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## **Northwest Power and Conservation Council**

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Montana

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Oregon

January 5, 2022

### **MEMORANDUM**

**TO:** Fish and Wildlife Committee Members

**FROM:** Maureen Hess and Mark Fritsch

**SUBJECT:** Update and Overview of the Hatchery Story Map Web Tool

### **BACKGROUND:**

Presenter: Maureen Hess and Mark Fritsch

Summary: Council staff will provide an update and overview of the Hatchery Story Map web tool that conveys, in a user-friendly manner, information on hatcheries in the Columbia River Basin. The web tool provides hatchery information at various levels and is intended for multiple audiences (e.g., general public, technical, policy).

Relevance: The story map concept was initiated by the Informal Hatchery Workgroup ([Workgroup](#)) in an effort to address an information and data availability need that has been identified over the past three decades. Many past artificial production reviews have been supported by the Program but additional work is needed as demonstrated by the results of the [2011 RME & AP Category Review](#), [Research Review](#), ISRP reviews (i.e., ISRP documents [2010-44A](#) and [2018-8](#)), and Regional Coordination Forum meetings (February and August 2019).

This work supports implementation of several emerging priorities of the Program, including long-term O&M of Program assets (i.e., fish hatcheries).

This work will also address the 2014 Program's public engagement strategy (Part Three.IV.C.8) by facilitating public access to Program information and conveying the Program's accomplishments.

This tool is identified in the 2020 Addendum to the Program as one of two main reporting tools for communicating Program performance. It will help staff update relevant information to educate people about the Program and improve our outreach to a broader audience. Information is shared in bold data points and visual storytelling, which is also an effective format to share on the Council's social media accounts. More detailed information is provided in the Program Tracker.

**Workplan:** Fish and Wildlife Division; Program Implementation (2014 Program and 2020 Addendum); Program Performance, and other Program implementation.

**Background:** The Informal Hatchery Workgroup, hosted by Council member Guy Norman, has met six times since mid-2019. It supports a regional collaborative communication effort to provide an updated understanding of progress that has occurred over the past 20-plus years to meet mitigation and conservation objectives using hatcheries. This communication will help the region coordinate its approach to hatchery needs. The Workgroup created a mission statement and prioritized the need for better communication to the public, researchers, managers, and decision-makers, and to tell an updated story about the fish hatcheries in the Columbia River Basin.

