



BEST PRACTICE GUIDELINES FOR SHARK AND RAY ANGLING

Sharks have been on this planet for over 400 million years. They have survived five mass extinctions. However, together with their close relatives, the rays, over one-third of the approximately 1200 species of sharks and rays, are now considered threatened with extinction. As anglers, you have the privilege of interacting with these ancient creatures, but their unique biology—cartilaginous skeletons and delicate internal structures—makes them highly sensitive to stress from capture and handling. By adopting these best practices, you can ensure a successful catch-and-release, protect these vulnerable species, and keep our fisheries sustainable for future generations. Here's how we recommend you can make a difference while still enjoying the thrill of the catch.



Shark
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forestry, fisheries
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Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA



WILDTRUST™

SOME BACKGROUND INFO...

Sharks and rays are often targeted by recreational anglers, yet proper handling techniques are not always known or applied. Contrary to popular belief, sharks and rays are a delicate group of animals and the use of proper handling techniques can help anglers minimise the risk of injuring and stressing the animal and thus giving them the best possible chance of survival after release.

ACIDOSIS (LACTIC ACID BUILD-UP)

Sharks and rays suffer from acidosis, which results from the body's inability to produce enough energy to supply the needs of the muscles. This is the same muscle soreness that you would feel the next day after running a marathon or over-exerting yourself during a hardcore gym session. Interestingly, in sharks, this condition is exacerbated by extreme exertion endured during fighting when hooked and can often lead to the death of the animal.

POST CAPTURE STRESS

Sharks and rays can often survive the process of being caught, but stresses placed on them can impact them even after their release. The animal's feeding, growth and reproduction may be negatively altered due to the energy required to recover from injuries or stress resulting from capture and handling. Certain species are also more susceptible to capture stress than others, for example, hammerhead sharks have been shown to have a post-release mortality rate of over 50%. Responsible handling and treatment of sharks, rays and other species is encouraged to minimise the chances of post-release mortality, while targeting species which are rare, vulnerable, or threatened (e.g. hammerheads, raggedtooth, dusky, and bronze whaler sharks) is discouraged, particularly in Marine Protected Areas (MPAs).

WHY SHOULD I LOOK AFTER SHARKS & RAYS WHEN ANGLING?

Some species of sharks and rays are among the most endangered species on the planet – arguably even more endangered than rhino and pangolin.

Most anglers are keen to minimise their impact on the marine environment, and sharks and rays should be handled in a way that ensures their best chance of survival. This can be done by quickly and wisely handling sharks and rays to minimise trauma and injury while using equipment and tackle that reduces stress and increases the chances of survival when released.

RECOMMENDED HOOK SELECTION AND USE

1. NON-STAINLESS STEEL, IN-LINE, BARBLESS CIRCLE HOOKS ARE CONSIDERED THE BEST CHOICE.

Why: Circle hooks are less likely to be swallowed, reducing internal injuries. Barbless circle hooks make removal easier, minimising trauma. Non-stainless steel hooks rust out over time if left in, allowing the fish to recover naturally. These choices minimise trauma to the shark or ray and reduces their risk of post-release mortality.

2. AVOID J HOOKS AND TREBLE HOOKS.

Why: These hooks often cause deep hooking, leading to severe injuries in sensitive areas like the gills, throat or gut. Deep hooking significantly increases the chance of mortality of your shark or ray.

3. IF A HOOK CAN'T BE SAFELY REMOVED, CUT THE LINE AS CLOSE TO THE HOOK AS POSSIBLE.

Why: Forcing a hook out of a sensitive area like the gills, throat, or gut can cause irreparable damage. A non-stainless steel, barbless, circle hook left in place will either rust out or be expelled naturally, giving the fish a better shot at survival. Cutting the line as close to the hook as possible ensures the fish is not swimming with any excess fishing line in which it could become entangled.

The type and size of hook chosen are of great importance when reducing hook related injuries, trauma and deaths in sharks and rays. Barbless circle hooks are strongly recommended. The following is a list of hooks when trying to keep animal stress and damage to a minimum:



Barbless circle hooks (Recommended)



'J' barbless hooks (Recommended but barbless circle hooks better)



Circle hooks (Recommended but barbless circle hooks better)



'J' hooks for deep hooking (Not recommended)

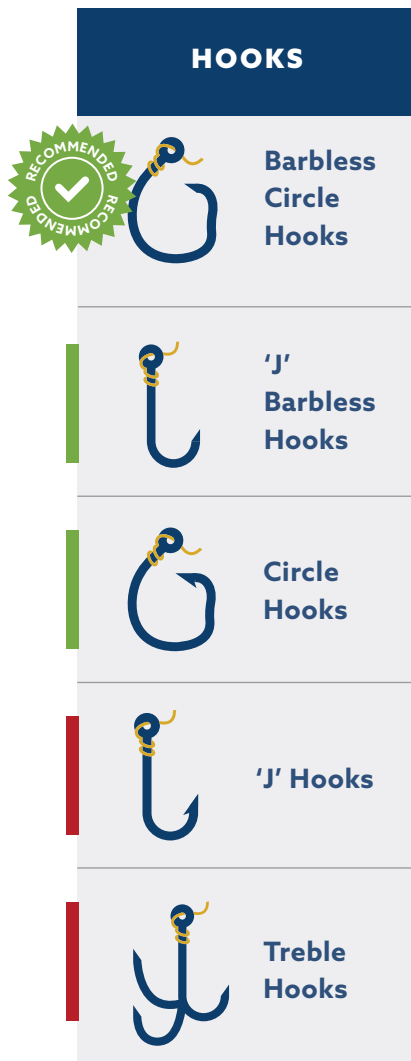


Treble hooks (Not recommended)

