

# WRAC fact sheet

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## Characterization of Aquaculture in the Western U.S.

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### OREGON

Photo: Feeding at trout farm.

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The first aquaculture farms in Oregon raised oysters back in the late 1800s. Today, Oregon produces a variety of shellfish in marine environments and finfish in fresh-water. Shellfish are sold as seafood,

but most finfish raised in Oregon are sold into recreational markets to support angling in the state.

Aquaculture producers create and sustain multiple and diverse supply chains that contribute to

local economies and employment, while supplying aquatic products locally and to other states. A recent supply chain analysis funded by the Western Regional Aquaculture Center identified 28 distinct supply

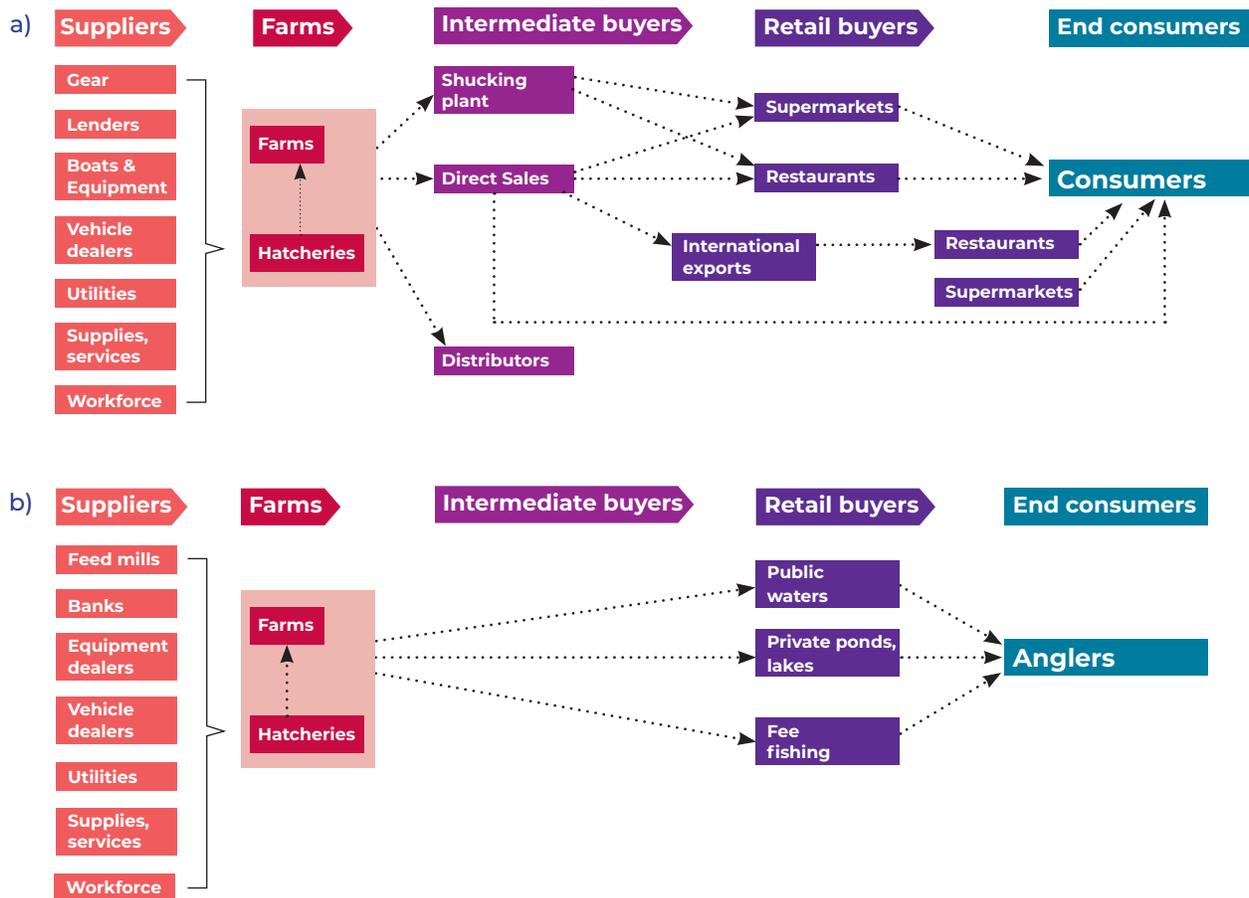


Figure 1. Generalized supply chain maps to illustrate the variety of supply chains in Oregon for a) shellfish raised and b) fish raised and sold to support recreational fishing opportunities.

chains for aquaculture products in Oregon. Figure 1 presents generalized supply chain maps to illustrate the variety of supply chains in Oregon for a) shellfish raised and b) fish raised and sold to support recreational fishing opportunities.

