

POLICY IMPACTING SOUTH AFRICAN SHARKS & RAYS 2022

RECREATIONAL FISHING SECTOR: REASSESSMENT & POLICY DEVELOPMENT



KEY MESSAGES AND RECOMMENDATIONS

Problem:

Levels of law enforcement, compliance and monitoring in the recreational fishery are low. Communication between the fisheries authorities and the fishers is non-existent and the long-standing regulations, often misinterpreted, do not take cognisance of the current state of knowledge of the various target species.

Recommendations:

1. Ensure that the proceeds of permit sales are used to fund improved law enforcement and monitoring in the fishery.
2. Create a database of permit-holders to facilitate the dissemination of educational material on the regulations and the targeted species, including responsible handling of sharks and rays.
3. Encourage fishers to report their catches, thereby enabling a more informed assessment of the fishery.
4. Update the existing regulations to incorporate information on the current state of knowledge of the target species, including the IUCN Red List Assessment of threatened shark and ray species.
5. Prohibit the targeting of sharks and rays in MPAs.
6. Promote responsible handling protocols for sharks and rays outside MPAs.
7. Remove any reference to the collection of ornamental and aquarium fish from the ambit of the recreational fishing permit.



RECREATIONAL FISHING SECTOR: REASSESSMENT & POLICY DEVELOPMENT

The current management of the Recreational Fishing sector has little scientific basis. Regulations pertaining to this sector are outdated and need to be reassessed together with a policy that is currently being developed. In its current form the permit system has several shortcomings, with no monitoring and evaluation or a mechanism to provide ongoing education and awareness to current permit-holders.

CONTEXT

Recreational fishing is defined as fishing of aquatic animals, mainly fish, that do not constitute the individual's primary source of basic nutritional needs and are not allowed to be sold or otherwise traded. In South Africa the marine recreational fishery comprises angling, spearfishing, cast-netting and the capture of marine aquarium fish. Recreational angling is the most popular activity which takes place from the shore and on a wide variety of water craft, ranging from kayaks and powered personal water craft to large motorised vessels. In 1995 there were an estimated 412,000 marine shore-based fishers. In 2021 South African recreational fishing participation estimates totalled 1,3 million individuals, which contributed R 32.6 billion per year to economic activity and sustained 94,000 full-time jobs (these statistics include freshwater fishers). About 54% of these participants were involved in marine and estuarine fishing. These statistics emphasise the extent and importance of this fishery in the economics of the country and its growth over the last 2-3 decades.

PERMITTING REGULATIONS

Recreational fishing regulations were developed under the Marine Living Resources Act - MLRA (Act No. 18 of 1998), which states that each recreational fisher must purchase a recreational fishing permit. The annual angling permit currently costs R76 (R54 for a month-long permit) and is available from most post offices. There is no pre-requisite requirement for the permit holder to demonstrate proof of understanding of the current regulations, neither is there a current mechanism to provide updated educational material to the permit-holder (Previously, a Marine Recreational Activity Information Brochure was produced by previous Department of Environment and Department of Agriculture, Forestry and Fisheries). The regulations have remained largely unchanged since they were first promulgated. One of these regulations states that cartilaginous fishes, comprising sharks, rays and chimaeras, have a bag limit of 1 per person per day. Interpretation of this regulation is debated with some arguing that an angler may take one shark, ray and or chimaera per species per day.

The MLRA lists six species of shark and ray, including the white shark *Carcharodon carcharias* and the sawfishes *Pristis pristis* and *P. zijsron*, as no-take species. The regulations make no mention of any restrictions on any other species which are currently classified as threatened (Vulnerable, Endangered or Critically Endangered) by the IUCN Red List.

Regulations outside of the MLRA have been developed for some estuaries and Marine Protected Areas (MPAs). No fishing of any kind is allowed in those MPA zones classified as Wilderness or Sanctuary zones, which make up 3% of our continental exclusive economic zone (EEZ); Restricted zones only allow for catch and release. In many MPAs, the specific regulations are poorly known or are misunderstood, a situation aggravated by the lack of signage and promotion of awareness within these areas, together with poor levels of knowledge among compliance officials.

These regulations require an urgent update to ensure that recreational fishing is undertaken in a sustainable manner and that the status of threatened species is taken into consideration.

