

MEMORANDUM

Date: December 7, 2023
To: Chehalis Basin Board
From: Ken Ghalambor & Jennifer Tice, Ross Strategic
Re: December 2023 Board Meeting Presentation on Strategy Development Process

Introduction / Background

At the December 7, 2023 Board meeting, we will be continuing our process to develop the Chehalis Basin Strategy. The topics will include:

- Recap of major themes and feedback from the November Board meeting
- Discussion of a preliminary evaluation framework for the comparative analysis
- Scope of work content for the comparative analysis consultant
- Updated timeline for strategy development activities

The Board will not be asked to make any decisions on the Strategy at this meeting. The Board will discuss and provide direction to staff on the following topics:

- Provide input on the preliminary evaluation framework and further ideas about potential evaluation factors, goals, and metrics that are important to evaluate Strategy packages
- Consider whether any changes are needed to the draft Strategy development timeline and/or comparative analysis consultant scope to better meet the Board's needs

Review of November 2023 Board Discussion of Evaluation Factors

At the November 2, 2023 meeting, Board members brainstormed ideas (at any level of detail) in response to the question, "What kinds of information (e.g., topics, issues, criteria) should be evaluated to help you determine which package best meets your goals for a viable long-term strategy?" Board members identified ideas on sticky notes, and these were then organized and grouped in categories on the wall and in a matching online whiteboard.

Categories identified included:

- Agriculture & Working Lands
- Aquatic Species
- Flood Damage Reduction
- Integration
- Long Term Climate Resiliency
- Outreach and Branding
- Political Feasibility, Implementability, and Affordability
- Transportation and Downstream Impacts
- Treaty Rights and Cultural Resources
- Urgency
- Other/Not Categorized

These ideas will serve as a foundation for identifying how packages will be compared against each other in the comparative analysis. The comparative analysis consultant, once hired and onboarded, will help the Board and staff to further develop and refine this evaluation framework.

Preliminary Evaluation Framework

This section describes a preliminary evaluation framework for the comparative analysis of Strategy packages and presents example evaluation categories, goals, and metrics.

Example Goals and Metrics for the Evaluation Ideas Identified by the Board

Table 2 below presents the evaluation categories and ideas that the Board identified at its November Board meeting, along with examples of how those ideas could be developed into goals and metrics for the comparative evaluation. The examples are not a comprehensive list of all the potential goals and metrics associated with the Board's ideas and include some goals/metrics previously developed for Chehalis Basin Strategy efforts.

Table 2: Example Goals and Metrics Based on the Board's November Discussion of Evaluation Factors

EVALUATION CATEGORY	IDEAS IDENTIFIED ON 11/2/2023	GOALS (EXAMPLES)	METRICS (EXAMPLES)
Agriculture & Working Lands	<ul style="list-style-type: none"> Protecting working lands: <ul style="list-style-type: none"> o Agriculture o Forestry o Aquaculture Incentivizing landowners: <ul style="list-style-type: none"> o Practical o Timely Promoting economy - commercial agricultural viability Restore habitat on private lands: Safe harbor agreements 	<ul style="list-style-type: none"> Protect working lands (agriculture, forestry, aquaculture) Significantly reduce locations where migrating river channels and bank erosion pose a high risk of near-term damage to valuable structures or loss of economically productive land 	<ul style="list-style-type: none"> Acres of working agricultural lands protected from erosion and/or economic damages from flooding
Aquatic Species	<ul style="list-style-type: none"> How many fish of which species are likely to return to different tributaries in the basin? Limited impacts to aquatic species Protect/restore native aquatic species 	<ul style="list-style-type: none"> Support self-sustaining harvestable fish populations Increase abundance of native aquatic species, including increased populations of healthy and harvestable salmon and steelhead Restore riparian habitat where it is most needed 	<ul style="list-style-type: none"> # of fish of different species anticipated to return to specific tributaries Population of healthy and harvestable salmon and steelhead Floodplain protected (acres) Floodplain restored (acres) Streams made accessible (river miles)