The majority of aquaculture production in Oregon is shellfish, primarily diploid and triploid Pacific oysters, with some production of Kumamoto oysters. There also is some production of native oysters, which are raised for restoration purposes, as well as wild harvest of mussels and clams. Most finfish raised in Oregon are sold to support recreational fishing opportunities, especially trout raised in coldwater and warmwater fish such as largemouth bass, sunfish, crappie, and catfish. Several aquaponics operations in Oregon raise fish such as tilapia in tanks coupled with hydroponic production of plant crops, with limited volumes of tilapia sold for food. Oregon aquaculture includes experimental production of Pacific dulse (a type of seaweed) raised in tanks on shore and sea urchin ranching (Considine et al., 2023). Some sturgeon are raised for sale as food in the state, but in very limited volumes.

**The Contribution of Aquaculture to the Economy of Oregon**

The total economic contribution of aquaculture in Oregon (in 2022 \$) was \$46.2 million (Table 1). Of this, \$28.0 million was from direct contributions from aquaculture farms, \$5.5 million from indirect contributions of supply chain partners, and \$12.7 million in induced output

from the additional household spending from employment created. Of the total 285 jobs supported by aquaculture in Oregon, 183 were from jobs on aquaculture farms, 30 from supply chain partners, and 72 from induced effects. Additional economic contributions include \$3.8 million in federal tax revenue, \$1.1 million in state tax revenue, and

\$0.4 million in local taxes (Table 2). It should be noted that these estimates of the economic contributions of Oregon aquaculture are those estimated at the farm level. Sales into recreational markets generate substantial, additional impacts (from expenditures by anglers), which were not accounted for in this analysis.

**Table 1. Economic contribution of the aquaculture sector to the economy of Oregon.**

Type of impact	Employment (number of jobs)	Total economic output (\$)
Direct economic impact	183	\$28.0 million
Indirect economic impact	30	\$5.5 million
Induced economic impact	72	\$12.7 million
Total economic impact	285	\$46.2 million

**Table 2. Tax revenue generated from the aquaculture sector in Oregon.**

Tax category	Tax revenue (\$)
Federal	\$3.8 million
State	\$1.1 million
Local/county	\$0.4 million
Total	\$5.3 million



Photo: Courtesy of Desert Springs Trout Farm

**Desert Springs Trout Farm, a sustainable green hatchery, transporting rainbow trout.**

### Hatchery Aquaculture Production

Aquaculture farming begins with spawning and reproduction of the animals in specialized hatchery facilities. Oregon is a recognized supplier of hatchery-raised shellfish seed to growers on the West Coast. Most trout farms in Oregon purchase eggs or fingerlings from other states for growout.

### Marine Aquaculture in Oregon

Shellfish account for 84% of total aquaculture sales in Oregon (Table 3). All shellfish farms in the state reported raising Pacific oysters, with some production of Kumamoto oysters (USDA-NASS, 2019). Shellfish are sold either to a shucking plant,

a distributor, or directly to retail outlets such as restaurants, supermarkets, and to consumers. Approximately 57% of the value of shellfish products from Oregon farms were sold to retail (restaurant and supermarket) outlets, 43% were sold to shucking plants, and <1% were sold to distributors.

### Freshwater Aquaculture in Oregon

Trout, largemouth bass, sunfish, crappie, and catfish are raised and sold as live fish for stocking to enhance opportunities for recreational fishing by anglers in Oregon and surrounding states. Aquaculture farms supply these

fish for stocking into lakes and ponds that offer fee fishing opportunities for anglers.

