

Labor Market Analysis for Program Exploration: Commercial Fishing

Prepared by the Far North Center of Excellence
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FOR LABOR MARKET RESEARCH
FAR NORTH

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Introduction

The Far North Center of Excellence (Far North COE) was asked to provide labor market information for an exploration of community college program opportunities related to commercial fishing. (See Appendix A for methodology and data sources.)

In conducting this analysis, the Far North COE sought to determine if demand in the local labor market is unmet by the supply from existing community college programs and other postsecondary training providers, with a primary focus on training that leads to well-paid, in-demand, middle-skilled occupations, those typically requiring more education and training than a high school diploma but less than a bachelor's degree.¹

This report focuses on three Standard Occupational Classification (SOC) occupations and codes related to commercial fishing:

- 45-3031 Fishing and Hunting Workers
- 45-1011 First-Line Supervisors of Farming, Fishing, and Forestry Workers
- 53-5021 Captains, Mates, and Pilots of Water Vessels

Industry overview

The commercial fishing sector spans two categories of conventional and sustainable marine economic activities known as the ocean economy (conventional) and blue economy (more environmentally sustainable and socially equitable):

- Ocean economy sectors—living resources, marine construction, offshore mineral extraction, marine transportation, ship and boat building, and tourism and recreation
- Blue economy sectors—blue tech, carbon capture, ecosystem conservation, marine professional services, ocean research and development, regenerative aquaculture, renewable ocean energy, and sustainable port operations²

When examining the commercial fishing sector, which includes the harvesting of finfish and shellfish, it is important to consider the many different types of work being conducted on board commercial vessels and on land. In addition to fishing activities conducted by small, independent vessels and by fleets owned by large seafood companies, the sector includes food manufacturing activities, including product preparation and packaging, and wholesale activities.

According to University of California Agriculture and Natural Resources' "2025 Working Landscapes" report, the fishing industry accounts for 11,200 jobs in California, with half of those workers employed in Los Angeles County.³ There are 200 businesses associated with fishing in the state, which generated \$1 billion in earnings in 2024.⁴

Regions with the greatest employment in the state are Los Angeles County, the Bay Area, and Central Coast. However, the Redwood Coast Region ranks fourth in the state for commercial

¹ Pursuant to California Education Code §78015, labor market information (LMI) is required for all new career education certificate and degree program proposals, and the North Far North Regional Consortium (NFRNC) requires LMI to come from the North Far North COE (Far North and Greater Sacramento). This report should serve to satisfy those requirements.

² "The Blue Economy in Los Angeles County: Charting a Course Forward," Los Angeles Economic Development Corporation (LAEDC), February 2025, <https://www.smc.edu/academics/workforce-economic-development/becap/documents/BECAP-Report-Feb25.pdf>.

³ Alec Compka et al., "California's Working Landscapes: Evolving Contributions to National, State, and Regional Economies," University of California Agriculture and Natural Resources, November 2025, accessed March 24, 2026, https://ucanr.edu/sites/default/files/2026-01/WorkingLandscapes-Compliant-Dec_0.pdf.

⁴ Compka et al., "California's Working Landscapes: Evolving Contributions to National, State, and Regional Economies."

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fishing jobs and totaled 1,062 jobs in 2024.⁵ Counties comprising the Redwood Coast Subregion are Del Norte, Humboldt, Lake County, Trinity, and Mendocino.⁶

From active fishing to fish processing, the commercial fishing industry is closely regulated in California. In Northern California, the North Coast commercial fishing region stretches from Point Arena to the Oregon border.⁷ Within this region, there are commercial fishing districts which manage how much catch can be taken from specific fisheries.

The California Department of Fish and Wildlife (CDFW), together with the Pacific States Marine Fisheries Commission (PSMFC) and the National Marine Fisheries Service (NMFS), track fishery activity through:

- Fish tickets/landings receipts
- Vessel logbooks
- Onboard observers
- Port sampling⁸

There are a variety of licenses required by the state for a commercial fishing vessel to sell its catch.⁹ All commercial fishermen, including captains and crew, are required to have a license from the state that are renewed annually.

In addition, nearly all fisheries require a fishery-specific permit. Similarly, businesses that purchase seafood from fishermen are required to have appropriate licenses and permits and to meet health and safety standards designed to ensure that seafood provided to the public has been handled properly.¹⁰

Overall, in California, the fishing industry has experienced economic pressures in recent years, which has also affected the Port of Humboldt Bay. In 2024, Pacific Seafood, also known as Pacific Choice, shut down operations at its processing plant in Eureka and its ice plant in Crescent City Harbor, laying off an undisclosed number of workers.¹¹ Seafood (oysters, crab, salmon, albacore, and groundfish) that is unloaded in Eureka is being shipped north for processing at Pacific Seafood plants in Oregon.¹²

Aside from Pacific Seafood there is one other large facilities operator in the region, Caito Fisheries, now owned by Southwind Foods.¹³ (Pacific Seafood and Caito have been implicated in a crab price

⁵ This segment includes the state's commercial fishing activities, including finfish and shellfish. The segment also includes manufacturing activities, including product preparation and packaging, and wholesale activities.

⁶ The 2025 Working Landscapes report excludes Trinity County in its analysis.

⁷ "Regions," California Sea Grant, 2026, accessed March 24, 2026, <https://caseagrants.ucsd.edu/california-commercial-fisheries/regions>.

⁸ "Measuring Commercial Fishery Activity," California Sea Grant, 2026, accessed March 24, 2026, <https://caseagrants.ucsd.edu/california-commercial-fisheries/measuring-commercial-fishery-activity>.

⁹ "2026 Commercial Fish Business License Information Guide," State of California Department of Fish and Wildlife, accessed March 24, 2026, <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=40729&inline>.

¹⁰ "Management Context," California Sea Grant, 2026, accessed March 24, 2026, <https://caseagrants.ucsd.edu/california-commercial-fisheries/management-context>.

¹¹ Ryan Burns, "Pacific Seafood Halts All Processing in Eureka, Laying Off an Undisclosed Number of Employees," *Lost Coast Output*, November 15, 2024, accessed March 24, 2026, <https://lostcoastoutput.com/2024/nov/15/pacific-seafood-halts-eureka-operations/>.

¹² Ryan Burns, "Pacific Seafood Halts Processing at Its Plant in Eureka, Calif. Sending Product to Oregon," *Lincoln Chronicle*, November 17, 2024, accessed March 24, 2026, <https://lincolnachronicle.org/pacific-seafood-halts-eureka-operations/>.

¹³ City of Eureka, "Proposal: Fisherman's Terminal Piling Replacement Project," U.S. Department of Transportation Maritime Administration, February 2023, accessed March 24, 2026, <https://www.maritime.dot.gov/sites/marad.dot.gov/files/2023-02/PID2022000337%20City%20of%20Eureka%20Proposal%20Fisherman%27s%20Terminal%20Piling%20Replacement%20Project-Eureka%20California%20Application.pdf>.

fixing scheme in Northern California.¹⁴) Based on the COE's research, there are now only two out of three seafood processing plants used by commercial fishermen to offload and process their catch remaining in Eureka—the Fisherman's Terminal and a facility owned by Caito Fisheries.¹⁵

Notable industry issues and trends

- **An industry under pressure**—The overall decline and collapse of certain fisheries over the last century have led to curtailment of catch and concerns about long-term sustainability of the industry. However, new business ventures have emerged to meet demand for sustainable seafood that prioritizes responsible fishing practices.

