

# Chehalis River Basin Flood Authority

*Reducing Flood Damage and  
Restoring Aquatic Species*

**3:00 p.m. (Lewis County)  
September 24, 2020**

# Today's Presentation . . .

- Provide update, encourage discussion.

- Key messages . . .

1. **Broad agreement** -- For first time in a century there is progress across the Basin on next steps to reduce flood damage and enhance aquatic species.

2. **Basin-wide strategy** -- An action-oriented, multi-phased Basin-wide strategy is key to protecting communities along the river and to enhancing aquatic species.

3. **Collaboration is key** -- WA Legislature, Governor's Office, Chehalis Basin Tribes, Office of Chehalis Basin, Chehalis Basin Board, Chehalis River Basin Flood Authority, and many Federal, State and Local Agencies all working together = Action!

4. **Fundamental principle** -- Solving one's problems doesn't increase another's.



# Action . . .



↑  
Photo Source: THE CHRONICLE →

September 2020

# “Chehalis River Basin Flood Authority”

- **Formed in 2008**
  
- **Formal body focused on:** (1) flood hazard mitigation throughout the Basin; and (2) decision-making that is . . .
  - informed by science.
  - protective of Basin residents/communities.
  - environmentally appropriate.



## ■ **Basin jurisdictions represented**

- ▶ Grays Harbor County
  - City of Aberdeen
  - City of Cosmopolis
  - City of Hoquiam
  - City of Montesano
  - City of Oakville
- ▶ Lewis County
  - City of Centralia
  - City of Chehalis
  - City of Napavine
  - Town of Pe Ell
- ▶ Thurston County
  - Town of Bucoda

# "Office of Chehalis Basin"

Office of Chehalis Basin - Washin x +

ecology.wa.gov/About-us/Get-to-know-us/Our-Programs/Office-of-Chehalis-Basin

DEPARTMENT OF ECOLOGY  
State of Washington

Regulations & Permits Research & Data Blog Contact Us

Home Air & Climate Water & Shorelines Waste & Toxics Spills & Cleanup

## Office of Chehalis Basin

**Our programs**

- Air Quality
- Environmental Assessment
- Hazardous Waste & Toxics Reduction
- Nuclear Waste Program
- Office of Columbia River
- Office of Chehalis Basin**
- Strategy
- EIS
- Shorelands & Environmental Assistance

Building on the success of the earlier Chehalis Basin Work Group, the 2016 Washington Legislature created the Office of Chehalis Basin within Ecology to administer legislative funding to implement the [Chehalis Basin Strategy](#). In April 2018, [Andrea McNamara Doyle](#) was chosen to lead the office.

Besides forming the Office of Chehalis Basin, the Legislature also established the Chehalis Basin Board to provide long-term oversight of the strategy. The board is responsible for developing budget recommendations to the Governor's office to implement the strategy. Our Office of Chehalis Basin provides support to the board.

Photo courtesy of Washington Department of Fish and Wildlife.

The seven-member board typically meets monthly. Members represent the [Chehalis River Basin Flood Authority](#), [Confederated Tribes of the Chehalis Reservation](#), [Quinalt Indian Nation](#), [G](#) as well as agricultural, environmental, and economic interests in the basin. There are also five non-voting board members representing various state agencies. Find out more about [board meetings and members](#). [G](#)

Department of Ecology - Commi x +

ezview.wa.gov/site/alias\_\_1962/37068/chehalis\_basin\_board.aspx

## Chehalis Basin Board

### Chehalis Basin Board meetings

The Chehalis Basin Board usually meets the first Thursday of every month.

The Chehalis Basin Board's next scheduled meeting is on February 6, 2020 at the Chehalis Tribal Gathering Center ([map to location](#)). All meeting materials are posted below. Meeting summaries will be posted once they have been approved by the Board, typically after the following meeting.