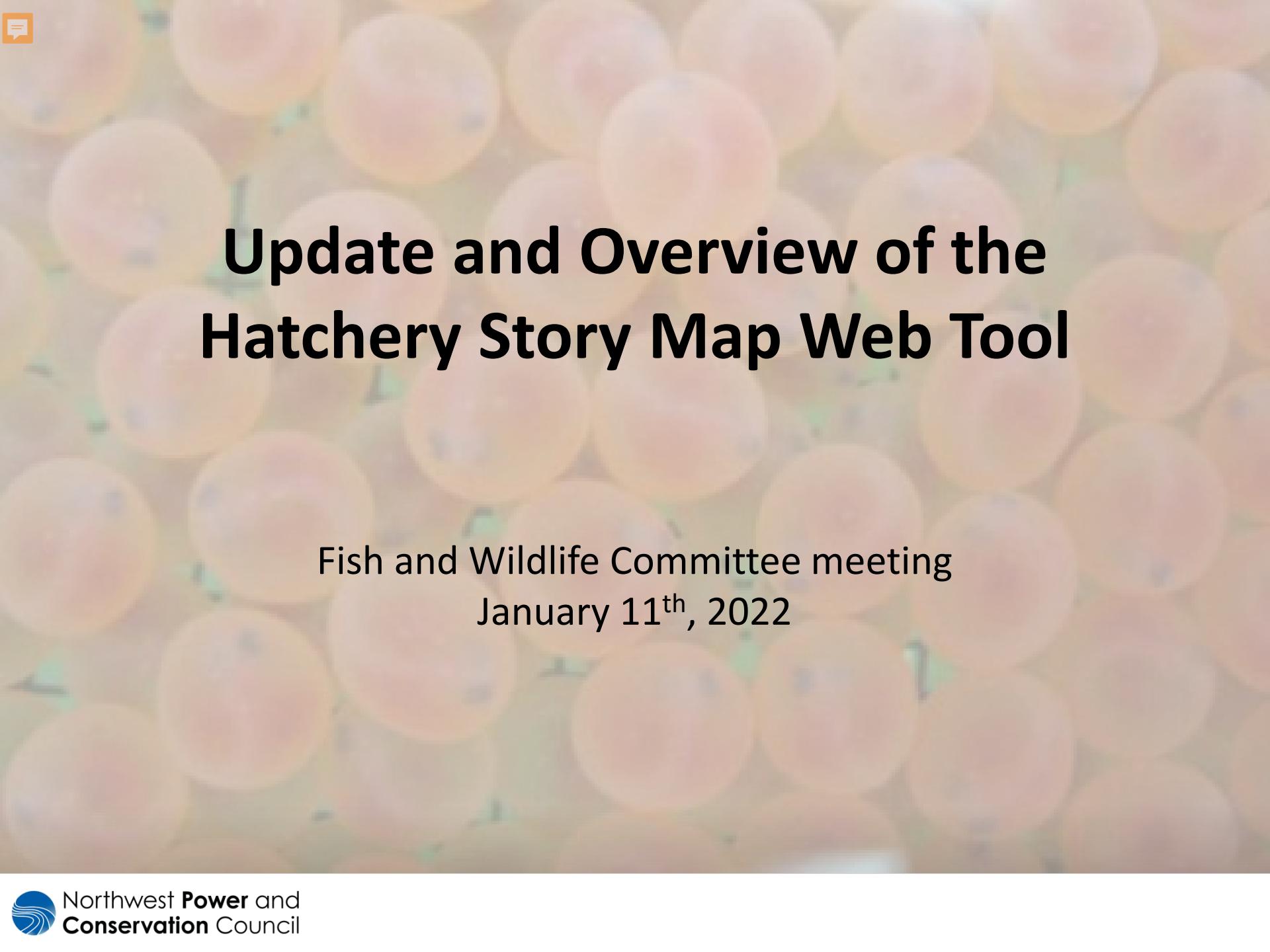
To accomplish this, the Workgroup and Council supported the use of story maps, and infographics to tell the story of fish hatcheries in a clear manner to explain the purpose and critical need for hatcheries in the Columbia River Basin.

Council staff worked with the Informal Hatchery Workgroup to develop draft story maps and handouts displayed on the web tool that was initially launched in January 2021. The group published story maps that describe:

- The Genesis of Hatcheries in the Columbia River Basin (January 2021)
- Hatcheries – Mitigation for Hydrosystem Operations and Development of the Basin (January 2021)
- Hatcheries and the Region's Economy and Culture (January 2021)
- Reviews and Reform – Improving Hatchery Programs in the Basin (January 2021)
- Salmon in the Classroom: Connecting Students with Salmon, Science, and Stewardship (January 2021, updated July 2021)
- The Council's Resident Fish Hatchery Programs (Fall 2021)
- Challenges for Columbia River Basin Hatcheries (Fall 2021)

The remaining stories and their associated handouts focus on individual hatchery mitigation programs, including a summary of the Council's Fish and Wildlife Program hatcheries, that will be developed and reviewed over the next several months.

This effort continues the development of the Council's [Program Performance and Progress](#) and [Resource Tools and Maps](#) products through the use of existing information (e.g., StreamNet, HGMP's, HSRG, Ad Hoc, and APRE). An important component of the hatchery web tool is the "Data" section of the website and its connection to the Council's Program Tracker. The Program Tracker was initially developed to present information on the Council's Program facilities and hatchery programs, to track facility improvement needs, and access information on particular hatcheries. There is opportunity to better align and expand the Program Tracker with the information displayed on the web tool for the Council's hatchery programs, in addition to information on all hatchery programs throughout the basin. Council staff continue to adapt the Program Tracker to align with the goals of the Informal Hatchery Workgroup to tell the story of fish hatcheries in the basin.