The historical decline in employment of commercial fishing workers is projected to continue, with the U.S. Bureau of Labor Statistics projecting a 5% contraction nationally through 2034.¹⁶ Only 2,800 annual openings are projected nationally with those jobs resulting solely from replacements, such as retirements.¹⁷ (Anecdotally, there is a shortage of deckhands on the West Coast, and there is a need for skilled tradesmen who work on fishing vessels. Based on job requests and a scarcity of responses on the Facebook group "West Coast Fisherman," which has 81,000 members, employment opportunities appear to be limited, although this should by no means be considered a direct measurement of employment demand.)

- **Offshore wind**—The burden of offshore wind development may impact small fishermen disproportionately.¹⁸ The California Fishermen's Resiliency Association has expressed concerns that the Coastal Commission's Statewide Strategy for offshore wind development does not adequately protect commercial fishermen.¹⁹ The Alliance of Communities for Sustainable Fisheries is also tracking the issue.²⁰
- **AB1514**—Due to the way commercial fishers have traditionally been compensated (through crew share), the Pacific Coast Federation of Fishermen's Associations has requested an exemption to California workforce regulations that classify employees and independent contractors and define the type of remuneration to be received by each.²¹
- **Dungeness crab lawsuit**—The lawsuit has resulted in a delayed crabbing season. "Three days into the delay, negotiations remain difficult due to a pending lawsuit brought by a fisherman against multiple California buyers and processors. Buyers are uncomfortable offering a price amid ongoing legal uncertainty, and fishermen are struggling to get to work without knowing what they will be paid."²²

¹⁴ Little v. Pacific Seafood Procurement, LLC et al, 23-1098 (N.D. Cal. 2026), <https://thebrooksinstitute.org/sites/default/files/2025-01/Little%20v%20Pacific%20Seafood%20Procurement%20Decision%20-%20To%20Accompany%202025-1-23%20Weekly%20Digest%20No.%20276.pdf>.

¹⁵ City of Eureka, "Proposal: Fisherman's Terminal Piling Replacement Project," U.S. Department of Transportation Maritime Administration, February 2023, accessed March 24, 2026, <https://www.maritime.dot.gov/sites/marad.dot.gov/files/2023-02/PID2022000337%20City%20of%20Eureka%20Proposal%20Fisherman%27s%20Terminal%20Piling%20Replacement%20Project-Eureka%20California%20Application.pdf>.

¹⁶ "Fishing and Hunting Workers: Occupational Outlook Handbook," U.S. Bureau of Labor Statistics, last modified August 28, 2025, accessed March 24, 2026, <https://www.bls.gov/ooh/farming-fishing-and-forestry/fishers-and-related-fishing-workers.htm>.

¹⁷ "Fishing and Hunting Workers: Occupational Outlook Handbook."

¹⁸ "Resources," California Fishermen's Resiliency Association, 2024, accessed March 24, 2026, <https://www.californiafishermensresiliencyassociation.com/resources>.

¹⁹ Ken Bates, "December 2025 CFRA Newsletter," California Fishermen's Resiliency Association, December 16, 2025, accessed March 24, 2026, https://www.californiafishermensresiliencyassociation.com/_files/ugd/1298ad_7f65c33496f849ed91f84b822a060743.pdf.

²⁰ "Reports," Alliance of Communities for Sustainable Fisheries, 2020, accessed March 24, 2026, <https://www.alliancefisheries.org/reports>.

²¹ "AB1514 Signature Request," Pacific Coast Federation of Fishermen's Associations, September 17, 2025, https://static1.squarespace.com/static/66886d1d77312b4f3b788eb4/t/690923c966fccc4d4b31a160/1762206665780/2025_Sept_AB1514+PCFFA+Exemption+-+Signature+Request.pdf.

²² "Update on Crab Season," Pacific Coast Federation of Fishermen's Association, January 5, 2026, accessed March 24, 2026,

Fishing districts: Port of Humboldt Bay

The Port of Humboldt Bay falls within four commercial fishing districts in the state.²³ Fishing districts do not necessarily limit the number of fishing boats in a district but may limit how many boats can participate in a fishery.

According to the California Department of Fish and Wildlife, the district boundaries are defined as follows:

- **DISTRICT 6** includes the ocean waters of the state from northerly boundary of the state to the west end of north jetty at entrance to Humboldt Bay; excluding all streams, sloughs and lagoons.
- **DISTRICT 7** includes the ocean waters of the state from the west end of north jetty at entrance to Humboldt Bay to the southern boundary of Mendocino County; excluding all streams, sloughs and lagoons.
- **DISTRICT 8** includes entrance to Humboldt Bay and that portion of Humboldt Bay lying north of a line running east from south jetty apron; excluding all sloughs, streams, and lagoons.
- **DISTRICT 9** includes that portion of Humboldt Bay lying south of a line running east from south jetty apron; excluding all rivers, streams and sloughs.²⁴

Fishing vessel jobs

Employment as a deckhand on commercial fishing boats is often obtained through “walking the docks,” walking the wharves when the boats come in and seeing which captains are looking to hire deck hands. Online job postings are not commonly used to advertise positions, but social media is commonly used to obtain work. Fishing boat crew members are largely self-employed, work seasonally, and earn a share of the catch. A bad season can mean no paycheck for some. Due to this type of compensation, tracking workforce demand and median pay in the commercial fishing industry is difficult when relying on traditional labor market data sources.

Larger commercial fleets may conduct background checks and drug testing, but smaller vessels may waive these requirements although skippers/captains usually check references. The industry is close-knit with a strong word-of-mouth system which is used to vet workers that are hired.

Commercial fishing is notoriously dangerous, with most deaths resulting from crew members falling overboard. The industry has one of the highest fatality rates in the nation, 40 times higher than the average worker, according to the Centers for Disease Control and Prevention.²⁵

Experience and hard work tend to be valued over education by employers. Crew members are expected to work hard and work their way up. Physical strength, endurance, and the ability to follow orders are valued. Entry-level positions tend to be as deckhands or seafood processors, positions that through work experience lead into specialized crew roles, like assistant engineer,

<https://www.pcffa.org/news/update-on-crab-season>.

²³ “California Commercial Marine Fishing Districts,” California Department of Fish and Wildlife, accessed March 24, 2026, <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=147314&inline>.

²⁴ “Brief Description of Commercial Fishery Districts,” State of California Department of Fish and Wildlife, 2026, accessed March 24, 2026, <https://wildlife.ca.gov/Fishing/Commercial/Regulations/Districts>.

²⁵ “Commercial Fishing Safety in the United States,” National Institute for Occupational Safety and Health, last modified January 15, 2025, accessed March 24, 2026, <https://www.cdc.gov/niosh/fishing/data-research/regional-summaries/index.html>.

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chief engineer and first mate, culminating as captain or skipper.²⁶ (Observers are assigned to fishing vessels and employed by NOAA. They receive a set daily pay rate, but these positions usually go to college students pursuing a four-year degree in marine science or fisheries management.)

