

PUGET SOUND RECOVERY

Partnering with Federal, State, and Tribal Governments on Fish Passage and Nearshore Restoration on Multiple-benefit Projects

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US Army Corps
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HOWARD A. HANSON DAM OVERVIEW

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Description: 35 miles southeast of Seattle, high-head earthen dam at 235 feet tall; constructed in 1962

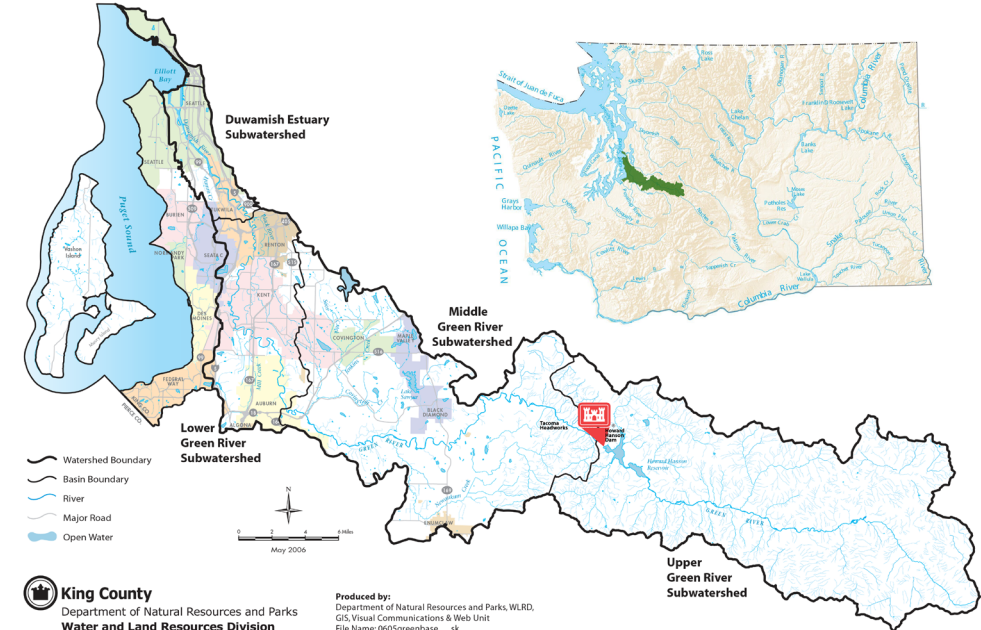
Multi-Purpose:

- Flood Risk Management
- Water Supply
- Ecosystem Restoration

Additional Water Storage Project: provides additional 20,000 acre-feet for M&I water supply

Fish Passage Facility:

Upstream: Tacoma Water provides trap/haul for adult salmon
 Downstream: Authorized in Additional Water Storage Project, required by 2030 per Jeopardy BiOp for juvenile salmon





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HANSON DAM FISH PASSAGE BENEFITS

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Restores **45% of total** watershed area for salmon access to over **221 square miles** of undeveloped streams and forest lands

Substantially increases salmon and steelhead productivity by providing over **100 miles** of high-quality river and tributary habitat

NMFS BiOp states the project will likely lead to abundant, self-sustaining populations of Chinook and steelhead, **dramatically improving the likelihood for recovery**

Expected to increase the primary food source for **ESA-listed Southern Resident killer whales**

Returning salmon restores ecosystem for dozens of other species

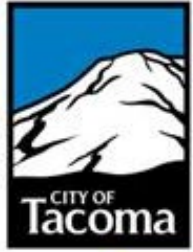


- Salmon recovery supports Tribal Treaty rights
- Green River Chinook population is a high priority salmon run for SRKW recovery per Governor Inslee, WDFW, and NMFS.



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HANSON DAM FISH PASSAGE PROJECT REGIONAL STAKEHOLDER SUPPORT



Seattle



PUGET SOUND PARTNERSHIP



American Rivers
RIVERS CONNECT US®



CITY OF Federal Way
Centered on Opportunity



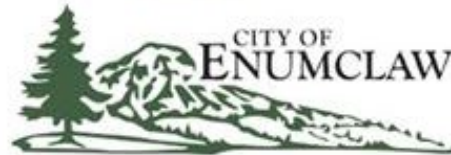
KENT WASHINGTON



city of COVINGTON
growing toward greatness



Normandy Park
Est. 1953



Washington Department of FISH and WILDLIFE



MAKING OUR WATERSHED FIT FOR A KING





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FISH PASSAGE CHALLENGES & COLLABORATION



Challenges

Unique location and setting with high head dam and extreme water level fluctuation has many site constraints

Surface oriented fish finding deep outlet, extremely small fish surviving passage, and BiOp criteria:

- 95% attraction to the facility
- 98% survival through the project
- 75% reservoir survival of 5-mile pool
- 2030 completion date

Unusually high cost for a Seattle District project at approx. \$921M

Collaboration

Held two multi-day workshops with local sponsor, fed/state/regional agencies, and Tribe to select a preferred method for passing fish

- Expert design resources from 4 districts assigned to support in-house design effort
- Other subject matter experts contracted (tunnel experts, fish research experts, BOR laboratory)
- NWD and ERDC design consultants and reviewers
- Local sponsor facilitating multiple site visits and research