A background image showing a dense, out-of-focus pattern of numerous small, orange and pinkish circular shapes, representing salmon eggs or hatchery fish.

# **Update and Overview of the Hatchery Story Map Web Tool**

Fish and Wildlife Committee meeting  
January 11<sup>th</sup>, 2022



*"Since hatchery fish cannot replace lost habitat or the natural populations that rely on that habitat, programs must be viewed not as surrogates or replacements for lost habitat, but as tools that can be managed as part of a coordinated strategy to meet watershed or regional resource goals, in concert with actions affecting habitat, harvest rates, water allocation and other important components of the human environment."*

## MITIGATION FOR FISH AND WILDLIFE AFFECTED BY THE HYDROSYSTEM IN THE COLUMBIA RIVER BASIN



**Reducing Impacts**

**Reducing Predation**

Share

Slide source: <https://fwprogress.nwcouncil.org/>

# Presentation Outline

I. Background and Overview of web tool

II. Review the new story maps

- Council's Resident Fish Hatchery Programs
- Challenges for Columbia River Basin Hatcheries

III. Future story maps and handouts – update

IV. Data & hatchery information compilation – update

# Background

- Hatchery information and data availability need identified by past Reviews (2011 RME & AP Category Review, Research Review, ISRP reviews (i.e., ISRP documents 2010-44A and 2018-8))
- Regional Coordination Forum support for a workgroup to focus on the Basin's hatcheries (2019)
  - Purpose and Importance
  - Mitigation and Conservation
  - Science and progress

# Background

- Hatchery information and data availability need identified by past ISRP Reviews (2011 RME & AP Category Review, Research Review, ISRP reviews (i.e., ISRP documents 2010-44A and 2018-8)
- Regional Coordination Forum support for a workgroup to focus on the Basin's hatcheries (2019)
  - Purpose and Importance
  - Mitigation and Conservation
  - Science and progress
- Informal Hatchery Workgroup formed
  - Prioritize improved communication
  - Support the use of story maps, and infographics to tell the story of hatcheries in the Basin

<https://hatchery.nwcouncil.org>



# Hatcheries Columbia River Basin

Committed to supporting a common vision that supports abundant, healthy wild fish and effective fish hatcheries in the basin

Northwest Power and Conservation Council's Informal Hatchery Workgroup

Hatchery  
Overview

Stories and  
Handouts

Data

Other  
Information

video credit: Summer steelhead and spring Chinook in the Leaburg Hatchery trap on the McKenzie River (Source: Erik the Fish Nerd, YouTube)