***NOTE: All stainless steel hooks and tackle are not recommended.**

Other important points to note are:

1. Hooks can be made barbless by using pliers to flatten the barb or by using a metal file to file off the barb.
2. Removing a barbed hook from the lip of a fish with minimum harm is by pushing the point of the hook through the lip of the fish and flattening the barb when it protrudes. The hook can then be removed easily.
3. The use of a "dehooking" device is recommended, especially when fishing from a vessel.



HANDLING AND LANDING RECOMMENDATIONS

1. **AIM TO KEEP AIR EXPOSURE TIME TO A MINIMUM, IDEALLY KEEPING THE SHARK OR RAY IN THE WATER AT ALL TIMES.**
Why: Sharks and rays have cartilage skeletons which lack the rigidity to support their organs, so lifting them out of water can cause their body weight to crush internal structures, especially in large or pregnant individuals. Keeping them in the water reduces stress and physical damage, increasing their chances of a full recovery post-release.
2. **LANDING SHARKS AND RAYS ON SANDY BEACHES, RATHER THAN ROCKY SURFACES, IS RECOMMENDED.**
Why: Although shark skin may appear tough, rocky surfaces with barnacles or mussels can still scrape and injure their skin, potentially leading to infections or prolonged recovery. Choosing a sandy beach or a calm gully minimises injury to your shark or ray, enhancing their chances of post-release survival.
3. **AVOID GAFFING YOUR SHARK OR RAY OR PULLING THEM BY THEIR EYES, GILL SLITS, OR SPIRACLES.**
Why: Gaffing causes severe bleeding and associated wounds can significantly reduce survival. Pulling by gills or spiracles can damage vital breathing structures. Instead, it is recommended that you use a stretcher or gently hold the tail or dorsal fin to guide the fish. This careful approach protects the fish and maintains the quality of your catch-and-release experience.

Why: Stingray's barbs are important for their survival in the ocean and can give a nasty sting to an unsuspecting angler. Using the lip area is a safer way to move these fish as it keeps both you and the ray safe during handling.
 - For rays, best practice for moving them is to place fingers just above the top lip in their mouth, rather than by their tail or spiracles.

MINIMISING STRESS AND FIGHT TIME

1. **IT IS RECOMMENDED THAT HEAVY TACKLE BE USED TO REDUCE THE FIGHT TIME.**
Why: This is important because sharks suffer from acidosis when exhausted by long fights, which could be fatal to them. Using the appropriate tackle will also make it easier for you to land a large shark.
2. **KEEPING YOUR LINE TAUT CAN AVOID ENTANGLEMENT.**
Why: A slack line can wrap around the shark or ray, causing injury and additional stress. A taut line further helps you control the fish more efficiently, making landing smoother and safer for both you and the fish, while also reducing the risk of losing your catch.

POST-CAPTURE HANDLING RECOMMENDATIONS

1. **MEASURE YOUR FISH IN THE WATER AND AVOID WEIGHING.**
Why: Weighing a shark or ray out of water can strain their cartilage skeleton and risk organ damage. Measuring length (or disc diameter for rays) while in the water is accurate and far less stressful. This method ensures the fish stays healthy and you get the data you need for bragging rights.
2. **AIM TO ALWAYS KEEP THE SHARK OR RAY IN THE WATER BUT IF NECESSARY TO REMOVE FROM THE WATER, RESTRAIN MOVEMENT BY APPLYING FIRM (BUT GENTLE) PRESSURE ON THE PECTORAL FINS.**
Why: Uncontrolled thrashing out of the water can injure the fish or you. Gently pressing on the pectoral fins calms the fish while keeping it safe. This technique makes handling easier and safer and allows you to release the shark or ray as quickly as possible to give them the best chance of post-release survival.
3. **FOR PHOTOGRAPHY, LET THE FISH LIE FLAT AND AVOID LIFTING THE TAIL, PULLING THE MOUTH OPEN, OR FLIPPING IT UPSIDE DOWN.**
Why: Lifting a shark's tail or flipping a ray onto its back can damage their spine or organs due to their unsupported cartilaginous structure. Keeping them flat and in the water for photos reduces harm, ensuring they swim away strong and you get a great shot without compromising their survival.

