

MEMORANDUM

Date: July 11, 2019
To: Chehalis Basin Board
From: Andrea McNamara Doyle, Office of Chehalis Basin (OCB) Director
Re: Chehalis Basin Board 2019-2021 Capital Budget Spending Plan

This memorandum was developed in response to a request from Chehalis Basin Board members at their June 6th meeting for a more detailed summary of the 2019-2021 Capital Budget spending plan and associated deliverables for all major work elements.

Budget Summary

The final 2019-2021 Capital Budget includes \$73.2 million for the OCB. The appropriation mirrors the Chehalis Basin Board's budget recommendations to provide \$49.5 million for on-the-ground construction and \$23.7 million for advancing the long-term strategy. The enacted budget authorizes the Board to shift funds between these two major categories as needed to meet the program's objectives, so long as \$10 million is provided for the Aberdeen Hoquiam North Shore Levee. The budget also includes re-appropriation of OCB's unspent 2017-19 funds, including its federal funding spending authority, which means OCB will be able to accept and use up to \$10 million above the \$73.2 million during 2019-21 if federal funds are obtained.

Allocations of Final 2019-2021 Capital Budget

BUDGET ELEMENT	2019-2021 (IN MILLIONS)
ADVANCING THE LONG-TERM CAPITAL STRATEGY	
Core OCB Staff	(\$1.5 unobligated re-appropriation) ¹
Overall Participation	\$ 4.9
Development of Long-Term Strategy	\$ 0.6
Continued Development of ASRP	\$ 5.35
Restorative Flood Protection	(CFAR) ²
SEPA/NEPA EIS for Flood Retention Facility/Airport Levee	\$ 12.5
Forest Practices Analysis	\$ 0.445
<i>Sub-Total</i>	\$ 23.7M
ON-THE-GROUND ACTIONS	
ASRP Implementation	\$ 32.65
Aberdeen/Hoquiam North Shore Levee	\$ 10
Community Flood Assistance & Resilience (CFAR) Program	\$ 3
Local Projects	\$ 3.8
<i>Sub-Total</i>	\$49.5
TOTAL	\$73.2

¹ \$1.5M for OCB Core Staff during 2019-2021 biennium will be funded through unobligated re-appropriated funds from the 2017-2019 biennium.

² Funding to address restorative flood protection (RFP) recommendations informed by the RFP feasibility study are included in CFAR program.

2019-2021 Capital Budget Spending Plan and Associated Deliverables

The following sections summarize the anticipated work to be completed, including significant deliverables and outcomes, for each of the major work elements related to advancing the Long-Term Capital Strategy and On-the-Ground Actions.

Advancing the Long-Term Capital Strategy

This section describes the work and deliverables anticipated to be completed during the 2019-2021 biennium related to advancing the Long-Term Capital Strategy. The allocations will fund costs associated with the following:

Core OCB Staff (\$1.5M) / Overall Participation (\$4.9M)

- Core OCB operations and staffing, as well as state and local agency, and tribal staff time needed for participating in regular work group meetings and workshops, engaging additional technical staff with particular expertise, overseeing inter-agency coordination and coordination with outside agencies as needed (federal, state, and local), and providing overall project management, budget and fiscal oversight, and contracts administration.
- Conduct Board Meetings, public involvement, and outreach efforts for all actions and activities under the Chehalis Basin Strategy.

Development of Long-Term Strategy (\$600K)

- Develop and produce the long-term strategy assessment required by statute to prioritize the detailed actions needed to reduce catastrophic flood damage and restore aquatic species habitat, including an implementation schedule and quantified measures for evaluating the success of implementation.
- Build the assessment based on the 2015-2017 Programmatic Environmental Impact Statement (PEIS), incorporate new scientific data and technical information developed in the 2017-2019 biennium and early part of the 2019-2021 biennium, and summarize and present the analysis, options, and recommendations in a publically accessible and digestible manner.

Continued Development of ASRP (\$5.35M)

- Complete the “Phase 2 & 3” versions of the ASRP, which will detail the targeted actions and locations needed to protect and restore several hundred miles/acres of priority habitat, build institutional capacity within the basin to implement the necessary actions, and create a governance structure to oversee implementation and adaptive management of habitat projects into the future.
- Conduct the ASRP Steering Committee and Science Review Team meetings, workshops, and site tours, and support the Monitoring and Adaptive Management Plan subgroup.