The following hierarchy is an example of the chain of command on a fishing or maritime vessel:

- Master/Captain/Skipper (usually federally licensed)²⁷
- Deck Officer/Mate (a licensed officer, usually credentialled by the U.S. Coast Guard)
- Able Seaman/Able Seafarer (an experienced deckhand)
- Ordinary Seaman (Deckhand, entry-level trainee, also considered an apprentice to become an Able Seaman)²⁸

Please note that Able Seafarers typically must have completed a set of requirements known as Standards of Training, Certification and Watchkeeping for Seafarers (STCW).²⁹ STCW is a common component of postsecondary training programs for entry-level maritime positions, such as the coursework offered by Columbia Pacific Maritime. (Please see the Postsecondary Training section of this report.)

California Fishermen's Resiliency Association (CFRA): Member Associations in Northern California

- Crescent City Commercial Fishermen's Association
- Trinidad Bay Fishermen's Association
- Humboldt Area Saltwater Anglers (HASA)
- Shelter Cove Fishermen's Preservation, Inc.
- Salmon Troller's Marketing Association of Noyo
- Bodega Bay Commercial Fishermen's Association
- Golden State Fishermen's Association

Source: <https://www.californiafishermensresiliencyassociation.com/>

²⁶ "Commercial Fishing Jobs," Bristol Wave, 2026, accessed March 24, 2026, <https://bristolwaveseafoods.com/commercial-fishing-jobs/#:~:text=Bristol%20Wave%20Seafoods%20offers%20a%20variety%20of,Periodic%20random%20drug%20screening%20on%20the%20job.>

²⁷ "Fishing Vessel Captain," Columbia Pacific Maritime, accessed April 3, 2026, <https://colpacmaritime.com/2021/06/22/fishing-vessel-captain/>.

²⁸ "How to Become a Deckhand," Maritime Institute of Technology and Graduate Studies, last modified December 14, 2023, accessed March 24, 2026, <https://www.mitags.org/become-deckhand/>.

²⁹ "STCW Able Seafarer-Deck," U.S. Coast Guard, January 17, 2025, https://www.dco.uscg.mil/Portals/9/NMC/pdfs/checklists/mcp_fm_nmc5_219_web.pdf.

Commercial fishing businesses

Of the top 25 commercial fishing companies in California, one is based in the Far North Subregion, with Wild Planet Foods operating out of Mckinleyville (Exhibit 1).³⁰ The company has 11 to 50 employees. (Please note this list was generated through Inven and has not been vetted.)

Exhibit 1. List of top 25 commercial fishing companies in California

Company	Headquarters	Size	Founded	Ownership
Lusamerica Foods Inc	Morgan Hill	201-500	1975	Family Owned
Wild Planet Foods	Mckinleyville,	11-50	2004	Private
Alaska Seafood Co	Los Angeles	1-10	1987	Corporate
Hog Island Oyster Co	San Francisco	201-500	1983	Private
Luxe Seafood Company	Los Angeles	11-50	2015	Private
Wildtype	San Francisco	51-200	2016	Private Equity
Catalina Offshore Products, Inc.	San Diego	51-200	1977	Family Owned
Santa Monica Seafood	Compton	501-1000	1939	Family Owned
Red Chamber Company	Vernon	1001-5000	1973	Private
Del Mar Seafoods	Watsonville	11-50	1988	Family Owned
Crown Prince, Inc.	Industry	11-50	1948	Private
Monterey Fish	Berkeley	11-50	1979	Private
H & N Group, Inc.	Vernon	51-200	1981	Family Owned
Pucci Foods	Hayward	11-50	1918	Private
Nautilus Seafood	Los Angeles	51-200	1974	Private Equity
Lotus Seafood Inc USA	Oceanside	11-50	2006	Private
Del Pacifico Seafoods LLC	Downey	51-200	2014	Private
Everingham Bros Bait Co	San Diego	11-50	1951	Family Owned
Royal Hawaiian Seafood	South San Francisco	11-50	1984	Family Owned
Lee Fish USA	El Segundo	51-200	2001	Private Equity
Santa Barbara Fish Market	Santa Barbara	11-50	2001	Private
Langara Fishing Adventures	Richmond	11-50	1985	Private
Daiwa USA	Cypress	11-50	1966	Private
Pacific American Fish Company (PAFCO)	Vernon	201-500	1977	Private
Kanaloa Seafood	Oxnard	11-50	1983	Private

³⁰ "Top 25 Commercial Fishing Companies in California," Inven, 2026, accessed March 24, 2026, <https://www.inven.ai/company-lists/top-25-commercial-fishing-companies-in-california>.

Related Industries

Within the North American Classification System (NAICS), there are five NAICS codes primarily associated with commercial fishing:

- **114111 Finfish Fishing**—Establishments primarily engaged in the commercial catching or taking of finfish (e.g., bluefish, salmon, trout, tuna) from their natural habitat.
- **114112 Shellfish Fishing**—Establishments primarily engaged in the commercial catching or taking of shellfish (e.g., clams, crabs, lobsters, mussels, oysters, sea urchins, shrimp) from their natural habitat.
- **114119 Other Marine Fishing**—Establishments primarily engaged in the commercial catching or taking of marine animals (except finfish and shellfish).
- **311710 Seafood Product Preparation and Packaging**—Establishments primarily engaged in one or more of the following: (1) canning seafood (including soup); (2) smoking, salting, and drying seafood; (3) eviscerating fresh fish by removing heads, fins, scales, bones, and entrails; (4) shucking and packing fresh shellfish; (5) processing marine fats and oils; and (6) freezing seafood. Establishments known as "floating factory ships" that are engaged in the gathering and processing of seafood into canned seafood products are included in this industry.
- **424460 Fish and Seafood Merchant Wholesalers**—Establishments primarily engaged in the merchant wholesale distribution of fish and seafood (except canned or packaged frozen).

A keyword analysis for "fishing" was conducted using the NAICS database. Industries specializing in wholesale fishing equipment were excluded.

Less closely related industries include:

- **114210 Hunting and Trapping**—Establishments primarily engaged in one or more of the following: (1) commercial hunting and trapping; (2) operating commercial game preserves, such as game retreats; and (3) operating hunting preserves.
- **487210 Scenic and Sightseeing Transportation, Water**—This industry classification includes fishing boat charter operation. Establishments primarily engaged in providing scenic and sightseeing transportation on water. The services provided are usually local and involve same-day return to place of origin.
- **713990 All Other Amusement and Recreation Industries**—This classification includes guide services (i.e., fishing, hunting, tourist). establishments (except amusement parks and arcades; gambling industries; golf courses and country clubs; skiing facilities; marinas; fitness and recreational sports centers; and bowling centers) primarily engaged in providing recreational and amusement services.