Board Member Contact Information				
Voting Members				
Name	Term Date	Appointing Authority	Phone	E-mail
Harry Pickernell	Appointment November 2018	Confederated Tribes of the Chehalis Reservation	360-273-5911	<a href="mailto:pickernell@ecy.wa.gov">pickernell@ecy.wa.gov</a>
Edna Fund	July 2017-June 2020	Chehalis River Basin Flood Authority	360-740-1120	<a href="mailto:fund@ecy.wa.gov">fund@ecy.wa.gov</a>
Jay Gordon	July 2019-June 2023	Chehalis River Basin Flood Authority	360-482-3485	<a href="mailto:gordon@ecy.wa.gov">gordon@ecy.wa.gov</a>
Tyson Johnston	Appointment June 2017	Quinalt Indian Nation	360-276-8211 ext. 1855	<a href="mailto:johnston@ecy.wa.gov">johnston@ecy.wa.gov</a>
Steve Malloch	July 2019-June 2023	Office of the Governor	206-818-0482	<a href="mailto:malloch@ecy.wa.gov">malloch@ecy.wa.gov</a>
Vickie Raines, Chair	July 2017-June 2020	Chehalis River Basin Flood Authority	360-249-3731	<a href="mailto:raines@ecy.wa.gov">raines@ecy.wa.gov</a>
J. Vander Stoep	June 2017-July 2020	Office of the Governor	360-748-9281	<a href="mailto:vstoep@ecy.wa.gov">vstoep@ecy.wa.gov</a>
Ex Officio Members				
Name	Designation Date	Agency	Phone	E-mail
Michael Garrity	March 2019	Department of Fish and Wildlife	360-902-8113	<a href="mailto:Michael.Garrity@dfw.wa.gov">Michael.Garrity@dfw.wa.gov</a>
Stephen Bernath	June 2017	Department of Natural Resources	360-902-1028	<a href="mailto:stephen.bernath@dnr.wa.gov">stephen.bernath@dnr.wa.gov</a>
Bart Gernhart	November 2018	Department of Transportation	360-905-2012	<a href="mailto:GernhaB@wsdot.wa.gov">GernhaB@wsdot.wa.gov</a>
Stu Trefry	June 2017	Washington State Conservation Commission	360-584-5213	<a href="mailto:strefry@scw.wa.gov">strefry@scw.wa.gov</a>
Gordon White	July 2017	Department of Ecology	360-407-6977	<a href="mailto:gordon.white@ecy.wa.gov">gordon.white@ecy.wa.gov</a>

### Office of Chehalis Basin staff contacts:

**Director:** Andrea McNamara Doyle  
Email: [andrea.doyle@ecy.wa.gov](mailto:andrea.doyle@ecy.wa.gov)  
Phone: 360-407-6548

**Executive Assistant:** Cindy Bradley  
Email: [cindy.bradley@ecy.wa.gov](mailto:cindy.bradley@ecy.wa.gov)  
Phone: 360-407-7674

**Principal Planner:** Chrissy Bailey  
Email: [chrissy.bailey@ecy.wa.gov](mailto:chrissy.bailey@ecy.wa.gov)  
Phone: 360-407-6781

# Background . . .

- 2007 Storm -- \$938M Basin-wide damage, \$300M lost economic activity (WA).



**Exit 77 (I-5) in Chehalis**  
STEVE RINGMAN / SEATTLE TIMES



**City of Centralia**  
STEVE RINGMAN / SEATTLE TIMES



← **Photos Source:** LEWIS COUNTY,  
DIVISION OF EMERGENCY  
MANAGEMENT



**State Route 6,  
West of Adna**  
MIKE  
SALSBURY /  
AP



# Background . . .

- 2007 Flood -- I-5 and Hwy 507 Interchange looking South.

