RC033

Hatchery Pink Salmon Ecosystem Interactions in Kachemak Bay: Marine Stewardship Council

Penelope Haas

Kachemak Bay Conservation Society

RC033

The Marine Stewardship Council

“We Help Secure a Healthy Future for the Ocean by Encouraging a Sustainable Seafood Market. We Want Future Generations to Be Able to Enjoy Seafood and an Ocean Full of Life, Forever.”

- The Marine Stewardship Council (MSC) recently assessed Alaska Salmon fisheries against the MSC Fishery Standard. This is the fifth MSC assessment of salmon fisheries in the state of Alaska.
- “We note that ADFG’s ecosystem policy is overly broad to provide specific guidance for addressing possible ecological implications when issuing hatchery permits.” (“Alaska Salmon Fishery Reassessment Public Comment Draft Report.” Marine Stewardship Council, September 2023, p. 22).
- “We also note that In our discussion with ADFG's Director of Commercial Fisheries, that the Department recognizes these trends [of hatchery fish harming wild ecology] and the concerns raised by scientists and stakeholders.” (“Alaska Salmon Fishery Reassessment Public Comment Draft Report.” September 2023, p. 22).

Penelope Haas

RC033

Penelope Haas

"ADFG's hatchery permitting system does not include a specific policy addressing assessment of impacts to oceanic ecosystem akin to the other hatchery permitting policies such as ADFG's Genetic or Pathology Policy...We believe that it would be wise for ADFG to develop and implement such a policy to guide it hatchery permitting process."

"Alaska Salmon Fishery Reassessment Public Comment Draft Report." Marine Stewardship Council, September 2023, p. 22.

RC033

Hatchery Pink Salmon Ecological Interactions

Tutka Bay Lagoon Hatchery

- “Nearshore waters in Seldovia Bay serve as a rearing area for pink, coho and king juvenile salmon. Pink and chum fry rear in Tutka Bay for most of the summer. Pink fry and sockeye smelt rear in China Poot Bay in late spring and summer. Pink fry rear in Halibut Cove Lagoon in early summer” (The 1993 Kachemak Bay and Fox River Flats Critical Habitat Areas Management Plan, A-11).

- Pink salmon are known to compete with or predate upon King salmon, Tanner and Dungeness crab, halibut, shrimp, herring, Pacific cod, clams, and muscles…

- Stream surveys at Tutka Lagoon Creek that took place three years before hatchery releases began estimate returns of 14,500 (Fishery Management Report No. 17-26 2016 “Lower Cook Inlet Area Finfish Management Report” by Glenn Hollowell Edward O. Otis and Ethan Ford, ADF&G).

- Tutka Bay Hatchery releases approximately 60.6 million pink salmon fry into Kachemak Bay every year (http://ciaanet.org/data/) —if survival rates are “normal,” than that should be about 900,000 returning spawners (62x larger than the wild run).

Penelope Haas

RC033

Penelope Haas

"Hatchery production in Alaska (and around the Pacific rim) has increased dramatically since the 1970's. In recent years there has been numerous studies that point to likely intra and interspecific competition...Additional studies of ecosystem interactions in the marine environment would be beneficial..."

"Alaska Salmon Fishery Reassessment Public Comment Draft Report." Marine Stewardship Council, September 2023, p. 22.

RC033

Hatchery Ecological Interactions

Alaska ADF&G Law for Kachemak Bay and Statewide

- “The purpose of AS 16.20-690 is to protect and preserve habitat areas especially crucial to the perpetuation of fish and wildlife and to restrict all other uses not compatible with that primary purpose.” (Alaska Statute 41.21.990)
- ADF&G Management: 1974 The Hatchery Act “…The program SHALL be operated without adversely affecting natural stocks of fish in the State and under a policy of management which allows reasonable segregation of hatchery reared salmon from naturally occurring stocks.”

Penelope Haas

RC033

Possible Research Questions

Hatchery Ecological Interactions

- Where do hatchery juvenile and adult salmon go?
- How long are hatchery juvenile salmon and returning adults in the nearshore environment?
- What are they eating in the nearshore environment?
- How much are they eating in the nearshore environment?
- How does the volume and quality of the hatchery salmon diet affect the flora, fauna of the nearshore environment?
- What is the carrying capacity of the waters where the hatchery fry and adults are found?

Penelope Haas