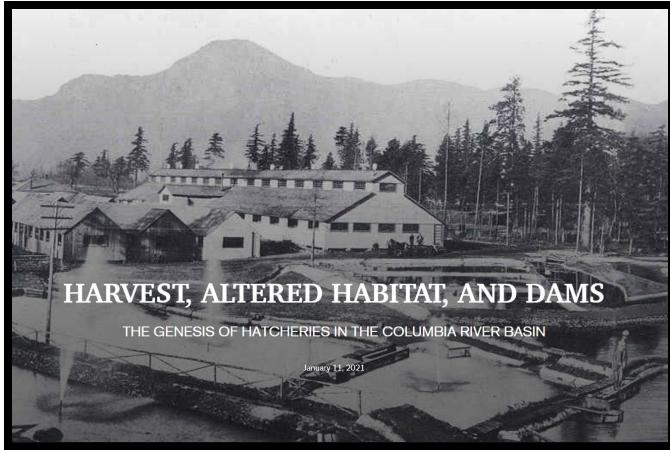


Northwest **Power** and  
**Conservation** Council

# Stories and Handouts

## Harvest, Altered Habitat, and Dams

### The Genesis of Hatcheries in the Columbia River Basin

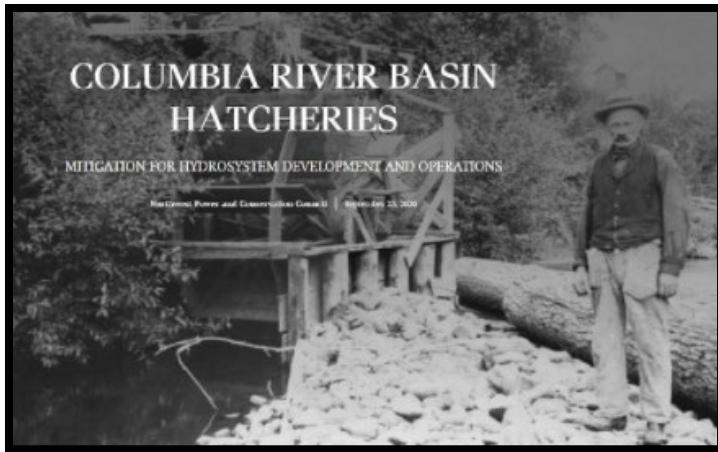


*“Hydropower development combined with habitat alterations and historical harvest created challenges that were too great for salmon and steelhead populations to survive without intervention.”*

# Stories and Handouts

## Columbia River Basin Hatcheries

Mitigation for Hydrosystem Operations and Development of the Basin



*"As the number of water diversions and dams increased throughout the basin from the 1930s through the 1970s, so did mitigation programs that supported the construction of hatcheries."*

# Stories and Handouts

## Hatchery Reviews and Reform

### Improving Hatchery Programs in the Columbia River Basin



*"Because of concerns that hatchery fish were affecting the viability of natural salmon and steelhead populations, the basin's fisheries biologists and policymakers identified a need to review the existing hatchery programs. These concerns would lead to reviews, and subsequently changes, from which the basin's fish populations are benefitting."*

# Stories and Handouts

## Columbia River Fisheries

### Hatcheries and the Region's Economy and Culture



*"In addition to providing cultural and ecological benefits, hatcheries are essential for the basin's recreational, tribal, and commercial fisheries."*

# Stories and Handouts

## Salmon in Schools

Connecting Students with Salmon, Science, and Stewardship



*"As biologists and hatchery operators learned more about salmon, they realized the need to educate the public, especially school children, about how to protect the fish and their environment."*

# Presentation Outline

I. Background and Overview of web tool

## **II. Review the new story maps**

- **Council's Resident Fish Hatchery Programs**
- **Challenges for Columbia River Basin Hatcheries**

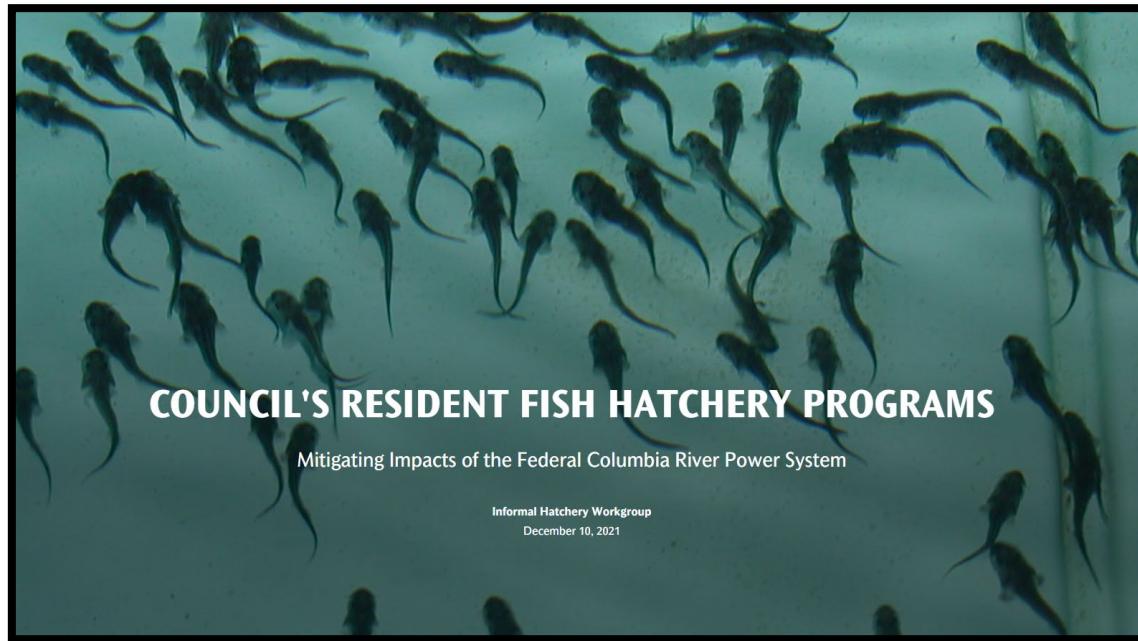
III. Future story maps and handouts – update