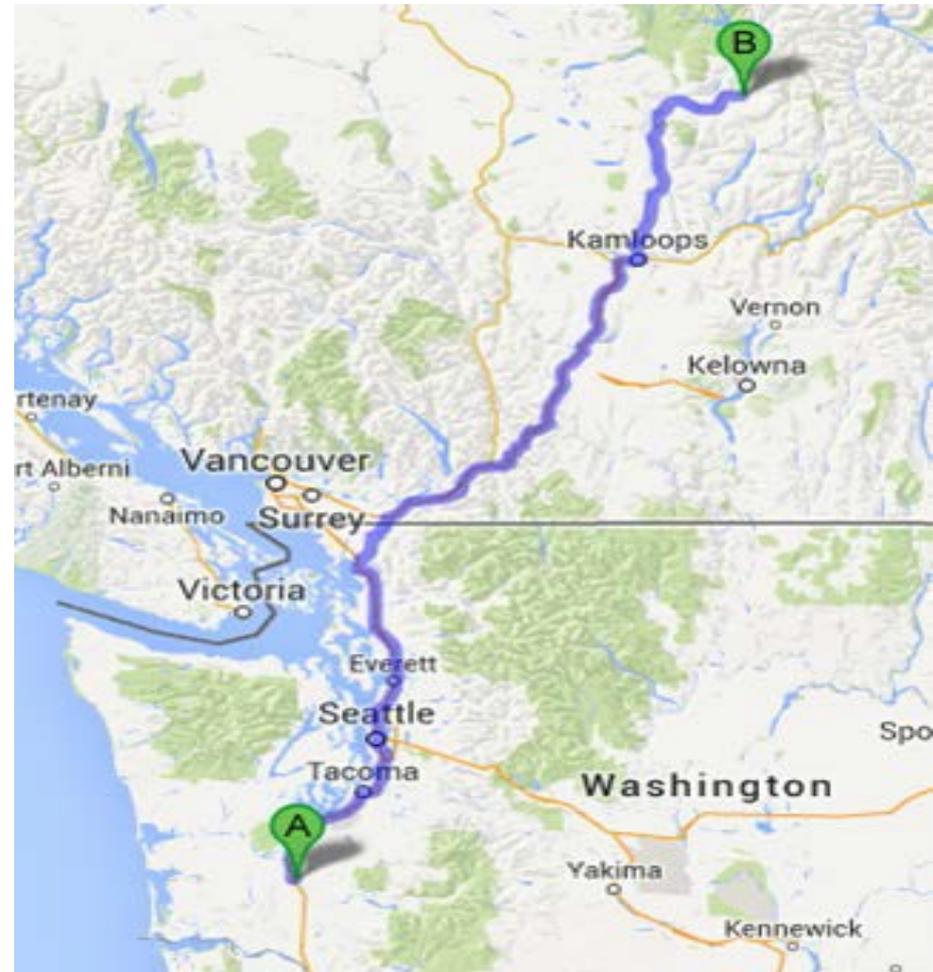


City of Centralia and I-5  
STEVE RINGMAN /  
SEATTLE TIMES

September 2020

# Background . . .

- 289,983 acre feet of measured water (12/03-08/2007).
- Equivalent to covering roadway between Chehalis and North of Kamloops with 1 foot of water 1-mile wide or covering . . .
  - 80% of Kitsap County.
  - 69% of Clark County.
  - 59% of Thurston County.

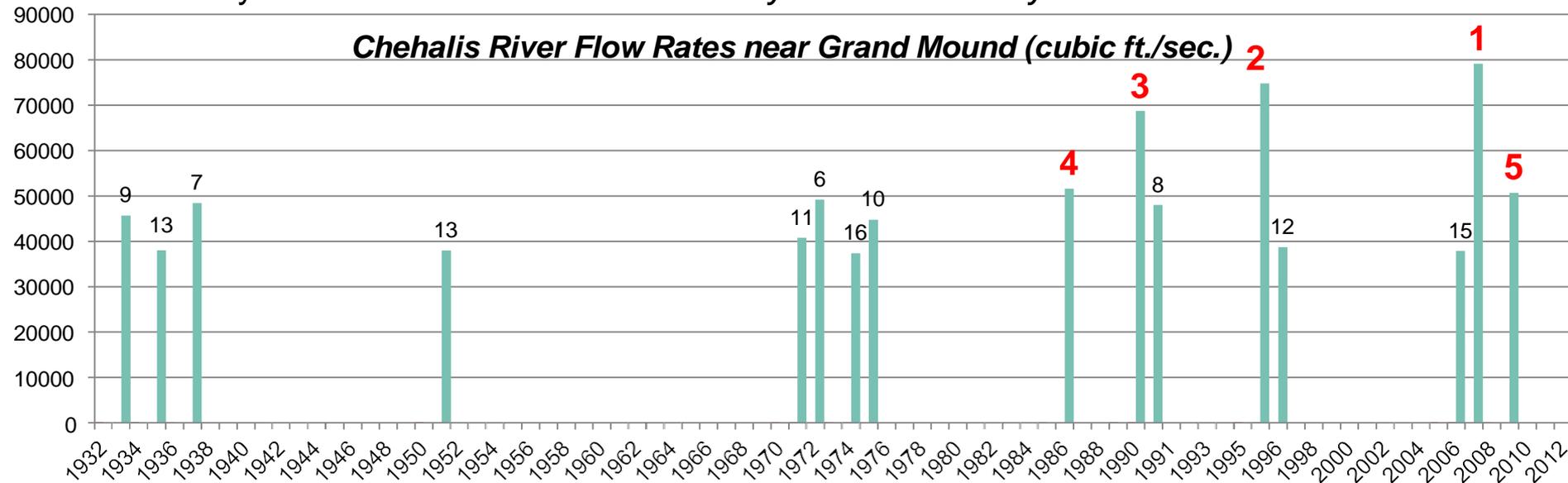


# Background . . .

## ■ Ranked high flow events (1932 - 2012) . . .

- ❑ I-5 closed 1990, 1996, 2007, 2009.
- ❑ Five largest events since 1986 -- *Frequent floods are getting worse and damage is increasing . . .*
- ❑ 100 year flood estimate -- *Increased by 33% in last 30 years.*

**Chehalis River Flow Rates near Grand Mound (cubic ft./sec.)**



# Background . . .

- Chehalis is the second largest river basin in the state, rich in natural resources . . .
- Salmon populations are substantially below historic levels.
- Chehalis River and tributaries face significant water quality issues.



