

Moss Landing

People and Place

Location

Moss Landing is in Monterey County on the eastern shore of Monterey Bay at the mouth of Elkhorn Slough. The community is 25.4 miles south of Santa Cruz and 95.8 miles south of San Francisco. It encompasses 0.4 square mile of land and 0.2 square mile of water. Moss Landing's geographic coordinates are lat 36°48'16"N, long 121°47'09"W.

Demographic Profile

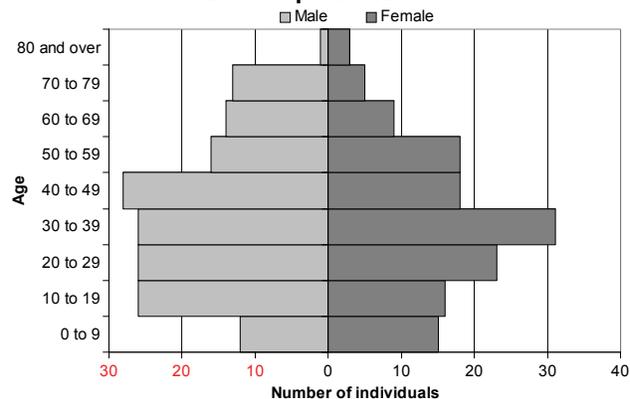
According to the 2000 U.S. Census, the population of Moss Landing was 300. Population trends were difficult to determine, as Moss Landing was not recognized by the U.S. Census as a census designated place until 2000. The gender composition was 46% female and 54% male. The median age was 36.4, slightly higher than the national average of 35.3. Of the population 18 years of age and older, 66.7% had a high school education or higher, 24.2% had a bachelor's degree or higher, and 18.6% had a graduate or professional degree; the national averages were 79.7%, 22.3%, and 7.8% respectively. The high level of graduate education attainment for Moss Landing may be due in part to the presence of the Monterey Bay Aquarium Research Institute and the Moss Landing Marine Lab.

The majority of the racial composition was white (59.3%), followed by individuals who identified with some other race (21.7%), individuals who identified with two or more races (13.3%), black (3%), Asian (2%), and American Indian and Alaska Native (0.7%). Ethnicity data indicate 28.3% identified as Hispanic, and 27.5% were foreign-born compared to the national average of 11.1%. Of the foreign-born, 18.9% were from Mexico.

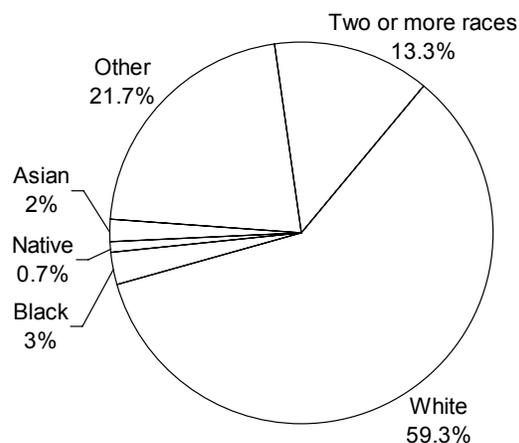
History

The aboriginal lands of the Ohlone/Costanoan Esselen tribes extend from the southern Monterey Bay area and include the northern Salinas Valley, Monterey Peninsula, Big Sur coastline, and the mountainous interior from the Carmel highlands to the area around Soledad. Before colonization by the Spanish Empire in the 1700s, the Indians developed complex social and religious systems within tribal territorial boundaries composed of a central permanent village and other secondary or seasonal village sites. Part of the Wacharon