O*NET Findings

Information for three commercial-fishing-related occupations was retrieved from O*NET:

- 45-3031 Fishing and Hunting Workers
- 45-1011 First-Line Supervisors of Farming, Fishing, and Forestry Workers
- 53-5021 Captains, Mates, and Pilots of Water Vessels

Exhibit 2. Tasks and activities associated with the three commercial fishing occupations

Occupation	Tasks	Skills
Fishing and Hunting Workers	• Steer vessels and operate navigational instruments. • Remove catches from fishing equipment and measure them to ensure compliance with legal size. • Direct fishing or hunting operations, and supervise crew members. • Interpret weather and vessel conditions to determine appropriate responses. • Travel on foot, by vehicle, or by equipment such as boats, snowmobiles, helicopters, snowshoes, or skis to reach hunting areas.	• Coordination • Critical Thinking • Judgment and Decision Making • Speaking
First-Line Supervisors of Farming, Fishing, and Forestry Workers	• Assign tasks such as feeding and treatment of animals, and cleaning and maintenance of animal quarters. • Record the numbers and types of fish or shellfish reared, harvested, released, sold, and shipped. • Monitor workers to ensure that safety regulations are followed, warning or disciplining those who violate safety regulations. • Observe animals for signs of illness, injury, or unusual behavior, notifying veterinarians or managers as warranted. • Observe fish and beds or ponds to detect diseases, monitor fish growth, determine quality of fish, or determine completeness of harvesting.	• Coordination • Critical Thinking • Monitoring • Speaking • Management of Personnel Resources
Captains, Mates, and Pilots of Water Vessels	• Direct courses and speeds of ships, based on specialized knowledge of local winds, weather, water depths, tides, currents, and hazards. • Prevent ships under navigational control from engaging in unsafe operations. • Serve as a vessel's docking master upon arrival at a port or at a berth. • Consult maps, charts, weather reports, or navigation equipment to determine and direct ship movements. • Steer and operate vessels, using radios, depth finders, radars, lights, buoys, or lighthouses.	• Operation and Control • Monitoring • Speaking • Active Listening • Critical Thinking

Source: O*NET

Typical Education Requirements

The U.S. Bureau of Labor Statistics (BLS) uses a categorical system to assign typical entry-level education and job requirements to each occupation for which the BLS publishes projection data. These categories include entry-level education, work experience in a related occupation, and on-the-job training. Exhibit 3 shows the typical entry-level job requirement by occupation.

Exhibit 3. Typical entry-level job requirements for the three commercial fishing occupations

Occupation	Entry-level Education	Work Experience	On-The-Job Training
Fishing and Hunting Workers	No formal educational credential	None	Moderate term
First-Line Supervisors of Farming, Fishing, and Forestry Workers	High school diploma or equivalent	Less than 5 years	None
Captains, Mates, and Pilots of Water Vessels	Postsecondary nondegree award	Less than 5 years	None

Source: Lightcast and Bureau of Labor Statistics

Educational attainment

O*NET's educational attainment data shows that 75% of fishing and hunting workers have a high school diploma or less, indicating this occupation is not well-suited for community college education (Exhibit 4).

The educational attainment of first-line supervisors of farming, fishing, and forestry workers is almost evenly split between a bachelor's degree, 44%, and a high school diploma or equivalent, 32%.

Most captains, mates, and pilots of water vessels have less than a bachelor's degree, with 37% having completed some form of postsecondary education and 42% having a high school diploma or equivalent.

Exhibit 4. Typical educational attainment for the three commercial fishing occupations

Occupation	Education
Fishing and Hunting Workers	45% Less than high school diploma 30% High school diploma or equivalent 15% Some college, no degree
First-Line Supervisors of Farming, Fishing, and Forestry Workers	33% Bachelor's degree 32% High school diploma or equivalent 14% Post-secondary certificate
Captains, Mates, and Pilots of Water Vessels	42% High school diploma or equivalent 37% Post-secondary certificate 8% Bachelor's degree

Source: O*NET

Occupational Demand

Exhibit 5 summarizes current employment and the five-year projected job growth for the three commercial fishing occupations in the five-county Redwood Coast Subregion. Two of the three occupations are projected to contract over the next five years. First-line supervisors of farming, fishing, and forestry workers is expected to offer the greatest number of annual openings, 37.

Exhibit 5. Current employment and projected occupational demand, 2024-2029

Occupation	2024 Jobs	2029 Jobs	2024-2029 Change	2024-2029 % Change	Average Annual Openings
First-Line Supervisors of Farming, Fishing, and Forestry Workers	263	259	(5)	(2%)	37
Fishing and Hunting Workers	182	157	(25)	(14%)	24
Captains, Mates, and Pilots of Water Vessels	13	14	1	7%	2
TOTAL	458	430	(28)	(6%)	63

Source: Lightcast

Earnings

Exhibit 6 compares the percentile hourly earnings for the three identified commercial fishing occupation. The hourly wage ranges include the 25th percentile (entry-level), median, and 75th percentile (experienced) hourly earnings for workers employed in the three occupations in the five-county Redwood Coast Subregion. In the Far North Subregion, the living wage in 2024 for a single working adult was \$16.22 and for a working family (defined as an adult and one infant) was \$33.87. (Please note that living wage thresholds may vary by county.) The earnings data below includes wages from employed and self-employed workers. The entry-level wages of fishing and hunting workers falls below the Far North's living wage for a single adult.

Exhibit 6. Commercial fishing hourly earnings, 2024

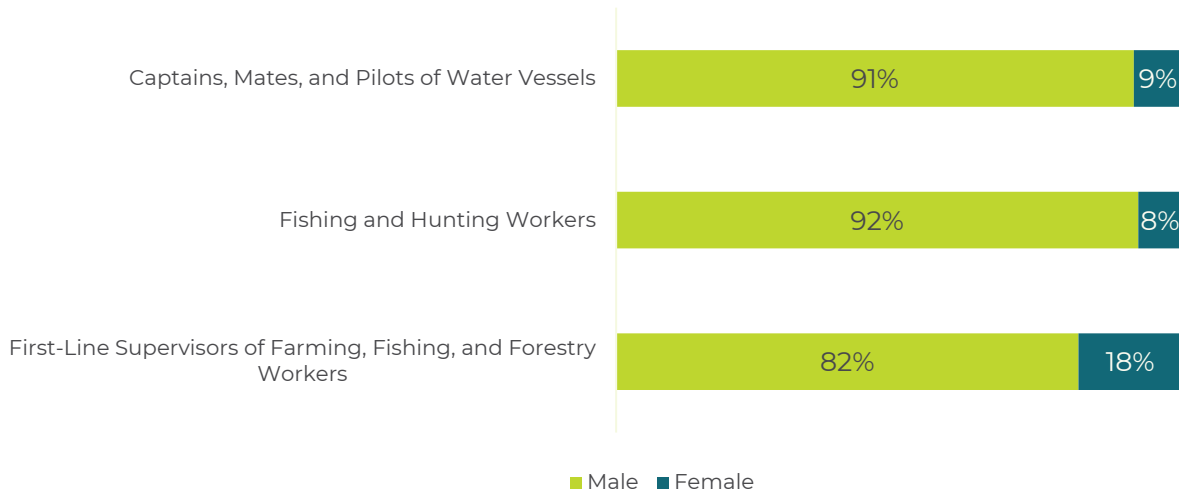
Occupation	Entry-Level Hourly Earnings	Median Hourly Earnings	Experienced Hourly Earnings
First-Line Supervisors of Farming, Fishing, and Forestry Workers	\$17.19	\$24.76	\$33.56
Fishing and Hunting Workers	\$16.01	\$18.44	\$36.26
Captains, Mates, and Pilots of Water Vessels	\$25.61	\$34.07	\$54.40

Source: Lightcast

Workforce Demographics

Analysis of workforce demographics for the three identified commercial fishing occupations shows that women are underrepresented in the sector, with men comprising 82% to 91% of the workforce depending on the occupation (Exhibit 7).

