



Chehalis River Basin Flood Control Zone District

Erik P. Martin, P.E., District Administrator

*351 NW North St
Chehalis, WA 98532-1900*

Chehalis River Basin Flood Control Zone District Regular Meeting Minutes

Location: Lewis County Commissioners Hearing Room, 2nd floor of the Historic Courthouse, 351 NW North St., Chehalis WA 98532
Meeting Date: Wednesday, August 24, 2022
Meeting Time: 2:30 pm

Call to Order

The meeting was called to order by Chehalis River Basin Flood Control Zone District Supervisor Sean Swope at 2:35 p.m., Wednesday, August 24, 2022. Those in attendance were:

Lindsey Pollock	Chehalis River Basin FCZD Supervisor
Sean Swope	Chehalis River Basin FCZD Supervisor
Lee Grose	Chehalis River Basin FCZD Supervisor
Erik Martin	Chehalis River Basin FCZD Administrator
Matt Dillin	Chehalis River Basin FCZD Project Manager
Lara McRea	Interim Clerk, Board of supervisors
Dr. MaryLouise Keefe	Kleinschmidt Principal Consultant
Jim Waldo	Chehalis River Basin FCZD Consultant (Zoom)
John Robinson	Chehalis River Basin FCZD Consultant (Zoom)
Edna Fund	Office of the Chehalis Basin Board member
J. Vander Stoep	Office of the Chehalis Basin Board member
Amber Smith	Chehalis River Basin FCZD legal counsel
Maureen Harkcom	Chehalis River Basin FCZD Adv Committee Member
Tammy Martin	Lewis County Administrative Asst. Sr.
Nic Scott	Lewis County Public Information Specialist
Various member of the public	

Verification of a Quorum

There is a quorum of three district supervisors.

Introductions

Introductions were made.

Approval of minutes for July 27, 2022

Supervisor Pollock made a motion to approve the minutes from July 22, 2022. Supervisor Grose seconded the motion.

Motion approved.



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Public Comment

No comments

Invoice Approvals

(Grant 17-1373 Chehalis Basin Strategy Participation)

Vendor	Date	Service	Amount
GTH	Jul 2022	Governmental affairs svcs-Jul	14,292.50
GTH (Bill Lynn)	Jun 2022	Professional svcs through 6.30.22	1,985.00
LC Administration	Jul 2022	Staff time Martin/McRea-Jul	2,023.08
HDR Engineering	Jul 2022	Eng Svcs for AMM 6.26-7.30.22	99,469.32
HDR Engineering	Jul 2022	Enviro Svcs 6.26-7.30.22	22,118.08
Kleinschmidt	Jul 2022	Eng Svcs Proj 6.25-7.29.22 (Mitigation Plan)	194,687.96
Jones & Jones	Jul 2022	Prof Svcs 7.2-7.29.22	6,058.75
Stoel Rives LLP	Jul 2022	Prof Svcs through 7.31.22	2,128.00
Dillin Engineering	Jul 2022	Prof Eng Svcs Project Mgr 7.1-7.31.22	9,198.00
Joseph B Walker	Jul 2022	Professional Svcs 7.8-8.9.22	6,100.00
Malone Environmental	Jul 2022	Task 1 (Assist with EDT Update)	450.00
Lewis County IT Dept	Jul 2022	Dell laptop/Adobe Pro license for Proj Mgr	1,457.86
Lara McRea	Jul 2022	Reimbursement for stamps	60.00
		TOTAL ALL EXPENSES:	360,028.55

(Grant 22-1726 Hyporheic Zone Exchange)

Vendor	Date	Service	Amount
Kleinschmidt	Jul 2022	Prof Svcs 6.25-7.29.22	34,421.65
		TOTAL ALL EXPENSES:	34,421.65

(Grant .09 Distressed Counties Funding)

Vendor	Date	Service	Amount
HDR Communications	Jul 2022	Comm support 6.26-7.30.22	5,750.47
		TOTAL ALL EXPENSES:	5,750.47

Grand Total of all expenses: \$400,200.67

Matt Dillin gave a briefing of the expenditures and a project update.

