June 7, 2016

MEMORANDUM

TO: **Council members**

FROM: **Mark Fritsch, project implementation manager**

SUBJECT: **Update on Mitchell Act hatcheries**

BACKGROUND:

Presenter: Rob Jones, the anadromous production and inland fisheries branch chief for the sustainable fisheries division of NOAA Fisheries, West Coast Region.

Summary: Rob will update the Council on the status of the hatchery and genetic management plans (HGMP's) and the current lawsuit filed earlier this year associated with the Columbia River Basins Mitchell Act hatcheries.

Background: The Mitchell Act was passed in 1938 and was intended to mitigate the impacts to fish from water diversions, dams, pollution and logging. As Part of implementing the act the following Mitchell Act Hatcheries were all constructed using appropriated funds. Please see attached a nice summary for additional details regarding the Mitchell Act (though slightly dated) activities in the Columbia River Basin.

Hatcheries
Big Creek
Bonneville Hatchery - (funding from COE (45%, John Day Mitigation) and NMFS-Mitchell Act (55%))
Carson NFH
Cascade

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Clackamas
Eagle Creek NFH
Elochoman
Kalama Falls
Klickitat
Little White Salmon NFH
North Toutle River
Oxbow
Ringold Springs
Sandy
Skamania
Spring Creek NFH - (funding from COE (50%, John Day Mitigation) and NMFS-Mitchell Act (50%))
Washougal River
Willard NFH

Status of FY2016 Mitchell Act Hatchery Funding

NOAA FISHERIES
West Coast Region

Rob Jones, Chief
Anadromous Production and Inland Fisheries
NOAA Fisheries West Coast Region

June 14, 2016

A Few things to Consider about Hatcheries

As we monitor and investigate the performance of hatchery programs and based on the accumulating body of scientific information, it is increasingly apparent that artificial propagation entails risks as well as rewards for salmon conservation (NMFS 1992).

Risks and rewards, what does that mean?

Risk/Reward

The rewards:

More than one species likely would be extinct, and

trust obligations to the tribes, mitigation agreements and non-tribal fishing opportunities would go unfulfilled but for artificial propagation.

The risks on the other hand are*:*

Gene flow that can erode diversity and resilience to variable and changing environmental conditions,

competition and predation, *structures* like weirs and water intakes, removing fish from the natural population for *hatchery broodstock*, and *reduced flows.*

How widespread is artificial propagation?

28 of the remaining 52 distinct populations/species of salmon and steelhead on the West Coast are protected under the ESA.

There are 330 hatchery programs for which NOAA has or expects to receive an application/HGMP for an exemption from ESA take prohibitions.

Hatchery programs that are the subject of on-going or pending litigation are highlighted in red.

And that brings us to the Mitchell Act.

The Mitchell Act

- Congress appropriates Mitchell Act funding one year at a time.

- During the last ten years, it has been $15-20 million annually, $3+ for screens and fishways, $1+ for ME&R, and the balance for hatchery production.

- After a federal budget is passed; 1) NOAA works with co-managers to prioritize funding proposals and then
  2) complete the grant application and approval process.
  Funds are accessible to hatchery operators, typically between June and August.

What about compliance with the ESA and NEPA?

NOAA must Comply with the ESA and NEPA

- *Under NEPA*, NOAA has completed an EIS for dispersing Mitchell Act funds and will issue a ROD.

- *Under the ESA*, NOAA is preparing a BiOp for 63 hatchery programs that propose to receive Mitchell Act funding.

- *A BiOp and ROD* will be issued, this summer, before any funds are distributed.

Lets do a quick refresher on a central tenet in a BiOp analysis.