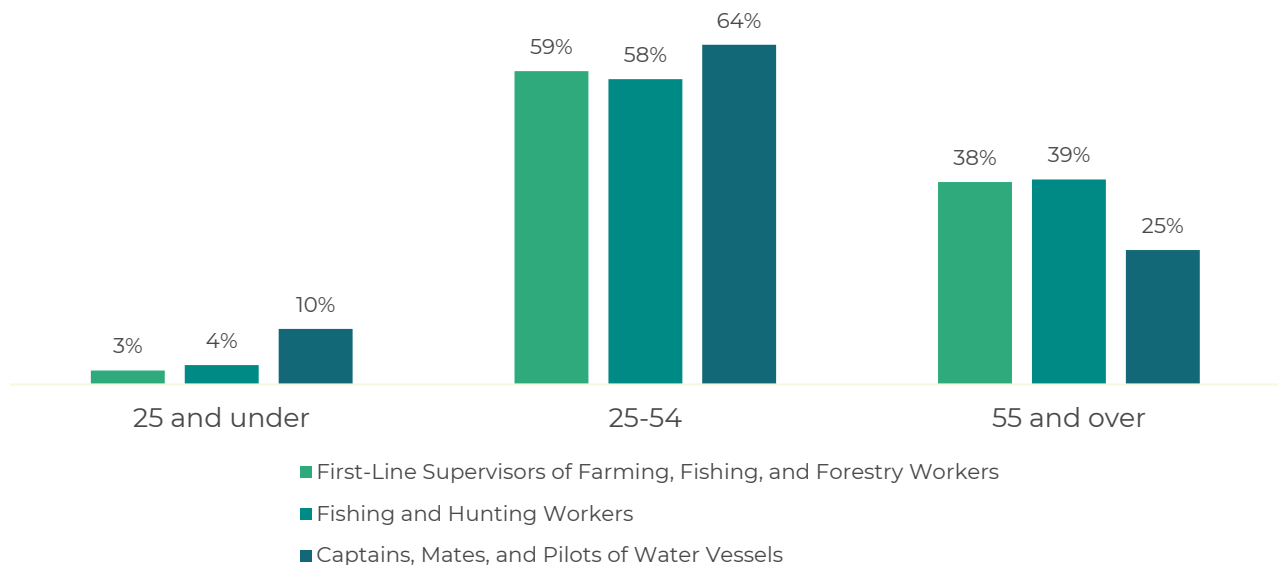
Exhibit 7. Gender comparison for the three commercial fishing occupations, 2024



Source: Lightcast

Age demographic data shows that the commercial fishing workforce is aging and contains a relatively low percentage of workers under the age of 25 (Exhibit 8).

Exhibit 8. Age group comparison for the three commercial fishing occupations, 2024

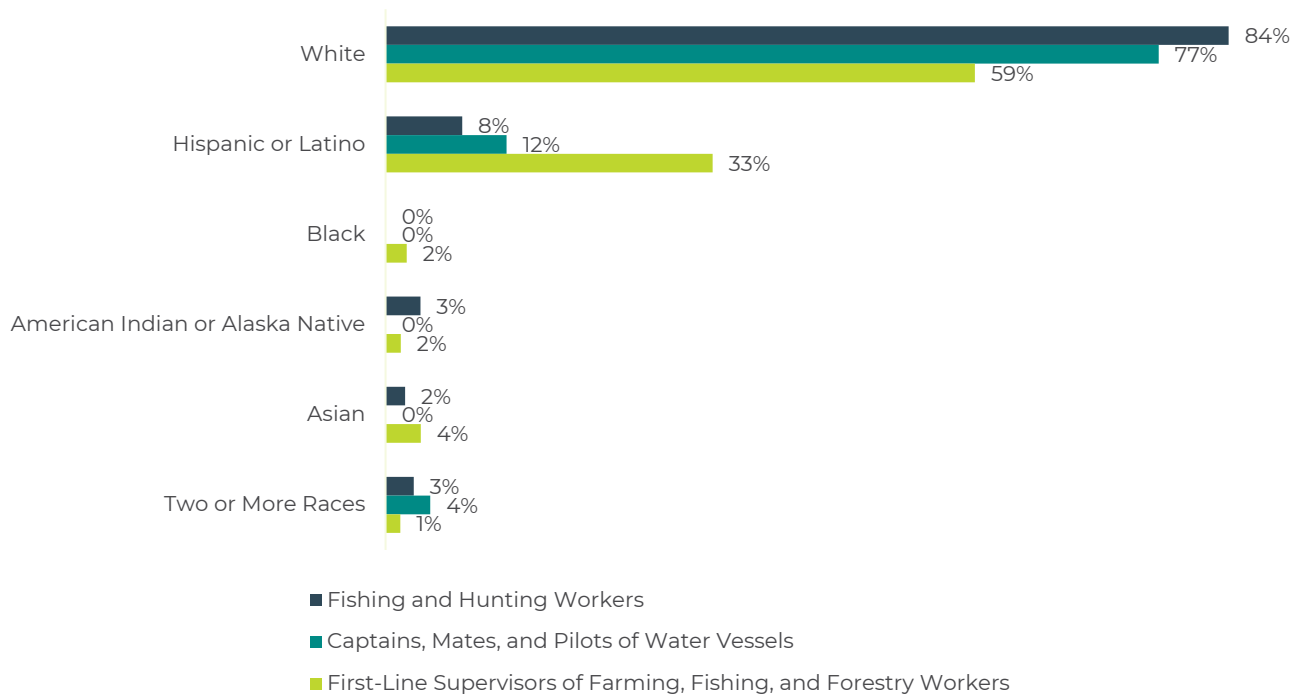


Source: Lightcast

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Across all three occupations, white workers comprise a majority of the personnel employed in the sector (Exhibit 9). Workers identifying as Latino or Hispanic comprise 33% of first-line supervisors of farming, fishing, and forestry workers and 12% of captains, mates, and pilots of water vessels, but only 8% of fishing and hunting workers. Other race and ethnicity groups comprise between 0% and 4% of the workforce in the three occupations.

Exhibit 9. Race and ethnicity composition for the three commercial fishing occupations, 2024



Source: Lightcast

Job Postings

Job posting data was pulled from the economic modeling firm and job postings aggregator Lightcast for a one-year period from March 2025 to February 2026 for the counties comprising the Redwood Coast Subregion—Del Norte, Humboldt, Lake County, Trinity, and Mendocino. The data retrieved was closely examined for the three identified occupations:

- First-Line Supervisors of Farming, Fishing, and Forestry Workers
- Fishing and Hunting Workers
- Captains, Mates, and Pilots of Water Vessels

However, a careful review of the job posting data revealed that the employers and job titles in the available data did not accurately reflect the commercial fishing industry in the subregion.

For this reason, job posting data could not be included in this report. There were, however, a few employers with relevant job postings that were included in the data pull: Hog Island Oyster Co., Department of Fish and Wildlife, Taylor Mariculture, Humboldt Bay Oyster Company, and Saltwater. These employers could be helpful information sources on employment opportunities if program development is pursued.

