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Background on Oregon's Marine Industry



COOPERATIVE EXTENSION SERVICE
OREGON STATE UNIVERSITY



BACKGROUND ON OREGON'S MARINE INDUSTRY

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What is Oregon's Marine Industry?

Oregon's marine industry includes nearly 6,000 commercially licensed fishermen harvesting more than 85½ million pounds of salmon, crab, sole, rockfish, perch, shrimp, tuna, oysters, and other seafood. It includes 47 processors cleaning, freezing, and packaging this harvest; truckers hauling seafood to Portland, San Francisco, or Los Angeles, some to be transhipped by air to more distant markets; and Portland, Salem, and Eugene distributors preparing restaurant and food store seafood orders at 7 a.m. for delivery before 10 a.m.

Oregon's marine industry includes Japanese, Norwegian, Liberian, German, and U.S. freighters loaded with wood chips, lumber, and huge fir logs; tankers and freighters inbound with oil, autos, meat, and other products of the world; squat barges plying the Columbia River, the ocean, and coastal ports with grain from Eastern Oregon, and wood chips from Oregon's forests.

The marine industry includes thousands of charter craft and sportsmen's boats vying with each other for the best fishing spots in Oregon's bays and ocean. The industry also includes many firms supporting the seafood, shipping, and recreational industries such as coastal motels, parks, restaurants, marinas, gear supply stores, seafood stores, boat construction and maintenance, dock facilities, harbor maintenance, and public regulation and protection.

Oregon State University's research vessels, support facilities, and the investment in marine research and education by Oregon's public institutions and agencies and many private firms are also part of Oregon's marine industry.

The marine industry is dependent upon a vast Oregon resource, the Pacific Ocean. Off-Oregon summer winds produce coastal upwelling of cold, nutrient-rich water from the depths which leads to abundant food for sea life and challenging climatological conditions for ocean commerce. The ocean constantly changes Oregon's fragile coastline, creating the rugged beauty so attractive to tourists and forming deep-water harbors sheltering vessels of all sizes.

The ocean and the plants, animals, and minerals contained and covered hold a fascination not only for Oregon's citizens, but for scientists from other states and nations who come to study Oregon's ocean.

The Value of Oregon's Marine Industry

Oregon's marine industry has a significant economic, physical, and sociological impact on the citizens of Oregon. It is important to the success of Oregon's three leading industries-forestry, agriculture, and tourism.

Without the marine industry, Oregon's logs, wood chips, plywood, lumber, wheat, grass seed, fruit, and vegetables would not find their way to other domestic and foreign markets at such low cost. Without the marine industry, much of the fuel, chemicals, and other materials used in forestry and agriculture would be unavailable or prohibitively costly.

Oregon's ocean is a big attraction to tourists, and a large percentage of Oregon tourist dollars are left at seaside motels, marinas, restaurants, and amusement areas.

The marine industry is valuable in its own right. Oregon's fishermen landed \$17.6 million worth of tuna, salmon, crab, sole, perch, cod, shrimp, oysters, clams, and crayfish in 1969, and processors, distributors, and retailers added over \$40 million to the value of this seafood before it reached the consumer.

Five million tons of foreign commerce and 9 million tons of domestic commerce moved through Oregon's busy ports in 1969. Foreign commerce alone was valued at \$1 billion, 23 million, 65 percent of which was exports.



The Seafood Industry

The consumer selecting a salmon steak from the supermarket meat cooler, or stocking up on canned tunafish for the week, is reaping the benefits of a long and varied harvesting, marketing, and distribution process that makes up Oregon's seafood industry.

Fishing

Fishing vessels, from 19-foot dories trolling for salmon off Pacific City to 80-foot draggers netting sole and perch off Coos Bay, landed a total of 85.5 million pounds of sea-

food in 1969. Groundfish such as sole and flounders usually comprise the greatest volume of seafood landed. But because of the relatively higher dockside prices, both salmon and tuna usually exceed groundfish in value of landings.