Best Available Science

- The health and viability of natural populations is the benchmark for NOAA determinations *(United States District Court of Western Washington, June 2007).*

- "The ESA's primary goal is to preserve the ability of natural populations to survive in the wild. That the purpose of the ESA is to promote populations that are self-sustaining without human interference". *(United States Court of Appeals for the Ninth Circuit, March, 2009)*

NOAA Hatchery Policy

- NOAA's policy "places primary importance on the viability of natural, self-sustaining populations, providing that hatchery fish will be included in assessing an ESU's status in the context of their contributions to conserving natural self-sustaining populations".

- NOAA's "policy is consistent with both the plain language of the ESA and with the statutory goal of preserving natural populations" *(United States Court of Appeals for the Ninth Circuit, March, 2009).*

How does NOAA apply best available science in hatchery consultations under the ESA?

Goals for Hatchery Consultations

It is NOAAs' experience that hatchery programs can accomplish their purpose, for example mitigate for impacts to tribal and non-Indian fisheries, and achieve compliance under the ESA when they include certain 'reforms'.

NMFS has been working with hatchery operators to identify and tailor reforms for hatchery programs that propose to receive Mitchell Act funding.

What are some of the reforms we can expect to see?

Reforms to Hatchery Programs that Propose to Receive Mitchell Act Funding

- Refuges free from hatchery intervention.
- Phase out stock transfers.
- Limits on straying and gene flow.
- Intake screens that meet criteria.
- Evaluate methods to mitigate the effects of climate change.

What about the other hatchery programs across the Columbia Basin?

The HGMP

- NOAA has created a universal application called a Hatchery Genetic Management Plan (HGMP) that hatchery operators, coast-wide, use to apply for an exemption to the ESA's take prohibitions.

- NOAA has also taken steps to accelerate HGMP reviews.

How?

Accelerating ESA and NEPA Compliance Reviews

- NOAA has added staff, including a geneticist, three biologists and a NEPA specialist for a total of 18 professional staff covering HGMPs and inland fisheries in three states.

- By the end of FY2016, NOAA' capacity to complete HGMP reviews is expected to increase to 55 per year.

How many HGMPs is NOAA working on?

HGMPs under Review

- ESA and NEPA compliance reviews are underway for:
  - 82 HGMPs in the Columbia River,
  - 42 HGMPs on the Oregon Coast,
  - 45 HGMPs in Puget Sound, and
  - 3 HGMPs in California.

And the status of HGMP reviews?

Status of compliance under the ESA and under NEPA for HGMPs on the West Coast.

HGMP Stats* (6/14/16) *These numbers are fluid as co-managers submit HGMPs and NMFS progresses on reviews.	
Status	**HGMPs**
Total number of Pacific salmon and steelhead hatchery programs on the West Coast[1]	330
NMFS review complete (ESA and NEPA compliant)	56
NMFS determined sufficient[2] and review is in progress[3]	172
NMFS determined sufficient; awaiting commencement of formal ESA consultation	14
Submitted; pending NMFS sufficiency review[4]	6
Either not yet submitted or with the applicant pending updated information needs identified in sufficiency review.	82

[1] Former total 328; a program was eliminated in CA, and 4 programs were added in the Columbia Basin.

[2] An HGMP must include sufficient information and supporting analyses, and preliminary review must indicate that the HGMP has addressed ESA criteria such that subsequent public review will be meaningful.

[3] 75% of the HGMP reviews require NEPA compliance, which takes about 40-66 weeks to complete.

[4] NMFS conducts a sufficiency review during a pre-consultation technical review and assistance phase. This can take several weeks to many months and is driven both by NMFS and hatchery operators. NMFS provides pre-consultation technical review of the HGMP to determine whether it contains sufficient information and addresses ESA criteria; then NMFS provides comments to hatchery operators. It takes NMFS generally about 3 weeks to provide comments to the hatchery operators and most HGMPs require multiple rounds of technical review and assistance, depending on how quickly and thoroughly hatchery operators can respond to NMFS' comments.

Achieving ESA Compliance for USFWS Species

Hatchery programs also need an exemption to take ESA-listed species under USFWS jurisdiction.

