WRAC fact sheet

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Characterization of Aquaculture in the Western U.S.

UTAH

Carole Engle, Engle-Stone Aquatic$ LLC
Jonathan van Senten, VA Seafood AREC, Virginia Tech University

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Photo: Close-up of covered raceways.

Utah has become a popular destination for tourists seeking to visit its canyons and state and national parks to enjoy the scenic beauty of the state. Recreational fishing opportunities, especially trout fishing, contribute to Utah's attractiveness to tourists. Quality fisheries, however, depend upon active programs that stock trout and other species raised on private aquaculture farms and on publicly funded state and federal hatcheries.

Private trout aquaculture farms date back to the early 1900s in Utah. The state's aquaculture farms produce several different species, but the greatest volume of sales is that of trout. Other farmed aquaculture species in Utah include hybrid striped bass and sportfish, such as sunfish.

Aquaculture farmers create and sustain multiple and diverse supply chains that contribute to local economies and employment while supplying aquatic products locally. A recent supply chain analysis funded by the Western Regional Aquaculture Center identified ten distinct supply chains for aquaculture products in Utah. Figure 1 illustrates a generalized supply chain for fish raised on aquaculture farms in the state.

In addition to private farms, Utah has publicly funded state and federal hatcheries that raise and stock 8.2 million trout per year into lakes and streams. Publicly funded hatcheries also support aquaculture supply chain businesses such as feed mills, but it was beyond the scope of this Western Regional Aquaculture Center project to survey publicly funded hatcheries and measure their economic impact.

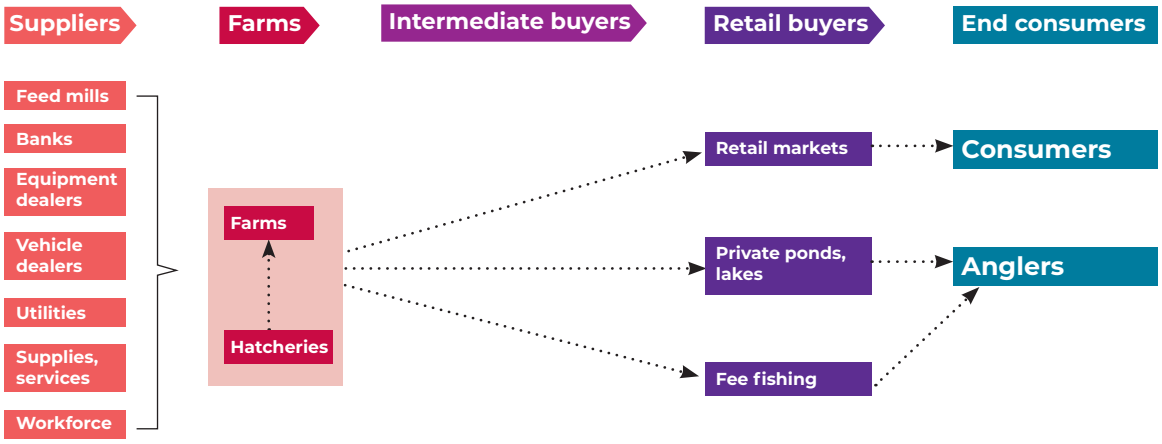

Figure 1. Generalized supply chain map for fish raised on aquaculture farms in Utah.

Photo: Spring Lake Trout Farm

The Contribution of Aquaculture to the Economy of Utah

The total economic contribution of aquaculture in Utah (in 2022 $) was $3.9 million (Table 1). Of this, $1.4 million was from direct contributions from aquaculture farms, $1.6 million from indirect contributions of supply chain partners, and $0.9 million in induced output from the additional household spending from employment created. Of the total 20 jobs supported by aquaculture in Utah, 8 were on aquaculture farms, 7 from supply chain partners, and 5 from induced effects. Additional economic contributions include tax revenues of $0.3 million ($0.2 million in federal tax revenue, $0.1 million in state tax revenue, and <$0.1 million in local and county taxes) (Table 2).

Live Fish Sold for Recreational Angling

Sales into recreational markets account for 80% of all aquaculture sales in Utah, with the majority of these being of trout (Figure 2). Some Utah aquaculture farms sell other fish such as sunfish for stocking into various water bodies for fishing, and some (4% of all farms) sell fish to other farms, mostly as young fish referred to as fingerlings for further growout.

Live Fish Sold for Food

Trout raised in Utah are also sold for food, although in much smaller volumes (15% of trout sales) than those sold for recreation. Other types of fish (such as hybrid striped bass) are raised for sale to restaurants and fish markets (<1%), which hold fish in aquaria and tanks.

Photo: Spring Lake Trout Farm

Stocking a mountain pond next to a cabin.

Table 1. Economic contribution of the aquaculture sector to the economy of Utah.

Type of impact	Employment	Total output
Direct economic impact	8	$1.4 million
Indirect economic impact	7	$1.6 million
Induced economic impact	5	$0.9 million
Total economic impact	20	$3.9 million

Table 2. Tax revenue generated from the aquaculture sector in Utah.

