



FORAGE FISH: SQUID

BACKGROUND

Market squid (*Loligo opalescens*), long-finned squid (*Loligo pealei*), and short-finned squid (*Illex illecebrosus*) are major food sources for a wide variety of larger carnivorous fish, seabirds, and mammals in all the world's oceans. A short life span (typically one year or less) and high sensitivity to variable ocean conditions combine to make squid an unpredictable boom and bust fishery. In a boom year, a fishery may remove large quantities of the available squid biomass in heavily fished areas, which would otherwise be available to fish, birds and mammals.

WEST COAST MARKET SQUID FISHERY

Market squid are important forage for the west coast's endangered and threatened stocks of King and Coho salmon, as well as many other fish species, seabirds and mammals. More than 90,000 metric tons of market squid were landed in California during the 2005-2006 season.

WEST COAST MARKET SQUID MANAGEMENT

The California market squid fishery catch has increased steadily since the early 1980s, peaking in 2000. In the last decade, market squid has become one of the largest fisheries off California, but landings were volatile in the late 90s because of a strong El Niño of 1997-1998, in which the landings dropped more than 10-fold in one year. Local squid abundance is dramatically affected by environmental conditions such as El Niño events. Squid are taken as bycatch in commercial fisheries for other forage fish including anchovies, sardines, herring, and mackerel. Limited data and a lack of an accurate measure of squid biomass prevent adequate assessment of the status of this key forage species. Additionally, the current management plan does not estimate the squid population necessary to maintain predator populations, including seabirds, whales, porpoises, dolphins, seals and sea otters. Concerns exist about several aspects of the market squid fishery, including its use of lights to aggregate the squid for capture. These lights may negatively affect nesting seabirds. A concern for squid habitats and populations is the bycatch of squid eggs, which increased dramatically between 2001 and 2003.

EAST COAST LONG-FINNED AND SHORT-FINNED SQUID FISHERIES

East coast long-finned and short-finned squid are prey for bluefish, sea ravens, spiny dogfish, and the Atlantic angel shark flounders. Roughtail stingray, and white hake are also known to prey on long-finned squid. Short-finned squid are heavily preyed upon by porpoise, whales, and numerous pelagic fishes (e.g., tuna and swordfish). Other known predators of short-finned squid are the fourspot flounder, goosefish, and bluefish. Additionally, at least 47 other species off the east coast fish that are known to eat squid.

EAST COAST LONG-FINNEED AND SHORT-FINNEED SQUID MANAGEMENT

The east coast long-finned squid fishery occurs primarily off southern New England and the mid-Atlantic region, mainly using small-mesh trawl nets. Landings range from 12,000-19,000 metric tons each year. The short-finned squid fishery operates mainly in the summer and fall, using trawl nets. Catches skyrocketed to 179,000 metric tons in 1979 during the era of the "distant water" foreign trawl fishery. Catches rapidly declined in the 1980s and have remained at much lower levels up to the present, ranging from 3,000-30,000 metric tons each year.

Councils: Pacific Fishery Management Council and Mid-Atlantic Fishery Management Council

Links to Resources: <http://www.blueocean.org/seafood/species/122.html>;
<http://www.dfg.ca.gov/marine/marketsquid/index.asp>; PFMC. June 2004. Status of the Pacific Coast Coastal Pelagic Species Fishery and Recommended Acceptable Biological Catches (Stock Assessment and Fishery Evaluation); <http://foragefish.org/squid.html>.

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The Marine Fish Conservation Network is the largest national coalition solely dedicated to promoting sustainable management of marine fish and wildlife, and our oceans. The Network, made up of almost 200 environmental groups, commercial and recreational fishing associations, aquariums, and marine science organizations, uses its distinct voice and the best available science to educate policymakers, the fishing industry, and the public about the need for sound marine conservation and best marine management practices.