Anadromous Fish Reintroduction
In the Upper Columbia River Basin
An Overview

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Presentation Outline

• History of Salmon Blockages
• Joint Fish Passage Paper
• 3 Forums for Salmon Reintroduction
• Phase 1 Work
Canadian Dams of Interest
Grand Coulee Dam

- Built in 1942
- 550’ high
- 151 mile (243 km) reservoir
Chief Joseph Dam

Built in 1955
236’ high
51 mile (82 km) reservoir
2,260 Mw capacity
- Annual average runs above Grand Coulee of 2.6 – 3.7 million salmon and steelhead

- Thousands of stream miles of mainstem and tributary habitat

- 4 major nursery lakes
• 5 Upper Columbia tribes annual consumption of 6.8 to 13.1 million pounds (~650,000 fish)

• Indigenous Nations’ annual consumption of 125,000 – 750,000 salmon and steelhead
Lower river tribes’ annual harvest of 1.5 to 2.6 million salmon and steelhead from above Chief Joseph Dam.
Why Reintroduction Now?

• Unmitigated injustice to Tribes, Indigenous Nations and other upper basin communities and economies

• Technology has improved for adult and juvenile salmon passage at high head dams

• New passage technologies have little, if any impact, on current project beneficiaries: power generation, flood control, irrigation, and navigation
Why Reintroduction Now?

• Reintroduction may be, and likely is, viable and needs to be investigated

• Nearby Sockeye & Chinook runs very productive

• U.S. federal government is requiring fish passage at most private dam blockages

• Climate Change – get the salmon back to cooler habitats
FISH PASSAGE & REINTRODUCTION into the U.S. & CANADIAN UPPER COLUMBIA BASIN
Columbia River Treaty

• **December 2013:** Fish passage and reintroduction included in the **U.S. Entity Regional Recommendation for the Future of the Columbia River Treaty after 2024:**

  – “The United States should pursue a joint program with Canada, with shared costs, to investigate and, if warranted, implement restored fish passage and reintroduction of anadromous fish on the mainstem Columbia River to Canadian spawning grounds.”
Columbia River Treaty

• Like hydropower and flood control, salmon reintroduction requires coordinated and strategic transboundary evaluation and implementation

  – Donor stock selection
  – Risk assessment
  – Capacity & location of fish passage facilities
  – Sequencing research and equipment
  – Coordinated artificial propagation facilities

  – Elimination of uncertainties
Northwest Power and Conservation Council

Columbia River Basin Fish and Wildlife Program 2014

Phased Approach to Reintroduction

“Investigate habitat availability, suitability and salmon survival potential in habitats above Grand Coulee.”
Columbia River F&W Program

• **October 2014:** Tribes achieve an investigation of fish passage and reintroduction in Columbia River Basin Fish & Wildlife Program: Chief Joseph and Grand Coulee

• “Reintroduction of anadromous fish above Chief Joseph and Grand Coulee dams to mainstream reaches and tributaries in the United States”

• **3 Phases**
  – Phase 1: Information Review (12/16)
  – Phase 2: Pilot Reintroductions and Interim Passage Facilities
  – Phase 3: Permanent Reintroduction and Facilities
Tribal Action

- Tribes reserve the right to reintroduce salmon
- Pilot reintroductions are a near term possibility
Phase 1 Implementation

- U.S. Habitat Assessment
- Donor Stock Assessment
- Risk Assessment
- Life-Cycle Modeling
- Review of High Head Dam Fish Passage Facilities
Interim Phase 1 Report

- Habitat Assessment
- Donor Stock Assessment
- Risk Assessment
- Reintroduction Strategies
- High Head Dam Fish Passage Facility Options
- Life Cycle Modeling
- Alternative Fish Passage Facility Configurations
- Key Uncertainties
- Cost and Financing Considerations
- Recommendations
Floating Surface Collector
Whooshh “Salmon Cannon”
West Coast Reintroductions

- 20 other West Coast watersheds
- 48 dams
THANK YOU