Tax Category	Tax revenue ($)
Federal	$0.2 million
State	$0.1 million
Local/county	<$0.1 million
Total	$0.3 million

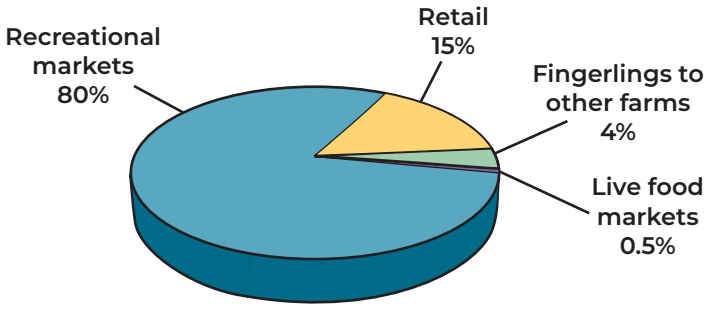

Figure 2. Percent of sales of aquaculture products sold into various supply chains from Utah aquaculture farms.

Customers can then choose which live fish they would like to purchase, and fish markets frequently will clean and cut the fish as desired by the customer.

Trends in Utah Aquaculture

The aquaculture sector in Utah has declined over time, both in the value of sales and the number of farms (Figure 3). In 1998, trout sales in Utah were the 7th greatest in the U.S., but by 2018, Utah trout sales had fallen to #12 nationally. In total aquaculture sales, Utah fell from #34 nationally in 1998 to #41 in 2018.

Recent studies on the economic effects of regulations on U.S. aquaculture suggest that the regulatory environment in Utah has played a role in the decline of private aquaculture in the state. Utah had the second greatest number of regulatory filings[1] of all major trout-producing states in the U.S. and the greatest regulatory cost per pound of trout produced (Engle et al., 2019, 2021). Of the various regulatory costs, fish health testing requirements and monitoring of discharge effluents created the greatest costs. Utah aquaculture farmers also had the greatest amount of lost sales revenue linked to regulatory action among major trout-producing states, primarily related to fish health regulations. Several prominent regulatory disputes, some of which entailed litigation, were associated with high percentages of declining numbers of trout farms in several of the major trout-producing states. Of these, the number of trout farms in Utah exhibited the greatest decline, with the loss of 61% of trout farms from 1998 to 2018. Respondents to the Engle et al. (2019) survey reported that the revenue lost from regulatory disputes and shutdowns was a major factor in those farms exiting the aquaculture business.

The contraction of aquaculture in Utah has resulted in reduced economic contributions for this sector. If the production level of 1998 had continued through to 2022, the total economic output would have been approximately $10 million, with 49 jobs supported, and tax revenue generated would have been $0.85 million. Regulatory approaches have been suggested that have potential to effectively address the underlying environmental concerns related to aquaculture for which regulations were developed while still supporting aquaculture businesses and their associated contributions to employment and to the economy.

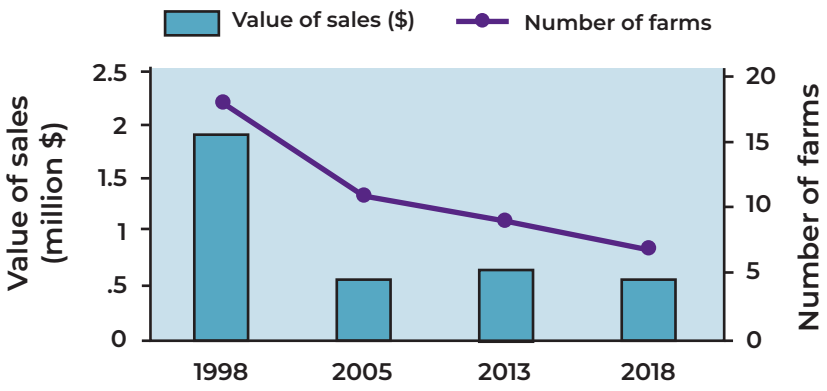

Figure 3. Total aquaculture sales and number of farms in Utah, 1998 to 2018. Source: USDA-NIFA (2000, 2006, 2014, 2019)

Photo: Spring Lake Trout Farm

Covered raceways for broodfish.

[1] A regulatory filing was defined in Engle et al. (2019) as a substantive study, survey, or other submission by the farm required by a regulatory agency to obtain specific certificates or other approvals required as part of a permit application process. Routine submissions of water quality monitoring and testing were not included as separate "filings."

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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*

Photos: Spring Lake Trout Farm

Left: Stocking a mountain pond before ice over; Right: Cutthroat trout fishing.

For more information, contact Jonathan van Senten at jvansenten@vt.edu.
or Carole Engle at cengle8523@gmail.com

This project was supported by the Western Regional Aquaculture Center award number 2020-38500-32561 from the United States Department of Agriculture National Institute of Food and Agriculture. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture.

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