# Alaska's Salmon Hatcheries

## Hatchery fish enhance sport, commercial harvests

Hatcheries play a critical role in Alaska's commercial salmon harvests by boosting fish abundance. About 31 percent of 2012's total catch originated in a hatchery — more than 37 million fish — and another 7 million were harvested as part of the hatchery cost recovery program, which allows a special harvest of returning hatchery fish to pay for operations.

Salmon culturing, also known as "ocean ranching," differs from salmon farming, as hatchery fish are released into the ocean while immature. All salmon in Alaska, whether from natural runs or hatchery-born, are caught "in the wild." Farmed salmon, which are raised and harvested in captivity, are prohibited in Alaska.

Hatchery work is much less labor-intensive than harvesting the fish. Average monthly employment was just over 300 at the 34 hatcheries operating in 2012. Around half the jobs were in Southeast Alaska, where 20 hatcheries are located. The remaining 14 operate in Prince William Sound, Cook Inlet, Kodiak, Anchorage, and Fairbanks. For comparison, a monthly average of 4,500 people harvested salmon.

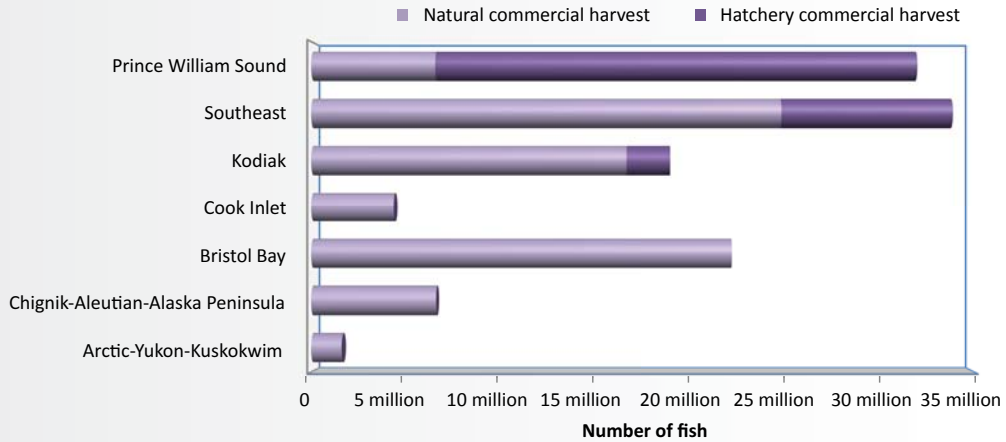
For some species in some areas, hatchery fish — also called "enhanced" fish — make up the majority of the harvest. In Prince William Sound, hatchery fish are 80 percent of commercial landings. Just over a quarter of Southeast Alaska's commercial harvest and an eighth of Kodiak's are hatchery-produced. In contrast, less than 1 percent of the Cook Inlet harvest was from enhanced stocks. (See Exhibit 1). Western and Northern Alaska have no operating hatcheries.

Chum salmon stocks are the most heavily enhanced of all salmon species, with over 60 percent of the statewide ex-vessel[1] chum value from hatchery fish in 2012. Pink salmon are the second

[1]Ex-vessel is the price for fish at the dock, before processing.

**1 Hatchery Fish Often Dominate Commercial Catch**

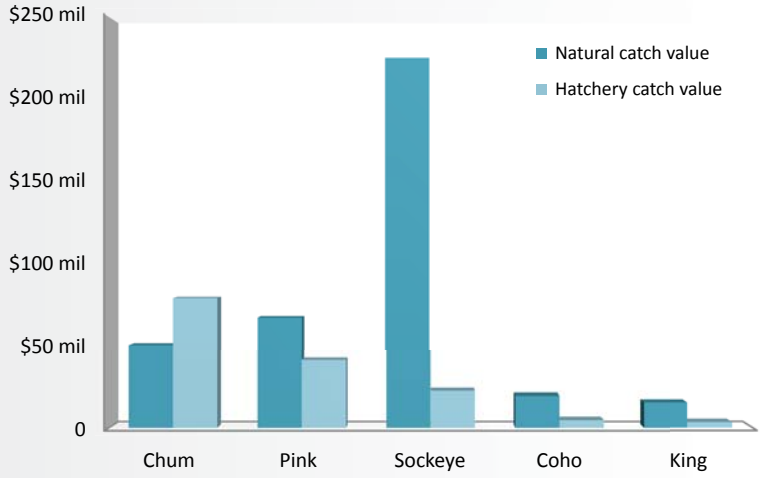
Numbers of hatchery-produced and natural fish caught, 2012




*Source: Alaska Department of Fish and Game*

## 2 Natural vs. Hatchery Species Values

Alaska salmon, 2012




Note: Values are ex-vessel, or the cost off the boat before processing.
*Source: Alaska Department of Fish and Game*

most enhanced stock, and close to 40 percent of the ex-vessel value of commercially caught pinks were from hatcheries. (See Exhibit 2.)

## History of hatcheries

Salmon hatcheries have operated in Alaska with varying functionality since the 1890s. Alaska's earliest fisheries management was technically the responsibility of distant federal regulators, but for the most part, Seattle-based canneries called the shots.

Fish hatcheries were still a relatively new idea for Pacific salmon in those days, and from California to Alaska, salmon propagation was a much more popular solution to over-fishing than harvest restrictions. The initial hatcheries failed almost universally to generate salmon returns, and improved fishing techniques and habitat destruction decimated wild stocks in Washington, Oregon, and California.