Motion made by Supervisor Grose to approve the invoices totaling \$400,200.67. Supervisor Pollock seconded the motion.

Motion approved.



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Resolution No. 22-002 Notice of Hearing for 2022 Budget Amendment

Supervisor Pollock made a motion to approve Resolution No. 22-002 Notice of Hearing for the 2022 Budget Amendment.

Supervisor Grose seconded the motion.

Erik reported that Resolution No. 22-002 is a notice of hearing to amend the 2022 budget for the Chehalis River Basin Flood Control Zone District. The hearing will take place on Wednesday, September 28, on or after 2:30 p.m. The notice will be published in the Chronicle on September 15 & September 22, 2022 and in the East County Journal on September 21, 2022.

- The Notice will reflect an increase in expenditures of \$2,891,601 and in increase of revenue of \$2,891,601 for Chehalis Basin Strategy work.

Motion approved 3-0.

Presentation on mitigation plan

J. Vander Stoep from the Office of the Chehalis Basin discussed how the flood district has been working this past year to address impacts of worst case scenarios if a flood retention facility were to be built in Pe Ell. All the work that have been conducted thus far is in response to state and federal agency inquiries.

He also noted that the recent January flood would have mimicked the 1996 flood had a water retention facility been in place. The flood impact would not have been near as catastrophic as it was in 1996.

Dr. MaryLouise Keefe from Kleinschmidt introduced her mitigation team:

Shane Cherry – Wetland Mitigation Expert
Dr. Paul DeVries – Civil and Environmental Engineer
Betsy McGregor-NEPA Expert

Dr. Keefe gave a presentation on the mitigation plan and included the following: (SEE ATTACHED)

FRE Mitigation Categories
Mitigation + Lift
Aquatic Habitat Access
Aquatic Habitat Access – Upper Basin
Aquatic Habitat Access-Ecological Lift
Culvert Replacement
Aquatic Habitat Restoration
Aquatic Habitat Enhancements
Aquatic Habitat Restoration Lift
Riparian/Stream Buffer Expansion
Wildlife Habitat Conservation
Large Woody Material
Wetland Mitigation Sites
Monitoring and Adaptive Management
Wetland Mitigation Plan

Supervisor Grose left the meeting at 3:34 p.m.



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Announcements

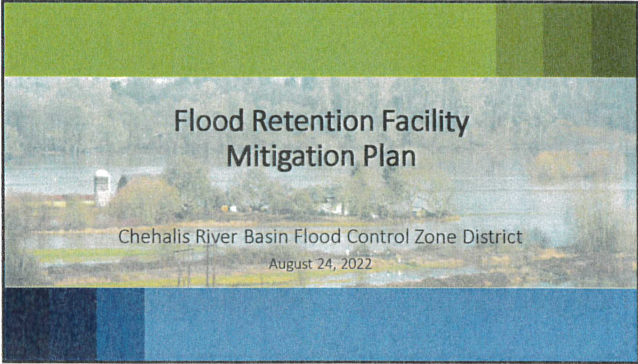
No announcements.

Adjournment

The meeting adjourned at 3:50 p.m.

Respectfully submitted,

Lara McRea
Interim Clerk



Our Mitigation Team

- **Dr. MaryLouise Keefe – Mitigation Program Manager**
 - BA Smith College, Ph.D. University of Rhode Island
 - 8 years ODFW Fish Research, 23 Consulting Fish Ecologist
 - 31 years experience leading complex salmon habitat, fish passage projects in PNW and Alaska
- **Mr. Shane Cherry – Wetland Mitigation Expert**
 - BS MIT, MS John Hopkins
 - 26 years fluvial geomorphology, sediment transport, hydrology, and hydraulics.
- **Dr. Paul DeVries – Civil and Environmental Engineer**
 - BS Humboldt State, MS and Ph.D. Univ of Washington
 - 34 years of experience in stream restoration, geomorphology, hydrology & hydraulics
- **Ms. Betsy McGregor – NEPA Expert**
 - BS Indiana University
 - 30 years of experience in natural resource assessments