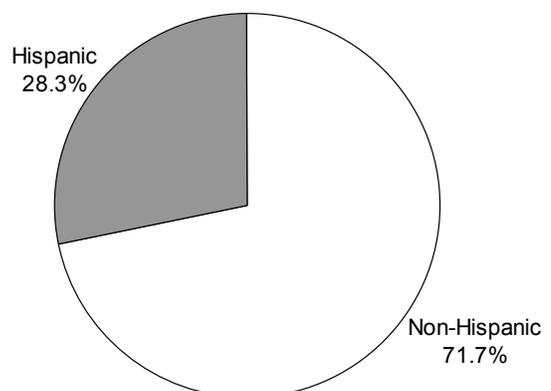
2000 Population structure



2000 Racial structure



2000 Hispanic ethnicity



(Guachirron) and Calendaruc village area was in the present-day Moss Landing area.¹

In the early seventeenth century many Europeans sailed to California looking for land to colonize for the Spanish Empire. The Spanish called the native people of the Central Coast, *costeños* or coast-dwellers, which eventually became Costanoan.² In 1770 Spanish missionaries and soldiers moved Indians from their villages to missions in Monterey. The ancestral villages were emptied and the Indians were not allowed to practice their religion, speak their language, or dress in their traditional clothing. When the United States took over California in 1848, the Treaty of Guadalupe Hidalgo obligated it to prevent the loss of Indian owned lands, but it was never carried out. A series of treaties that followed also did not guarantee or recognize a land base for the Esselen tribes.

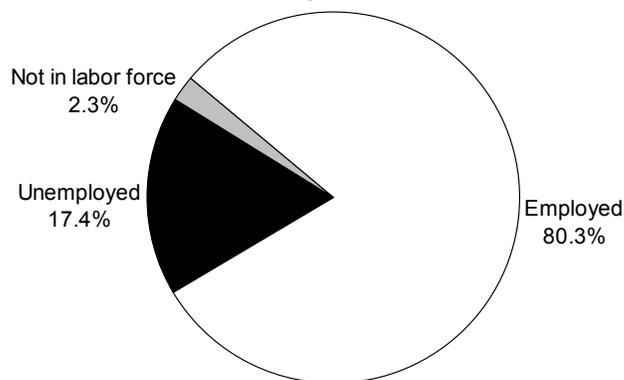
In the 1900s anthropologist Alfred Kroeber said the Esselen- and Costanoan-speaking people were extinct, a statement which created current problems for the tribe in its efforts to receive federal recognition.³ Today the Esselen Nation has about 500 enrolled members. The tribe was not legally terminated during the termination period; however, due to an administrative error the tribe lost its recognition status and the opportunity to receive land from the federal government. The tribe has submitted a petition for federal recognition through the Federal Acknowledgment Process.⁴

Moss Landing was named after Captain Charles Moss in 1866. Moss was a Texan who, with Portuguese whaler Cato Vierra, constructed a wharf and a pier for commercial water traffic.⁵ Chinese immigrants were the first to dike, ditch, and drain local wetlands for agriculture. Lumber, wheat, sugar beets, potatoes, and other products were shipped to San Francisco. In 1906 an earthquake destroyed the wharf and much of the infrastructure.⁶

Portuguese whalers introduced commercial whaling to Monterey Bay in 1853. Blubber was rendered into oil for use in lanterns. Many Asian immigrants came to the area to work in the whaling industry, which went into decline when the price of whale oil dropped due to the introduction of kerosene in the 1870s.⁷ However, modern whaling equipment prompted the California Sea Products Company to build a large whaling factory in Moss Landing in 1918. The factory closed in 1927 due to the drastic decline in the number of whales, the drop in whale oil prices, and competition from offshore factory ships.^{8,9}

The 1900s also brought in fishing boats called Monterey clippers and Sicilian lamparas with fishing gear that targeted coastal pelagic species.¹⁰ The sardine fishery stimulated the small-scale fishery in Moss