Under such circumstances, NOAA must complete consultation with USFWS before it can issue an exemption.

Experience with Hatchery Litigation

- Sandy River hatchery programs in Oregon
- Elwha River programs in Washington State
- Puget Sound steelhead
- The McKenzie program in Oregon
- Leavenworth National Fish Hatchery

Wrap-Up and Questions

More Background

- The number of salmon and steelhead produced in streams and rivers up and down the West Coast of the United States has declined, and as a consequence there has been an increasing reliance on artificial propagation.

- Artificial propagation has occurred largely through the implementation of *hatchery programs* designed to spawn and rear salmon and/or steelhead for release to rivers and streams as juveniles ready for ocean migration.

Each hatchery program is unique. For example, one hatchery program may produce fish intended to mimic the characteristics of wild salmon for maximum survival in the wild versus another program that selects fish for maximum survival in the hatchery (i.e., mass-production in a hatchery) and for characteristics and qualities that serve the interests of fisheries.

Roles for Artificial Propagation

- Hatchery fish now make up between 60 and 95 percent of all salmon and steelhead recruits, and
- ocean and inland fisheries rely almost entirely on hatchery fish.
- Hatchery programs can also serve as a 'safety-net' to conserve genetic resources until the ecosystems upon which salmon and steelhead depend are restored.

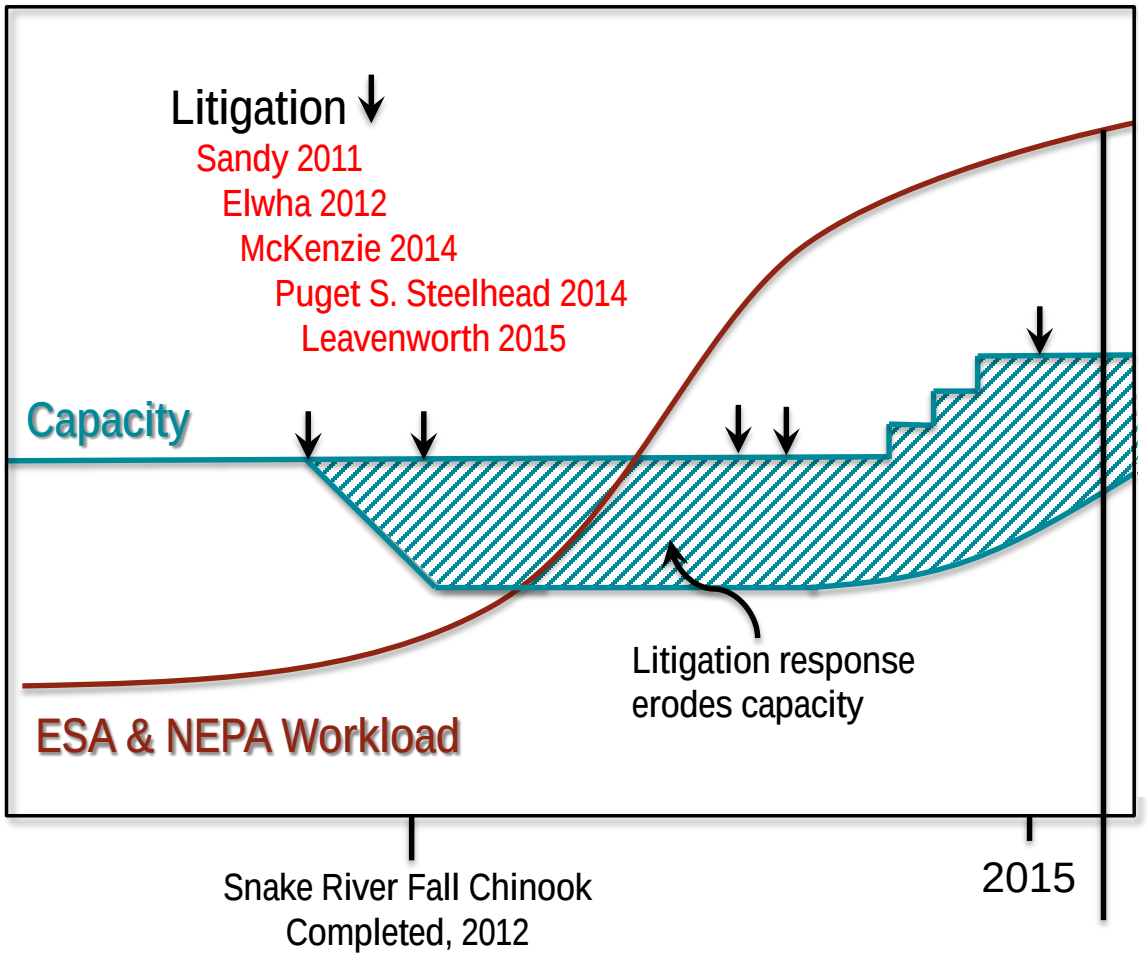
More than one species likely would be extinct but for artificial propagation, e.g., California winter-run Chinook, Idaho sockeye, and Puget Sound spring Chinook salmon……But