With hatchery programs deemed largely unsuccessful, the only operating hatcheries by the mid-century were government-run research stations in Alaska.

Alaska's newly formed state government took over state fisheries management in 1960 during a period of historically low salmon abundance. The idea of propagation as a way to reverse decline in the fishery again became popular in the new state. In 1971, the Alaska Legislature created the Division of Fisheries Rehabilitation, Enhancement, and Development — or FRED — to ensure perpetual and increasing production of the state's fisheries and encourage private-sector investment in fish rehabilitation and enhancement.

In the years that followed, the state introduced limited-entry fishing — harvest by permit only — and created the private nonprofit hatchery program, intended to meet public need by both conserving wild stocks and contributing to the harvest by increasing salmon abundance.

## How they operate

Private hatcheries, which are all nonprofit, were also granted ownership of a certain percentage of the value of the fish they raise and allowed cost-recovery harvests, which are typically permitted in areas and dates otherwise closed to the common property commercial harvest. (See Exhibit 3.) Hatcheries are also permitted to take fish for brood stock.

Part of the private nonprofit hatchery program allowed the formation of regional associations, composed of local stakeholder representatives authorized to operate hatcheries and collect a tax on commercial landings, provided the tax was voluntarily approved by a majority of commercial permit-holders in the region.

Five regional aquaculture associations operated 17 hatcheries in 2012. The other 11 private hatcheries operating in Alaska last year were run by eight nonprofit organizations that funded operations through cost-recovery harvests and some state grants.

Federal and state governments manage the remaining six hatcheries. Three state-run hatcheries mostly cater to sport fisheries. The National Oceanic and Atmospheric Administration hatcheries at Little Port Walter and Auke Bay in Southeast Alaska are the two oldest operating hatcheries in the state and are largely research-oriented. The remaining federal hatchery is run by the Metlakatla Indian Community on the Annette Island Reserve.

## A small, seasonal job source

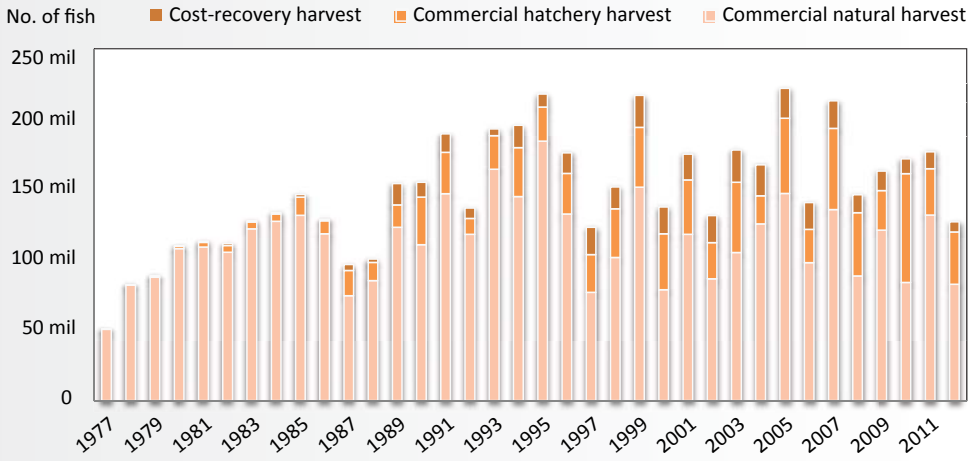
Jobs in Alaska aquaculture are highly seasonal

because they are dictated by the salmon's life cycle, with employment peaking in the summer at around 400 and dropping to about 175 in the winter. Hatchery workers earned around $13 million in wages in 2012. The return of hatchery salmon provided an estimated $149 million, or 28 percent, of the total commercial ex-vessel value.

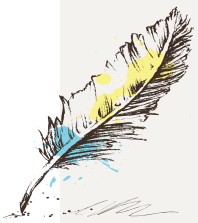
Despite their small role as employers, salmon hatcheries play a larger and important role in Alaska's fishing industry and coastal communities. Hatcheries don't just augment Alaska's commercial fisheries; sport and personal-use fishermen also benefit from enhanced stocks near the hatcheries. Many hatcheries have tours and teaching programs on salmon life cycles and Alaska's fisheries, and some host special events.

## 3 Cost-Recovery vs. Regular Harvests

Alaska salmon, 1977 to 2012




*Source: Alaska Department of Fish and Game*



## *This month in Trends history*

### NOVEMBER 1967

Alaska's unemployment rate rose to 8.6 percent in November 1967.

The Coast Guard cleared the way in November for Alaska Governor Walter J. Hickel to expand Alaska's Marine Ferry service from Ketchikan to Washington state, beginning the first of December.

President Lyndon Johnson signed a bill this month authorizing the sale of the Alaska Communications System to private industry.

To further entice development of Alaska's minerals and other natural resources, the Alaska NORTH Commission voted to spend funds on studies calling for a 400-mile extension of the federally owned Alaska Railroad north from the Fairbanks area.

There are a total of 24 rotary drilling rigs (five land-based and 19 off shore) operating in the state versus a total of 19 last year.

The number of barrels of oil is almost double the August average per day. Although costs are higher, Alaska already produces more oil per well than any other state.

*Alaska Economic Trends* has been published in Alaska since 1961. Historical articles are available at labor.alaska.gov/trends as far back as 1978, and complete issues are available from 1994.