

Student Information Sheet 10

Release of Sharks in Recreational Fisheries

Background

Recreational fishers catch lots of sharks and rays, but they let a lot of them go too. A recent national survey showed that about 1.2 million sharks and rays are caught by recreational fishers every year in Australia. Importantly though about one million of these are released; and compared with other fish that is a very high rate of release. It is likely that the main reason for this is that most are caught while fishing for other species of fish and are often not considered good to keep and eat. Because so many are let go, ensuring the survival of released sharks and rays is important, and can be helped by the use of simple techniques.

What is tagging?

As well as incidental catches and releases (**bycatch**), sharks are also caught on purpose and released. Right around Australia, **gamefish** anglers are given plastic dart tags by New South Wales Fisheries for tagging a number of sharks, including the large offshore **pelagic** species such as mako (*Isurus* species), blue (*Prionace glauca*), tiger (*Galeocerdo cuvier*) and whaler sharks (Carcharhinidae family).



River whalers also known as bull sharks (*Carcharhinus leucas*) are caught, tagged and released in freshwater (© Neil Schultz)

(Examples of fishers tagging and releasing whaler sharks are shown in figures 1 to 8)



River whaler showing tag (© Neil Schultz)

When tagging, sharks are baited and caught by rod and reel. When a shark is hooked, it is brought to the boat and if large, is tagged without removing it from the water. The shark is placed in a position where the tagger can place the tag in the shoulder of the shark using a tag pole.

Tags for sharks have a simple printed message, a return address and phone number, and a unique serial number at each end.

The tag is jabbed into the shoulder muscle near the bottom of the **dorsal fin**, and the shark is then released as quickly as possible, by removing the hook or cutting the line. Smaller sharks are usually brought on board and tagged. After a fish has been released, a prepaid postal tag card is filled out with details of the species, location, size and condition of the fish and mailed back to New South Wales Fisheries to be entered into a data base.

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Each time the shark is caught again, the fisher calls the phone number on the tag and reports the location where the particular shark was caught. This information is then entered into the database by New South Wales Fisheries and is used to keep track of shark movements and size, if possible.

Sharks appear to recover much faster than other fishes from the stress of being hooked. However, poor handling techniques can lead to higher numbers of shark deaths, so it is a good idea to be aware of the best methods for releasing sharks and rays to maximise survival.



River whalers also known as bull sharks (*Carcharhinus leucas*)
(© Neil Schultz)

Techniques for release



Tagged bull shark (*Carcharhinus leucas*)
(© Neil Schultz)

Always have good gloves and a wet towel handy and if possible, a soft, shady surface on which to place the shark. When a shark is brought to the boat, either net it, or swing it on board and quickly lay it horizontally, on a soft carpet or piece of sponge. Do not place fish on hot surfaces since their skin may burn easily. Hold the shark firmly behind the head and around the **tail wrist** using gloves and/or a wet towel, and then try to remove the hook.

If the hook cannot be removed easily the line should be cut as close to the mouth as possible. Usually hooks will eventually fall out or pass through the stomach whereas trying to remove a deeply lodged hook could damage internal organs or blood vessels.

The internal organs of many species of shark are loosely held in place by **connective tissue**. In the water, these organs are supported, but if the shark is lifted by the tail, the tissue may tear. There is also the danger of damaging **tendons** which hold the **vertebrae** in place.

These problems are less likely to damage small sharks, but the best rule is to always try and lift sharks in a horizontal position. This can be done using a large net or by holding the shark by the tail wrist with one hand, and placing the other hand under the belly.



Tagged bull shark (*Carcharhinus leucas*)
(© Neil Schultz)



Tagged bull shark (*Carcharhinus leucas*)
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Sharks twist and turn when captured, so you need to be careful and protect the angler and the shark or ray from injury (quite a few nasty injuries have been caused by a thrashing shark in the bottom of a small boat).

Often, if a shark is turned over onto its back, or held upside down, it will become quite calm and easy to handle, probably because it becomes confused in this position. As well as laying sharks on their backs, placing a wet towel over their eyes will also often help to calm them.



Release of tagged bull shark
(*Carcharhinus leucas*)
(© Neil Schultz)

In the case of sting rays it is best to simply cut the line as close to the mouth as possible while the ray is still in the water. As most people know, many species of sting rays have very dangerous **serrated barbs** on their tails that can cause serious and painful injuries. (If you are unlucky enough to be stung, apply very hot water to the area of the wound. Heat stops the **venom** from working, although care should be taken not to burn the patient.) While it is true that not all rays are equipped with barbs in their tails, the best rule is to never handle any ray which possesses a whip-like tail.

Shark-friendly equipment

A number of experiments aimed at measuring fish survival after release have shown that deeply hooked fish are less likely to survive compared with fish hooked around the mouth. Most hook shapes are not designed to hook the animal in a particular place, but one hook design, the circle hook, nearly always hooks fish in the corner of the mouth. For this reason, the use of circle hooks is recommended to assist in the release of fish, including sharks and rays.

Most fishing tackle-shops stock circle hooks and will advise which types are best to use for sharks and rays. Another handy tool to have on board or to carry to fishing spots where sharks might be caught is a de-hooker. A de-hooker is a metal rod with a handle at one end and several coils at the other. The coils are run down the line to the hook which is removed by pushing in the opposite direction to where it has hooked the animals.

Protected sharks

Of the five species of sharks that are protected in Australian waters (whale shark, great white shark, grey nurse, spartooth and northern river shark), only two, the grey nurse and the great white shark are likely to be hooked by recreational anglers. If and when one of these species is accidentally hooked (it is illegal to catch them on purpose), following the guidelines above will help its chances of survival after release. If possible, the shark should be controlled by moving the boat slowly forward while the hook is either removed, using a de-hooker, or the trace cut as near to the mouth as is safe.



Tagged whaler shark just prior to release (© Julian Pepperell)

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Grey nurse sharks are normally calmer than great whites so can be controlled and dehooked more easily. If the hook cannot be seen around the mouth, or if it cannot be removed, cut the line as close to the mouth as possible.

If the shark is seen at a distance from the boat and identified as a grey nurse or a great white, do not cut the line right away since this would leave a long length of nylon line and trace material trailing behind the shark. If it is possible to bring the shark alongside the boat without stressing it too much, it can then be released with only a small amount of fishing tackle still attached.

It is a great feeling when you release a fish of any kind, including a shark or a ray, and watch it swim away. But it is an even better feeling knowing that you have done everything possible to help its chances of survival.

Jacqueline Foster (MESA) adapted this information sheet (which is suitable for primary school students) from the information sheet compiled for the general public by © Julian Pepperell (pepj@austarnet.com.au).

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