The majority of salmon landed at ocean ports from troll vessels and at Columbia River ports from gillnet vessels are Chinook, with Coho, commonly called silver, a close second. Landings of all salmon in Oregon have shown a steady increase in volume and value in recent years. The typical salmon fisherman also will fish for tuna and crabs and often will fish continuously for a week, weather permitting. He will venture out 35 miles or more in search of schools of salmon. Home ports may be visited only once or twice during the season, as the troller fishes where the salmon are—somewhere between San Francisco Bay and the Bering Sea.

The appearance of new schools of Albacore tuna off Oregon in the past several years has been an exciting event in the seafood industry. At the first sighting of Albacore tuna in the Northeastern Pacific, fishermen will gear up their boats for tuna and head out as far as 300 miles and down to Southern California, or up to Vancouver Island, in search of the wily but valuable tuna. Although 1969 landings declined some, the 1968 tuna landings were the greatest in recent history and attracted large numbers of West Coast vessels to Oregon ports. The landed value of tuna exceeded that of salmon in both 1968 and 1969.

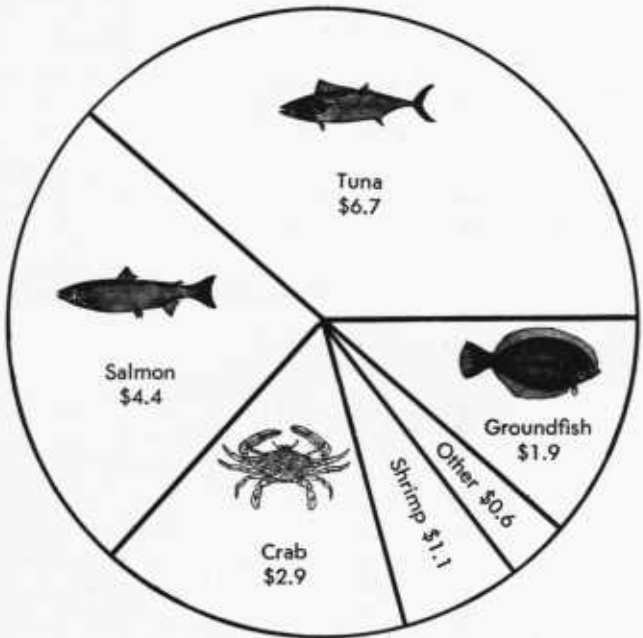
Oregon-harvested crabs are exclusively Dungeness and are trapped in "pots" placed not more than 15 miles from the beaches. Although the quantity and value of crabs varies considerably from year to year, there has been a general upward trend in both since 1959.

Groundfish live and feed on the floor of the continental shelf. Since the continental shelf off Oregon ranges from 9 to 40 miles in width and from the shoreline to a maximum water depth of 470 to 600 feet, the groundfishermen (often referred to as draggers or otter trawlers) rarely fish more than 40 miles from the coast. The total volume and value of their landings has remained relatively constant over the past 10 years.

The shrimp fishery is a relatively new industry in Oregon, with the first significant amounts being landed in 1966. Since that time a market for shrimp has been developed, and many fishermen have converted their vessels for at least part-time shrimp harvesting.

Although the value of oysters may be small relative to some of the larger fish, oyster production and processing is

important to the economy of several Oregon coastal communities and represents a successful form of aquiculture. Oysters and other seafoods harvested in quantity (including clams, sturgeon, bass, smelt, and shad) totalled 1.5 million pounds and 597,000 dollars landed value in 1969.



**Oregon Commercial Fish Landings,
Million Dollars at Fisherman Level, 1969**

Processing and Marketing

Fillet of Rex sole, frozen shrimp, or shucked oysters in the restaurant or retail store bear little resemblance to the sole, shrimp, or oysters landed at the processor's dock. Processors, distributors, and retailers added more than \$40 million to the landed value of Oregon's seafoods in 1969 through filleting, cleaning, freezing, packaging, transporting, displaying, distributing, and cooking this seafood.

Some fifty-two Oregon seafood distribution and processing establishments employ a total of 2,869 people. Employment in this industry increased 55 percent during the 10-year period 1958 to 1968. The value of processed products in 1966 was \$31,596,170, the majority of which was canned tuna (\$18,701,034) and canned salmon (\$4,119,485). Large quantities of canned products and frozen salmon, groundfish fillets, frozen shrimp, and frozen crab find their way to such distant markets as Paris, London, Stockholm, and Rome.