### Recent Trends of Aquaculture in Oregon

The number of aquaculture farms in Oregon has remained relatively constant (34 farms in 1998 compared to 38 farms in 2018) for the past 20 years despite an apparent increase between 1998 and 2005 and decrease back to near 1998 levels in 2013 (USDA-NASS 2000, 2006, 2014, 2019) (Figure 2). The value of Oregon aquaculture sales, however, increased nearly seven-fold from 1998 to 2018, including a near doubling from 2013 to 2018.

Table 3. Sales and relative proportions of aquaculture products sold into food, recreational, ornamentals, or to other farms in Oregon, in 2022\$.

Category	Value	%
Shellfish	\$23.3 million	84%
Sportfish/ornamentals	\$4.5 million	16%
Total	\$27.8 million	100%

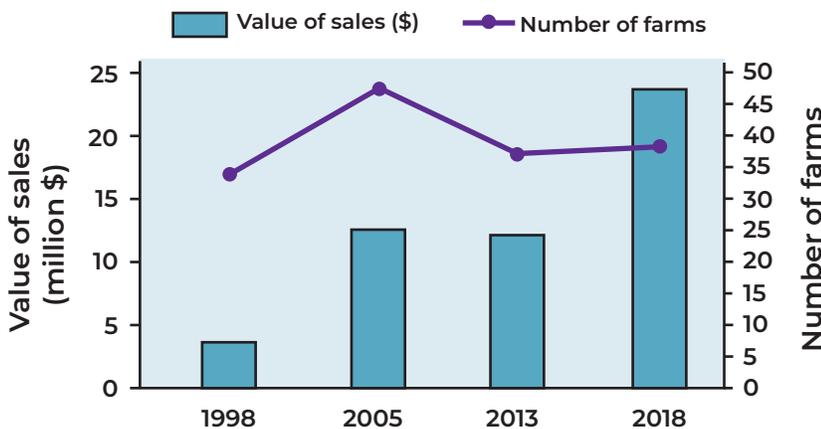


Figure 2. Total aquaculture sales and number of farms in Oregon, 1998 to 2018. Source: USDA-NIFA (2000, 2006, 2014, 2019)

*In addition to private farms, Oregon has multiple publicly funded hatcheries that raise fish for release into freshwater and marine environments to enhance fishing opportunities. Publicly funded hatcheries also support aquaculture supply chain businesses, but it was beyond the scope of this Western Regional Aquaculture Center project to survey publicly funded hatcheries and measure their economic impact to Oregon.*

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\* *Census of Aquaculture 2005, 2013, and 2018 available at: [https://www.nass.usda.gov/Surveys/Guide\\_to\\_NASS\\_Surveys/Census\\_of\\_Aquaculture/index.php](https://www.nass.usda.gov/Surveys/Guide_to_NASS_Surveys/Census_of_Aquaculture/index.php)*

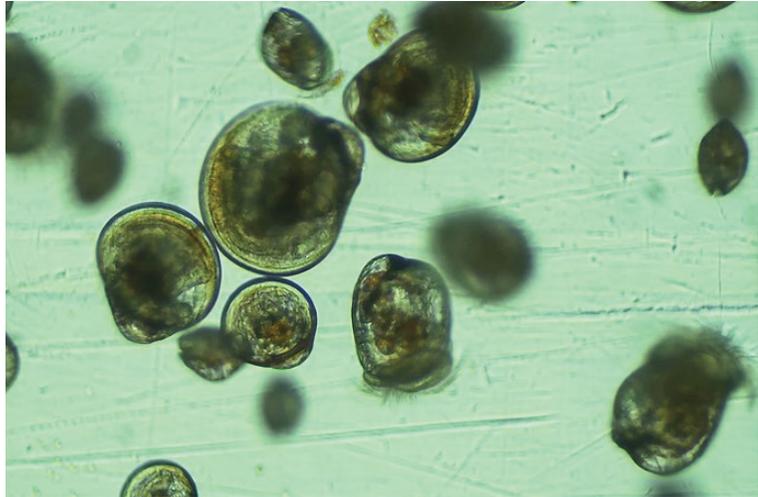


Photo: Courtesy of Whiskey Creek Shellfish Hatchery

**Whiskey Creek shellfish larvae.**



Photo: Keri Rouse for Virginia Tech University

**Oysters on the half shell.**

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