

WPRFMC Pelagics Reports: *Bluefin Tuna Report*

Bluefin tuna catch by the Hawaii longline fishery was negligible prior to 1993. Japanese longline records summarized by 5°x5° for 1972-76 (Bayliff 1993) indicate the greatest catches of bluefin tuna in the Pacific by Japan occurred between 30°-40° N especially to the west of 175° E. The advent of the Hawaii-based U.S. swordfish fishery in the 1990s and the northward and westward expansion of fishing range, especially in 1993 (Curran et al. 1996), probably led to the first substantial Hawaii-based catches in that year. However, the Hawaii-based bluefin tuna catch was not really monitored prior to 1993. Monitoring methods were changed several times from 1993-1995.

The inconsistency of monitoring methods makes any evaluation of Hawaii-based bluefin tuna catch trends somewhat speculative. The catch for 1993 was estimated at 200,000 lbs (Dollar 1994) based on a raised tally of pounds landed at wholesale markets in Honolulu during 2 days sampled per week out of 6 market days per week. Bluefin tuna was not listed on the logbook form until 1995 but in 1994 fishermen were encouraged by NMFS staff to "write in" their bluefin catch separate from "the other tuna" category listed on the logbook. In 1994 the landings of bluefin were estimated as the number of bluefin tuna written-in on logbooks multiplied by the average weight of bluefin tuna from the market data. Using this method, the 1994 estimate was only 30,000 lbs (Ito 1996), an 85% decline. Perhaps the new method of estimation was partially the cause for this apparent decline; however, fishing effort in the far North and West by the Hawaii-based fishery was reduced in 1994.

In 1995 logbooks were re-written to specify northern bluefin tuna as a printed category of catch. The new logbooks had largely replaced the old by the end of the first quarter of 1995 (Ito 1996). Based on logbooks, the numbers of bluefin tuna caught by the Hawaii-based fishery in 1994 and 1995 were 168 and 218 fish, respectively. This suggests a 30% increase in catch but the difference may be largely due to the clearer reporting requirement provided by the revised logbooks.

The magnitude of the Hawaii-based fishery's catch is insubstantial compared to total catches by Japan, Korea, and Taiwan of 6,000 - 17,000 tons per year in the western Pacific during 1990-92 (Bayliff 1993). However, only a few percent of the northern bluefin tuna catch by Japan is caught by longline, so the total western Pacific catch of large (i.e. >200 lb) fish like those landed by the Hawaii-based longline fishery may be only about 500 tons per year. The Hawaii-based fishery, at 10-100 tons/year, might contribute substantially to fishing mortality for the larger fish, especially in the central Pacific.

Some reports have suggested that targeting on bluefin tuna by the Hawaii-based longline fishery might increase or that a directed fishery targeting this species might develop. The latter seems unlikely given the very low catch rates. At most bluefin tuna may become one of a suite of target species that provides an occasional bonanza in revenue. Prices received for bluefin tuna by Hawaii-based longliners averaged about \$14.00/lb in 1993-94, over 3 times higher than the next-highest priced species, bigeye tuna.

Citations:

Bayliff, W.H., 1993. A review of the biology and fisheries for northern bluefin tuna, *Thunnus thynnus*, in the Pacific Ocean. In Shomura, R.S., Majkowski, J., and Langi, S (eds.) Interactions of Pacific Tuna Fisheries Vol. 2, Papers on Biology and Fisheries, Proceedings of the First Expert Consultation on Interactions of Pacific Tuna Fisheries, 3-11 December 1991, Noumea, New Caledonia. FAO Fisheries Technical Paper 366/2, p. 244-295.

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Dollar, R.A., 1994. Annual report of the 1993 western Pacific longline fishery. Honolulu Lab., Southwest Fish. Sci. Cent., Natl. Mar. Fish. Serv., NOAA, Honolulu, HI 96822-2396. Southwest Fish. Sci. Cent. Admin. Rep. H-94-06.

Ito, R. Y., 1995. Annual report of the 1994 Hawaii-based longline fishery. Honolulu Lab., Southwest Fish. Sci. Cent., Natl. Mar. Fish. Serv., NOAA, Honolulu, HI 96822-2396. Southwest Fish. Sci. Cent. Admin. Rep. H-95-08.