Not only is Oregon's seafood reaching new customers throughout the world, but seafood consumption in the United States is beginning to increase on a *per capita* basis, after remaining relatively static at about 10½ pounds for more than a decade. *Total* domestic consumption has risen significantly with population, and increasing amounts of seafood by-products are being used in producing agricultural livestock. In fact, when the seafood consumed directly is added to that used for other purposes, use in the U. S. jumps to 75 pounds per person.

Oregon is not yet feeding the world from her ocean, but world consumption of seafood is supporting and stimulating a valuable and viable seafood industry in Oregon.



Ocean Commerce

The visits of ocean freighters from major import and export countries, as well as Norway, Liberia, Canada, Sweden, The Netherlands, Greece, and Britain, produce an international atmosphere in Oregon's port cities and a significant stimulus to Oregon's economy.

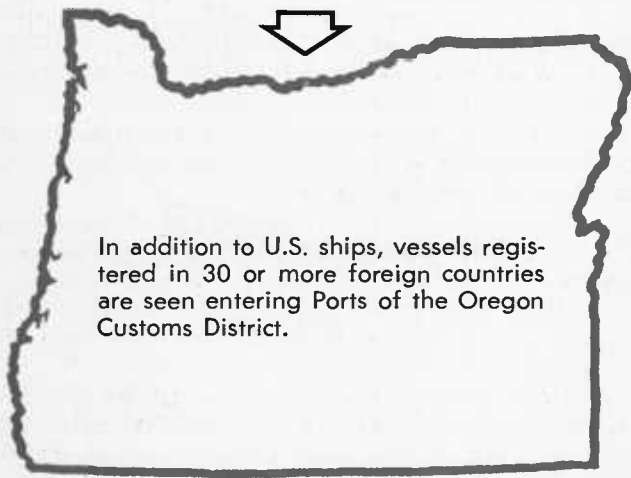
More than \$666 million worth of logs, lumber, grain, scrap metal, flour, plywood, paper, peas, clay, and other products were exported to Japan, Korea, India, Italy, etc., during 1969. About \$357 million worth of steel products, salt, aluminum, iron, autos, manganese, tar, and various consumer products were imported from Japan, Western Germany, Australia, Taiwan, Surinam, the Philippines, the United Kingdom, and other countries during 1969.

Sixty-five percent of Oregon's foreign trade was in exports and 39 percent of those exports went to Japan. Thirty-nine percent of Oregon's imports also came from Japan and 9 percent from Western Germany during 1969.

Nine of Oregon's 23 port districts are on the Columbia River. Portland and Astoria are the leading U.S. Pacific Coast wheat shipping ports. Vancouver, British Columbia, is the only Pacific Coast port shipping more wheat. The port of Coos Bay exports more forestry products than any other port in the United States—a total of nearly 500 million board feet of logs and lumber and over 2 million tons of chips, plywood, versaboard, pulp, and liner board.

IMPORTS

	Millions of dollars
Japan	138
Western Germany	31
Australia	19
Taiwan	19
Surinam	19
Other Countries	131
Total	357



EXPORTS

	Millions of dollars
Japan	258
Korea	72
India	39
Italy	34
Philippines	32
Other Countries	231
Total	666

Value of Imports and Exports for Oregon by Country of Origin and Destination, 1969

Source: 1969 "Ocean Commerce Statistics," Commission of Public Docks, Portland.



Recreation

The recreational importance of Oregon's ocean is evident all along the coast. Many visitors prefer to look at the dramatic scenery from the comforts of an automobile or motel room; others can't resist the feel of damp sand and salt water on bare feet and the pleasure of discovering agates, Japanese fishing floats, sea urchins, or artistic pieces of driftwood. The result is a large flow of tourist dollars left at restaurants, service stations, motels, gift shops, and amusement areas.

There are many opportunities for fishing, crabbing, clamming, scuba diving, and boating. Salmon-steelhead anglers alone spend more than \$17 million annually pursuing these sporting fish. Salmon anglers made 290,380 offshore trips in 1968 and landed 282,742 salmon for their effort.