EVALUATION CATEGORY	IDEAS IDENTIFIED ON 11/2/2023	GOALS (EXAMPLES)	METRICS (EXAMPLES)
	<ul style="list-style-type: none"> • Spring Chinook - how to save them NOW? • Spring Chinook expand/restore habitat • Spring Chinook expand/restore historical habitat • Support self-sustaining harvestable fish populations • When and where is the acres and miles of riparian habitat needed... Biologically! Economically! Politically! • Will it turn a declining into a vibrant fishery 	<ul style="list-style-type: none"> biologically, economically, and politically • Increase the quality and quantity of habitats for aquatic species in priority areas 	<ul style="list-style-type: none"> • River miles restored (river miles)
Flood Damage Reduction	<ul style="list-style-type: none"> • Measurable reduction in flood damages • Reduce flood damage to habitat • Reduce human flood damage • Will it protect families from flooding? 	<ul style="list-style-type: none"> • Protect valuable structures from mainstem, catastrophic flooding • Protect critical facilities from flooding • Protect homes and businesses from seasonal urban flooding • Protect farmland and rural structures from flooding 	<ul style="list-style-type: none"> • Impacts to structures • Vehicle damage • Cleanup costs • Reduction in structures vulnerable to flood damage in 2080, predicted 100-year flood levels • Reduction in critical facilities vulnerable to flood damage in 2080, predicted 100-year flood levels • Reduction in structures vulnerable to flood damage from coastal storm surges
Integration	<ul style="list-style-type: none"> • Balanced implementation of fish and habitat / flood risk reduction • Basin wide impacts > Siloed impacts • Embed new infrastructure within overwhelming 	<ul style="list-style-type: none"> • Integrate achieving habitat restoration and flood damage reduction goals throughout the Strategy 	<ul style="list-style-type: none"> • Package effectively integrates and balances implementation of habitat restoration and flood damage reduction goals (high, medium, low, none)

EVALUATION CATEGORY	IDEAS IDENTIFIED ON 11/2/2023	GOALS (EXAMPLES)	METRICS (EXAMPLES)
	environmental restoration • Integration between the 2 goals: habitat restoration and flood reduction		
Long-Term Climate Resiliency	• Climate Resiliency • Is it sustainable and can it last into the future? • Plan for climate change- Increase aquifer recharge • Reduce flood damage & increase resiliency • Resilience in the face of modeled climate impacts; will this be effective in 50-100 years	• Increase resiliency to climate change by protecting and improving natural water quantity, water timing, and water quality characteristics • Improve resiliency of natural floodplain processes and ecosystems • Adopt and implement a strategy that will be resilient and effective 100 years from now, considering modeled climate impacts	• Number of juvenile salmon produced and adults returning (viability metric) • Reduction in summer water temperatures • Likelihood that the package will be resilient and effective 100 years from now, considering modeled climate impacts (high, medium, low, none)
Outreach and Branding	• Will we agree on effective branding for this work?	• Adopt clear and effective branding and messaging	• Majority of basin residents (as measured in surveys) understand what the Chehalis Basin Strategy is, how it relates to them, and how the state and partners are working to reduce damage from flooding and recover fish populations
Equity / Environmental Justice	• Equity	• Advance environmental justice	• Communities with environmental justice concerns: <ul style="list-style-type: none"> ○ Suffer less hardship and damage from flooding ○ Are not disproportionately burdened by actions to reduce flood damage ○ Are improved by flood solutions
Political Feasibility, Implementability, and Affordability	• Ability to attract federal funding • How to generate more \$ from state and feds	• Adopt a Strategy that is: <ul style="list-style-type: none"> ○ Technically feasible (able to be implemented) ○ Politically viable 	• Total cost (net present value) of each package, including construction, operation, and maintenance • Benefit-cost ratio

