

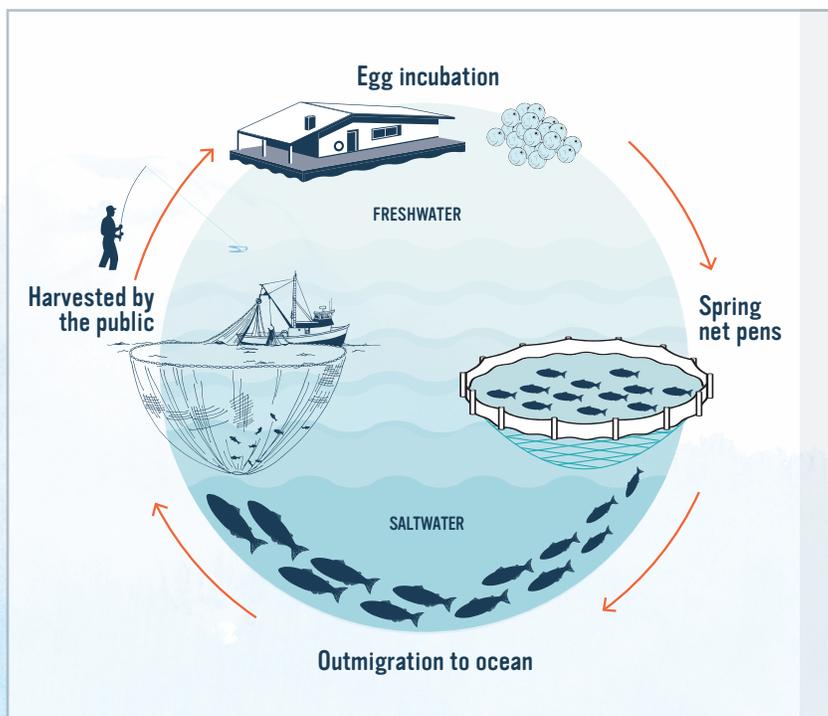
ALASKA'S SALMON HATCHERIES



Enhancing Alaska's Salmon Population

In Alaska, the purpose of salmon hatcheries is to supplement natural stock production for public benefit.

- Hatcheries in Alaska were carefully designed to **SUPPLEMENT** or **ENHANCE** existing wild salmon populations in Alaska.
- Alaska hatcheries were **NOT** designed to **REPLACE** wild salmon populations due to habitat loss and other issues related to human encroachment on habitat like most hatcheries in the U.S.
- Colonization (or straying) is a natural part of the salmon life cycle, so hatcheries are required to use **LOCALLY ADAPTED STOCKS** from nearby rivers and streams to maintain the natural genetic mixing of salmon populations within an area.
- The Alaska enhancement program was the first to have a **FISH GENETICS POLICY** to ensure sustainability of salmon populations which is a model for other hatchery programs in the world to follow.
- Most hatcheries in Alaska are private non-profit. The fish are **EVERYONE'S FISH** and are for the benefit of all Alaskans.
- The highest priority of the Alaska hatchery programs is to **PROTECT AND MAINTAIN WILD** stocks.



HOW DO ALASKA HATCHERIES WORK?

Unlike farmed salmon, Alaska hatcheries do not grow fish to adulthood, but incubate fertilized eggs and release resulting offspring as juveniles (i.e., fry or smolt) to grow in the wild. This is different from farmed salmon, that spend their entire life in a net pen or other controlled environment.