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FRE Mitigation Categories

- 1. Fish Habitat Access
- 2. Aquatic Habitat Enhancements
- 3. Riparian/Stream Buffer Expansion
- 4. Wildlife Habitat Conservation
- 5. Large Woody Material
- 6. Water Quality Management Plan

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Mitigation + Lift

- Mitigation – fixing the worst case impacts
- Existing habitat conditions
- Ecological Lift

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Aquatic Habitat Access

Mitigation Category	Impacts Addressed	Mitigation Quantity Proposed *
Aquatic Habitat Access	Degradation and loss of function - 17 miles of stream channel	Open access to 42.5 stream miles

* mitigation = 2 ½ x impact

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Aquatic Habitat Access – Upper Basin

Objective:

- 42.5 miles of increased habitat connectivity

Upper Basin Opportunities:


- 216 fish passage barriers
- 375 miles of potential habitat gain for salmon

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Aquatic Habitat Access


Ecological lift from increased habitat quantity and quality. Also, selected tributaries for access projects would either:

- 1) have cool water, or
- 2) we would co-locate with riparian/stream buffer enhancement projects.




Culvert Replacement

Before



After



Aquatic Habitat Restoration

Mitigation Category	DEIS Impacts Addressed	Mitigation Quantity *
Aquatic Habitat	<ul style="list-style-type: none"> - Degradation and loss of function – 17 miles of stream channel - Water temperature increase downstream, up to 5.4°F (1.8°C) – no VMP - Changes riverbed substrate - Changes to woody material transport - Potential effects on fish habitat - Reduced groundwater recharge 	56 actions at 49 sites

*Exact number and locations dependent upon landowner agreements

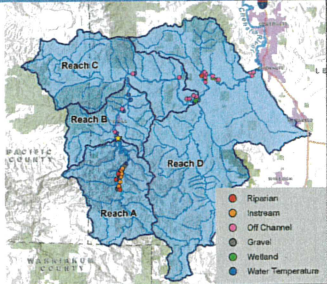
Aquatic Habitat Enhancements

Objectives:

- Improve fish spawning and rearing habitat
- Add complexity and diversity to channel
- Engage floodplain
- Provide thermal refuge

Opportunities:

- Water temperature improvements
- Instream structure
- Reconnect off-channel features
- Gravel retention jams



Aquatic Habitat Restoration Lift

Uniform & degraded river channel




Complex natural channel



Aquatic Habitat Restoration Lift

Ecological Lift from:

- 1) improve lower quality habitats, and
- 2) co-locating actions in a reach = complex habitat



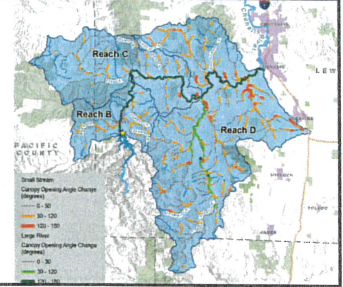
Riparian/Stream Buffer Expansion

Mitigation Category	Impacts Addressed	Mitigation Quantity Proposed
Riparian/Stream Buffer Expansion	<ul style="list-style-type: none"> - Degradation and loss of function – 17 miles of stream channel - Water temperature increase downstream, up to 5.4°F (1.8°C) – no VMP - Loss of 333 acres of wetland buffers = reduced wildlife habitat - Changes to woody material transport - Potential effects on fish habitat 	Covering 25.5 miles downstream of FRE