2000 Employment structure



Landing that had been in place since the 1880s. World War I shut down Europe's fishing grounds, giving a boost to West Coast fisheries. Production from the sardine canneries increased. Sardines were shipped to soldiers during both world wars.¹¹ Growth in the fishery in the 1930s stimulated development and prompted the California Legislature in 1947 to establish the Moss Landing Harbor District. The harbor provided a safe channel and supported new canneries and reduction plants on a narrow spit of land that extends northwest from the mainland, known as the "Island." Within five years, however, the sardine population collapsed and many sardine fishermen moved south to San Pedro, only to have that fishery collapse a few years later.¹²

The fishermen and buyers who remained in the Monterey Bay area shifted their focus to other species such as anchovy, mackerel, and squid. Over time, fisheries for groundfish, halibut, spot prawn, crab, salmon, albacore, and other species developed at Moss Landing. By the mid-1970s there were five fish buyers in Moss Landing who received and processed a range of species.¹³ Moss Landing also played a role in the first commercial transfer of eyed oyster larvae, which were produced at Pigeon Point and then moved to the Moss Landing setting facility.¹⁴ Today Moss Landing Harbor is one of the largest commercial fishing ports in California. In 2001 it ranked third in pounds landed behind the Los Angeles and Ventura/Port Hueneme/Oxnard Harbor complexes, and fourth in ex-vessel revenues behind the San Francisco Bay area.¹⁵

In the 1960s California State University's Moss Landing Marine Laboratories (MLML) was established. Unfortunately MLML's facilities were damaged beyond repair during the 1987 Loma Prieta earthquake. These facilities have since been rebuilt at a new site south of town.¹⁶ In the 1990s the Monterey Bay Aquarium

Research Institute established extensive facilities in Moss Landing at the site of the old whaling factory.

In 1992 the Monterey Bay National Marine Sanctuary was designated. Fieldwork indicates local processing workers believe regulations are the biggest factor affecting today's fisheries. Some say conflicts over regulations opened divisions in the community between those who supported the designation of the marine sanctuary and those who did not.

Today, Moss Landing is a tourist destination well-known for antiques. It is the gateway to the Elkhorn Slough National Estuarine Research Reserve, the second largest marine wetland in California.^{17, 18} More attractive commercial rental costs have attracted business owners from the Monterey area to Moss Landing. The first antique store opened in 1969 and many others soon followed. Many stores retain a nautical theme in décor and merchandise.

Infrastructure

Current Economy

According to the 2000 U.S. Census, 80.3% of Moss Landing's potential labor force 16 years of age and older were employed, 17.4% were unemployed, and the unemployment rate was 17.8% (calculated by dividing the unemployed population by the labor force). In addition, 2.3% were not in the labor force. The primary employment sectors were entertainment, recreation, and accommodation, and food services (28.4%), local, state, or federal government (22.1%), and professional, scientific, and technical services (15.7%). Natural resource jobs including agriculture, forestry, fishing, and hunting employed 9.6%, but this percentage may be artificially low because many persons in these job categories are self-employed and are underrepresented in the data.

Moss Landing's economy is based on commercial fishing, research, and recreation and tourism. In addition to the fishing industry, other major employers in the area are Duke Energy and the Monterey Bay Aquarium Research Institute. Estimates of local commercial fishing employment can be derived from Pomeroy and Dalton.¹⁹ Antique dealing has also become an important component of the economy. Few employees reside in Moss Landing, and many of its residents work in other nearby communities.²⁰

According to the 2000 U.S. Census, the per capita income in 1999 was \$28,005, the median household income was \$66,442, and 18.8% lived below the poverty level. Of the 135 housing units in 2000, 92.6% were occupied and 7.4% were vacant. Of the occupied units, 47.2% were by owner and 52.8% were by renter.

Governance

Moss Landing is an unincorporated, census-designated place (CDP). Residents pay a 7.25% sale tax based on the standard statewide rate. Monterey County has no district tax in effect, but does levy a 10.5% transient lodging tax. See the Governance subsection (page 43) in the Overview section for a more detailed discussion of taxes affecting fisherman and processors in California.