IV. Data & hatchery information compilation – update

# Stories and Handouts

## Council's Resident Fish Hatchery Programs

Mitigating Impacts of the Federal Columbia River Power System



### **COUNCIL'S RESIDENT FISH HATCHERY PROGRAMS**

Mitigating Impacts of the Federal Columbia River Power System

Informal Hatchery Workgroup  
December 10, 2021

# Stories and Handouts

## Challenges for Columbia River Basin Hatcheries



# Presentation Outline

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- Challenges for Columbia River Basin Hatcheries

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## II. Future Story Maps and Handouts

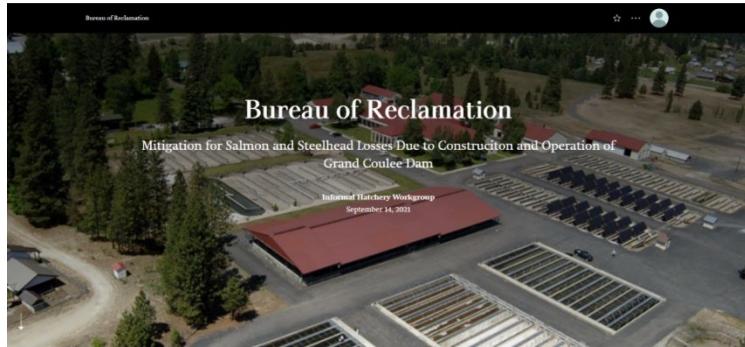
Goal: General overview of all hatchery programs in the CRB

Approach: Organize by funding program (i.e., mitigation authorization)

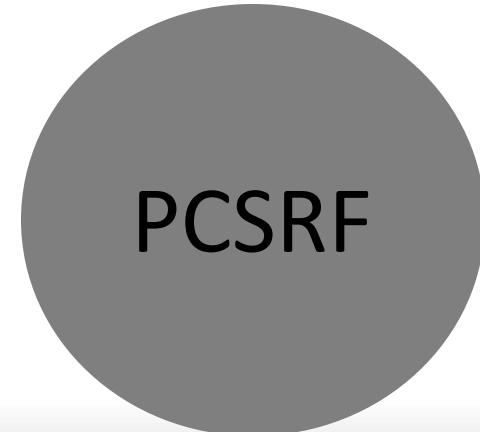
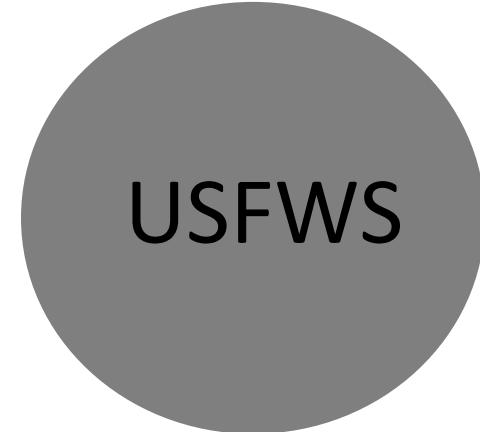


# II. Future Story Maps and Handouts

Fall 2021 – Drafted, need Workgroup review



Winter 2022 – In development



## II. Future Story Maps and Handouts

# Handouts



- One page snapshot summary of each Program
- Program description
  - Purpose
  - Funding
  - Facilities
  - Species
- Other highlights
  - # released
  - # harvested
  - Adult return goals
  - Capital infrastructure & deferred maintenance cost estimates

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# IV. Update on the data/hatchery information compilation