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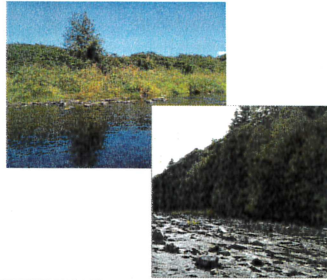
Riparian/Stream Buffer Expansion

- Objective:**
- Enhance riparian habitat along 25.5 miles downstream of the FRE location
- Opportunities:**
- 147.5 miles of stream with >30° canopy opening change



Riparian/Stream Buffer Expansion

- (In addition to VMP)
- Increase streamside shade to offset tree loss thermal and water quality impacts from temporary reservoir.
- Ecological lift will be attained by:
 - Remove invasive species including Himalayan blackberry and reed canarygrass replaced with native shrubs and trees,
 - Bank stability
 - Native species habitat
 - Long term wood recruitment



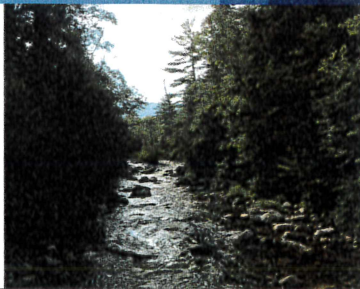
Wildlife Habitat Conservation

Mitigation Category	Impacts Addressed	Mitigation Quantity Proposed
Wildlife Habitat Conservation	<ul style="list-style-type: none"> - Removal of 90% of tree cover in the 500-acre temporary reservoir area during construction – no VMP - Tree removal on 847 acres from periodic inundation – no VMP - Inundation of up to 847 acres in the temporary reservoir area - Decreased habitat functions - Increased water temperatures - Invasive species colonization - Noise during construction - Mortality of species unable to move during inundation - Mortality of species due to loss of habitat - Decreased distribution of native species - Increased habitat for invasive species 	500 acres OR 20.6 miles of 200' wide buffers

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Wildlife Habitat Conservation

- Objectives:**
- 500 acres forest into conservation
 - 20.6 miles 100-ft stream buffer
 - Revegetation and native species management
 - Includes wetlands and buffers
- Opportunities:**
- Upper watershed under current managed forest practices
 - Approximately 100 miles of habitat identified – tributary and mainstem
 - Addresses potential climate affects



Large Woody Material

Mitigation Category	Impacts Addressed	Mitigation Quantity Proposed
Large Woody Material	<ul style="list-style-type: none"> - Changes to transport woody material - Unquantified potential effects on fish habitat 	instream placement sites across 46.1 miles, future recruitment

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Large Woody Material

Objectives:

- With VMP, more mature trees will be available for recruitment as aquatic habitat
- Improve the aquatic habitat through the wood placements leading to increased habitat complexity + deeper cool water pockets

Opportunities:

- Sites for instream wood structures, riparian enhancements, and forest conservation identified




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Large Woody Material

Ecological lift from added wood in depleted reaches

Ecological lift from co-locating riparian buffer revegetation and flood fencing


Flood fencing captures sediment and wood to promote natural reforestation.



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Wetland Mitigation Sites


Mitigation plan: more than 2x the wetland acreages after mitigation vs. today.



Potential Wetland Mitigation Sites
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Monitoring and Adaptive Management

- Monitoring plan to continually test effectiveness
- Adaptive management ensures long term function maintained in face of uncertainties



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Questions



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Wetland Mitigation Plan

IMPACT TYPE	PORTION OF IMPACT (ACRES)	PROPOSED MITIGATION TYPE	MITIGATION RATIO	PROPOSED MITIGATION QUANTITY (ACRES)
Category II Wetland	0.5	Preservation	12:1	6
	1.0	Enhancement	12:1	12
	7.6	Restoration/Creation	3:1	22.8
Total	9.1			
Category III Wetland	0.7	Preservation	8:1	5.6
	1.3	Enhancement	8:1	10.4
	6.4	Restoration/Creation	2:1	12.8
Total	8.4			
Buffer	377.5	Establish Wetland Buffer	1:1	377.5

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