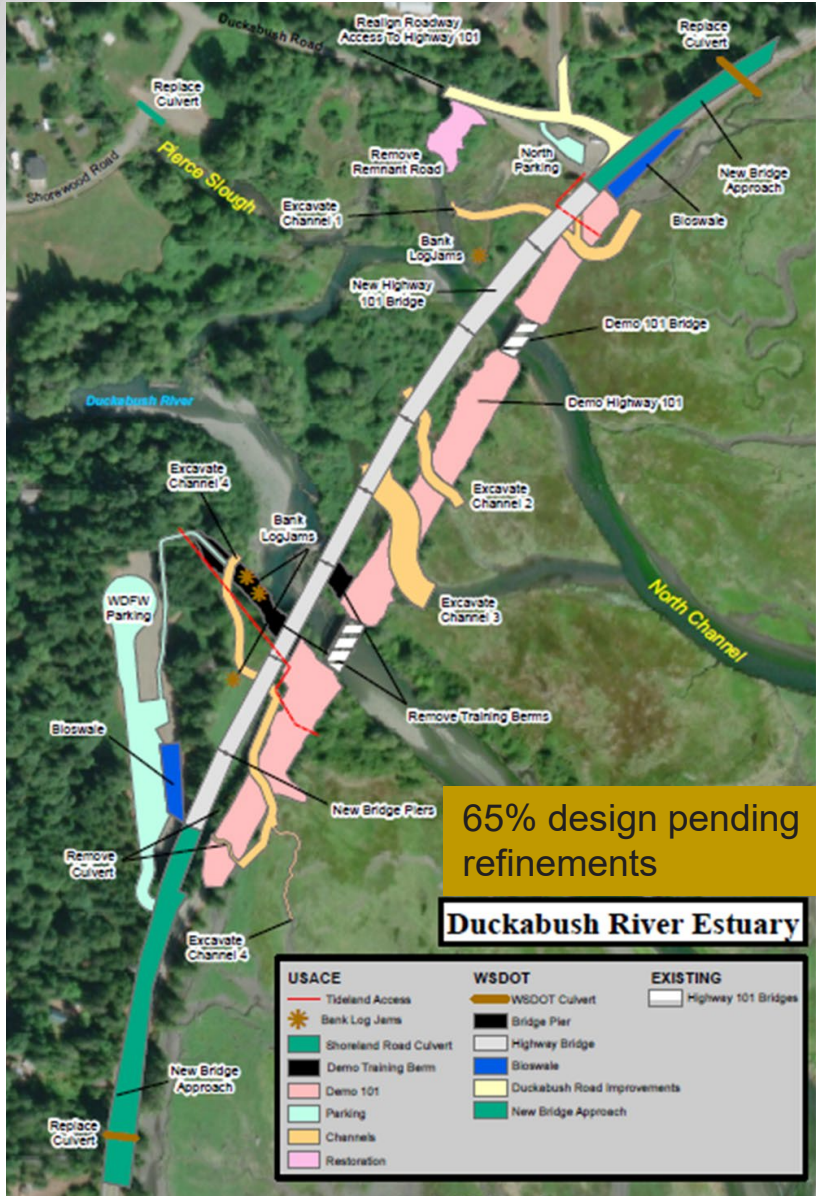
Engaging in broad, consistent reporting to the region about goals and benefits of the project. Frequent, detailed meetings at all levels from technical team to national leadership.



DUCKABUSH ESTUARY RESTORATION OVERVIEW



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- Causeway & culverts severely constrict tidal flow
 - fill across estuary reduces river and tide mixing
 - two main channels funneled under bridges constrict meandering
- Restoration includes removing the HWY 101 bridges and 1,270 LF of fill; replace culverts; breach levees
- Transportation component is an elevated structure on piers to replace old bridges and fill





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DUCKABUSH ESTUARY PROJECT BENEFITS

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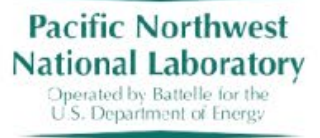
RESTORATION

1. Remove road fill to reconnect and restore lost tidally influenced areas
2. Re-establish distributary channels to promote greater diversity of delta wetland habitats
3. Restore processes that support mudflats and salt marsh

TRANSPORTATION

1. New elevated causeway to maintain transportation on State HWY 101
2. Replace aging bridges

PUGET SOUND NEARSHORE RESTORATION REGIONAL STAKEHOLDER SUPPORT





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PUGET SOUND NEARSHORE ECOSYSTEM RESTORATION: STUDY PHASE COLLABORATION



Executive Committee = Seattle District Commander and WDFW Director

Member Organizations = Federal, State, Local, and Tribal organizations

Steering Committee = Project Managers + Member Organizations

Nearshore Science Team = Subject Matter Experts + USACE Liaison

Strategic Science Peer Review Panel = External Scientific Oversight by Selected Experts

Implementation Team = Project Partners Staff + Member Organizations

Project Management Team = Project Managers + IT and NST leaders

Stakeholder Involvement Team = USACE and WDFW staff

Challenges

Ecosystem restoration combined with road relocation needs two local sponsor agencies with different missions and areas of expertise.

Project partners encountered difficulty with USACE policy for cost-share of roads and transportation.

Project sponsorship commitments to responsibilities among natural resources agency, transportation agency, and USACE for construction and O&M

Collaboration

WDFW is project sponsor and WSDOT has supported project with design of new bridge. First time for USACE to partner with WSDOT to collaborate on transportation design.

USACE got a special authorization via WRDA to treat bridge construction as an ecosystem restoration feature to be cost shared 65% federal - 35% local split rather than putting full cost of bridge on local sponsor

USACE, WDFW, and WSDOT partnership agreement pending. Work in progress!



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QUESTIONS & DISCUSSION