Inverse Staffing Patterns

Since job posting data was not applicable for this study, an inverse staffing pattern analysis was conducted using data from Lightcast. The three SOC codes identified for this report were analyzed for the period from 2024 to 2029 for the counties comprising the Redwood Coast Subregion:

- First-Line Supervisors of Farming, Fishing, and Forestry Workers
- Fishing and Hunting Workers
- Captains, Mates, and Pilots of Water Vessels

Exhibit 10 shows the top 10 industries associated with the three occupations in the region. The staffing patterns analysis indicates that employment for this occupational grouping is primarily concentrated in three industry sectors: fishing, logging, and shellfish fishing. Occupational demand is projected to drop substantially for finfish fishing, a 17% contraction through 2029, as well as for shellfish fishing, a 12% contraction.

Exhibit 10. Staffing patterns analysis for commercial fishing occupations, Redwood Coast Subregion, 2024-2029

Industry (NAICS Code)	Occupation Group Jobs in Industry (2024)	Occupation Group Jobs in Industry (2029)	Change (2024-2029)	% Change (2024-2029)	% of Occupation Group in Industry (2024)	% of Total Jobs in Industry (2024)
Finfish Fishing (114111)	109	90	(19)	(17%)	23.8%	70.1%
Logging (113310)	81	79	(2)	(2%)	17.7%	11.0%
Shellfish Fishing (114112)	64	56	(8)	(12%)	13.9%	71.3%
Crop Production (111000)	40	34	(6)	(15%)	8.7%	2.4%
Farm Labor Contractors and Crew Leaders (115115)	27	28	1	5%	5.8%	4.5%
Support Activities for Forestry (115310)	19	21	1	7%	4.3%	5.9%
Farm Management Services (115116)	15	19	4	25%	3.4%	4.6%
Soil Preparation, Planting, and Cultivating (115112)	12	12	(1)	(6%)	2.7%	4.2%
Animal Production (112000)	11	10	(1)	(6%)	2.3%	2.1%
Timber Tract Operations (113110)	<10	<10	Insf. Data	Insf. Data	0.9%	12.6%

Postsecondary Programs

The Integrated Postsecondary Education System (IPEDS) was used to identify Classification of Instructional Programs (CIP) codes related to occupations employed by the commercial fishing industry.

The code most closely aligned with a commercial fishing apprenticeship is:

CIP Code: 49.0303

Program Title: Commercial Fishing

A program that prepares individuals to apply technical knowledge and skills to function as commercial fishermen, fishing operations supervisors or in related fishing industry operations. Includes instruction in fishing vessel operation; fishing equipment operation and maintenance; equipment repair; catch identification, sorting, and storage; safety procedures; record keeping; and applicable legal regulations.³¹

However, several other related CIP codes were identified under the category Marine Transportation (49.03) that could assist with program development exploration:

- 49.0304 Diver, Professional and Instructor
- 49.0309 Marine Science/Merchant Marine Officer
- 49.0399 Marine Transportation, Other

Apprenticeship Programs

California apprenticeships—In addition to the marine technology apprenticeship programs offered by Las Positas College (see below), California Sea Grant offers a California Commercial Fishing Apprenticeship Program through the University of California, San Diego. The program provides ~130 hours of shore-based workshops followed by 1,000 hours of on-the-job training under California licensed commercial fishermen.³²

Washington apprenticeships—In the state of Washington, the Port of Bellingham founded the Northwest Maritime Apprenticeship program, which is focused on training Marine Service Technicians, who are skilled in the areas of building, repairing, and maintaining marine vessels.³³

Alaska apprenticeships—Alaska Sea Grant offers two apprenticeships related to commercial fishing. The first is a four-tiered Skipper Apprentice Program in Bristol Bay that provides levels of training leading from greenhorn (nets, tool shop basics, maritime species, mariner's first aid/CPR) to aspiring skipper (advanced diesel mechanics, leadership, insurance and legal matters, business and accounting).³⁴ The second is a summertime apprenticeship focused on the farming of marine organisms, such as salmon, shellfish, and

³¹ Classification of Instructional Programs, IPEDS, <https://nces.ed.gov/ipeds/cipcode/searchresults.aspx?y=55&aw=fishing&sw=1,2,3&ct=1,2,3&ca=1,2,5,3,4>.

³² "Commercial Fishing Apprenticeship Program," Sea Grant California, 2026, <https://caseagrant.ucsd.edu/california-commercial-fisheries/california-commercial-fishing-apprenticeship-program>.

³³ "Education and Training," Northwest Maritime Apprenticeship, accessed April 3, 2026, <https://www.waterfrontfoundation.org/northwest-maritime-apprenticeship>.

³⁴ "Skipper Apprentice Program expanding at the Bristol Bay Campus," Sea Grant Alaska, November 21, 2024, <https://alaskaseagrant.org/2024/11/skipper-apprentice-program/>.

seaweed, called the Mariculture Summer Apprenticeship program.³⁵

Maryland apprenticeships—The Seafarers International Union (SIU) offers a federally recognized apprenticeship program through the Seafarers Harry Lundeborg School of Seamanship. Training covers the duties and responsibilities of seamanship in three shipboard departments—deck, engine, and steward. This one-year Unlicensed Apprentice (UA) Program includes classroom learning and an apprenticeship on a vessel:

Phase I—Stewards who complete the 16-week Phase I may sail as Steward Assistants (SA) until they reach 200 sea days, at which point they will return to the school for Phase IV.

Phase II (Deck and Engine)—60-day shipboard training as an unlicensed apprentice. Apprentices receive an entry wage while they are training on board the vessel.

Phase III (Deck & Engine)—120 days of sea entry level employment earning contract wage aboard a designated SIU contracted vessel.

Phase IV—Completion of three department courses (AB, FOWT, Chief Cook).³⁶

California's community college programs

A search using the Chancellor's Office Curriculum Inventory (COCI) for the CIP code 49.0303 shows there are no community college programs registered in that program area in California.

However, a search using CIP and Taxonomy of Programs (TOP) codes identified other related programs. For example, under the CIP code 49.0304 Diver, Professional and Instructor, Santa Barbara City College offers a Marine Diving Technician course (TOP code 0959.10 Diving and Underwater Safety). Under the CIP code 49.0399 Marine Transportation, Other, two colleges (Orange Coast and Saddleback) offer five courses related to Marine Technology (TOP code 0959.00).

A search using the TOP code 0959 Marine Technology, shows Las Positas and Santa Barbara City College offer additional programs. (As an aside, North Orange Adult is shown to have an inactive Marine Service & Repair Program.)

Three community colleges in the state offer programs related to aquaculture, including College of the Redwoods' Aquaculture Technology certificate and associate degree programs.

Additionally, although not directly related to commercial fishing, Shasta College offers an Associate of Arts Degree under University Studies in Oceanography and Marine Sciences. Three other community colleges—City College of San Francisco, Fullerton College, and Grossmont College—offer an Associate of Science Degree in Oceanography.

Lastly, Long Beach City College is home to the Maritime Center of Excellence, which focuses on training programs related to logistics, dispatching, and transportation operations.

