

ECONOMIC IMPACT OF ALASKA'S SALMON HATCHERIES

EXECUTIVE SUMMARY

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PREPARED FOR

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- Armstrong-Keta
- Douglas Island Pink and Chum, Inc.
- Northern Southeast Regional Aquaculture Association
- Prince William Sound Aquaculture Corporation
- Valdez Fisheries Development Association, Inc.
- Cook Inlet Aquaculture Association
- Kodiak Island Aquaculture Association

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Executive Summary

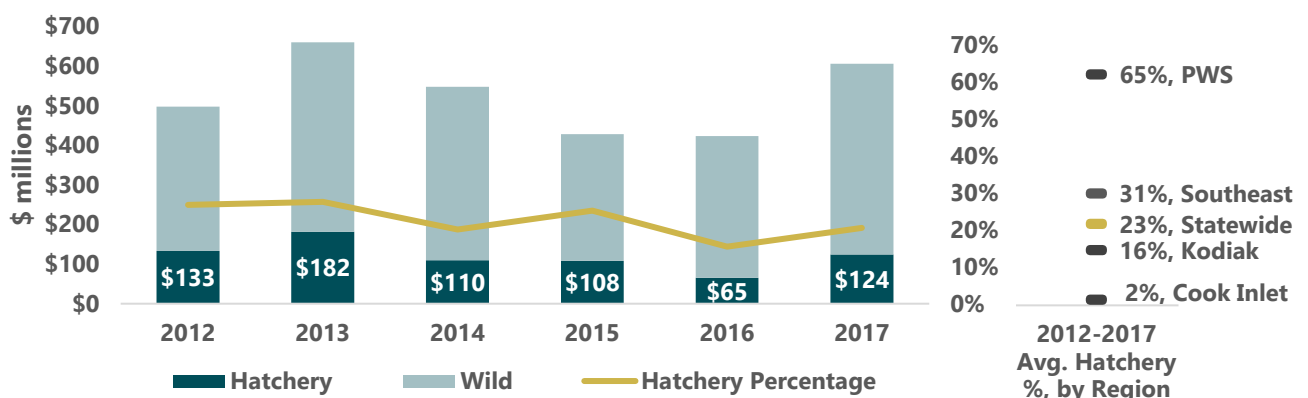
Alaska’s salmon hatcheries contribute nearly a quarter of the value of our state’s salmon harvests and generate \$600 million in economic output, with impacts throughout the economy. The scope of this report includes Alaska’s eight private, nonprofit hatchery associations, including impacts resulting from hatchery-produced salmon as well as hatchery operations. Data sources include ADF&G, hatcheries, CFEC, DOLWD, and IMPLAN. Commercial harvest and processing data presented reflect annual averages across the six-year period 2012-2017. Sport harvest and related data reflects 2012-2016 averages due to a lag in ADF&G data availability.

Common Property Ex-Vessel Volume and Value

- Over the study period, commercial fishermen harvested an annual average of 222 million pounds of hatchery-produced salmon worth \$120 million in ex-vessel value.
- Chum and pink salmon are the most important species – responsible for 39 and 38 percent of ex-vessel value, respectively – followed by sockeye (16 percent), coho (4 percent), and Chinook (2 percent).
- More than half of hatchery salmon ex-vessel value went to seiners (57 percent). Gillnetters pulled in 38 percent, while trollers caught 5 percent of hatchery ex-vessel value over the study period.
- Regionally, Prince William Sound (PWS) harvests of hatchery salmon generated \$69 million in ex-vessel value annually. Southeast harvests earned fishermen \$44 million on average, followed by Kodiak (\$7 million) and Cook Inlet (\$0.5 million) harvests. It should be noted that Cook Inlet Aquaculture Association (CIAA) is currently building up their pink production and the full impact of these additional investments will not be seen for several more years. In addition, CIAA maintains several flow control structures and a fish ladder – efforts that lead to additional (though unquantifiable) salmon production.
- As a percentage of statewide harvest value, hatchery-derived salmon represents 22 percent of total salmon ex-vessel value over the study period. This percentage ranged from a high of 28 percent in 2013 to a low of 15 percent in 2016. Hatchery contribution was highest in PWS (65 percent) over the study period, followed by Southeast (31 percent), Kodiak (16 percent), and Cook Inlet (2 percent).



