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EASTERN PACIFIC BONITO (*SARDA CHILIENSIS*)



A common inshore predator of Southern California waters, the eastern Pacific bonito (*Sarda chiliensis*) is a member of the tuna family (*Scombridae*) and shares several tuna-like attributes, including a

streamlined body shape, an efficient caudal propeller, and finlets along the posterior body. One distinguishing trait that sets the bonito apart from the tunas is that bonito do not have the capacity to elevate body temperature, as do the other 15 tuna species. Nonetheless, the bonito is widely distributed in the eastern North Pacific and plays an important role in the dynamics of inshore ecosystems.

Distribution

In the eastern North Pacific, the bonito has been shown to range from the Gulf of Alaska to the Revillagigedo Islands. Its center of distribution is believed to be along the Baja California peninsula; however, inter-annual and seasonal variation in water temperatures likely influence the north-south movements of this species. At the southern portion of its range, the eastern Pacific bonito overlaps with the striped bonito (*Sarda orientalis*), a close relative that is very similar in appearance. Although there

are several meristic characteristics that can be used to differentiate between the two bonito species, common distinguishing characteristics include dentition patterns, pattern of horizontal striping, and differences in white muscle appearance (the striped bonito's swimming muscle is not as dark as that of the eastern Pacific bonito).

Age and growth

The eastern Pacific bonito has relatively rapid growth rates, growing to a size of approximately four pounds in the first year of life. Males mature slightly earlier than females, with most individuals reaching sexual maturity by age two. Spawning has been shown to occur along the Baja peninsula; however, local spawning has also been observed, particularly during warm water years and in areas near warm-water effluents. Growing to sizes in excess of 20 pounds and capable of great displays of strength, the bonito offers a great renewable resource for local anglers.

Fisheries

For both California and Mexico, the eastern Pacific bonito represents an important commercial and recreational resource. In local waters, bonito is landed by CPFV vessels (party boats), private boaters, shore-based anglers, and local purse seine vessels, while in Mexico the vast majority of bonito is landed by small- and large-scale purse seiners operating along the Baja peninsula. Market price and the availability of other more valuable species often dictate the degree to which the Baja stock gets fished in Mexico. Because this stock is migratory, these operations can certainly affect the availability of bonito in local waters.

There is much more variability in bonito abundance in Southern California, likely because the center of bonito distribution is outside of our exclusive economic zone (EEZ). This variability is reflected in the commercial landings, which date back to 1916, as well as the CPFV landings, which date back to the



"Little longfins" on the run. Last year's influx of bruiser-sized bonito gave anglers seeking early season opportunities some good action

mid 1940s. Domestic purse seine activities peaked in the mid 1970s, with over 30 million pounds landed, while recreational landings hit their highpoint in the 1960s, with 1.3 million fish landed. One additional explanation for the changes in local bonito abundance may be large- and small-scale oceanographic changes and their influence on prey abundance, in particular, the favored prey of the bonito, the California anchovy (*Engraulis mordax*). Years where the sardine (*Sardinops sagax*) is much more prevalent, it may be that other species, like the California barracuda (*Sphyræna argentea*), fill the dominant inshore role that the bonito would otherwise occupy.

Food grade

Unfortunately, public acceptance of bonito as a food fish is highly variable, with some individuals praising the delicate, flaky meat, while others suggest its use for bait only. This interpretation is likely due to the highly delicate nature of

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fresh bonito. If freshly caught bonito is not chilled relatively quickly, the flesh will begin to break down, resulting in a poor presentation. Care and handling techniques that should result in optimal fillets include the immediate bleeding of the catch, chilling of the whole fish prior to filleting, and keeping the fillets free from excess water. We feel that much of the generation that began fishing aboard CPFV vessels may have had the poor outlook on bonito due to the use of burlap sacks for daytime storage of their catch.

Department of Fish and Game have relatively strict recreational regulations in place for the bonito (five fish below 24 inches; total 10-fish bag limit). And, unfortunately, the center of this species distribution is outside of US waters; thus, we do not have much control over the large-scale fishing activities that occur outside of our EEZ. This, coupled with varying oceanographic conditions, leads us to believe that bonito variability in Southern California is difficult to predict and will continue to fluctuate in years to come.

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