Risks from Hatchery Programs

- *Injury and mortality from handling* fish at hatchery weirs.
- *Removing* spawners from the wild for hatchery broodstock.
- *Structures that block or delay access to* spawning and rearing areas.
- *Injury and mortality* at hatchery water intakes lacking proper screens.
- *Reduced water quantity and quality* caused by water intakes.
- *Predation* by hatchery fish.
- *Competition* by hatchery fish for food and habitat resources.
- *Disease* transmittal.
- *Reduced diversity and fitness* from interbreeding (i.e., gene flow) between natural and hatchery fish.

But what does this mean under the ESA?

NMFS Workload and Capacity to Process HGMPs



NOAA FISHERIES

Facts about Hatcheries

How does the Process for Acquiring an Exemption work?

- Need a biologically sound and defensible HGMP.
- Hatchery operators submit their HGMP(s) to NMFS and request an exemption from the ESA's prohibitions against "take".
- NMFS reviews an HGMP and determines whether it meets the requirements of 50 CFR 223.203(b)(5)(i) such that it may qualify for an ESA take exemption.

How does the Process Work?

cont.

- It is rare for an HGMP to meet these requirements, at least initially; and consequently, NMFS offers its recommendations and potential remedies for the applicant to consider.

- The most common shortcomings are errors in the analysis of hatchery effects/take and the inadequacy or absence of necessary hatchery reforms.

- Depending on how an applicant responds to NMFS recommendations, it can take weeks to many months before an HGMP is ready for formal ESA consultation, including in most cases, public review and comment.

Scope of the challenge? Which hatchery programs are likely to require an exemption from the take prohibitions?

Compliance under the National Environmental Policy Act

- Approximately 75% of all HGMPs trigger the requirement to comply with a second federal law, NEPA, and NMFS cannot issue an exemption under the ESA until it complies with NEPA.

- NMFS consideration of HGMPs submitted under Sections 4(d) or 10 of the ESA, and NMFS funding of a hatchery program (e.g., under the Mitchell Act) constitutes a federal action that triggers NEPA.

- When the effects of approval and implementation of an HGMP exceed a “Finding of No Significant Impact”, NMFS must prepare an Environmental Impact Statement and a Record of Decision.

- The NEPA process, including public notice and comment, takes between 40 and 66 weeks.

Is that all?

Accelerating HGMP Reviews

- NMFS is implementing a three-point plan for accelerating HGMP reviews including:

1) increased resources devoted to HGMP reviews, 3 biologists, a geneticist, and contracting support have been added this spring.
2) increased efficiencies (e.g., templates and reviewing HGMPs on a watershed scale) and
3) collaboration with tribal, state, and federal managers to prioritize HGMP reviews.

Because of this increased capacity…