



Ref. No. FR24
File No. FSC 02/05

FINAL RECOMMENDATION

CURRENT SHARK MESHING PROGRAM IN NEW SOUTH WALES WATERS

The Fisheries Scientific Committee, established under Part 7A of the *Fisheries Management Act 1994* (the Act), has made a recommendation to list the current Shark meshing program in New South Wales waters as a **KEY THREATENING PROCESS** in Schedule 6 of the Act.

The Committee acknowledges the economic, social and public safety issues that surround the current shark meshing program in NSW. This recommendation does not propose, nor may it warrant the complete removal of shark meshes to ameliorate the threat.

Listing of Key Threatening Processes is provided for by Part 7A, Division 2 of the Fisheries Management Act. This is a proposed recommendation for a joint listing of a Key Threatening Process under the Fisheries Management Act 1994 and the Threatened Species Conservation Act 1995.

The Fisheries Scientific Committee has found that:

1. The shark meshing program is a fishing activity involving the placement of nets off beaches and other waters to protect the public from sharks. Shark meshing on Sydney beaches began in 1937 to reduce the numbers of sharks and thereby reduce the risk of shark attacks. Originally beaches from Palm Beach to Cronulla were meshed. In 1949 beaches in Wollongong and Newcastle were added, with Central Coast beaches added in 1987. Today a total of 49 beaches covering approximately 200 km of coastline are meshed.
2. The shark mesh nets do not act as a complete barrier to sharks reaching beaches as they are not permanently set in the water, do not cover the whole length of the beach, and do not extend from the water surface to the seabed. In fact, approximately 40% of shark entanglements occur on the beach side of the nets, because sharks are able to swim over and around the nets.
3. Over the years the sizes of the mesh nets have changed, as well as the length of times the nets are fished. Since 1973, the nets have had a stretched mesh size of 50 to 60 cm, have been 150 m long, six metres deep, set on the bottom in approximately 10 m of water, and usually located 400 to 500 m off shore. One net set is 150 m of net in the water for a minimum of 24 hours. The nets are set for eight months of the year from September to April inclusive. Each of the 49

beaches has a minimum of nine week-day and four weekend-day net sets per month. For further detail see the Committee's information sheet.

4. The shark meshing program has caught and killed many thousands of sharks in the 65 years since its introduction. In the first 12 months of meshing in 1937, approximately 1000 sharks were taken off Sydney beaches. In the 52 years from 1950 to 2002, more than 11,500 sharks were caught and killed in the nets, with annual shark deaths during this period ranging from 648 to 69 sharks. Due to increased numbers and sizes of nets, as well as setting times, direct comparisons with recent years are not possible. Nevertheless, death rates have dramatically decreased in the last 30 years and the annual capture of all sharks from all 49 beaches including those in Newcastle, Central Coast, and Wollongong has been below 200 in all but one year since 1983. The annual catch has ranged from 69 to 158 sharks in the last 5 years to 2001/02, with the last kill of 69 being the lowest ever recorded.
5. While identification of many shark species is difficult, only four species of sharks are considered responsible for human fatalities (Last and Stevens, 1994): the great white shark *Carcharodon carcharias*, the tiger shark *Galeocerdo cuvier*, the bull shark *Carcharhinus leucas* (also called the river whaler), and the oceanic whitetip whaler *C. longimanus* (this latter species does not occur close to shore). Captures of great white sharks, tiger sharks and the combined whaler sharks in the shark meshing program total 3670 for the 52 year period. The bull shark makes up a small proportion of the 2800 whaler sharks captured. Therefore at least 8000 sharks of other species have been captured in the last 52 years.
6. The shark meshing program adversely affects two shark species that are listed as vulnerable and/or endangered under the *Fisheries Management Act 1994*. The species are *Carcharias taurus* (Grey nurse shark) listed as Endangered and *Carcharodon carcharias* (Great white shark) listed as Vulnerable. Both species are also listed as threatened by the Commonwealth under the *Environment Protection and Biodiversity Conservation Act 1999*, the eastern population of the Grey nurse shark as Critically Endangered and the Great white shark as Vulnerable. The mesh nets have killed 373 grey nurse sharks and 526 great white sharks in the past 52 years. Significant decreases in these catches have been part of the evidence used to list both species as threatened in NSW. The deaths continue, with 42 white sharks (plus four already killed in 2002/03) and two grey nurse sharks killed from 1992/93 to 2001/02 (plus two killed and one released in 2002/03). The shark meshing program in one instance is close to a designated grey nurse shark critical habitat (Magic Point, Maroubra). With the current NSW population of grey nurse sharks estimated at only 300 individuals, any loss of this endangered species has a serious effect on population size and recovery potential.
7. Species other than sharks are indiscriminately caught and often killed in the shark meshing program. These include Dugongs (*Dugong dugon*) and Loggerhead turtles (*Caretta caretta*) that are listed as Endangered Species, and Green turtles (*Chelonia mydas*), Leatherback turtles (*Dermochelys coriacea*), Humpback Whale (*Megaptera novaeangliae*) and Australian fur-seals (*Arctocephalus pusillus doriferus*) that are listed as Vulnerable Species in the

NSW Threatened Species Conservation Act 1995. Loggerhead turtles are also listed as Endangered Species, and Green turtles and Leatherback turtles as Vulnerable Species by the Commonwealth under the *Environment Protection and Biodiversity Conservation Act 1999*.

8. In light of the above, the Fisheries Scientific Committee is of the opinion that the current shark meshing program in New South Wales waters' adversely affects two or more threatened species, populations or ecological communities and could cause species, populations or ecological communities that are not threatened to become threatened. Therefore, the process qualifies for inclusion in Schedule 6 of the *Fisheries Management Act 1994* as a **KEY THREATENING PROCESS**.

Dr Patricia Dixon
Chairperson
Fisheries Scientific Committee