



# FACT SHEET: COASTAL PELAGIC SPECIES

20

## THE FISH

Coastal pelagic species (CPS) are schooling fish that range from the shore to the open ocean. They are found near the surface or as deep as 1,000 meters. They are generally small, even as adults, ranging from about four inches (anchovies) to 24 inches (Pacific mackerel). CPS are sold for human consumption, bait for longline fishing, and feed for tuna aquaculture.

### ADVISORY BODIES:

- ◆ CPS ADVISORY SUBPANEL
- ◆ CPS MANAGEMENT TEAM

The Council's CPS Fishery Management Plan (FMP) specifies a management framework for northern anchovy, market squid, Pacific sardine, Pacific

mackerel, and jack mackerel. The plan prohibits harvest of all krill species in order to protect krill's vital role in the marine ecosystem. Pacific herring and jacksmelt are included as ecosystem component species, which are not generally targeted, but whose stock landings and status are monitored.

**Pacific sardine** (*Sardinops sagax*) are small schooling fish. At times, they have been the most abundant fish species in the California current, the highly productive current that extends from Oregon to Baja California. When the population of Pacific sardine is large, it is abundant from the tip of Baja California to southeastern Alaska and throughout the Gulf of California. In the north, sardines tend to appear seasonally.

Sardines form three sub-populations. The northern subpopulation is most important to U.S. commercial fisheries, ranging from southeast Alaska to the northern portion of the Baja Peninsula. The southern subpopulation ranges from the southern Baja Peninsula to southern California, and the third population is in the Gulf of California.

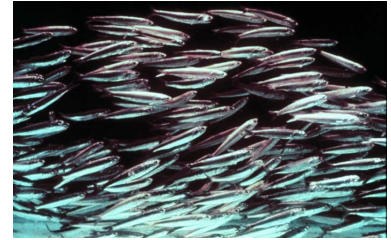
Sardines may live as long as 13 years, but most landed fish are three to six years old. Like anchovies, they are taken by a wide variety of predators. For information on current Pacific sardine abundance and population trends, see the CPS Stock Assessment and Fishery Evaluation report ([tinyurl.com/](http://tinyurl.com/)

[yc6smlog](http://yc6smlog)).

### **Pacific (chub) mackerel**

(*Scomber japonicus*) range from Mexico to southeastern Alaska.

The "northeastern Pacific" stock of Pacific mackerel is harvested by fishers in the U.S. and Mexico. Mackerel are schooling fish, and they often school with other pelagic species such as jack mackerel and sardines. While young, they are heavily preyed upon by a variety of fish, mammals, and sea birds. But when larger, they can prey on smaller fish such as juvenile hake and other CPS.



**Northern anchovy** (*Engraulis mordax*) are small, short-lived fish that are typically found in schools near the surface. They are found from British Columbia to Baja California. Northern anchovies are divided into northern, central, and southern sub-populations. The central subpopulation ranges approximately from the Oregon/California border to Point Descanso, Mexico. The northern subpopulation ranges from the Oregon/California border north to British Columbia and sometimes SE Alaska. Northern anchovy are an important part of the food chain for other species, including other fish, birds, and marine mammals.

**Jack mackerel** (*Trachurus symmetricus*) are a schooling fish that range widely throughout the northeastern Pacific. They grow to about 60 cm and can live 35 years or longer. Much of their range lies outside Federal waters (more than 200 miles offshore). Small jack mackerel (up to six years of age) are most abundant in the Southern California Bight. Older, larger fish range from Cabo San Lucas to the Gulf of Alaska, where they are generally found offshore in deep water and along the coastline to the north of Point Conception.

In southern California waters, jack mackerel schools are often found over rocky banks, artificial reefs, and shallow rocky coastal areas. The peak spawning season for jack mackerel off California extends from March to July.

**Market squid** (*Doryteuthis opalescens*) appear from the southern tip of Baja California to southeastern Alaska. They

# FACT SHEET: CPS

are most abundant between Punta Eugenio, Baja California and Monterey Bay, California. They are harvested near the surface, but they can appear to depths of 800 meters or more. They prefer the salinity of the ocean and are rarely found in estuaries, bays, or river mouths. Squid are short-lived (up to ten months) and are important as forage foods to many fish, birds, and mammals, such as Chinook salmon, coho salmon, lingcod, rockfish, seals and sea lions, sea otters, porpoises, cormorants, and murre. Market squid have huge population fluctuations, sometimes appearing in great numbers and sometimes seeming to disappear almost completely. They are the most valuable CPS stock on the West Coast and are highly sought after.

## THE FISHERY AND GEAR

In the 1940s and 1950s, about 200 vessels participated in the Pacific sardine fishery. Some of these boats are still fishing today, but the fleet is much smaller, with less than 60 Federal limited entry permit vessels.

CPS species are harvested directly and as bycatch in other fisheries. Generally, they are targeted with “round-haul” gear including purse seines, drum seines, lampara nets, and dip nets. These species are also taken incidentally with midwater trawls, pelagic trawls, gillnets, trammel nets, trolls, pots, hook-and-line, jigs, and beach seines.

Market squid are fished at night with the use of powerful lights, which attract the squid to the surface. They are either pumped directly from the sea into the hold of the boat, or caught with an encircling net. CPS species are caught primarily with purse seine vessels. A small amount is landed by beach seine and by hook and line.