Moss Landing is 29 miles from the National Marine Fisheries Service (NMFS) Southwest Regional Santa Cruz lab and 357.1 miles north of the Southwest Regional Office in Long Beach. It is about 18.3 miles from the California Department of Fish and Game Monterey Field Office and a U.S. Coast Guard Station, both located in Monterey. Moss Landing is 83.3 miles from the nearest U.S. Citizenship and Immigration Services Center in San Francisco. Pacific Fishery Management Council meetings are held in Foster City, 76.5 miles away, and North Pacific Fishery Management Council meetings are held 717.8 miles away in Portland, Oregon.

Facilities

Moss Landing is 10.2 miles from U.S. Highway 101. A local transportation system runs buses to nearby communities. The community is 19.3 miles from the Monterey Peninsula Airport and 55.3 miles from San Jose International Airport.

Students attend elementary schools 3.7 miles away in Castroville and the local middle school in Moss Landing. The closest high school is in Castroville.²¹ Pacific Gas and Electric (PG&E) supplies electricity, and Cal-American Water Company provides water and wastewater services. In the early 1950s, PG&E constructed the Moss Landing Power Plant, the second largest fossil fuel thermal electric power plant in the world. Duke Energy purchased the plant in 1998 and has redesigned facilities to minimize environmental impacts.²² The Monterey County Sheriff's Department administers local law enforcement. The nearest health care facility is Watsonville Community Hospital in Watsonville (9.4 miles).²³ Moss Landing accommodations include a bed and breakfast, recreational vehicle park, and vacation rentals. Nearby communities also have lodging accommodations.²⁴

Moss Landing Harbor, Woodward's Marine (a small supply/tackle store and fuel dock), a boatyard with travelift, a marine electrician, a marine diesel mechanic, a marine covers/upholstery shop, and a metal fabricator/welder provide fishing related goods and services.²⁵ In

addition, the Elkhorn Yacht Club is a private club for recreational boaters.

A political subdivision of the state, the Moss Landing Harbor District is governed by a Harbor Commission of five members elected by local residents.²⁶ The district is divided into two areas: North and South harbors. North Harbor serves recreational boating and visitor activities. South Harbor supports commercial fishing and marine research and also serves coastal and marine sportfishing, recreation, and tourism services. From the late 1990s through 2003, the district oversaw reconstruction of the Santa Cruz Cannery Building, which houses two fish buyers with small-scale processing facilities; renovation of adjacent K-dock for commercial fish unloading; and the opening of a restaurant and fish market at North Harbor.²⁷

Moss Landing Harbor has 743 berths. In 2001 approximately 125 vessels homeported at the harbor. Another 175 vessels actively used the harbor but homeported elsewhere.²⁸ Many commercial slips have gone unused as the fishing fleet decreased in size, while there is a waiting list for recreational boats.²⁹ Historically, the main purpose of the harbor district was commercial fishing. The first sportfishing business applied to the board of directors 10 years ago to be a part of the district. In the past, crewmembers were at sea for months and then stayed on the boats when they were in port. However, the number of live aboards has dropped significantly.

The Moss Landing Marine Lab and the Monterey Bay Aquarium Research Institute are located in the Moss Landing Harbor District. The institute has 200 people working on deep water research instruments, 60 scientists, and 40 to 50 engineers. Research includes developing instruments, discovering new species, monitoring buoys, video recording, and other specialized studies. Of major concern is a new undersea observatory monitored by the Monterey Accelerated Research System that will be connected to the institute with a large cable that may impact or be impacted by trawlers.

Moss Landing is also home to the California Marine Pollution Studies Lab and the Monterey-Santa Cruz County Sea Grant marine advisor. Another Sea Grant marine advisor is in Watsonville, 11.5 miles northeast of Moss Landing. Several fisheries-related organizations operate in or near Moss Landing, including the Pacific Coast Federation of Fishermen's Associations and the Marine Mammal Center. The Alliance for Communities for Sustainable Fisheries is a regional organization based in the Monterey Bay area. It is an umbrella group with members in the Channel Island area that funds and supports the California Fisheries Coalitions. The Fishermen's Marketing Association of Moss Landing is a

subgroup of the Pacific Coast Federation of Seafood Harvesters.