³⁵ "Mariculture Summer Apprenticeships," Sea Grant Alaska, 2026, <https://alaskaseagrant.org/our-work/aquaculture/apprenticeship/>.

³⁶ "Apprenticeship Program Overview," Seafarers International Union, accessed April 3, 2026, <https://www.seafarers.org/training-and-careers/admissions/apprentice-program-overview/>.

Las Positas College

Exhibit 11. Maritime-related programs offered by Las Positas College

Program (TOP/CIP Code)	Degree/Credits	Description
Marine Technology Boating 101 (TOP 0959)	Apprenticeship Program: Certificate of Achievement requiring 8 to less than 16 semester units or 12 to less than 24 quarter units	The Marine Technology Boating 101 Certificate of Achievement can provide the skills necessary for an <u>apprentice</u> to qualify as trained entry-level marine technicians, as well as for career advancement. This apprenticeship program focuses on the mechanical and electrical side of marine equipment.
Marine Technology Yachting 101 (TOP 0959)	Apprenticeship Program: Certificate of Achievement requiring 16 to less than 30 semester units or 24 to less than 45 quarter units	The Marine Technology Yachting 101 Certificate of Achievement can provide the skills necessary for an <u>apprentice</u> to qualify as trained entry-level marine technicians, as well as for career advancement. This apprenticeship program focuses on the mechanical and electrical side of marine equipment.

Orange Coast College, Waterfront Campus

- The college's School of Sailing and Seamanship offers various powerboating and sailing courses.
- The college's Professional Mariner Program provides academic credit and U.S. Coast Guard-approved courses for career mariners.

Exhibit 12. Maritime-related programs offered by Orange Coast College

Program	Degree/Credits	Description
Professional Mariner (TOP 0959/CIP 49.0399)	Certificate of Achievement requiring 16 to less than 30 semester units or 24 to less than 45 quarter units	OCC Professional Mariner students advance from our program to careers on large private and charter yachts, cruise ships, passenger ferries, whale watch and dive boats, supply vessels, work boats, tugs, commercial shipping vessels and onshore support positions. Students who complete OCC's professional mariner program receive STCW Basic Training certificates and have the opportunity to apply for their Merchant Mariner Credential.
Professional Mariner (TOP 0959)	Associate of Science Degree	The associate degree expands upon certificate courses by requiring Introduction to Intermediate Sailing, Radar Observer, and Professional Mariner Internship.

Saddleback College

Exhibit 13. Maritime-related programs offered by Saddleback College

Program	Degree/Credits	Description
Marine Science Technician (TOP 0959/CIP 49.0399)	Certificate of Achievement requiring 16 to less than 30 semester units or 24 to less than 45 quarter units	Program does not appear to be offered.
Marine Science Technician (TOP 0959/CIP 49.0399)	Associate of Science Degree	Program does not appear to be offered.
Seamanship (TOP 0959/CIP 49.0399)	Associate of Science Degree	Program does not appear to be offered.
Seamanship (TOP 0959/CIP 49.0399)	Certificate of Achievement requiring 16 to less than 30 semester units or 24 to less than 45 quarter units	Program does not appear to be offered.

Santa Barbara City College

Exhibit 14. Maritime-related programs offered by Santa Barbara City College

Program	Degree/Credits	Description
Marine Diving Technology (TOP 0959)	Associate of Science Degree	Students learn Underwater Welding & Burning; Hydraulic Tools and Systems; Rigging and Crane Operations; Hyperbaric Chamber Operations; Inspection Diving; Saturation and Mixed Gas Diving; Small Vessel Handling and Seamanship; and Diving Medicine and First Aid. The associate degree expands upon the certificate by requiring general education, drafting, and biology courses as well as the Emergency Medical Technician course.
Marine Diving Technician (TOP 0959)	Certificate of Achievement requiring 16 to less than 30 semester units or 24 to less than 45 quarter units	Offers a two-semester certificate of achievement in commercial diving, including underwater welding, rigging, and hyperbaric chamber operations.

Other training programs

Exhibit 15. Maritime-related programs offered by postsecondary institutions in California and other states

State	Institution	Description
Alaska	Prince William Sound College	Marine Service Technology Certificate, 1 semester Students learn to perform a variety of troubleshooting, installation, services, and repairs to marine systems. These courses cover carpentry, plumbing, and electrical. The sessions will be a combination of classroom instruction and hands-on skill building and training. https://pwsc.alaska.edu/marine.cshtml
Alaska	Alaska Maritime Training Center	25 individual courses are offered, including Able Seaman https://avtec.edu/maritime/courses/
Alaska	University of Alaska Southeast	Maritime & Multi-Skilled Worker Program, 12-week credential program • Diesel mechanics maintenance & repair • Hydraulics maintenance & repair • Refrigeration maintenance & repair • Welding • Marine electrical maintenance & repair Students also learn skills related to other industrial jobs in shipbuilding, heavy machinery, construction, physical plant operations, and welding. https://www.edumaritime.net/alaska/university-of-alaska-southeast-ketchikan
California	Cal Poly Maritime Academy	Cal Poly Maritime Academy is one of only seven degree-granting maritime academies in the nation and the only one on the West Coast. (Maritime academies are specialized, federally supported institutions designed to meet specific U.S. Coast Guard licensing requirements and national security needs.) Marine Engineering Technology, Bachelor's of Science Degree https://maritime.calpoly.edu/academics/marine-engineering-technology The curriculum combines foundational knowledge in shipboard mechanical and electrical systems with hands-on training in operating and maintaining steam, motor and gas turbine propulsion plants. Cadets complete two sea training periods aboard the Training Ship Golden Bear and one aboard a commercial or military vessel. Graduates are eligible to sit for the U.S. Coast Guard exam to become Third Assistant Engineers, Steam Motor Vessels and Unlimited Horsepower. Marine Transportation, Bachelor's of Science Degree https://maritime.calpoly.edu/academics/marine-transportation Students learn to navigate and operate ships and gain a strong grasp of the global maritime industry. They earn two major credentials: a U.S. Coast Guard Third Mate Unlimited License and the international OICNW certification.

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State	Institution	Description
Florida	Chapman School of Seamanship	Professional Mariner Training • Seamanship, 29 hours • Meteorology/Oceanography, 4 hours • Basic Engines & Systems, 4 hours • Navigation and Position Determination, 64 hours • Watchkeeping, 2 hours • Underway Boat Handling Exercises, 69 hours • STCW-Basic Training, 40 hours • Maritime Security Awareness, 4 hours • Licenses and Endorsements, 136 hours • https://chapman.org/pmt/?course-description
Maryland and Alaska	Maritime Institute of Technology and Graduate Studies	Maritime training programs: • Entry-Level Apprenticeships • Officer License Upgrade Programs • Career Pathways for Commercial Mariners • STCW-Aligned Training and Professional Development • https://www.mitags.org/become-deckhand/
Oregon	Clatsop Community College	Seamanship Certificate, 17 credits, 3-9 months Vessel Operations, Associate of Science Degree https://www.clatsopcc.edu/catalog/c-areas-of-study/c-seamanship-cpc/
Oregon	Oregon Coast Community College	Maritime Technology and Maritime Engineering (program under development) https://oregoncoast.edu/ocatt-maritime-technology-and-marine-engineering/
Oregon	Columbia Pacific Maritime at Southwestern Oregon Community College	A U.S. Coast Guard-approved training provider for mariners that provides classes in lieu of Coast Guard exams for some Merchant Mariner Credential (MMC) Endorsements https://colpacmaritime.com/

Conclusion and Recommendations

This report discusses in detail the three occupations primarily associated with commercial fishing, examines the industry's labor market characteristics, and provides a deep dive into the scope of postsecondary programs preparing students to enter related careers.