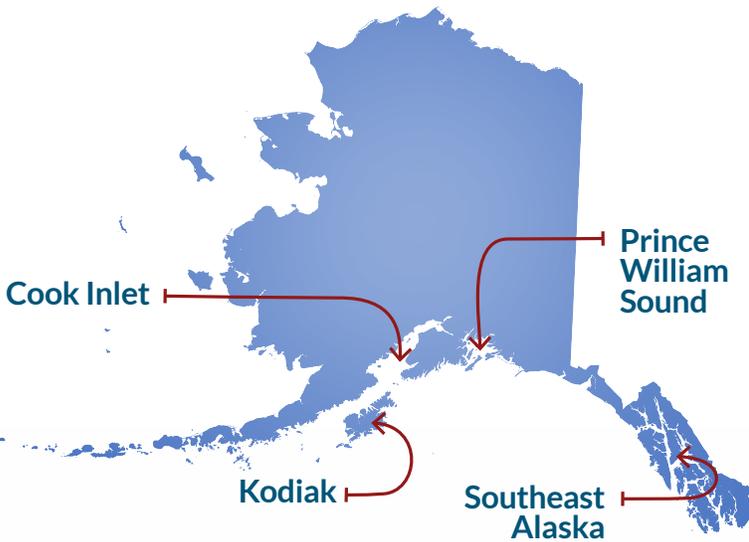
Hatcheries give a 'jump start' to juvenile salmon by reducing mortality, providing protection from predation, and allowing them to mature from eggs before being released into the wild.

All Alaska salmon (wild or hatchery) are **WILD CAUGHT**, and all are **ALASKA**, by definition.

HATCHERY PEOPLE AND PLACES

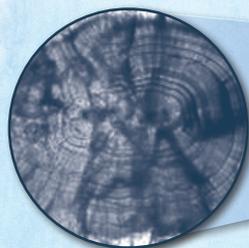
- There are 27 production hatcheries and 1 research hatchery in Alaska with most being private non-profit (PNP) hatcheries.
- All PNP hatcheries in Alaska are under permit from the Alaska Department of Fish and Game (ADFG) and get active oversight from state biologists and managers.
- ADFG is also highly transparent on hatchery activities involving public and private stakeholders.
- Alaska law requires that hatchery production be compatible with the conservation of wild stocks.

Hatcheries located in 4 major regions of Alaska



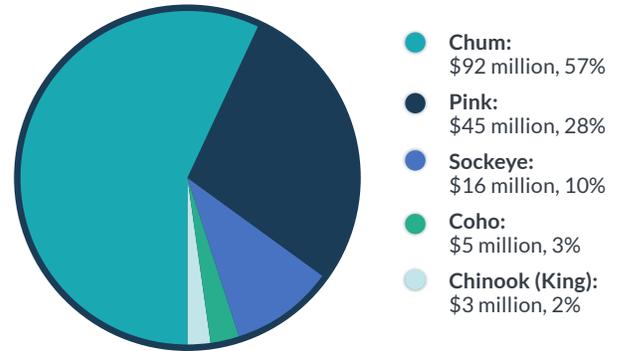
POPULATION MONITORING

While in the hatchery, salmon are marked through the use of slight variations in water temperature which leaves a signature in the salmon’s ear bone, or otolith. This otolith mark can later be ‘read’ to determine in which hatchery the salmon originated, and allows harvest managers to differentiate hatchery fish from wild fish. Now, almost 100% of all hatchery salmon in most of the state are marked. Apart from this minute hatchery-placed marking, it is nearly impossible to tell Alaska’s hatchery salmon from non-hatchery salmon.



ALASKA PRODUCTION

ADF&G’s 2017 Alaska Salmon Fisheries Enhancement Annual Report found the value of commercial hatchery harvest to be \$162 million, with the following breakdown by species:



SUSTAINABILITY MEASURES

To avoid adverse effects of hatchery programs to wild stocks, Alaska established policies and practices to ameliorate effects such as:

- Hatchery locations must be a prescribed distance away from significant wild stocks
- Maintaining genetic diversity by using a large broodstock and not selectively breeding
- Restricting transportation of stocks between the major geographic areas in the state
- Using only eggs for hatchery production from regional wild salmon stocks to minimize genetic variation due to straying
- Strict fish health regulations to prevent the spread of disease in fish

To meet the mandate that hatcheries be compatible with the sustainability of wild stocks, ADFG is engaged in ongoing, long-term research to address concerns or questions about interactions between hatchery and wild stocks.