Involvement in West Coast Fisheries

Commercial Fishing

In 2000 all of the 355 vessels that delivered landings to Moss Landing were commercial. Landings were in the following West Coast fisheries (data shown represents landings in metric tons/value of landings/number of vessels landing): coastal pelagic 22,720 t/\$3,398,666/33; crab 20 t/\$94,081/16; groundfish 812 t/\$1,547,736/91; highly migratory species 346 t/\$745,032/56; salmon 404 t/\$1,410,687/184; shrimp confidential/confidential/2; and other species 6 t/\$26,405/37.

In 2000 residents owned 27 vessels, of which two participated in the Groundfish Vessel Buyback Program. In 2004 three Moss Landing vessels participated in the buyback program. Community members owned 15 vessels that participated in the federally managed groundfish fishery. The number of vessels owned by Moss Landing residents that participated in each fishery by state (WA/OR/CA) was: crab 0/0/3, groundfish 0/0/NA, highly migratory species NA/0/NA, salmon 0/1/20, shellfish NA/0/NA, and shrimp NA/0/3.³⁰

Moss Landing residents held three federal groundfish fishery permits in 2000. The number of individual community members holding permits in each fishery by state (WA/OR/CA) was: coastal pelagic 0/0/6, crab 0/0/3, groundfish 0/0/11, highly migratory species NA/0/1, salmon 0/1/44, shellfish 0/0/NA, shrimp 0/0/5, and other species 1/0/13.³¹

Moss Landing residents held 136 registered permits, of which 133 were registered state permits. The number of permits held by these community members in each fishery by state (WA/OR/CA) was: coastal pelagic 0/0/15, crab 0/0/3, groundfish 0/0/13, highly migratory species NA/0/3, salmon 0/1/76, shellfish 0/0/NA, shrimp 0/0/7, and other species 1/0/14.³²

A 2003 study by Pomeroy and Dalton found most of the fish landed or received at Moss Landing are trucked to nearby facilities for processing. In 2001–02, seven resident and dozens of nonresident buyers received fish at Moss Landing. For the three resident buyers who provided detailed employment data, the results showed 307 full-time and 825 part-time fish receiving and processing employees. An estimated 12 to 15 full-time employees from these three buyers (of about 750 FTEs) worked at the receiving stations at Moss Landing. Plants in Watsonville and other communities employed the other workers. The study showed not all resident buyers are headquartered in Moss Landing; most of their employees work at the headquarters or other processing

or receiving locations.³³ In 2004 there were at least four processor or off-loading/icing facilities located in the harbor district.

Sportfishing

Moss Landing is part of the Monterey, Moss Landing, Santa Cruz port complex. In 2000 it received 139,058 commercial passenger fishing vessel landings made by 37,884 anglers. The majority of landings were rockfishes, Chinook salmon, albacore tuna, and flatfishes. In addition, the Moss Landing beachfront and harbor are used by resident sport fishermen. A 2004 site visit and internet sources confirm at least two sportfishing businesses in the community.³⁴

Subsistence

Both nontribal and tribal fishermen, including members of the Ohlone/Costanoan Esselen Nation, utilize marine and stream resources for subsistence resources within and surrounding Moss Landing, however, specific information on subsistence fishing is not discussed in detail in this community profile due to the lack of available data. The California Department of Fish and Game uses the term “recreational” for fishermen who do not earn revenue from their catch, but fish for pleasure or to provide food for personal consumption. Information on subsistence fishing is captured to some degree in the sportfishing data.

Involvement in North Pacific Fisheries

Commercial Fishing

In 2000 one Moss Landing resident held a crew member license for North Pacific fisheries.

Sportfishing

Moss Landing residents purchased two Alaska sportfishing licenses in 2000.

