## Board of Fisheries Comments on ACR 2 OCT 10, 2018

Submitted by:

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Represent:

Myself

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- A. I am in SUPPORT of ACR 2, to cap statewide Private Non-Profit (PNP) hatchery egg take at 75% of the level described in FB Protocol 215-2002. I am not aware of any changes that were made to the protocol since implemented.
- B. I offer the following reasons to support of ACR 2, and some thoughts on PNPs:
- (1) Much more information scientific, economic, social information, etc is required for the BOF to properly prosecute it's statutory responsibilities to manage and protect the resources for Alaska and the citizens of Alaska for now and the future. Absolutely and strictly adhere to the precautionary principle of taking conservative action whenever information is lacking to support a more informed decision.
- (2) The intent of the PNP program, as I understand it, is to augment salmon production during periods of low natural salmon production. The PNP program has developed to a point that at times its returns are more than that of the natural systems. It is difficult to view this result as augmentation of natural runs during periods of low natural production.

To some degree market conditions, other fishing opportunities, and economics reduce the desire or ability to harvest all PNP returning fish in corridors or terminal areas, exacerbating the effects of hatchery propagation on natural stocks.

The PNPs have continually expanded in terms of eggs taken, smolt released, numbers of remote release sites requested and established, terminal harvest areas and boundaries determined, new mixed stock fisheries developed, and other actions which may be impacting the wild resources. These actions have not been made in a void, but through their Board actions, and approved by the Department and Commissioner.

At some point it may be difficult to pass the red face test with respect to managing wild stocks as well as possible, given staff and resource constraints and priorities according to precautionary principles. Not to just managing wild salmon, but all species impacted by PNP actions.

(3) Scientists have identified, discussed, studied, and in numerous cases demonstrated negative, science-based effects of salmonid hatchery production, fish farming, and/or ocean ranching - in both freshwater and portions of the marine environment - on other species. In many cases the effects are more easily defined than the mechanisms involved.

Environmental Biology of Fishes, Vol 94, Issue 1, 2012 provided a compilation of 20+ scientific papers that are a small sample of what is available in the literature on the subject of interactions between wild and hatchery salmonids.

Many more documents have since been published and are readily available. As a semiretired individual, I normally only access documents and studies that are available at no cost and are readily accessible on the internet. Costs for some documents are very significant, but do further expand the available knowledge base.

Concerns on effects of straying, altered genetic bases, reduced productivity, reduced size at maturity, reduced fecundity, reduced fitness, exceeded ecosystem carrying capacity (freshwater, estuary, and marine), altered natural species composition in streams, plus other effects have been identified and documented for a long period of time.

Some papers expressed significant scientific concerns for impacts on wild salmon from hatchery salmon, supported by data and project results. These results should make most objective scientists question what Alaska is doing to it's wild resources.

Other scientists support the Alaskan PNP programs, usually when relating their studies to other hatchery, fish farming, or ocean farming based programs.

There are pros and cons, which leads me to acknowledge that much more information is needed to make good rational decisions concerning continuation or expansion of the PNP programs, yet still remain within the framework of a precautionary approach. We should open our minds to the real possibility of negative effects, and make any necessary changes to stay within the bounds of our statutory responsibilities.

Scientists should be reading the literature and developing, prioritizing projects, obtaining funds, and conducting scientifically based research to answer the needed questions related to the PNP program, and its improvement. For that matter, an increase of programatic funds and projects is needed to better understand what is occurring in the natural ecosystem.

Perhaps a well developed review of all aspects of the PNP program and the associated fisheries is needed. Sooner is better than later.

(4) The State has developed plans, permits and policies to protect wild stocks for the benefit of all Alaskans. There is always room for review and improvement of documents and implementation, and for reflection on meeting statutory responsibilities. The plans, permitting, and implementation regulations only directly address fishes, but do imply interactions with wild salmon.

However, the actions of the PNPs alter many aspects of the ecosystems and effect many other taxa in the freshwater, estuary, and marine environments. PNP regulating documents should recognize any effects PNP actions may have on non-salmonids. Stating a precautionary approach and consistently taking a precautionary approach through actions are different things.

(5) As I understand Title 16, protecting the State's resources and habitat is the paramount mission of the Alaska Department of Fish and Game, the Commissioner, the staff members, and the associated Boards. The responsibility to conserve the wild resource is not limited to salmon, but includes all resources. Documents pertinent to PNPs, and their numerous permitting processes should recognize effects on all resources. PNP decisions should address and support the conservation of all resources - not just salmonids.

With respect to the streams, estuaries, bays, straits, sounds, and open ocean, there are many other resources - besides salmon - that are important to the State and it's citizens. Besides the obvious halibut, blackcod, herring, rockfishes, lingcod, crabs, shrimps, scallops, geoducks, sea urchins, etc., the State is responsible for maintaining the ecosystem that supports all the involved species.

