24% are Near Threatened, 19% are assessed as Least Concern, and 25% are Data Deficient. As a group, pelagic elasmobranchs suffer significantly greater threats than do chondrichthyans as a whole. In addition, oceanic shark and ray species taken regularly in high-seas fisheries are more likely to be threatened (52%) than are pelagic elasmobranchs in general.

Brief summaries of the Red List assessments, including the global and/or regional IUCN Red List Category, are presented for all known pelagic sharks and rays. Fishing, often driven by the demand for shark fins and meat, is the single most important threat to these species wherever they occur. Sharks are increasingly targeted by fisheries that once discarded them. National management, where it exists, is undermined because there are no catch limits on the high seas. Where regional management is in place, it is generic (not species specific), indirect (operating through controls on finning, rather than controls on catch or mortality), generally poorly enforced and inadequate to reverse population declines or rebuild stocks. Such illegal, unreported and unregulated (IUU) fishing contributes significantly to unsustainable catches of these inherently vulnerable species. The report's recommendations are intended to complement and enhance existing scientific advice regarding the conservation and management of pelagic sharks and rays. The information contained within this report can facilitate the further development and implementation of research, conservation, and management priorities for this group of vulnerable species.

The IUCN Species Survival Commission's Shark Specialist Group (SSG) was established in 1991 to promote the sustainable use, wise management, and conservation of the world's chondrichthyan fishes. There are 180 SSG members from 90 countries distributed among 12 ocean-region subgroups, all of whom are actively involved in chondrichthyan research and fisheries management, marine conservation, or policy development and implementation. The SSG has recently concluded its 10-year Global Shark Red List Assessment programme by completing Red List assessments for every chondrichthyan species described in the scientific literature before the end of 2007. This is the first complete assessment of all members of a major marine taxonomic group, and will provide an important baseline for monitoring the global health of marine species and ecosystems.

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## 6 Conclusions

This report presents the first comprehensive IUCN Red List assessments for the 64 known species of pelagic sharks and rays. Of these species, 32% are assessed as Threatened, with 6% classified as Endangered and 26% as Vulnerable on a global basis. A further 24% are considered Near Threatened. Where data allowed, the status of individual stocks was also assessed: Some stocks were deemed Critically Endangered, including Northeast Atlantic porbeagles, Mediterranean porbeagles and Mediterranean shortfin makos. As a group, the overall conservation status of the pelagic elasmobranchs is significantly worse than that for chondrichthyans as a whole, of which 17% are considered globally Threatened.

Overfishing is the primary threat to the conservation status of these sharks and rays: Tens of millions are taken each year on commercial longlines, purse seines and gillnets in all oceans of the world. Of the 21 oceanic pelagic species caught regularly in high-seas fisheries, 52% are Threatened (Dulvy *et al.* 2008). Many of these species are caught incidentally in fisheries targeting tunas and billfishes, with blue, shortfin mako, silky and oceanic whitetip sharks being the most prevalent species in such catches. With rising worldwide demand and prices paid for shark fins and meat, these same fisheries are now increasingly targeting and/or retaining pelagic sharks and rays. Other species, including porbeagle, basking and whale sharks, have been the targets of fisheries for decades. Conservation concerns have led to the closure of most basking and whale shark fisheries, but directed fisheries continue on Threatened porbeagle populations. Collectively, pelagic sharks account for about one-third of the fins entering the global shark fin trade (Clarke *et al.* 2006b). Most of this fishing and trade – which are simply outpacing the productivity of these slow-growing species – is poorly monitored and largely unregulated.

There is widespread concern over the poor quantity and quality of fisheries data for pelagic elasmobranchs. One-quarter of the 64 species lacked sufficient information to determine their status and so were assessed as Data Deficient. Yet repeated calls for improved data on landings and discards, even those from regional fisheries management organisations (RFMOs), have largely gone unheeded by fishing nations. Despite increased awareness of their vulnerability to overfishing, sharks and rays remain a low priority for fishery managers, who continue to focus their attention on more productive and highly valued bony fishes. Given the well-documented vulnerability and Threatened or

unknown status of so many pelagic elasmobranchs, lack of data or population assessments must not be used as an excuse to delay the implementation of management measures. Indeed, the more we learn about pelagic sharks and rays – their life histories, mortality in fisheries and demand for their products – the more worrisome the picture of their status becomes.