4. AVOID FLIPPING RAYS ONTO THEIR BACKS.

Why: Flipping a ray can tear connective tissues and crush organs under the weight of gravity, especially out of water. Keeping them right-side-up in the water protects their delicate structure, ensuring post-release survival.

5. NEVER REMOVE A RAY'S SPINE, BARB, OR STINGER.

Why: These are critical defence mechanisms for rays in the wild. Removing them leaves rays vulnerable to predators, reducing their survival chances. Gently wrapping the spine in a wet towel protects both you and the ray, without compromising the animal's ability to defend itself once released.

6. IDENTIFIABLE BY A BULGING BACK AND BELLY, AVOID BEACHING PREGNANT STINGRAYS.

Why: Beaching can cause pregnant stingrays to abort their pups, which may be underdeveloped and unlikely to survive. If you notice a bulge or signs of birthing, release the ray back into the water immediately. This protects the next generation, ensuring more rays for you to catch in the future.

7. IF A LONG OR STRESSFUL FIGHT HAS OCCURRED, TAKE THE TIME TO SCOUT THE BEACH TO ENSURE THE ANIMAL HAS NOT BEACHED ITSELF AGAIN.

Why: Your fish might be exhausted after a long fight and might need a little more help and care in swimming back out or making its way through rough surf.

ENVIRONMENTAL AND LEGAL RESPONSIBILITIES FOR ENSURING THE SUSTAINABILITY OF RECREATIONAL FISHING AS A SPORT OR LEISURE ACTIVITY

1. RESPECT MARINE PROTECTED AREAS (MPAS), THEIR RULES AND REGULATIONS AND OBTAIN NECESSARY PERMITS.

Why: The fishing location is as important as the fishing permit. South Africa's 41 MPAs, covering 5.4% of coastal waters, protect critical habitats and marine life. Several laws govern areas where fishing is allowed and mode of access to those areas. Fishing in "no-take" zones or without permits can harm ecosystems and lead to fines. Knowing and following MPA rules ensures you're fishing legally and helping maintain healthy fish populations for years to come.

2. DISPOSE OF FISHING WASTE PROPERLY, INCLUDING LINES, HOOKS, AND BAIT PACKAGING.

Why: Discarded gear can entangle and kill wildlife and pollute the ocean, harming the very ecosystems you love to fish in. Cutting lines into short pieces and disposing of all waste in bins keeps beaches and waters clean, protecting marine life and enhancing your fishing spots.

3. CONSIDER CONTRIBUTING TO SCIENCE ON SHARKS AND RAYS.

Why: Programs like South African Elasmobranch Monitoring (ELMO) and ORI Co-operative Fish Tagging Project rely on responsible anglers to report tagged fish. Your data helps scientists understand shark and ray populations, ensuring sustainable fisheries. It's a way to give back while staying engaged in the sport you love.

IN ORDER FOR RECREATIONAL ANGLING TO BE AS SUSTAINABLE AS POSSIBLE, ANGLERS ARE ENCOURAGED TO CONSIDER THE FOLLOWING:

1. Anglers should be aware of which species, such as white sharks, are Protected by South African Law and that they may not be targeted and, if one is accidentally hooked, the line should be cut.
2. Their catch is not sold (it is illegal to sell recreational catches).
3. When bait is collected environmental disturbance should be minimised.
4. Drones cannot be used for fishing as they are illegal according to the Marine Living Resources Act (MLRA) and the South African Civil Aviation Act (any drone use in an MPA is illegal).
5. Any illegal activity should be reported to the correct authorities (24-hour Hotline for environmental crimes: 0800 205 005) as soon as possible with as much detail as possible including any photographs.

WHY THESE PRACTICES MATTER.

By adopting these guidelines, you're not just helping sharks and rays survive—you're ensuring the future of recreational angling. Healthy shark and ray populations, mean healthier fish populations and thriving ocean ecosystems. This helps preserve opportunities for future epic catches, while responsible practices enhance your reputation as a skilled and conservation-conscious angler. Let's keep the thrill alive by protecting these incredible creatures.

For more information crafted specifically for recreational anglers visit:

<http://sharksunderattackcampaign.co.za/resources/#3>.

**RAGGEDTOOTH
SHARK**



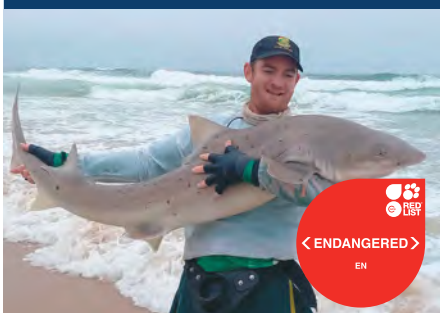
**BRONZE WHALER /
COPPER SHARK**



**WHITESPOTTED WEDGEFISH /
GIANT GUITARFISH**



**COMMON SMOOTHHOUND/
HOUND SHARK**



**HONEYCOMB WHIPRAY/
LEOPARD STINGRAY**



**THORNTAIL STINGRAY/
BROWN STINGRAY**



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