

# **2023-2025 Draft Budget Development Worksheet**

## **Work Element**

Skookumchuck Dam

## **Summary of 2023-2025 Work**

In the 2021-2023 biennium OCB staff and consultants have been studying various potential futures for the Skookumchuck Dam. Options include dam removal; physical modification of the dam to improve fish passage, decrease flood damage, or both; and operational changes. By early 2023 that initial study will be complete, and the Chehalis Basin Board will decide whether they want to continue to investigate or design potential changes at the dam.

It is difficult to determine potential costs without direction from the Board on their preferred approach. This worksheet describes two possible situations. The first assumes the Board has directed staff to pursue significant alterations to the discharge mechanisms of the dam, primarily to reduce flood risk. The second assumes the Board has directed staff to consider improvements primarily aimed at downstream passage of migratory fish.

In each of these scenarios permitting and other regulatory compliance, along with design and cost estimating, are the primary work for the 2023-2025 biennium.

These scenarios do not include the third option, dam removal, because TransAlta has indicated that it is committed continuing to operate the current dam for the established water bank, which is not compatible with dam removal.

## **Description of Needs**

The closure of coal-fired power generation at the Centralia Steam Generation facility in 2025 will open new options for the Skookumchuck Dam, which was originally constructed to provide water supply for that plant. Throughout 2021 and 2022 OCB staff and consultants have worked with a group of interested parties to investigate ways the dam could be revised to improve fish passage or reduce flood damage.

The Skookumchuck River is unique in multiple ways. It is home to one of three significant spring chinook spawning areas in the Chehalis Basin. It is also a major contributor to flooding downstream in Bucoda and Centralia.

If this work does not go forward, the Skookumchuck Dam will likely continue to be operated more or less as it is currently. TransAlta will continue to sell mitigation credits from the recently established water bank that is tied to the reservoir, obligating them to continue operating the dam for the indefinite future. The dam will be a major deterrent to upstream and downstream passage of fish. It will also continue to provide incidental flood storage benefits for some, but not all, major and catastrophic flood events.

If funded, one of the potential options examined in the 21-23 biennium will be developed with designs and permitting will be initiated. Depending on the design selected, by the end of the biennium the project may be ready for construction, or there may be several more years of design and permitting required.

## **List of Key Tasks & Assumptions**

### **Scenario 1: Outlet Modifications for Flood Storage**

This scenario would leave the existing dam in place, but replace the existing outlet system with one capable of passing much larger flows through the dam than are currently possible. Flood storage would primarily benefit the flood damage reduction component of the strategy, although most certainly would need to also improve fish passage and is recommended for integrated funding.

- Coordination and negotiations with TransAlta. OCB, WDFW, and consultants would coordinate with TransAlta to determine if TransAlta would participate in a dam outlet modification scenario.
- If TransAlta is willing to participate in a dam outlet modification scenario, a dam engineering consultant would be hired through an RFP process and would develop a detailed scope and budget to prepare a conceptual design (30% design) and conduct recommended analyses (such as hydraulic modeling and a geotechnical investigation). Improvements to fish passage would almost certainly also be necessary for this scenario. Preliminary discussions with permitting agencies and tribes would be conducted. A draft and final conceptual design basis of design, drawings, and cost estimate would be prepared. OCB, WDFW, and consultant staff would manage and review the design.
- In order to ensure the dam meets dam safety requirements to be operated for flood storage for an estimated 50 years in the future, discussions with dam safety officials at both the state and federal level would need to occur.
- Outreach to the public and stakeholders would be conducted by OCB and consultants.

### **Scenario 2: Downstream Fish Passage**

This scenario would leave the existing dam in place, but the existing sluice that provides a passageway for fish to migrate downstream would be reconfigured to improve the operating duration and survival of outmigrating fry. Fish passage would primarily benefit fish, although could be operated to also retain incidental flood benefits and is recommended for integrated funding.

- Coordination and negotiations with TransAlta. OCB, WDFW, and consultants would coordinate with TransAlta to determine if TransAlta would participate in a fish sluice modification scenario.
- If TransAlta is willing to participate in a fish sluice modification scenario, a fish passage engineering consultant would be hired through an RFP process, and would develop a detailed scope and budget to prepare a conceptual design (30% design) and conduct recommended analyses (such as hydraulic modeling and a geotechnical investigation). Preliminary discussions with permitting agencies and tribes would be conducted. A draft and final conceptual design basis of design, drawings, and cost estimate would be prepared. OCB, WDFW, and consultant staff would manage and review the design.
- In order to ensure the dam meets dam safety requirements to be operated for fish passage for an estimated 50 years in the future, discussions with dam safety officials at both the state and federal level would need to occur.
- Outreach to the public and stakeholders would be conducted by OCB and consultants.

## **Preliminary Cost Estimates**

All costs assume there would not be any 21-23 carryover funding available. If less funding were available, then initial coordination with TransAlta and any key studies that inform design would be conducted sequentially, followed by design, permitting discussions, and outreach, depending on funding.

### **Scenario 1: Outlet Modification for Flood Storage -- \$3,210,000**

- Coordination with TransAlta. \$50,000 (WDFW and consultants). OCB staff would be funded through general OCB funding.
- RFP process. \$10,000
- Conceptual design (30%) and permitting discussions. \$3,050,000 (\$3M consultant budget plus \$50,000 management/review budget)
- Dam safety discussions. \$50,000 (Consultants and Ecology)
- Outreach and community engagement. \$50,000 (Consultants and Ecology)

### **Scenario 2: Downstream Fish Passage -- \$710,000**

- Coordination with TransAlta. \$50,000 (WDFW and consultants). OCB staff would be funded through general OCB funding.
- RFP process. \$10,000
- Conceptual design (30%) and permitting discussions. \$550,000 (\$500k consultant budget plus \$50,000 management/review budget)
- Dam safety discussions. \$50,000 (Consultants and Ecology)
- Outreach and community engagement. \$50,000 (Consultants and Ecology)

## **Prioritization**

Prioritization is not very relevant for the Skookumchuck Dam. Once the Board decides to advance a particular scenario, the costs for 2023-2025 will be relatively fixed. If the Board would like to advance a scenario for the Skookumchuck Dam, but at a reduced level, some tasks could be completed, but not all tasks. If the Board decides no additional funding is available to advance their preferred scenario, they could pause the project until the 2025-2027 biennium, or seek outside funding. If the Board recommends a scenario not on this list, combining elements of scenarios 1 and 2, it will likely cost somewhere between the two scenarios.

## **Contact Information**

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