- Prepare communication and presentation materials, conduct outreach and public review of the ASRP, and incorporate responses to public comments and direction from the Chehalis Basin Board and ASRP Steering Committee into subsequent phases of ASRP.
- Prepare a detailed near-term implementation plan and associated cost estimates.
- Refine EDT and NOAA models informing the ASRP, and conduct additional model runs.
- Monitor pre-construction baseline conditions in targeted areas throughout the basin to address critical data gaps needed to improve effectiveness of ASRP actions, including additional data collection re: abundance/distribution of chum salmon; Beaver occupancy and distribution; Ecology of non-native fish; Habitat survey spot checks; Native fish occupancy; Smolt production; Spawner abundance; and Western ridge mussels.
- Design details of post-construction monitoring and adaptive management plans, including outcome and performance measures, methodologies, and how monitoring results will inform adaptive management decisions related to long-term implementation of ASRP actions.

SEPA/NEPA EIS for Flood Retention Facility/Airport Levee (\$12.5M)

- Complete the preparation and production of the draft and final project-level SEPA and NEPA EISs and identify preliminary mitigation requirements and opportunities. This allocation funds continued support for the costs associated with staff and technical assistance for the EIS lead agencies (Ecology and the US Army Corps of Engineers) to complete the legally required environmental impact analyses and public comment processes, and for the applicant (Chehalis River Basin Flood Control Zone District) to further develop the project proposal as needed to respond to information requests from the EIS agencies, the Chehalis Basin Board, and others.
- Complete previously identified baseline and pre-construction monitoring needs specific to water quality, salmon, and other aquatic species related to the FCZD's project proposal.
- Complete the Doty Hills Fault study.

Forest Practices Analysis (\$445K)

- Complete the Phase 2 evaluation of the relationship between contemporary forest practices and streamflow in the Basin.

On-the-Ground Actions

This section describes the work and anticipated deliverables to be completed in 2019-2021 related to near-term, on-the-ground construction/implementation projects.

ASRP Implementation (\$32.65M)

- Permit and construct up to five early-action reach sub-basin projects to increase the areas of connected floodplain at lower flows, increase the number and quality of beneficial pools and other in-stream features (riffles, etc.), increase the amount of vegetation covering the water to help reduce water temperatures, increase the area of forested floodplain, functional wetlands, and other off-channel features, increase the use of enhanced or reconnected habitat by targeted fish and amphibian species, improve the diversity of habitat features within reaches, and decrease channel migration rates.
- Initial conceptual plans for restoration actions in the five early action reaches during 2019-21 currently include the following, subject to change based on landowner willingness, final design work, and updated cost estimates:
 1. **Satsop:** Restore up to 20 acres of existing riparian forest through conifer under planting and invasive plant control; restore up to 22 acres of existing upland pasture through reforestation plantings and invasive plant control; restore up to 17 acres of existing wetlands through wetland planting and invasive plant control; restore up to 14 acres of wetland area through grading, hydraulic improvements, and plantings; install up to 100 engineered log jams; and enhance up to 22,465 linear feet of existing side channels through installation of wood structures and plantings.
 2. **Wynoochie:** Restore up to 63 acres of existing riparian forest through conifer under planting and invasive plant control; restore up to 35 acres of existing upland pasture through reforestation plantings and invasive plant control; restore up to 1.1 acres of existing wetlands through wetland plantings and invasive plant control; create up to 11 acres of wetland area through grading, hydraulic improvements and plantings; install up to 94 engineered log jams; and enhance up to 17,135 linear feet of existing side channels through installation of wood structures and plantings.
 3. **South Fork Newaukum:** Restore up to 20+ acres of riparian habitat; install up to 1,300+ pieces of large wood along the channel and floodplain; remove up to 1,200+ feet of riprap from channel margins; reconnect up to 3+ acres of floodplain through barrier removal and excavation; create up to 6+ acres of off-channel habitat through excavation and improved inundation.
 4. **Skookumchuck:** Treat up to 100 acres of invasive species; install up to 45 engineered log jams over 1.5 miles of channel; excavate up to 800 feet of backwaters; remove up to 2,500 linear feet of riprap; plant native riparian forest species on up to 100 acres; begin second phase of implementation, including: treatment of up to 105 more acres of invasive species, installation of up to 40 more engineered log jams, excavation of up to 1,000 more acres of side channels,

planting of up to 90 more acres of additional native riparian forest species, and up to 15 more acres of oak prairie species.