Processors and buyers of CPS on the West Coast are located mostly in southern and central California, near the Columbia River port areas of Oregon and Washington, and in Grays Harbor, Washington. Most of the market squid and Pacific sardines caught in the U.S. are exported. Market squid are mainly exported to China, Japan, the United Kingdom, and Spain. Sardines are mainly exported to Japan, where they are used for human consumption and as bait for longline fisheries; and Australia, where they are used to feed farmed bluefin tuna. A small amount of sardines are sold to the restaurant market. Mackerel are exported to Europe and Asia for human consumption.

Date (odd years only)	Pacific Mackerel Management
April	Assessment authors prepare draft assessments.
May	Coastal Pelagic Species Management Team (CPSMT), Coastal Pelagic Species Advisory Subpanel (CPSAS), and public review draft assessments and recommended harvest guidelines.
June	Authors submit final assessments and harvest guideline recommendations for June briefing book. SSC reviews these. Council adopts specifications and management measures for two consecutive fishing years. Commerce implements recommendations.
July 1	Mackerel season begins.
March (of next year)	Council may consider Inseason action to transfer unused incidental set-aside to the directed fishery.

Date	Pacific Sardine Management
February	Authors prepare draft assessments.
March	Draft stock assessment is reviewed by either a full Stock Assessment Review panel (for full assessments), or by the Scientific and Statistical Committee’s CPS Subcommittee (for update assessments)
April	Authors submit final assessments and harvest guideline recommendations for June briefing book. SSC reviews these. Council adopts specifications and management measures. Commerce implements recommendations.
July 1	Pacific sardine season begins.

## MANAGEMENT CYCLE

Pacific sardine and Pacific mackerel are “actively managed,” meaning they have biologically significant levels of catch, or biological or socioeconomic considerations requiring relatively intense harvest management procedures. Management measures are adopted annually. The three other CPS species are “monitored” stocks, meaning fisheries do not require intensive harvest management. They are assessed

# FACT SHEET: CPS

periodically, and harvest management is not changed on a regular basis. Stocks can be moved from “actively managed” to “monitored” or vice versa. Both active and monitored stocks are required to have annual harvest specifications including overfishing limits, acceptable biological catches, and annual catch limits.

Management measures, including annual harvest levels, are set for monitored stocks and are only updated as the need arises. The fishing year for monitored stocks is January 1-December 31.

The market squid fishery is state managed and largely concentrated in California, with an April 1-March 31 season. However, the stock occasionally extends into Pacific northwest waters in harvestable numbers.

The fishing year for sardines and mackerel is from July 1 through June 30 of the following year. The NOAA Southwest Fisheries Science Center (SWFSC) assesses the sardine stock annually, with management measures set at the April Council, ahead of the July 1 start of the fishing year. The SWFSC assesses Pacific mackerel every other year, and the Council sets annual management measures in odd years at each June meeting, for two years in a row.

## PLAN HISTORY AND AMENDMENTS

The CPS fishery management plan went into effect in 1999. Amendments addressing bycatch and tribal fishing rights, maximum fleet capacity, transfer of limited entry permits, maximum sustained yield for market squid, and allocation were adopted in the years following.

Amendment 12 (2006) banned commercial fishing for all species of krill in Federal waters off the west coast. State laws prohibit krill landings by state-licensed fishing vessels into California, Oregon, and Washington.

Amendment 13 established several new fishery management provisions pertaining to the Magnuson-Stevens Act, introducing overfishing levels, annual catch limits, annual catch targets, and accountability measures. Pacific herring and jacksmelt were also added to the FMP as ecosystem component species.

Amendment 14 established an maximum sustainable yield value for the northern subpopulation of northern anchovy.

Amendment 15 (2015) added a suite of lower trophic level species to the FMP’s list of ecosystem component species. It

Date	Allocation formula for Pacific sardine (July 1– June 30)
June 1— September 14	Forty percent of the harvest guideline is allocated coastwide. Any uncaught allocation is rolled into the second period fishery.
Sept 15— December 31	Twenty-five percent of the harvest guideline is released, plus any portion not harvested from the first period. Any uncaught allocation is rolled into the third period fishery.
January 1— June 30	Thirty-five percent of the harvest guideline, plus any portion not harvested from the initial allocation, is reallocated coastwide. Any uncaught allocation is not rolled into the subsequent period.

prohibits development of commercial fisheries for the ecosystem component species shared between all four FMPs until and unless the Council has assessed the scientific information relating to any proposed fishery and considered potential impacts to existing fisheries, fishing communities, and the ecosystem.

Amendment 16 (2018) allows for small-scale commercial fishing on CPS finfish to continue when the primary commercial fishery is otherwise closed. This sector accounts for a very small portion of the overall catch of any particular CPS stock, and has a negligible impact. However, it is an important source of income for some small ports and producers, especially when the directed fishery is closed. The amendment includes a maximum of one ton per vessel per day, with a one-trip-per-day limit.

Amendment 17 (2018) modifies the landing requirements for the live bait fishing sector when stocks are overfished. Before, once a CPS stock became overfished, landings would be automatically restricted to a pre-determined 15 percent incidental catch limit, with no directed fishing allowed. Amendment 17 requires the Council to consider management measures and landing limits at the time a stock is declared overfished.

## COUNCIL STAFF

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