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GOVERNOR BILL WALKER

Department of Fish and Game

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RC 70

To: Mr. John Jensen, Chair
Alaska Board of Fisheries

Date: January 15, 2018

Through: Scott Kelley, Director
Division of Commercial Fisheries

From: Bert Lewis, Regional Supervisor
Region II Commercial Fisheries Division

Subject: Petition requesting the Alaska Board of Fisheries to conduct a review to assess the interaction between wild and hatchery-produced pink salmon in Lower Cook Inlet

Nancy Hillstrand (Pioneer Alaskan Fisheries Inc.) submitted a petition to the Alaska Board of Fisheries (board) on December 30, 2017. Since the petition was received within 30 days before a regularly scheduled board meeting, the board may wish to address the petition at the January 11–23, 2018 Southeast and Yakutat Finfish and Shellfish meeting in Sitka.

This letter provides information from the Alaska Department of Fish and Game (department) concerning matters raised in the petition and assessment of petition policy criteria.

Action Requested

Ms. Hillstrand requests the board form an independent knowledgeable oversight task force of concerned scientists, geneticists, researchers, professors or concerned citizens to conduct a review to assess "the effect of enhanced stocks on wild stocks." She contends that 5 AAC 39.222(c)(1)(D) *Policy for the management of sustainable salmon fisheries* directs the board to take such action, based on the following: "effects and interactions of introduced or enhanced salmon stocks on wild salmon stocks should be assessed; wild salmon stocks and fisheries on those stocks should be protected from adverse impacts from artificial propagation and enhancement efforts;"

Background

In 2017 the department continued a fourth year of pink salmon stock composition sampling in Lower Cook Inlet (LCI). Stock composition is determined through otolith sampling that is part of base-line data collection associated with two recently restarted hatchery pink salmon programs. Otolith sampling of harvest and escapement allows for a complete assessment of hatchery programs and wild stock performance. This is ongoing work that is intended to continue as the

two programs come up to full 200 million fry release production levels. Beginning in brood year 2012, otoliths of all pink salmon raised in the Tutka Bay Lagoon Hatchery and Port Graham Hatchery have been thermally marked. Otolith sampling associated with these programs is comprised of two components: 1) Sampling otoliths from pink salmon commercial harvests (purse seine and set gillnet) in the Southern District, and 2) sampling otoliths from spawned out pink salmon carcasses in streams throughout the Southern and Outer districts.

In 2017, LCI staff collected otolith samples from 3,674 pink salmon from the commercial salmon harvest and from spawned-out carcasses in 16 streams. Streams targeted for carcass sampling generally included those with escapement goals and significant natural production. However, otolith samples were also collected from a few streams that normally have very few, if any, fish (e.g., Beluga Slough, Fritz Creek, Lou's Creek, Sadie Cove), but were reported by members of the public to have "hundreds" or "thousands" of fish in them in 2017.

All of the pink salmon otolith samples were sent to the department's Cordova Otolith Lab, where all readable samples were assigned to a specific hatchery of origin, or if no mark was detected, considered to be wild stock. Similar to the previous three years, pink salmon from Tutka and Port Graham Bay hatcheries were found to have spawned in 11 of the 16 Lower Cook Inlet streams surveyed. Port Graham Hatchery marks were found in samples at low levels (1%) in three streams. Tutka Bay Lagoon Hatchery marks were found in 10 of the 16 streams at widely varying proportions (1%–87%), with highest proportions generally found closest to release sites. In addition, PWS hatchery-produced pink salmon were found at levels similar to previous years (2%–70%). Hatchery-marked pink salmon (PWS and LCI combined) outnumbered unmarked pink salmon on 5 of the 16 streams sampled, including three small streams sampled in response to public reports of unusually high escapements (i.e., Beluga Slough, Fritz Creek, Lou's Creek).

Finding of Emergency

Under criteria listed in the Joint Board Petition Policy used by the board in determining whether or not an emergency exists, paragraph (f) of 5 AAC 96.625 reads, in pertinent part:

> …In this section, an emergency is an unforeseen, unexpected event that either threatens a fish or game resource, or an unforeseen, unexpected resource situation where a biologically allowable resource harvest would be precluded by delayed regulatory action and such delay would be significantly burdensome to the petitioners because the resource would be unavailable in the future.

The request by Ms. Hillstrand is for the board to form a task force to "review the effect of enhanced stocks on wild stocks". Formation of a task force is non-regulatory and does not satisfy criteria described in 5 AAC 96.625 (f).

While there were relatively high numbers of PWS hatchery-produced salmon found in several of the sampled LCI streams, not enough information is currently available to determine whether their presence threatens a fish or game resource.

Summary

From the beginning of Alaska's salmon fishery enhancement program it was recognized that salmon stray and that hatchery stocks would stray; consequently, policies and regulations were adopted to mitigate concerns associated with straying. What is less well understood is the effect of straying on wild stocks. In 2012 the department, in collaboration with NOAA Fisheries, University of Alaska, Prince William Sound Science Center, aquaculture associations, and the fishing industry, initiated a multi-year study examining the genetic structure of pink and chum salmon in Prince William Sound and Southeast Alaska, the extent and annual variability in pink and chum salmon straying in these areas, and the impact on productivity of Prince William Sound and Southeast Alaska pink and chum salmon due to straying of hatchery-produced fish. Results of this study will improve understanding of recent LCI pink salmon samples.

Though no statute expressly grants the board regulatory authority over hatchery production *per se,* it may exercise considerable influence over hatchery production by virtue of its authority to directly amend hatchery permit terms relating to fish and egg harvesting (AS 16.10.440(b)). This influence is tempered by previous guidance to the board that it may not adopt regulations that effectively veto or override a fundamental department policy decision regarding whether to authorize the operation of a particular hatchery or adopt regulations preventing the department from exercising its authority to permit a hatchery operation[1].

Ms. Hillstrand raised a number of concerns in her petition, many of which are currently the subject of active research while others are criteria considered in the department's hatchery permit application review process. It is likely that some of Ms. Hillstrand's desired outcomes lie outside of board authority.

cc: Glenn Haight, Executive Director, Alaska Board of Fisheries
Scott Kelley, Director, Division of Commercial Fisheries
Tom Brookover, Director, Division of Sport Fisheries
Seth Beausang, Assistant Attorney General, Department of Law

[1]Robert C. Nauheim and Lance B. Nelson, November 6, 1997, Memorandum to Dr. John White, Chair, Alaska Board of Fisheries and The Honorable Frank Rue, Commissioner, Alaska Department of Fish and Game, *Authority of the Board of Fisheries Over Private Nonprofit Hatchery Production*, 14 pages.