EVALUATION CATEGORY	IDEAS IDENTIFIED ON 11/2/2023	GOALS (EXAMPLES)	METRICS (EXAMPLES)
	<ul style="list-style-type: none"> • Is it actually able to be implemented? • Is it affordable? • Locally/politically viable • Permittable in a reasonable amount of time • Political viability • What are the cost/benefits for the alternatives • What is the overall cost per scenario? 	<ul style="list-style-type: none"> ○ Affordable ○ Able to attract state and federal funding ○ Permittable in the time needed for implementation • Achieve a high benefit-cost ratio (minimize costs for benefits realized) 	<ul style="list-style-type: none"> • Likelihood of securing funding at state and federal levels (high, medium, low, none) • Likelihood of permitting in a reasonable amount of time (high, medium, low, none) • Likelihood of obtaining political support (high, medium, low, none)
Transportation and Downstream Impacts	<ul style="list-style-type: none"> • Doesn't push flooding impacts onto neighbors • When is the net change in flood water levels at many locations in Basin? Including key transportation points! • Will it keep transportation corridors open (I-5, Hwy 6 and 12) 	<ul style="list-style-type: none"> • Substantially reduce closure of I-5 and Highways 6 and 12 due to flooding and minimize the negative effects of closures on freight mobility and commerce • Do not increase flood damage risks for downstream communities 	<ul style="list-style-type: none"> • Reduction in overtopping and closure of I-5, State Highways 6 and 12 • Change in predicted flood depth for communities, residents, and businesses downstream of the upper Chehalis basin
Treaty Rights and Cultural Resources	<ul style="list-style-type: none"> • Cultural resources protection • Protect cultural resources • Impact to treaty rights • Limits impacts to cultural and archeological resources 	<ul style="list-style-type: none"> • Protect cultural resources • Maintain/uphold treaty rights 	<ul style="list-style-type: none"> • Impacts to cultural and archaeological resources
Urgency	<ul style="list-style-type: none"> • Urgency!!! 	<ul style="list-style-type: none"> • Achieve flood damage reduction and aquatic species restoration goals as quickly as possible given the urgency of the problem 	<ul style="list-style-type: none"> • Time to achieve goals (sooner, mid-range, longer)

EVALUATION CATEGORY	IDEAS IDENTIFIED ON 11/2/2023	GOALS (EXAMPLES)	METRICS (EXAMPLES)
Other/Not Categorized	<ul style="list-style-type: none"> • Reduce flooding & increase summer water; Restore wetlands • Will the consultants keep listening and vetting their assumptions? 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> •

Scope of Work for Comparative Analysis Consultant

At the November 2, 2023 meeting, Board members previewed a high-level overview of the scope and assumptions for a comparative analysis consultant. The purpose of the comparative analysis is to compare impacts (positive and negative) of different Strategy packages (combinations of work elements) that may comprise a comprehensive Chehalis Basin Strategy to allow the Chehalis Basin Board, other decision makers, and the public to see, at a high level, how the packages compare to each other and to a Baseline/No Strategy Alternative.

The comparative analysis is expected include an evaluation of benefits and costs of potential Strategy packages, including an analysis of socioeconomic, environmental justice, and ecosystem services impacts (summarized in a Benefit-Cost Evaluation); and a synthesis of other quantitative and qualitative data to support the Board's deliberations to finalize an integrated, long-term strategy (summarized in a Comparative Analysis Report).

The scope is anticipated to include the following areas of work:

- Task 1: Comparative Analysis Work Plan
 - Evaluation Categories and Metrics
 - Assumptions and Methodology
- Task 2: Benefit-Cost Evaluation
 - Economic and Socioeconomic Analysis of Benefits and Costs
 - Ecosystem Services
 - Other Factors
- Task 3: Comparative Analysis Report
- Task 4: OCB, Board, and Subcommittee Coordination

OCB plans to work with the consultant, Board, and other partners to finalize the methodology, data, and assumptions, including modeling assumptions and evaluation metrics, for the Comparative Analysis from approximately April 2024 to no later than March 2025. Staff will present more detail on the draft scope at the December 7, 2023 meeting.

Updated Draft Timeline for Strategy Development Activities

At the November 2, 2023 meeting, Board members previewed a draft, high-level overall process timeline for the Strategy development process. Based on the draft, Board members encouraged staff to work on shortening the timeline, such that the Board approves an integrated long-term strategy before Q4 2026. Board members also acknowledged the inherent tradeoffs in trying to condense their schedule with having the best available information to support their decision-making. In response to Board comments, staff updated the draft timeline as summarized below:

- Q1 2025: The Final SEPA EIS and levee, diversion, and conveyance refinements are still anticipated to be complete. (no change from previous timeline)
- Late Q1/Early Q2 2025: Board workshop to refine packages. (no change from previous timeline)
- Q3 2025: Consultants complete hydraulic modeling and fish modeling of packages (previously Q4 2025)
- Early Q4 2025: Consultant completes benefit-cost/ socioeconomic-EJ/ecosystem services analyses elements, options, interim refinement of packages, evaluation factors (previously late Q4 2025)
- Q1 2026: Board finalizes the Integrated Long-Term Chehalis Basin Strategy (previously Q4 2026)