

## INTRODUCTION TO CALIFORNIA'S WETFISH INDUSTRY



California's fishing industry was largely founded on "wetfish." The traditional catch -- sardines, mackerels, market squid and anchovy -- were called wetfish because they were canned "wet from the sea", with little pre-processing. Most of California's coastal tuna catch was also made by the wetfish fleet.

Then as now, wetfish were harvested with round-haul nets like the lampara and purse seine. Fishermen were literally drenched in a shower of seawater as they hauled the nets aboard, which may be another reason for the term "wetfish."

The complex of fisheries that makes up California's wetfish industry helped to build the ports of San Pedro and Monterey, as well as San Diego and San Francisco.

The immigrant Asian, Italian, Slavic and other nationalities of fishermen who came to America introduced new fishing methods.

Immigrant fishermen and their enterprise have also shaped the melting-pot character of California culture, as well as California cuisine.

Wetfish have contributed the lion's share of California's commercial harvest since before the turn of the 20th century.

California's market squid fishery began in 1863 in Monterey, as Chinese fishermen rowed the bay at night in sampans, carrying baskets filled with burning "fat pine" on the bow -- torches to attract the squid.

While one fisherman in the torch boat attracted the squid, fishermen in two other skiffs encircled the catch with a purse seine net.

The fishermen pulled the net by hand and filled all three boats, using dip nets.

They dried the catch in nearby fields. Large squid were split and dried on flakes; smaller squid were dried whole on the ground. Then the catch was salted and exported to China, where the salt was even more valuable than the squid.

In many ways the history of the sardine fishery complements that of squid.

When the first sardine cannery opened in 1889 in San Francisco, the bay saw its first "haulseines", used to take anchovies and sardines. Five years later, when the San Francisco cannery moved its equipment to San Pedro, sardines and mackerel were harvested with purse seines.

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Another industry milestone, Frank Booth moved to Monterey in 1900. Before his move, Booth and his father had canned salmon in Pittsburg, California. But Booth was impressed by the sheer number of sardines that abounded in Monterey Bay. He founded the F.E. Booth Company and built a plant in 1902 -- the real beginning of Monterey's famed sardine industry.

Not long after Booth launched Monterey sardines as a canned product, Knute Hovden arrived in town. Hovden came from Norway and was a skilled professional in fish packing. He teamed up with Booth and Monterey's canning industry bloomed. The time soon came when their biggest problem was securing a steady supply of fish.



In 1904, Pietro Ferrante -- known as Pete -- arrived on the scene from Sicily. Pete was an accomplished fisherman. He adapted traditional Italian fishing gear -- the lampara net -- for use in Monterey Bay. Ferrante sent word to his fishermen friends in Sicily and northern California, urging them to come to Monterey to join in the hunt for sardines.

Pietro Ferrante is sometimes called the "father" of Monterey's fishing fraternity, but many other pioneer fishermen also helped to make Monterey a major fishing port.

With the supply of sardines increasing, Knute Hovden opened his own cannery in 1914. By 1918 Monterey boasted a total of 9 canning plants on Cannery Row, with more to follow. By 1945 Monterey boasted 19 canneries and 20 reduction plants.



From its beginnings, supplying needed food during World War I, California's sardine industry grew to become the largest fishery in the western hemisphere, capitalizing on an abundance of sardines whose vast schools ranged from the Gulf of California to Southeast Alaska. From spawning centers off Baja and southern California, a silver tide of sardines migrated north in summer.

In late fall and winter the fish reversed direction, moving south.

Off San Francisco and Monterey, fishing peaked in fall, and off southern California it peaked in winter, when the largest fish returned from their northerly migrations.

The abundance of sardines spurred a great debate over how much fish could be reduced to meal and oil and how much reserved for human consumption.



In the 1940s, more than 100 canneries and reduction plants from San Francisco to San Diego employed thousands of workers to process sardines, and the fishing fleet numbered 376 vessels.

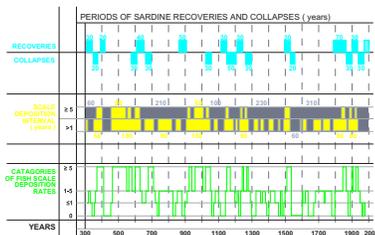
The toil of immigrant fishermen built up a fishing commerce that became the lifeblood of San Pedro, Monterey, San Francisco and San Diego. All these cities boomed on the crest of the silver tide of sardines.

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At its peak in the 1936-37 season, California's sardine fishery landed more than 726,000 tons of fish. Overall, about 70 percent of the catch went to reduction and 30 percent into cans for food.

Canneries put up nearly 3 million cases of canned sardines that season - mostly headless, tailless fish swimming in tomato sauce or mustard. Annual landings averaged about 600,000 tons from the 1934-35 season until the mid-1940s.



Then, suddenly, sardines vanished -- first from the Pacific Northwest, then from Monterey, and in the late 1950s from southern California. The cause of the fishery's collapse evoked great debate. Was it overfishing? Natural cycles? A combination of both?

Years later, marine biologists measuring fish scale deposits in deep ocean sediments off southern California found layers of sardine scales and layers of anchovy, with nine major sardine recoveries and subsequent collapses over a 1700-year period. Sardines and anchovies both vary in abundance over periods of about 60 years. Cold-water oceanic cycles favor anchovies and warm-water cycles favor sardines. The average time to recover a sardine population is 30 years. Researchers found the current sardine recovery similar to those of the past; sardines disappear periodically even without fishing pressure.