## Refinement of Tools – Program Tools



A screenshot of the "Program Tracker" website. The top navigation bar includes links for "Home", "Assessments", "Topics", "Stories", and "Resources". Below the navigation, there is a banner with the text "PROTECTING AND IMPROVING HABITAT FOR WILDLIFE AFFECTED BY DAMS" and statistics: "400 Parcels" and "170,000 Acres". The main content area is divided into sections: "Tracking Progress" (describing how the Council uses the Program Tracker to assess progress), "How does the Program Tracker inform the Program?" (with a flowchart showing the relationship between various components like Strategic Framework, Program Goals, and Project Performance), and "Assessments" (listing four categories: 1 High-Level Indicator, 2 Program Goals &amp; Objectives, 3 Strategy Indicators, and 4 External Concerns). There is also a "Recent Highlights and News" section.

Tool for **communicating** information on hatcheries broadly

Tool for **tracking and reporting** FW Program information and performance  
(Goals, Objectives and Indicators)

## IV. Update on the data/hatchery information compilation

# Program Tracker

The screenshot shows a search results page for 'Chief Joseph Hatchery'. The page has a sidebar with facility names like Chief Joseph Hatchery, Cispus Hatchery, Cowlitz Tribal Hatchery, Kalapuyan Tribal Hatchery, Klickitat Tribal Hatchery, Muckleshoot Hatchery, Nez Perce Tribal Fish Hatchery, Lower Spokanes Hatchery, Sherman Creek Hatchery, Spokane Hatchery, Springfield Hatchery, Umatilla Hatchery, Wallowa Falls Fish Hatchery, Asotin Fish Hatchery, Aspens Springs Trout Hatchery, and Duwamish Creek. The main content area shows the 'Chief Joseph Hatchery' entry with a thumbnail image of the facility, a detailed description of its operations, and a sidebar with links for 'Associated Data' (Species, Funding Source and Release Information, Associated Projects, Associated Documents), 'Program', 'Facility', 'Species', 'Type', 'Funding Source', 'Name', 'Address', 'Lat', 'Long', and 'Map View'.

A comprehensive list of artificial production facilities in the Columbia River Basin including species and release information, funding sources, and other related documents and projects.

[Click here \(will open in new tab\)](#)

Interactive Map

Goal: Alignment of information in Program Tracker with Story Maps

# IV. Update on the data/hatchery information compilation

## Goal: Alignment of information in Program Tracker with Story Maps

Program Tracker

Organize by funding program

Associated hatchery facilities and programs

Home Performance ▾ Data ▾ Stories Resources

Facilities Map Data Query Report Data

This mapping tool provides information for hatcheries and acclimation sites associated with the Fish and Wildlife , Lower Snake Compensation Plan, Mitchell Act , and mid-Columbia PUD artificial production programs. Some proposed Fish and Wildlife Program artificial production facilities are currently in step review and will be incorporated into the mapping tool at the appropriate time.

Select a PROGRAM:

- Fish and Wildlife Program
- Others
- Lower Snake River Compensation Plan
- Mitchell Act
- Other F&W Program / AP Activities

Select PROGRAM GROUP:

- All
- Chief Joseph Hatchery
- Colville Hatchery
- Grande Ronde Supplementation
- Hood River Production
- Hungry Horse Mitigation
- Johnson Creek Artificial Propagation Enhancement
- Kalispel Tribe Resident Fish Program
- Klickitat River O&M
- Kootenai River Fish Conservation
- Lake Roosevelt Resident
- Levi George Spring Chinook Program
- Mid-Columbia Coho
- Nez Perce Tribal Hatchery
- Snake River Sockeye
- Umatilla Hatchery
- Yakima Summer/Fall Chinook and Coho

Hatchery Acclimation

Fish and Wildlife Program Chief Joseph Hatchery

Click on a facility below to zoom map.  
Click facility again or home to zoom back out.

