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Status of the Approval Process for Hatchery and Genetic Management Plans

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Objectives of the HGMP Review and Approval Process

- Hatcheries that are biologically and legally defensible, under the ESA, and that best serve the important purposes for which they are intended.
- Today, update you on how we are going about this in an area stretching from southern California to the Canadian border and east to the Rocky Mountains.

Background

- Under an the MOU between the Departments of Interior and Commerce for administering the ESA, NMFS has jurisdiction over salmon and steelhead.
- In this capacity, NMFS provides annual assessments and forecasts for ESA-listed salmon involved in or impacted by West Coast ocean fisheries through the Pacific Fishery Management Council process, and
- NMFS oversees hatchery compliance under the ESA.

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

Status of Hatchery Science

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).

We have mentioned the rewards but what are the risks?

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?

Compliance with the ESA

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

Under the ESA's provisions and under NMFS' issuance of 4(d) rules, "take" is prohibited unless NMFS makes a finding that operation of a hatchery program meets the standards for an exemption.

"Take" is defined under the ESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct". For example, planting hatchery salmon in areas used by ESA protected salmon constitutes "take".

How do you get an exemption to take an ESA-listed species?

The HGMP

- NMFS 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.

How is the process for acquiring an exemption working?

Achieving ESA Compliance

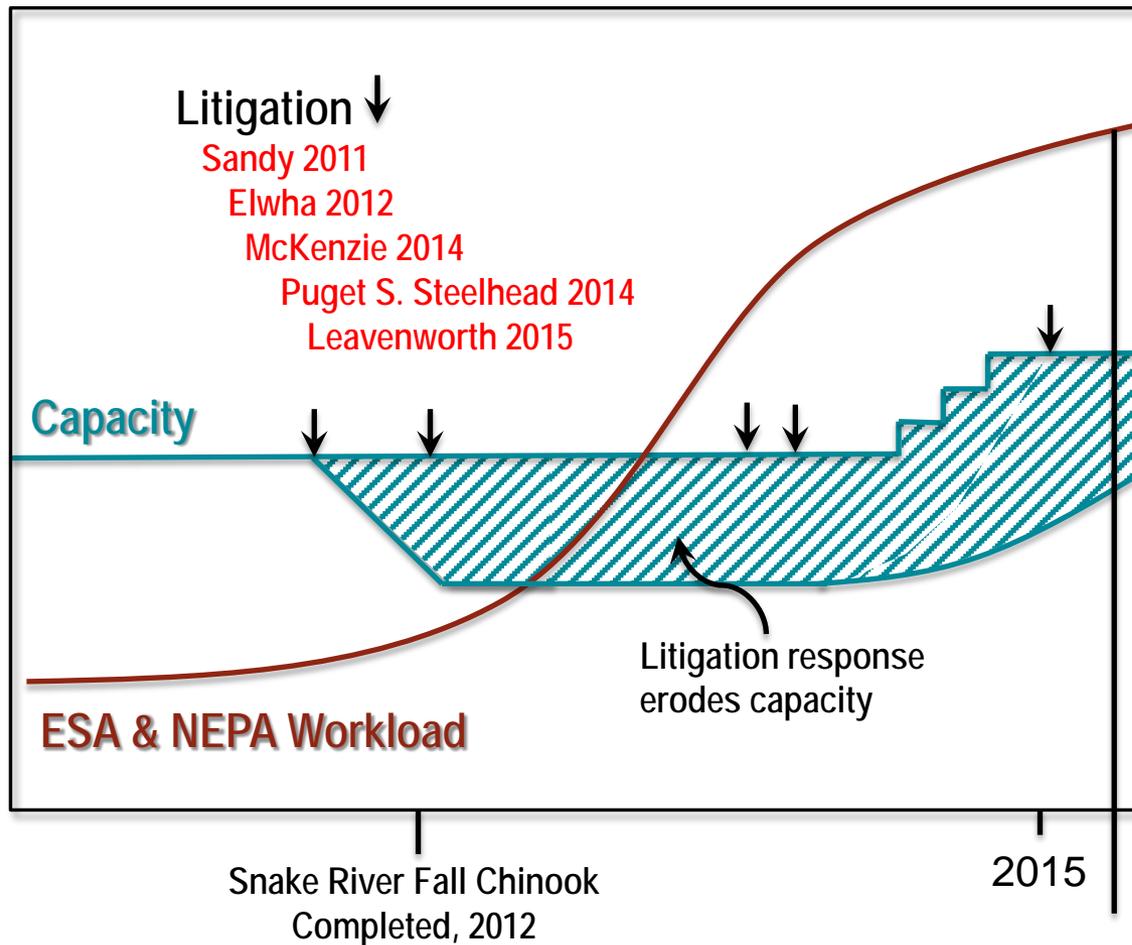
- Before 2012, largely status-quo, ongoing actions.
- After 2012, hatchery operators gained a sense of urgency to achieve ESA compliance and NMFS was flooded with updated HGMPs.

Why?

NMFS Workload and Capacity to Process HGMPs



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How does the Process 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?



There are 331 hatchery programs for which NMFS has, or expects to receive, HGMPs.

Hatchery programs across the NMFS West Coast Region that affect/take ESA-listed species.

Also noted here and highlighted in red are HGMPs that are the subject of on-going or pending litigation.

How Important is Hatchery Reform

It is especially important, considering the expansion in hatchery programs coast-wide, that they follow best available science and reduce risks.

It is NMFS' experience that hatchery programs can achieve compliance with the ESA when they include certain 'reforms'. NMFS works with hatchery operators to identify and tailor hatchery reforms to each program.

Funding for hatchery reforms is proving difficult.

Is that all?

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?

Achieving ESA Compliance for USFWS Species

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

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

Accelerating HGMP Reviews

- In FY15, NMFS' West Coast Region had the capacity to complete up to 40 HGMP reviews per year at a cost of \$2.3 million.
- By the end of FY16, NMFS' capacity to complete HGMP reviews is expected to increase to 55 per year.

What has NMFS done to accelerate this process?

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...

Moving forward with HGMP Reviews

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

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

HGMP Stats* (3/26/16)

*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	331
NMFS review complete (ESA and NEPA compliant)	56
NMFS determined sufficient ² and review is in progress ³	134
NMFS determined sufficient; awaiting commencement of formal ESA consultation	11
Submitted; pending NMFS sufficiency review ⁴	78
Either not yet submitted or with the applicant pending updated information needs identified in sufficiency review.	52
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.	

Overview of 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
- Mitchell Act funded programs

Wrap-Up and Questions

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