After sardines vanished, the wetfish industry turned to other fish, including anchovy and squid. Squid became the number one catch in Monterey. Squid fishing in southern California began in earnest in the 1950s and surpassed Monterey's harvest after the 1982-83 El Niño.

From the beginning, in fact, California's round-haul fleets fished on a diversity of species, depending on area, fishing gear (lampara net or purse seine), markets and seasons.



While lampara nets came to dominate Monterey's sardine fishery in the early years, San Pedro fishermen used purse seines, one net for sardines and another for mackerel, then a third for tunas. Purse seiners also caught "whitefish" -- yellowtail, barracuda and white seabass. These they sold to the fresh fish markets, affectionately (or not so affectionately) known as "The Forty Thieves."

Then as now, the markets were an integral part of San Pedro's fishing community; they provided an alternative to the canneries and, in most years, a decent living for the purse seine fleet.



In 1928 the first large-scale canning of mackerel began. With the development of the mackerel canning industry, the mackerel catch skyrocketed, exceeded only by sardines.

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Smaller lampara boats dominated the mackerel fishery in the late 1920s. The light-weight lampara had the advantage on smaller boats, as early cotton purse seines were heavy and required a large crew to pull by hand. But as the number of canneries increased, along with demand for fish, boats ranged farther afield. By 1934 the larger purse seine boats proved better adapted to large-scale fishing. By 1937 a total of 16 canneries packed mackerel in southern California, and the total number of boats harvesting mackerel had increased to 477.

With inventions such as power pulling of nets, the purse seine drove lampara and ring nets into small-scale bait fishing.

Purse seine boats were wider, deeper and heavier than lampara boats. They were designed to carry most of the load in the hold rather than on deck. The purse seine fleet consisted of different kinds of boats, grouped into several categories. Some fished principally for mackerel and caught other fish only incidentally. Others fished for tuna in summer and sardines in winter, with mackerel an incidental catch. Some boats were old and small, others new and large.

Some crews were Japanese, some Italian and some Slavonian, and a very few were of other nationalities. Each group fished with a different style, and it was not unusual to see the Japanese fleet come in loaded while the Italian boats missed, or just as frequently the other way around.

As the fleet evolved, so did fishing gear and techniques -- Brine refrigeration was introduced in the 1930s...

In 1954 nylon net replaced the cumbersome old-style cotton nets...

Power blocks were introduced around the same time.

The development of the purse seine liberated the fleet to search for fish far offshore --

And some fishermen built "super seiners" to fish specifically for tuna in the tropical Pacific.

Reportedly the failure of sardine runs off southern California in 1903, coupled with an experimental pack of albacore tuna, led to the development of the U.S. tuna canning industry.

The albacore boom of the early 1900s also established new tuna canneries. This opened the market for large catches, not only of tuna but sardines and mackerel.

The U.S. Pacific tuna fleet based in southern California developed to legendary proportions through decades of enterprise. At its peak, California's tuna fishery involved more than 2,000 fishermen, whose catch provided work for 10,000 or more additional employees in canneries, boat building and repair facilities.

In the post World War II era, San Diego was called the tuna capital of the world.

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But beginning in the 1980s, the large tuna canners began leaving California. The last tuna cannery closed its doors in 2001.

Sardines and mackerel disappeared in the 1940s due to natural forces, coupled with heavy fishing. Forty years later, the last of California's tuna canning industry disappeared from California, driven out by politics -- and the high cost of operating in the Golden State.



California's wetfish industry today is a traditional industry with a contemporary outlook.

Today's industry is streamlined -- only 65 boats are licensed to fish sardines, mackerel and anchovy under a limited entry program enacted in 1999. A few more than this number actively fish for squid. Although many boats have fished for decades, fishing gear is more advanced now and crews are smaller.

Processing facilities operate under strict sanitary rules mandated by the federal government.



Sardine and mackerel stocks rebounded, but wetfish fisheries -- now called Coastal Pelagic Species -- are managed under strict harvest guidelines, with more regulations proposed.

The sardine, mackerel and tuna canneries are all but gone -- only one sardine cannery remains in Monterey. The cost of doing business in California is high, and California product must compete at market with imported canned sardines produced at much lower cost. But tradition continues nonetheless.



San Pedro's "Forty Thieves", as well as wetfish markets elsewhere in California, are more important today than ever before. In the year 2000, this industry produced more than 455 million pounds of fish, nearly 84 percent of the total California catch, at a dockside value of close to \$39 million -- over 29 percent of total value of all fisheries in California. Squid has become the state's most valuable fishery, and the fully recovered sardine fishery is gaining ground.

Today the bulk of the wetfish catch is frozen and exported. California's wetfish industry fills another important economic role, helping to offset the US trade deficit -- for seafood is the second largest commodity deficit, after oil, in the United States.



To be sure much has changed in California's wetfish industry -- but much remains the same -- the traditions, the culture, the importance.

The melting-pot culture that infused California along with the immigration of Asian, Italian, Slavonian and other fishermen, still enriches the fishing ports of California, as the fishing industry celebrates and is celebrated at holidays and blessings of the fleet.

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Today the sons and daughters continue the enterprise begun by their fathers and grandfathers 50 or 100 years ago. California's wetfish industry still abides by its traditional reason for being -- summed up in an old Italian saying: "Eredita -- pass it on."