Notes

1. Ohlone/Costanoan Esselen Nation. 2004. Our indigenous homelands. Online at <http://www.esselelnation.com/OurHomelands.html> [accessed 1 March 2007].

2. Ohlone/Costanoan Esselen Nation. 2004. Our nation’s name. Online at <http://www.esselelnation.com/OurName.html> [accessed 1 March 2007].

3. Ohlone/Costanoan Esselen Nation. 2004. Our history since European contact. Online at <http://www.esselelnation.com/OurHistory.html> [accessed 1 March 2007].

4. Ohlone/Costanoan Esselen Nation. 2004. Ohlone/Costanoan Esselen Nation today. Online at <http://www.esselelnation.com/OCENToday.html> [accessed 1 March 2007].

5. Moss Landing Chamber of Commerce. 2002. Home. Online at <http://www.mosslandingchamber.com/index.html> [accessed 1 March 2007].

6. National Estuarine Research Reserve System. 2004. Elkhorn Slough reserve. Online at <http://nerrs.noaa.gov/ElkhornSlough/History.html> [accessed 1 March 2007].

7. Field notes, Maritime Museum, Monterey, CA, 1–4 September 2004.

8. S. Lydon. 2004. The Moss Landing whaling station: 1919–1926. Online at <http://www.sandylydon.com/html/sec5.html> [accessed 1 March 2007].

9. L. Kortum. No date. Points of historical interest: Monterey County. Online at <http://www.californiacoastaltrail.org/oldsite/monterey.html> [accessed 1 March 2007].

10. See note 7.

11. Field notes, Monterey Bay Aquarium, Cannery history exhibit, 1–4 September 2004.

12. C. Pomeroy and M. Dalton. 2003. Socio-economics of the Moss Landing commercial fishing industry: Report to the Monterey County Office of Economic Development. Online at http://www.psmfc.org/efin/docs/otherpublications/ML_Cmcl_Fishing_Ind_Report.pdf [accessed 1 March 2007].

13. See note 12.

14. G. Jones and B. Jones. 1988. Advances in the remote setting of oyster larvae. Online at <http://www.innovativeaqua.com/Publication/Pub1.htm> [accessed 1 March 2007].

15. See note 12.

16. Field notes, Sea Grant personnel, Watsonville, CA, May 2006.

17. Monterey Bay Kayaks. No date. Moss Landing & Elkhorn Slough: One of the largest coastal wetlands in California. Online at http://www.montereybaykayaks.com/info/moss_landing.php [accessed 1 March 2007].

18. D. Roberson. 2000. Elkhorn Slough and Moss Landing. Online at <http://www.montereybay.com/creagrus/elkhornslough.html> [accessed 1 March 2007].

19. See note 12.

20. See note 16.

21. North Monterey County Unified School District. 2003. Directory of schools and services. Online at <http://www.nmcusd.org/directory/directory.asp> [accessed 1 March 2007].

22. Ameron International Water Transmission Group. No date. Moss Landing power plant. Online at http://www.ameronpipe.com/products/ch_moss.htm [accessed 1 March 2007].

23. City-data.com. No date. Moss Landing, CA. Online at <http://www.city-data.com/city/Moss-Landing-California.html> [accessed 1 March 2007].

24. See note 5.

25. See note 16.

26. See note 12.

27. See note 16.

28. See note 12.

29. A. Weinstein. 2002. Site characterization: Human influences: Socioeconomic uses: Harbors. Online at <http://bonita.mbnms.nos.noaa.gov/sitechar/soci6.html#6b> [accessed July 2004].

30. NA refers to data that were not available, for example, due to few or no recorded permit numbers, or the partially permitted nature of a fishery in 2000.

31. See note 30.

32. See note 30.

33. See note 12.

34. Sportfishing businesses determined via internet search. Online at <http://humguide.com>; <http://www.sportsmansresource.com> [accessed 1 March 2007].