COMPLIANCE

A complete overhaul of the law enforcement mechanisms are required, as current levels are extremely low. The failure in 2016 to renew the long-standing contract with Ezemvelo KZN Wildlife to undertake compliance and monitoring in KZN has created a huge void in that province which DFFE (Department of Forestry, Fisheries and the Environment) is unable to fill. In a national survey of 453 shore anglers, 48% admitted to non-compliance with the regulations. Over 50% of anglers rarely or never saw the fisheries regulations being enforced. One of the primary longstanding violations is the sale of catches by recreational fishers. This practice is illegal, but it is regularly and easily flouted, thereby encouraging recreational anglers to take more than they can use themselves.

There is no requirement on the part of the permit holder for any record-keeping of the species, size and quantity of the fish taken in the recreational fishery. Such statistics are essential to ensure the wise and sustainable utilisation of the resource and a mechanism needs to be developed to secure them in a national database.

The MLRA dictates that income derived from the sale of permits should be used for research, compliance, and management. Clarification is required as to how the funds are currently (and historically) utilised. The number of permits being sold is not digitised or formally recorded, therefore there is no information available on the contact details of the angler, on the numbers of permits issued, or their locations. Educational material, including new regulations, therefore cannot be shared with the angler.

Given the high levels of participation in this fishery, the potential income to be generated by the sale of permits alone is massive and would support extensive law enforcement, compliance, and educational initiatives around the country.

IMPACT ON SHARKS AND RAYS

While many anglers justifiably claim that they have no control of what they catch when they cast a bait into the sea, there is a sector of the fishery which uses exceptionally heavy tackle to target sharks and rays because of their size and relative abundance in certain locations and at certain times of the year. Good examples of this are shark fishing during the annual winter sardine run along the Wild Coast and the KZN south coast and fishing for rays and wedgefish in the summer on the sandy beaches of northern KZN. The use of drones, although contrary to regulations in the MLRA, to transport large baits far further offshore than the angler can cast, has increased the popularity of such shark fishing. Because the baits dropped by drones are much further offshore, the fight time by the angler to haul the catch to shore is greatly increased.

Some species of sharks and rays landed by anglers have been shown to be very tolerant of the deleterious physiological effects of capture stress - a good example of this is the white-spotted wedgefish (formerly the giant guitarfish/sandshark) *Rhynchobatus djiddensis*. At the other extreme are the scalloped and smooth hammerhead sharks *Sphyrna lewini* and *S. zygaena*, which are highly susceptible to capture myopathy and lacticidosis and are also prone to damaging their large heads where the sensitive sensory anatomy is located.

Many anglers take extreme care when handling any catch they intend to release but others, often out of ignorance, haul the catch over the rocks where it is prone to damage from oysters, mussels and barnacles. This is particularly so for rays which have naked skin (no protective covering of dermal denticles). In other situations, the angler insists on hauling his catch out of the water and above the wash zone; this may necessitate placing a rope around its tail or using the spiracles of a ray as grab handles. Some anglers insist on posing for a photograph with their catch but do not leave the shark or ray flat on the sand. They lift up the head or the tail, and in the case of smaller sharks, the entire body, which places huge stress on the cartilaginous skeleton which lacks any ribs to protect the abdominal cavity. Furthermore, the vertebrae are simply round discs which lack the projecting spines found on the vertebrae of bony fish for increased surface area for muscle attachment.

Some anglers will not return small sharks to the water as they regard them as a curse when they are targeting "edible" bony fish and they leave them to die on the beach or the boat. Such species include catsharks (family Scyliorhidae and Pentanchidae), spiny dogfish (family Squalidae) and small rays (Order Myliobatiformes).

There is a huge amount of scope for angler education in responsible handling of sharks and rays. The act of releasing a catch has little benefit to an individual shark or ray unless it is conducted in accordance with guidelines developed and recognised worldwide. Such educational information could easily be disseminated if there was a national database of permit holders.



**Examples of
"poor" handling.**

RECOMMENDATIONS

1

Ensure that the proceeds of permit sales are used to fund improved law enforcement, monitoring and education in the fishery.

The income from permit sales is enormous. The proceeds must be accounted for and channelled back into the industry to fund improved law enforcement and monitoring, which is currently, at best woeful.

2

Create a database of permit-holders to facilitate the dissemination of educational material on the regulations and the targeted species, including the responsible handling of sharks and rays.

