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FINAL RECOMMENDATION

THUNNUS MACCOYII - SOUTHERN BLUEFIN TUNA

The Fisheries Scientific Committee, established under Part 7A of the *Fisheries Management Act 1994* (the Act), made a recommendation to list *Thunnus maccoyii*, Southern Bluefin Tuna as a **ENDANGERED SPECIES** in Schedule 4 of the Act.

The listing of Endangered Species is provided for by Part 7A, Division 2 of the Act.

The Fisheries Scientific Committee has found that:

1. *Thunnus maccoyii* (Castelnau, 1872) Southern Bluefin Tuna is a valid, recognised taxon.
2. Southern Bluefin Tuna (SBT) are pelagic fish occurring in oceanic waters normally on the seaward side of the continental shelf and worldwide the species is considered a single population. The only spawning ground is between Australia and Java (7⁰S-20⁰ S). The SBT migrate along the west coast of Australia and across the Great Australian Bight and around Tasmania to 45⁰ S and then along the southeast Australian coastline to 30⁰ S off northern NSW. The species is long lived (up to 40 years), slow growing, late maturing (8 - 12 years) and highly migratory. The maximum weight is approximately 200kg at 2.25m length. Though reasonably fecund the single spawning area and the long maturity period means juveniles are vulnerable to over exploitation (see references for further information).
3. In NSW, Southern Bluefin Tuna (SBT) occur from northern NSW (30⁰ S) to the Victorian border. The species, however, is historically considered rare within NSW State waters boundary of three nautical miles. The Australian Museum records show one record of a juvenile SBT from Jibbon Beach in Port Hacking collected in 1907. All other records are from the Sydney Fish Markets or outside the three nautical miles.

Anecdotal information from fishers (both recreational and commercial) indicate surface schools of SBT can occur within three nautical miles of the coast in spring of some years for the late 1960's and into the 1970's. No anecdotal reports of SBT surface schools inside three nautical miles, however, have been recorded in at least the past 5 years. Because the western boundary of the species' migratory path is within NSW State Waters, the decline in numbers of this species is a matter of concern.

4. The dramatic decline in the total population of SBT to 7 - 15% of the 1960 parental biomass is well documented in the scientific literature (see references for further information).
5. The commercial fishery off NSW was based on pre adults and commenced in about 1959. The NSW catch in 1963 to 1967 was approximately 2,500 tonnes per year. This increased to a maximum of 6,100 tonnes in 1972/73. The NSW fishery collapsed in the mid 1970's with landings of 313 tonnes in 1976/77, 675 in 1982/83 and 184 in 1983/84. The capture method was by pole and line combined with the development of a purse seine fishery. The majority 'if not all' of the fish were canned. The major fishing ports were Eden, Bermagui, Ulladulla and Wollongong. Many of the fish caught were taken by SA vessels, which seasonally fished off NSW.

NOTE: the proportion of the above NSW commercial catch caught within 3 nm is unknown but anecdotal evidence suggests it was a relatively small percentage based on the irregular occurrence of large surface feeding schools.

6. The Commonwealth introduced long-term management arrangements in 1984 for NSW, Victoria, South and Western Australia. Twenty-four NSW boats received individual quotas ranging from 1 to 296 tonnes each. Total quota for NSW boats was 1,869 tonnes. Quota was sold out of NSW primarily to South Australia with only one boat holding quota for SBT in 1985.
7. In the early 1990's the area of the NSW fishery changed with the Offshore Constitutional Settlement (OCS), which was the fisheries agreement between the Commonwealth and the States. The SBT agreement allocates management responsibility to the Commonwealth and includes arrangements for the State to limit the incidental catch of SBT in State managed commercial fisheries. In 1993 at the request of the Australian Fisheries Management Authority (AFMA) a ban on catching SBT from all NSW waters by any holder of a NSW commercial fishing licence, or by any person from a NSW licensed fishing boat, by all methods of fishing was introduced and renewed yearly until 2000 then to 2005.
8. Recreational fishing records for the Australia-wide Gamefish Tagging Program over the 7 years 1995 to 2002 inclusive show an average of 12,890 fish are tagged, of which 181 per year are SBT. Off NSW, however, only an average of 8 SBT per year (total 56 in 7 years with 40 SBT tagged in 1996) were tagged and all were tagged outside the three nautical miles State waters boundary. If 1996 is excluded from the data, 2.6 SBT were tagged per year by recreational fishers. The main tagging locations are off Sydney, Botany Bay, Shoalhaven Heads, Kiama and Bermagui.
9. Recreational tagging records for the 20-year period 1974 - 1994 average 9.9 SBT per year off NSW. In 1991, however, 131 fish were tagged. If 1991 is excluded from the data, 3.5 SBT were tagged per year from 1974 to 1995 by recreational fishers.
10. The Offshore trailerboat survey was a 2-year duration (September 1993 to August 1995) project conducted NSW wide with in excess of 11,000 boat ramp interviews. Only 1 record of a SBT capture off Botany Bay and outside the three nautical miles State waters boundary was made.

11. Tagged fish in the Charter Boat logbook database are a sub set of the gamefish-tagging database. Kept fish, however, are recorded as separate entries. In the 2 years November 2000 to November 2002, 18,343 charter trip records and 73,818 fish capture records were made. Southern Bluefin Tuna has 5 records for small kept fish caught off Bermagui and Kiama all outside the three nautical miles State waters boundary.
12. In the National Recreational and Indigenous Fishing Survey, all the tuna's (at least 10 species) were lumped, due to identification problems by the respondents to the interviews and diary survey. Therefore, no NSW data on SBT are available.
13. Well-documented evidence indicate that SBT have declined dramatically in International and Australian waters. Anecdotal and documented evidence for NSW inside three nautical miles with both commercial and recreational data shows the species is now rare to 'non existent' in catches by either fishing sector. The commercial and recreational data document a decline in the abundance of SBT off NSW from the 1960's to the 1980's and continuing to the present. The majority of the catch, however, appears to have been taken outside three nautical miles.
14. *Thunnus maccoyii* has the following official conservation status at an international, national and state level:
 - a. IUCN 2000: listed as Critically Endangered in 1996
 - b. ASFB 2002: listed as Lower Risk - near threatened
 - c. Pogonoski *et al* 2002: listed as Lower Risk - near threatened
 - d. Victoria: listed on Schedule 2 of the *Flora and Fauna Guarantee Act 1988* as a threatened species
 - e. NSW: Protected from NSW commercial fishing under the *Fisheries Management Act*.
15. Threats to the species are commercial fishing in both International and Australian waters based on the significant demand for SBT in the high priced world sashimi markets and the harvest of wild caught juveniles (primarily in South Australia) for the recently developed highly valuable aquaculture industry, based on grow-out farming. This harvest occurs before SBT migrate to the east Australian coast and before they reach sexual maturity.
16. In light of all the above, the Fisheries Scientific Committee has determined that *Thunnus maccoyii* is likely to become extinct in NSW unless the circumstances and factors threatening its survival or evolutionary development cease to operate, and is eligible for listing as a ENDANGERED SPECIES in Schedule 4 of the *Fisheries Management Act 1994*, and accordingly that the Schedule be amended by inclusion of that species.
17. References:

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