Conservation is not only limited to commercial users, but also provides for the subsistence, personal use, recreational users and their reasonable access to the resources involved.

(6) Food webs are very complex, involve many species, occur at many different trophic levels, and occur in terrestrial, freshwater, estuary, and marine ecosystems. In many cases, these ecosystems are strongly and biologically linked. In all cases, functioning food webs are important to the survival and growth of all species.

Food webs are influenced by many factors. Physical factors like sunlight, temperature and salinity. Some important changes occur towards the bottom of the food chain with primary producers. It may be easier to predict and identify physical factors like the Pacific Decadal Oscillation than other factors.

It is more difficult to measure and predict changes to the various organisms and levels of the food chain throughout the habitat of the complex environment we know as Prince William Sound or SE Alaska. Many of the effects identified in the scientific literature as a result of enhanced salmonid programs can happen at numerous levels of the food chain within the ecosystems. The organisms we focus on as consumers are also present in many levels within the food web. While the PNP plans and policies are well intended, they only directly mention the effects that salmon propagation has on fish stocks. Salmon are only one species in a very large and complex ecosystem.

- (7) Mixed stock commercial salmon fishing in Icy Straits, SE Alaska was curtailed during the mid-1970s to help improve escapements into the streams of northern SE Alaska. The PNP program of significant smolt releases, and continued approval of additional remote release sites and the associated terminal harvests areas has only resulted in mixed stock fishing on a very broad and much larger scale.
- (8) The PNP program has been effective in increasing the harvests of all species, except chinook, to the commercial user. Unless the objective is to totally change specie compositions in streams a more balanced approach may be more appropriate.

With respect to chinook, the formula used by the Pacific Salmon Commission to determine Alaskan chinook harvest levels is to a large degree dependent upon an increase in natural production or an increase in enhanced production chinook stocks to allow Alaskans to harvest more chinook.

Without an increase in natural production or enhancement it is likely the Alaskan harvest will decline as Pacific Northwest (northern California, Oregon, Washington, British Columbia) production declines.

With habitat degradation and other environmental constraints in the Pacific Northwest it is likely that natural production will not significantly increase over time, and Pacific Northwest hatchery production will continue to exceed that of Alaska. The easier of the two choices to increase Alaskan chinook harvest levels seems to be to for Alaska to increase hatchery production of chinooks, while simultaneously ensuring their wild stock management program provides the best potential for increases in natural chinook production.

(9) PNP Boards are dominated by the commercial users, at least in numbers of board members and perhaps in activity. Alaska's resources are common property resources. Given the present situation, some citizens might state that "the fox is in the chicken coup". Below are a few questions to ponder:

Are PNP program expansions appropriate?

Are all portions of the Boards meetings open to the citizens?

Is there a broad-based program to obtain ideas from, and provide information to all the citizens and user groups for the PNP Boards to consider?

Is there a system whereby all proposed changes are brought to the various communities, explained and justified, similar to the ADF&G Advisory Board system?

Is there a well developed website where each citizen could obtain information and knowledge of events and results, such as minutes of the meetings?

Is there strong public confidence that the PNP organizations and it's board members are listening?

(10) Recently the Petersburg Borough Assembly discussed a resolution to support the PNP programs. The discussion centered around the importance of fisheries to the community an borough. The assembly took this action without any discussion about the pending BOF

meetings, the ACRs under consideration, and during a time when staff comments and reports were not yet available on the Board website if they did wish to consider related information.

Additionally, the local Fish and Game Advisory Committee has not met or scheduled a meeting to discus the subject. Much more coordination, information, and outreach is needed if the system is to function as intended.

(11) There is a need to clearly define, in detall and perhaps specific to PNPs, the term "non-profit" in State statutes and regulations. When PNPs are loaning each other significant levels of funds, trading services, etc. there needs to be more substance into what constitutes "non-profit". Especially when we are manipulating a common property resource owned by all Alaskans and for the future of all Alaskans.

When a state lawyer attending an NSRAA meeting in Petersburg a few years ago was asked what the Alaska State definition of non-profit was, he referred to the Federal Tax guidelines - evidently there is not a definition in State statutes that truly defines "non-profit" with respect to PNPs. There should be a State statute defining PNP "non-profit".

C. I apologize for the tardiness of my comments. I believe written comment were due on October 3, 2018 but the reports of interest to me were not available until sometime on October 4, 2018. I did not intend to address the Board of Fisheries in person due to the cost and time associated with the process. I appreciate the assistance that Glenn Haight and his staff provided to allow my comments to come before the Board.

Thank you for the opportunity to participate in the BOF process. I understand the responsibilities you have and the time taken from your lives to serve on the BOF. Thank you for your time, consideration and service to the State and it's citizens.

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