Hatchery Contribution to Ex-Vessel Value of Alaska’s Salmon Harvests, 2012-2017

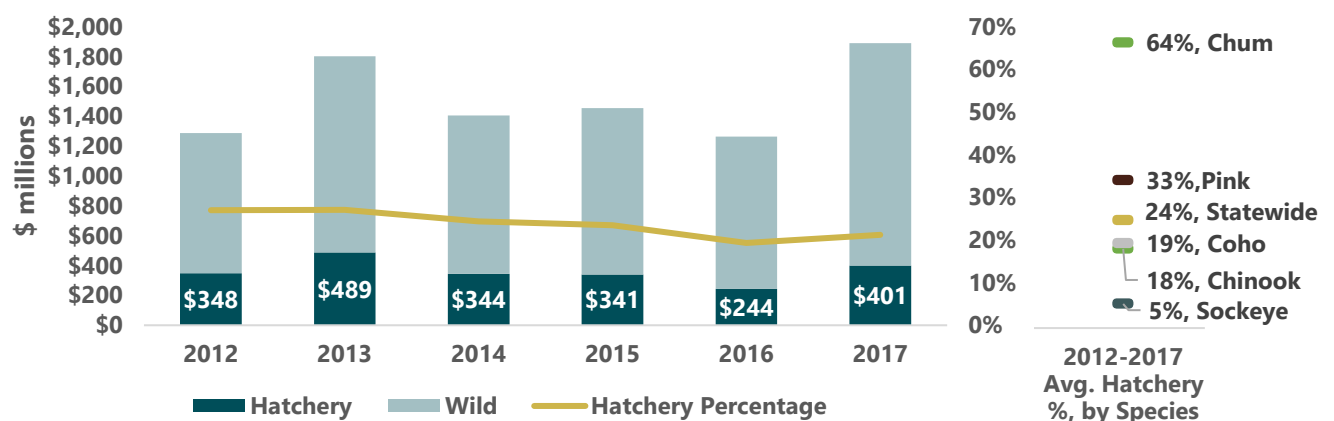


First Wholesale Value

- The first wholesale value – the value of raw fish plus the value added by the first processor – of hatchery-produced salmon averaged \$361 million annually across the study period.
- Nearly four-fifths (79 percent) of hatchery-produced first wholesale value is estimated to come from common property fisheries, with the remainder deriving from cost recovery harvests.
- Hatchery-derived first wholesale value represents 24 percent of total statewide salmon first wholesale value over the study period. By species, nearly two-thirds of chum, one-third of pink, and close to two-fifths of coho (19 percent) and Chinook (18 percent) wholesale production value was derived from hatchery salmon over the study period.

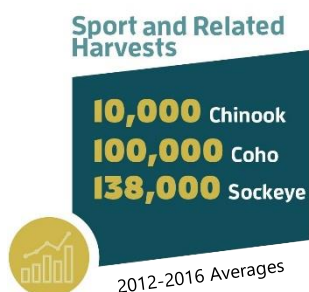


Hatchery Contribution to First Wholesale Value of Alaska Salmon Products, 2012-2017



Sport/Personal Use/Subsistence

- Coho, Chinook, and sockeye salmon are the most important hatchery-produced species for sport, personal use, and subsistence harvests. These species are produced in smaller numbers compared to pink and chum but are much more valuable on a per fish basis.
- On average, about 10,000 hatchery-origin Chinook, 5,000 chum, 100,000 coho, 19,000 pink, and 138,000 sockeye salmon were harvested annually in sport and related fisheries over the study period. These numbers are considered conservative due to limited sampling of sport and related harvests for origin (hatchery/non-hatchery), among other factors.



- Sport harvests accounted for over 99 percent of the sport/personal use/subsistence harvest of hatchery-produced coho and Chinook. By contrast, most non-commercial hatchery sockeye were harvested by personal use and subsistence fishermen (80 percent), with only 20 percent caught by sport fishermen.
- As a percentage of statewide sport-caught fish, hatchery-origin salmon accounted for 17 percent of sport coho harvests, 13 percent of sport sockeye harvests, and 8 percent of sport Chinook harvests.

Economic Impacts

- Alaska's salmon hatcheries account for the annual equivalent of 4,700 jobs and \$218 million in total labor income, including all direct, indirect, and induced economic impacts. A total of \$600 million in annual economic output is connected to Alaska salmon hatchery production.
- The employment impact of 4,700 jobs is an annualized estimate. The number of people who earn some income from the harvest of hatchery-produced salmon is several times the annual average. More than 16,000 fishermen, processing employees, and hatchery workers can attribute some portion of their income to Alaska's salmon hatchery production. Thousands of additional support sector workers earn wages connected to Alaska hatchery production.
- The economic footprint of Alaska's hatcheries includes \$95 million in labor income associated with commercial fishing, \$82 million in labor income associated with processing, and \$25 million connected to hatchery operations.
- Non-resident sport harvest of hatchery salmon accounts for \$16 million in annual labor income created directly or indirectly by Alaska's hatcheries. This number is limited to impacts resulting from non-resident sport harvest of hatchery salmon and should be considered conservative. Clearly, resident sport/personal use/subsistence harvests of hatchery salmon have additional economic impacts as well as very significant social and cultural impacts in Alaska.
- Southeast Alaska hatcheries account for 2,000 jobs (annualized), \$90 million in labor income, and \$237 million in total annual output, including all multiplier effects.
- Prince William Sound hatcheries account for 2,200 jobs, \$100 million in labor income, and \$315 million in total annual output, including all direct, indirect, and induced effects.

Annual Economic Impacts

4,700 Jobs
\$218 million
 labor Income
\$600 million
 economic output



Total Annual Statewide Economic Impact of Alaska Salmon Hatcheries

	Direct Impacts	Indirect & Induced Impacts	Total Economic Impacts
Commercial Fishing			
Employment	1,040	500	1,540
Labor Income	\$70.9 million	\$23.5 million	\$94.4 million
Seafood Processing			
Employment	1,360	820	2,180
Labor Income	\$52.2 million	\$29.5 million	\$81.7 million
Hatchery Operations			
Employment	345	270	615
Labor Income	\$15.5 million	\$9.3 million	\$24.8 million
Non-resident Sport Fishing			
Employment	285	90	375
Labor Income	\$10.5 million	\$5.7 million	\$16.2 million
Total Economic Impact			
Employment	3,030	1,680	4,710
Labor Income	\$149.1 million	\$68.1 million	\$217.2 million
Output	\$386.1 million	\$216.0 million	\$602.1 million