Establish a national online database of permit holders, using income from the sale of permits. Educational material on a wide range of issues could be disseminated to permit-holders, using conventional platforms available on all smart phones, such as WhatsApp. This would include up-to-date information on the regulations, including any changes as well as new scientific findings on the target species. It would promote the responsible handling of sharks and rays in the catch-and-release process.

3

Encourage fishers to report their catches, thereby enabling a more informed assessment of the fishery.

The regulations in the MLRA to which the permit-holders must comply can only be as good as the information used to develop them. With a national database of permit holders, anglers could submit details of their catches to improve management of the fishery.

4

Update the existing regulations to incorporate information on the current state of knowledge of the target species, including the IUCN Red List Assessment of threatened shark and ray species.

The current regulations are largely those which were adopted when the MLRA was first proclaimed. They need to be updated and modified, where appropriate, to reflect the latest scientific findings, especially the IUCN Red List assessments which has found that several shark and rays species taken in the recreational fishery are threatened.

5

Prohibit the targeting of sharks and rays in MPAs.

The capture of sharks and rays, even if the catch is released, is contrary to the principle behind MPAs.

6

Promote responsible handling protocols for sharks and rays outside MPAs.

Sharks and rays are generally very sensitive to capture stress and poor handling. Anglers need to be educated in responsible protocols when fishing for sharks and rays to maximise the chances of survival upon release. Such protocols have been developed with worldwide input and should be disseminated to anglers by means of a national database of permit-holders and using smart phone technology such as WhatsApp.

7

Remove any reference to the collection of ornamental and aquarium fish from the ambit of the recreational fishing permit.

Current legislation dictates that the activities of public aquaria fall under aquaculture. Personal collection of specimens for private aquaria should not be part of the recreational fishing permit system.

CONCLUSION

Levels of compliance and law enforcement are poor, which is unjustifiable, given the income generated by the sale of recreational fishing permits. A database of permit-holders should be available to facilitate the provision of much needed educational material, in particular, the handling of sharks and rays prior to their release. Such a database will also provide a facility for the anglers to record their catches; this information will enhance fisheries management policies. An overhaul of the regulations and permitting system to take cognisance of the status of sharks and rays, several of which are regarded as threatened in terms of the IUCN Red List. Shark and ray angling, even if it is catch-and-release, should be prohibited in MPAs. Shark and ray angling will remain a popular pastime. It is imperative that it is conducted in a responsible and sustainable manner.

REFERENCES

1. Brochure with all South African recreational fishing regulations: <https://www.treedomvillas.co.za/portals/0/articles/RecreationalFishingBrochure2017-18.pdf>
2. FAO. 2012. *FAO Technical Guidelines for Responsible Fisheries*. No. 13. Rome, FAO. 176p. <https://www.fao.org/3/i2708e/i2708e00.htm>.
3. Gallagher, A., Staatterman, E., Cooke, S., Hammerschlag, N. 2018. Shark recreational fisheries: Status, challenges and research needs. *Ambio* 46: 385-398. doi: 10.1007/s13280-016-0856-8
4. McGrath, M.D., Horner, C.C.M., Brouwer, S.L., Lamberth, S.J., Mann, B.Q., Sauer, W.H.H. and Erasmus, C. 1997. An economic valuation of the South African linefishery. *African Journal of Marine Science*, 18. <https://www.tandfonline.com/doi/pdf/10.2989/025776197784161171>.
5. Potts, W.M., Saayman, M., Saayman, A., Mann, B.Q., Van der Merwe, P., Britz, P. and Bova, C.S. 2022. Understanding the economic activity generated by recreational fishing in South Africa provides insights on the role of recreational fisheries for social development. *Fisheries Management and Ecology* 29:.29-43. <https://doi.org/10.1111/fme.12515>.

ACKNOWLEDGEMENTS

WILDTRUST would like to extend thanks to the Shark Conservation Fund for funding the Shark and Ray Protection Project (2019-2022), and to various contributors and project partners for comments on this policy brief.

HOW TO CITE THIS POLICY BRIEF:

WILDTRUST, 2022. Policy influencing South African sharks and rays. Recreational Fishing Sector: Reassessment & Policy Development. WILDTRUST Policy Brief, number 2. 6pp.