The Far North COE hopes that by highlighting opportunity areas and potential pathways for program development, this study can contribute toward supporting students on their journeys into rewarding careers in maritime industries.

Due to the informal nature of employment (seasonal, self-employed) on commercial fishing vessels, traditional labor market data sources, including job postings, cannot be used to gauge workforce demand or wage levels in the Redwood Coast Subregion.

Based on the current analysis, the NFN COE recommends that College of the Redwoods exercises caution in creating a new program related to commercial fishing and encourages outreach to industry stakeholders, such as the local harbor master and fishing associations, to further investigate workforce demand for entry-level workers.

Considerations

- College of the Redwoods could choose to explore Maritime Service Technician training, which may offer greater job security and higher pay for students interested in maritime employment.
- Engaging in conversations with local stakeholders, including employers and industry groups in the Eureka area, could offer deeper insights into the demand for commercial fishing deckhand training locally.
- Commercial fishing is a notoriously dangerous occupation and as such, may present challenges in providing on-the-job training for students or apprentices. Concerns exist about the safety of women aboard male-dominated fishing vessels (confined spaces that are far out at sea where alcohol may be present). Online job advice for young women encourages them to seek employment on vessels with female captains and to thoroughly vet vessels that offer them employment.

Program opportunity areas

In terms of an apprenticeship program offering, an introduction to working as a deckhand with curriculum spanning aquatic species life cycles, knot tying, safety knowledge required for licensing (first aid, self-rescue), and basic operation and maintenance of fishing vessels could be appropriate.

Proper safety training and licensure are important aspects of the commercial fishing workforce and could be an opportunity area for program development.

- The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (or STCW), sets qualification standards for personnel on seagoing ships and are incorporated into U.S. regulations for employment on commercial vessels.³⁷
- The National Maritime Safety Association sets safety standards for the marine handling

³⁷ "Standards of Training, Certification, and Watchkeeping (STCW)," United States Coast Guard National Maritime Center, accessed March 24, 2026, <https://www.dco.uscg.mil/nmc/stcw/>.

cargo industry.³⁸

- The U.S. Coast Guard has specific certification requirements and exams, depending on the position (for example, U.S. Merchant Marine Master/Chief Mate Exam³⁹).

Common required certifications:

- STCW Basic Safety Training: Covers personal survival, basic firefighting, first aid/CPR, and personal safety/social responsibility. STCW is a mandatory certification for all crew members on commercial vessels.⁴⁰
- Drill Conductor Course, a U.S. Coast Guard first aid requirement for fishermen⁴¹
- TWIC Card, also known as the Transportation Worker Identification Credential, for accessing secure areas⁴²

Based on research by the Far North COE, additional occupational roles that are related to the operation of maritime vessels, including commercial fishing, and that could warrant program exploration are:

- Refrigerated Seawater Technician
- Diesel Technician
- Marine Service Technician
- Maintenance Engineer
- Small Motor Maintenance Technician
- Maritime Engineering Technician (involves working with a wide range of maritime technologies, including navigational instruments, communication systems, radar systems, sonar equipment, and other electronic and mechanical components on ships and vessels)
- Shipboard Welder/Underwater Welder (may require Certified Commercial Diver certification)
- Maritime Hydraulic Technician



³⁸ "Home," The National Maritime Safety Association (NMSA), 2026, accessed March 24, 2026, <https://nmsa.us/>.

³⁹ "U.S.C.G. Merchant Marine Exam: Master/Chief Mate of Unlimited Tonnage, Q103 Deck Safety (Sample Examination)," United States Coast Guard National Maritime Center, August 5, 2025, accessed March 24, 2026, https://www.dco.uscg.mil/Portals/9/NMC/pdfs/examinations/q103_deck_safety.pdf.

⁴⁰ "STCW Basic Training," Maritime Professional Training, accessed March 24, 2026, <https://www.mptusa.com/safety-training>.

⁴¹ Wages of Officers and Crew, 46 CFR 282.21.

⁴² "TWIC," Transportation Security Administration, accessed March 24, 2026, <https://www.tsa.gov/twic>.

Appendix A: Methodology and Data Sources

Labor market and postsecondary supply data compiled in this report derive from a variety of sources. Occupations were identified by using the Center of Excellence TOP-to-CIP-to-SOC Crosswalk: <http://coecccc.net/>. This report's findings were primarily determined with labor market and educational supply data from the Bureau of Labor Statistics (BLS), the economic modeling firm and job postings aggregator Lightcast, and the California Community Colleges Chancellor's Office.

Data Type	Source
Labor Market Information and Job Postings	Traditional labor market information data is sourced from Lightcast, a labor market analytics firm. Lightcast's occupational employment data are based on final Lightcast industry data and final Lightcast staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and non-QCEW employees classes of worker) and the American Community Survey (self-employed and extended proprietors). For more information, see https://lightcast.io/ .
Living Wage	The living wage is derived from the Insight Center's California Family Needs Calculator, which measures the income necessary for an individual or family to afford basic expenses. The data assesses the cost of housing, food, childcare, health care, transportation, and taxes. The Chancellor's Office uses wage data to calculate the percentage of students that attained a regional living wage. For more information, https://selfsufficiencystandard.org/California/ .
Typical Education Level and On-the-job Training, and Educational Attainment	The Bureau of Labor Statistics (BLS) provides information about education and training requirements for hundreds of occupations. BLS uses a system to assign categories for entry-level education, work experience in a related occupation, and typical on-the-job training to each occupation for which BLS publishes projections data. For more information, https://www.bls.gov/emp/documentation/education/tech.htm .
Emerging Occupation Descriptions, Additional Education Requirements, and Employer Preferences	The O*NET database includes information on skills, abilities, knowledge areas, work activities, and interests associated with occupations. For more information, https://www.onetonline.org/help/online/ .
Labor Force, Employment and Unemployment Estimates	The California Employment Development Department's Labor Market Information Division is a source of labor market and workforce data. For more information, labormarketinfo.edd.ca.gov .
Educational Supply	The CCCC Management Information Systems (MIS) Data Mart provides information about students, courses, student services, outcomes, and faculty and staff. For more information, https://datamart.cccco.edu. The Chancellor's Office Curriculum Inventory System (COCI) collects data on courses and programs offered by the California Community Colleges. For more information, https://coci2.ccctechcenter.org/. The National Center for Education Statistics (NCES) Integrated Postsecondary Integrated Data System (IPEDS) collects data from providers of postsecondary education, including the number of postsecondary awards earned (completions). For more information, https://nces.ed.gov/ipeds/use-the-data/survey-components/7/completions.
Student Metrics and Demographics	DataVista, a statewide data system supported by the Chancellor's Office and hosted by Cal-PASS Plus, provides data on progress, success, employment, and earnings outcomes for California community college students. For more information, https://datavista.cccco.edu/ .

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