

CHEHALIS BASIN STRATEGY FOR THE FUTURE



**STRATEGY ELEMENTS:
REDUCE FLOOD DAMAGE
AND ENHANCE AQUATIC
SPECIES**

DAM FEASIBILITY

- Evaluate dam designs throughout the world.
- Determine the design(s) that could accomplish the flood control goals of this project and be technically feasible with site conditions.
- Investigate and determine the feasibility of the dam structure from a geotechnical perspective (i.e., will the dam design be safe?).
- Identify best options for fish passage which maintain flood control integrity.
- Identify the likely species and habitats that would be impacted by the flood control options being evaluated.

HYDROLOGY AND HYDRAULICS

- Improve the hydraulic model by updated river cross sections.
- Determine the primary storms patterns to use in the assessment of projects.

SCENARIO OF SMALL FLOOD DAMAGE REDUCTION PROJECTS

- Evaluate the benefits of smaller flood reduction projects in the basin.

SURVEY OF FLOODPLAIN STRUCTURES

- Identify and survey the elevation of structures in the floodplain to determine the effect of various projects on those structures.

COMPARISON OF ALTERNATIVES

- **Compare alternatives from a cost/benefit perspective.**
 - **Determine whether the costs are offset by benefits with regard to transportation, environmental and socioeconomics for all the major actions and suite of actions.**

AQUATIC SPECIES ENHANCEMENT PLAN

- **Assess the current use by aquatic species, develop a strategy and set of projects/programs to enhance the current populations, and determine the benefits to aquatic species from restoration measures.**

IDENTIFICATION OF AQUATIC SPECIES UNDERWAY



Downstream snorkel surveys on the Chehalis River



Chehalis River smolt trap is operated near river mile 108



Seine collections of fish in the Chehalis River

WILDLIFE WILL BE ASSESSED TOO

- Focus on habitat that supports wildlife.
- Presence of State-listed species of concern (Oregon Spotted Frog, etc.).

OVERVIEW OF SCHEDULE

OVERVIEW

- **First six months involve:**

- Determine alternatives for dam design and operation, I-5 and small project scenario.
- Guidance on aquatic species plan and benefit/cost methodology.

- **Second six months involve:**

- Finalize dam design/operation plan, and assessment of benefits and impacts.
- Finalize species enhancement plan.
- Finalize all other technical analyses.

ELEMENTS OF PROCESS

- **Guidance and Decisions by Work Group at key points in the process.**
- **Technical Committees inform work before Work Group asked for guidance.**
- **Technical, Policy and Public Workshops before key decisions by Work Group.**

WORKSHOPS

- Prior to guidance from Work Group in November 2013, February 2014 and final recommendations in November 2014.

Workshop	Schedule		
Technical →	Late-October 2013	Early-February 2014	Mid-September 2014
Policy →	Mid-November 2013	Mid-February 2014	Late-September 2014
Public Meetings →		Mid-February 2014	Late-September 2014
Work Group Recommendations to Governor →	Mid-November 2014		

BUDGET SUMMARY

Anchor QEA Team

Dam Design Study

Fish Passage Design Study

Evaluate and Compare Structure Alternatives

Geotechnical

Hydrology and Hydraulics

Environmental

Permitting and Regulatory

Interstate 5 Alternatives

Scenario of Small Flood Damage Reduction Projects

Survey of Floodplain Structures

Comparison of Alternatives

Aquatic Species Enhancement Plan (ASEP)

Total Budget = \$5,651,000

BUDGET SUMMARY

(CONTINUED)

Task	Responsibility	Budget
ASEP (Objectives 2, 3, 4)	WDFW	\$119,000
Comp, distribution, abundance; Year 1, 2	WDFW	\$442,000
Adult monitoring; Year 1, 2	WDFW	\$447,000
Off-channel habitat and reservoir data (PHABSIM) (WDFW support)	WDFW	\$50,000
In-stream habitat modeling (WDFW support)	WDFW	\$50,000
Off-channel dynamics for fish species and amphibians, and field work in Dam footprint	WDFW	\$209,000
WDFW Total →		\$1,317,000
Radio telemetry (juveniles and adults)	USGS	\$180,000
Radio Tags	OFM	\$100,000
Screw Trap Study	Chehalis Tribe	\$202,000
Total Fisheries Budget →		\$1,799,000