Tourism in Oregon is a \$250 million industry annually and although it is not based entirely upon Oregon's coast and ocean, this resource attracts a large percentage of Oregon's visitors.

Supporting Industries

A total of 1,506 ships entered and departed Oregon ports in 1969, according to the Portland Commission of Public Docks. Boat and vessel licenses were issued to 2,800 commercial fishermen and nearly 80,000 sports boat enthusiasts during 1969. These more than 84,000 ships and boats require extensive repair, maintenance, docking, loading, unloading, storage, supply, and moorage facilities. Ship, barge, and boat building and repairing alone involved 28 Oregon firms that employed 3,580 people during 1968.

Other marine supporting industry includes manufacturers of electronic marine gear, shipping and seafood containers, seafood processing machinery, fishing gear, marine canvas, nets, etc. There are more than 30 such firms in Oregon, employing more than 850 people. The products of these firms reach marine users through thousands of distribution and retail firms located in urban centers as well as in Oregon's port cities—more jobs stemming at least in part from the sea.

The Public Commitment

Every citizen of Oregon has a stake in the prosperity of the marine industry and in the state of knowledge regarding our ocean resource. Because of this, private firms and public institutions in this state have launched an educational and a research program directed toward resolving industry problems and improving our knowledge and use of the ocean resource.

Electronics, metal fabricating, construction, marketing, processing, transportation, wood fabricating, and plastics fabricating firms have increased their commitment to the development and marketing of new products for the marine industry.

Clatsop Community College and Southwestern Oregon Community College are teaching an increased number of classes for the benefit of the marine industry.

Oregon State University has long been involved in fisheries research, both from the biological and production standpoint and, more recently, from the food and nutritional standpoint, through the School of Engineering, the departments of Fisheries and Wildlife, Biology, Zoology, and Food Science and Technology.

From its start in 1959, the Department of Oceanography at OSU has grown rapidly to the fourth largest in the United States, and invests several millions of dollars annually in studying Oregon's ocean.

Many other departments at OSU, as well as at the University of Oregon, invest in ocean research and industry education. Nearly 1.4 million dollars in federal Sea Grant funds awarded to Oregon in 1970 has made possible renewed effort in the traditional areas of work, initiation of new work, and an impetus to the marine industry in general. The funds are devoted to research in such areas as marine fisheries, marine economics, aquaculture, seafood technology, mineral resources, ocean engineering, and ocean law; to education and training at Oregon State University, the University of Oregon, Clatsop Community College, and the Newport-based OSU Marine Science Center. A Marine Advisory Program—conducted as part of OSU's Cooperative Extension Service—is the most highly developed in the nation. Its staff of specialists and marine extension agents convey knowledge that will help marine resource users make use of the ocean.

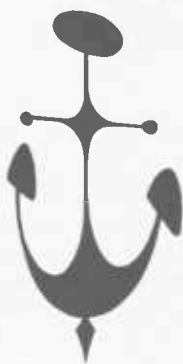
Other public agencies such as the Oregon Fish Commission, Weather Bureau, U.S. Navy, Coast Guard, Federal Water Pollution Control Administration, Bureau of Commercial Fisheries, and the Bonneville Power Authority are conducting extensive research in such areas as marine

fisheries, thermal pollution, and marketing, often in cooperation with each other and Oregon State University.

A Look Ahead

In spite of glowing prophecies that the ocean will feed future world populations and that we will be living and working under the ocean, we must recognize that we have not yet fully utilized our land and land-based resources for these purposes. Furthermore, the relative cost of extracting food and minerals from the ocean versus extraction from land, and the rate of change of consumer tastes for food from the ocean, must be taken into consideration. Ocean resources are not limitless, the ocean and its productive capacity can be damaged by man, and at best the ocean provides a hostile environment for man.

The real potential of Oregon's ocean resource is unknown, but the past and present uses of this resource have had a significant impact upon the state's economy. Increased knowledge of our ocean will lead to increased use of this resource and a more prosperous marine industry and state. There is an ocean in Oregon's future.





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