- Chief Joseph Hatchery
- Bonaparte Acclimation Pond
- Ellisforde Acclimation Pond
- Lake Osoyoos Net Pen
- Omak Acclimation Pond
- Riverside Acclimation Pond
- Salmon Creek Acclimation Pond
- Similkameen Acclimation Pond

Site 1705

Moving Falls Acclimation

Lostine River Acclimation

Johnson Creek

Eagle Hatchery

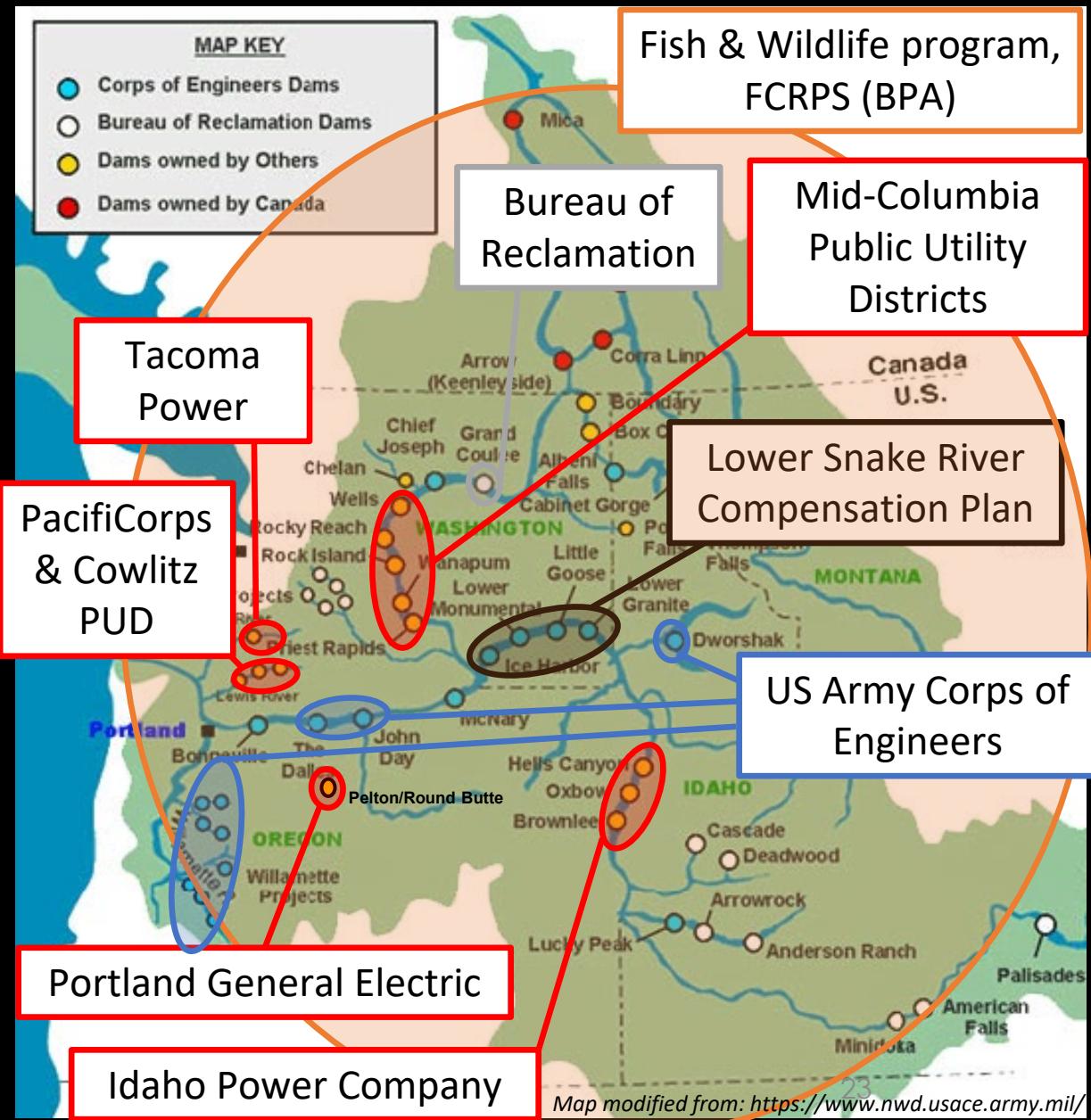
Springfield Hatchery

Earthstar Geographics

Chief Joseph Hatchery

Chinook production at Chief Joseph Hatchery serves as mitigation for salmon passage blockage by Grand Coulee and Chief Joseph dams. The Colville Tribes operate the hatchery on the Columbia River (RM 545) where egg incubation and early-rearing take place. Juveniles are transferred, reared, and released at associated acclimation ponds throughout the Okanogan River Subbasin. These hatchery/acclimation site operations conserve genetic