5. **Stillman Creek:** Restore up to 21+ acres of riparian habitat; install up to 1,000+ pieces of large wood along the channel and floodplain; remove up to 440+ feet of riprap from channel margins; reconnect up to 4+ acres of floodplain through barrier removal and excavation; and create up to 4.8+ acres of off-channel habitat through excavation and improved inundation.
- Permanently protect key habitat areas within the reach-scale project sites through land acquisitions or conservation easements negotiated with willing landowners. Costs include expenses associated with landowner negotiations and compensation, including appraisals, due diligence, and other real estate transaction costs.
 - Construct the next phase of priority fish barrier correction projects in the following ecologically diverse regions of the basin: Grays Harbor Tributaries, Olympic Mountains, Lower Chehalis Tributaries, and Cascades, and advance design work for additional barrier corrections.
 - Implement targeted native aquatic species actions (separate from the early action reaches).
 - Design up to five new reach-scale restoration projects for construction in 2021-2023 biennium.
 - Conduct additional landowner outreach, and support the associated agency and contractor staffing needs, including the US Army Corps of Engineers, to permit and construct ASRP actions.

Aberdeen/Hoquiam North Shore Levee (\$10M)

- Complete right-of-way property acquisition, permit fees, and the first phase of internal drainage improvements associated with North Shore Levee project, which, when completed, will reduce 100-year flood event surface waters by 67% and benefit 400 homes, 40 commercial properties, several churches, a medical facility, senior home, and Grays Harbor PUD.
- Construct new pump station for Aberdeen Fry Creek Restoration & Flood Reduction project, which will reduce 100-year flood event surface flows by 35% and reduce fish mortality through installation of new protective fish screens.

Community Flood Assistance and Resilience (CFAR) Program (\$3M)

- Continue development and begin implementation of CFAR Program to provide technical assistance and coordination with local governments and landowners on community flood assistance and resilience actions and land use management improvements.
- Provide funds to local jurisdictions, or perform work on their behalf, to implement a collection of pilot property protection actions consistent with locally adopted flood damage reduction strategies, such as elevating homes, buyouts, and certifying home elevations for flood insurance purposes.
- Incorporate channel migration zone and high hazard area assessments within the scope and budget directed by the Board.

Local Projects (\$3.8M)

- Implement Chehalis River Basin Flood Authority's recommended 2019-2021 local flood damage reduction projects. This round of local government projects include:
 1. **City of Centralia -- China Creek Flood and Habitat Mitigation Phase 2 Construction.** Phase 2 construction will store and delay peak flows, and better meter release of floodwaters to reduce the frequency and intensity of flooding in downtown Centralia, which will benefit 26 businesses, 1 hotel, Centralia/Chehalis School District's Bus Coop, Centralia College campus, and more than 100 homes; reduce lost business revenue and disruptions to travel and emergency services.
 2. **City of Hoquiam -- North Shore Levee West Segment.** Pre-construction levee design work will be completed, and used to obtain FEMA's Conditional Letter of Map Revision for the West Segment addition to the North Shore Levee in Hoquiam.
 3. **City of Chehalis -- Flood Storage and Habitat Enhancement Master Plan Phase II.** Phase II Feasibility Analysis will include hydraulic modeling to evaluate flood flows, storage volumes, and reductions in flood stages, to inform final design and cost estimates, and to quantify how many structures will benefit.
 4. **Grays Harbor County -- Keys Road Flood Protection.** This project will design the preferred option for reducing flooding on Keys Road, which, when completed, will protect access to multiple residences farms and businesses, including commercial truck access for agricultural businesses and the Satsop Business Park.
 5. **Port of Chehalis -- Berwick Creek Flood Reduction, Restoration.** This portion of a larger, phased project will remove choking non-native vegetation and other fish migration barriers, and re-contour and replant the portion of the creek on Port of Chehalis Property to help contain flood waters in the creek up to a 50-year flood events.
 6. **Chehalis River Basin Flood Control Zone District -- Comprehensive Flood Hazard Management Plan.** This project provides for the development of a Comprehensive Flood Hazard Management Plan for portions of Lewis County within the Chehalis Basin, which is a prerequisite for the FCZD to plan, develop, implement, and expend funds on capital projects. The plan will identify and prioritize capital projects using FEMA's Cost-Benefit analysis tools and be consistent with NFIP Community Rating System.

Conclusions

This 2019-2021 Capital Budget spending plan for the Chehalis Basin Strategy is based on the Board's previously approved priorities and recommendations. In the event material changes to the above allocations, or new work elements, are needed during the biennium to advance the Long-Term Capital Strategy or implement On-the-Ground Actions (e.g., changes in cost/scope due to unanticipated requirements for the NEPA or SEPA EISs or other critical work elements, or revised costs estimates for construction projects), the OCB Director will apprise the Board. Board approval will be obtained prior to any action that would change the overall allocation between On-the-Ground Actions and Long-Term Strategy Development, or that would redirect funds in a manner that would prevent achieving the above-identified priorities.