

Student Information Sheet 11

Recreational Fisheries for Sharks

Background

In Australia, people have caught sharks since the earliest days of European settlement. These days, sharks are still a very important part of **recreational fishing** right around the Australian coast. **Game-fishing** is probably the most common way of catching sharks on purpose, but there are other coastal situations where sharks are targeted. Sometimes fishers will target sharks, but often fishers will hook sharks and rays accidentally when they mean to catch other fish—this means that quite a lot of sharks and rays will be released back into the sea.



Game fishing (© Julian Pepperell)

Catch



Gummy shark, *Mustelus antarcticus*, are fished for in Victoria and Tasmania
(© Ken Hoppen, oceannotations@primus.com.au)

Until quite recently, very little information has been available on the actual numbers of sharks and rays caught by recreational fishers in Australia. In 2001 a national 12-month survey was done in an attempt to determine actual numbers of all fish caught (recreationally) throughout Australia. The survey did estimate how many sharks were caught, but unfortunately, because sharks and rays were not a major part of the total catch, they were not identified to species level.

Overall, the survey found that around 228,000 sharks and rays were caught (and kept) recreationally.

However, the most important thing learned from the survey was that a very high percentage (82 percent) of sharks and rays caught were released back into the water. During the year of the survey, over a million sharks and rays were released.

In order for the information collected in surveys like this to be useful, the catch of sharks and rays needs further classification, so it is known which species may be most at risk of **over-fishing**. Also, because so many of these animals are released, there needs to be further research into how many of them survive after being caught and released.



Fishing for river whalers, also known as bull sharks (*Carcharhinus leucas*).
(© Neil Schultz)

Tag and Release

Shark tagging by recreational fishers was first done in the United States in 1963. This tagging program ran on a volunteer basis and was highly successful. The program has been used as a model all around the world since then.

In Australia, a national gamefish-tagging program began in 1973, and tagging of sharks continues, mainly in New South Wales, Victoria and South Australia. Twenty thousand sharks have been tagged and released since 1973 and about 400 of those have been recaptured and reported. This has allowed scientists to learn a great deal about the biology of sharks, which are generally very difficult to study.



Shark tagging gear
(© Julian Pepperell)



Spot tailed whaler
(*Carcharhinus sorrah*)
(© Neil Schultz)

The main species of shark tagged by Australian recreational fishers are shortfin mako (*Isurus oxyrinchus*), hammerhead (*Sphyrna* species), blue (*Prionace glauca*), and whaler sharks (Carcharhinidae family).

The results of this voluntary tagging effort have been very valuable in terms of determining the growth rates and movements of these sharks. Tagging is also able to tell us something about the life expectancy of sharks, and how big they will grow.



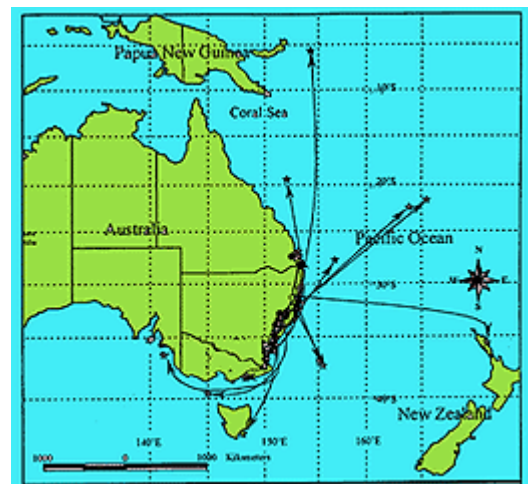
River whalers also known as
bull sharks
(*Carcharhinus leucas*)
(© Neil Schultz)

Recording the Catch

As recreational fisheries are being monitored more closely, it is becoming more important to record details about **fishing effort**, as well as just the catch. This means recording data on how many people are fishing and how long they spend fishing, as well as their method of fishing and what species they are targeting. This information is important as scientists use it to estimate relative **abundance** of fish.

It is difficult to know how much impact recreational fishing is having on shark populations, but at the moment it is thought to be quite minor. The amount of sharks and rays caught by fishers will usually be a very small part of their total catch.

It is likely that any significant damage to shark and ray populations worldwide will be as a result of **commercial fisheries**, even if just as **bycatch**. There are no known examples of recreational fishers being solely responsible for the over-fishing of any shark or ray species.



Map of mako shark movements, as determined from recaptures of recreationally tagged makos from the New South Wales Fisheries game fish tagging program. (© Ricky Chan)

Benefits of recreational shark fishing



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

In the long-term, recreational fishing for sharks may actually be doing more good than harm. In the majority of cases, information on shark biology and behaviour has only become available through the data collected by recreational tagging programs.

For example, much has been learnt about the movement of blue and mako sharks as a result of recreational tagging both here in Australia and overseas. Information collected during game-fishing tournaments has also been very valuable in looking at worldwide **population genetics** of sharks.

While our knowledge of the offshore recreational fishery for large sharks is now quite good, there is not a lot of information on recreational catches of other species of sharks and rays.

We are beginning to realise that there are some species of sharks that may be in danger of being over-fished. It is important to try and learn as much as we can about these animals in order to protect them in the future.



Release of tagged river whalers also
known as bull sharks
(*Carcharhinus leucas*)
(© Neil Schultz)

Kate Sputore (Rottnest Island Authority) 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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