Regional and international cooperation is critical to the effective management of high-seas and transboundary fisheries for these highly migratory species. To date, however, no RFMO has developed or implemented a regional Shark Plan as agreed through the IPOA–Sharks. There are no international catch limits for any pelagic shark or ray, although some limits are in place in domestic waters, especially for basking, great white and whale sharks. Shark finning bans are the only tangible management tools currently being used outside EEZs. These are important first steps, but are not sufficient to counter the illegal, unreported and unregulated (IUU) fishing that is threatening these inherently vulnerable species. CITES Appendix II listings for basking, great white and whale sharks should improve the monitoring and control of commerce in these species, while CMS offers hope for regional agreements for these and other listed species (including mako and porbeagle), as well as a global instrument for the conservation of migratory sharks. Many more elasmobranch species qualify and may soon be formally considered for listing under these and other conservation treaties.

Because fishing pressure on many already depleted shark species will likely continue to grow, it is critical that conservation efforts are accelerated. Successful management must not be measured solely by the number of Shark Action Plans or finning bans adopted, but rather by the recovery of pelagic shark and ray populations in all the world’s oceans. Stricter, more enforceable shark finning bans and meaningful catch limits in all fisheries that take significant numbers of pelagic sharks and rays are immediately in order. Whereas all Threatened sharks and rays warrant measures to reduce fishing mortality, Endangered and Critically Endangered species and stocks should be fully protected throughout their ranges, as a matter of priority. Greater investment in fisheries data collection, elasmobranch life-history studies and bycatch reduction research can further fine-tune species-specific management and help ensure that pelagic shark and ray mortality is kept to sustainable levels.

## 7 Recommendations

Proposed management actions that would contribute to rebuilding threatened populations of oceanic pelagic elasmobranchs and sustaining associated fisheries.

Fishing nations and Regional Fisheries Management Organizations (RFMOs) are urged to:

- Implement as a matter of priority existing scientific advice for preventing overfishing, or to recover pelagic shark populations (e.g. ICES advice to prohibit the landings of Northeast Atlantic porbeagle, ICCAT Scientific Committee recommendation to reduce fishing mortality on North Atlantic shortfin mako sharks);
- Draft and implement Plans of Action pursuant to the IPOA–Sharks, which include, wherever possible, binding, science-based management measures for pelagic sharks;
- Significantly increase observer coverage, monitoring and enforcement in fisheries taking pelagic sharks;
- Require the collection and accessibility of species-specific shark fisheries data, including discards, and penalise non-compliance;
- Conduct stock assessments for pelagic elasmobranchs;
- Implement pelagic shark catch limits in accordance with scientific advice; when sustainable catch levels are uncertain, implement fishing limits based on the precautionary approach;
- Prohibit landings of pelagic shark species deemed particularly vulnerable through Ecological Risk Assessments conducted for ICCAT (e.g. bigeye threshers, longfin makos, *etc.*) and those classified as *Critically Endangered* or *Endangered* by IUCN (e.g. scalloped hammerheads);
- Strengthen finning bans through enforcement and by requiring sharks to be landed with fins attached; until then, ensure that fin-to-carcass ratios do not exceed 5% of dressed weight (or 2% of whole weight) and standardise RFMOs’ finning bans to specify that ratios apply to dressed rather than whole weight;
- Promote research on gear modifications, fishing methods and habitat identification aimed at mitigating elasmobranch bycatch and discard mortality; and
- Commence programmes to reduce and eventually eliminate overcapacity and associated subsidies in pelagic fisheries.

Country governments are urged to:

- Propose and work to secure pelagic shark management at RFMOs;
- Promptly and accurately report shark landings to relevant national and international authorities;
- Take unilateral action to implement domestic management for fisheries taking pelagic elasmobranchs, including establishing precautionary catch limits and protective status where necessary, particularly for species classified by IUCN as Endangered or Critically Endangered;
- Adopt bilateral fishery management agreements for shared, pelagic elasmobranch stocks;
- Ensure active membership in CITES, CMS, RFMOs and other relevant international agreements;
- Ensure full implementation and enforcement of CITES shark listings based on solid non-detriment findings, if trade in listed species is allowed;
- Propose and support the listing of additional threatened pelagic shark species under CITES and CMS and other relevant wildlife conventions;
- Promote action for pelagic elasmobranchs based on advice of the CMS Scientific Council, the CITES Animals Committee and the scientific committees of Regional Fisheries Bodies;
- Collaborate on regional agreements and a new, global migratory shark instrument under CMS and strive for the inclusion of all CMS listed species and concrete conservation actions; and
- Strictly enforce shark fishing and protection measures and impose meaningful penalties for violations.

These recommendations are based on those of the SSG’s Pelagic Shark Red List Workshop, but they have been augmented and updated by the editors and compilers of this report.