# Twelve funding authorization agencies Hatchery production in the Columbia River Basin



## Construction & operation of hydroelectric dams (9):

- LSRCP
- USACE
- BoR
- Private & Public Utilities
- BPA

## Development Impacts (2):

- Mitchell Act
- US Fish and Wildlife Service

## No mitigation requirement (1)

- Pacific Coastal Salmon Recovery Fund

# IV. Update on the data/hatchery information compilation

## Goal: Alignment of information in Program Tracker with Story Maps

*Additional summary information – linking facilities/programs to mitigation program and purpose*

Example:

### Levi George Spring Chinook Hatchery

The Yakama Nation's Levi George Spring Chinook Hatchery and Research Facility was built to test the assumption that artificial production can be used to increase harvest and natural production while maintaining the long-term genetic fitness of the fish population being supplemented and keeping adverse genetic and ecological interactions with non-target species within acceptable limits. Production activities occurring at the facility include adult holding, spawning, incubation, and rearing of spring Chinook. Acclimation sites that receive fish from the facility include Easton, Clark Flat, and Jack Creek.



<b>Program</b>	Fish and Wildlife Program
<b>Program Group</b>	Levi George Spring Chinook Program
<b>Primary Program Purpose</b>	Mitigation for the Federal Columbia River Power System
<b>Mitigation authorization</b>	Northwest Power Act
<b>Species</b>	Spring Chinook
<b>Type</b>	Hatchery
<b>Funding Source</b>	BPA Funding per NPCC Fish & Wildlife Program
<b>Operator</b>	YN
<b>Province</b>	
<b>Subbasin</b>	

# IV. Update on the data/hatchery information compilation

## *Refinement of information in Program Tracker*

Example: Clarify how production programs are funded

Facilities Map Data Query Report Data

### Artificial Production

Facility Search Program Program Group Species Type

All All All All All Clear

Facility (177) ↑ ↓

- Youngs Bay Hatchery
- Sherman Creek Hatchery
- Spokane Tribal Hatchery
- Springfield Hatchery
- Umatilla Hatchery
- Wallowa Hatchery
- SAFE Net Pens**
- Beaver Creek Hatchery
- Big Creek Hatchery
- Bonneville Hatchery
- Carson National Fish Hatchery
- Cascade Hatchery
- Chelan Hatchery
- ...

## SAFE Net Pens

### Associated Data

- Species, Funding Source and Release Information

**Spring Chinook**

Program: SAFE  
Funding Source: BPA Funding per NPCC Fish & Wildlife Program  
Notes: Fish are reared and released from net pens in Youngs Bay, Grays River, and Blind Slough  
Release Information:  
Sources:

Year	Released	Planned Release
1995	400,000	0
1996	900,000	0
1997	950,000	0
1998	1,050,000	0
1999	900,000	0
2000	900,000	0
2001	950,000	0
2002	850,000	0
2003	950,000	0
2004	900,000	900,000
2005	1,050,000	0
2006	1,100,000	0
2007	1,050,000	0
2008	1,100,000	0
2009	1,150,000	0
2010	1,300,000	0
2011	1,050,000	0
2012	1,300,000	0
2013	850,000	0
2014	1,450,000	0
2015	1,600,000	0
2016	1,900,000	0

Released Planned Release

## Current status

### III. Future story maps and handouts – update

- Working on completing story maps/handouts for all funding programs

### IV. Data & hatchery information compilation – update

- Working to align information in Program Tracker with how information is organized in the Story Maps



Sets up the framework that will feed into the Program Performance efforts for the F&W Program hatcheries/programs

# Questions/Discussion?