Upper Chehalis (5/31/2010)  
 JAMES E. WILCOX / WILD GAME FISH  
 CONSERVATION INTERNATIONAL

CHEHALIS BASIN SALMON & TROUT

OCEAN PHASE		SPAWNING PHASE
	<p>The salmonid lifecycle involves adults maturing in the ocean, migrating back to their home streams and spawning, embryos incubating, fry emerging, juveniles growing, and smolts migrating to the estuary to acclimate to saltwater and moving out into the ocean</p> <p><b>WHAT SALMON NEED IN FRESHWATER HABITAT</b></p> <p>Cool, clean water</p> <p>Appropriate water depth, quantity and flow velocities</p> <p>Upland and riparian (stream bank) vegetation to stabilize soil &amp; provide shade</p> <p>Clean gravel for spawning and egg-rearing</p> <p>Large woody debris to provide resting and hiding places</p> <p>Adequate food</p> <p>Varied channel forms</p>	

[www.chehalisbasinpartnership.org](http://www.chehalisbasinpartnership.org)

# Background . . .

## Salmon-habitat potential

Species	Current Spawner	Habitat Degradation
Spring Chinook Salmon	2,300	78%
Fall Chinook Salmon	24,317	45%
Coho Salmon	42,000	69%
Winter-run Steelhead	8,700	44%

*Source: Chehalis Basin Strategy: Reducing Flood Damage and Restoring Aquatic Species; Pe Ell Public Meeting; 10/14/2014; Page 13;*

<https://www.ezview.wa.gov/Portals/1492/images/Pe%20Ell%20Meeting%2010%2014%2014.pdf>.

# Solution = Basin-wide Approach

## Action-oriented, Multi-phased Approach

1. Basin-Wide Relationships
2. Hydraulic Understanding
3. Master Strategy (Game Plan)
4. Large Capitol Projects
5. Small-Scale Local Projects
6. Local Floodplain Management
7. Restore Salmon and Aquatic Species
8. Early Flood Warning
9. Outreach, Education and Communication

### Chehalis Basin Strategy: Reducing Flood Damage and Restoring Aquatic Species

For the first time—after over a century of catastrophic floods and hundreds of studies—Inland agreement is building on a comprehensive strategy to reduce flood damage, restore salmon populations, and support the prosperity of communities in the Chehalis Basin.



*The problems in the Chehalis Basin are real and action is being taken now to protect communities and restore aquatic species.*

**Frequent Floods Are Getting Worse and Damage is Increasing.** The five largest floods in the Chehalis Basin's history were caused by big, wet and cold storms, causing unprecedented damage to homes, property, businesses, roads, and bridges. Each of the seven Basin floods in the days of late winter brought from the thousands of warnings of possible significant increases in sea level rise over the next century, and coastal communities face larger estimates that the cost of future floods will exceed \$15 billion in the next 50 years if no action is taken.



**Salmon Populations Are Seriously Degraded and Continue to Decline.** The natural resources of the Chehalis Basin have suffered historic and rapid declines due to a combination of factors including both the effects of climate change and human activities. The Chehalis Basin supports the world's largest and most diverse population of steelhead trout, but the steelhead population has declined by 90% since the 1970s. Other species are also being degraded, with salmon populations at 15% of their historic levels. It is very probable that the current trajectory, coupled with the potential impacts of climate change, would lead to the complete loss of steelhead and other salmonids in the Basin.

**Changing the History of Inaction.** For a long time, there has been a failure to meaningfully address the real problems of our world: flooding and significant degraded and degraded ecosystems in the Chehalis Basin. One of the most important actions to address flood damage have been completed, with no real change in action. The Chehalis Basin Flood Action Plan is a catalyst for a number of such actions to reduce flood damage and restore the Basin.

7/2/2019

Implementing a Comprehensive, Integrated Approach for Fish and Floods. An extensive evaluation of the potential of steelhead, steelhead trout, and steelhead trout, and of various flood damage reduction ideas, is a major goal of the Chehalis Basin Flood Action Plan. It is supported by the Basin's local agencies and the Chehalis Basin Flood Action Plan. The plan is a catalyst for a number of such actions to reduce flood damage and restore the Basin's aquatic species population. These recommendations include:

- A concrete flood retention dam on the upper Chehalis River, paired with investments in the Chehalis Basin's floodplain.
- Restoration of over 200 miles of spring Chinook spawning and rearing habitat, removal of overly fish passage barriers, restoration of 100 miles of steelhead spawning habitat, and a comprehensive strategy to address river restoration.
- Investment in high-quality, low-impact flood damage reduction projects, with a focus on projects that are cost-effective.
- Local government land use management actions to protect and enhance floodplain function, to provide for homes and floodproofing businesses and public structures to provide additional protection for residents and structures that are already located in floodways.

Over the next two years, the Washington State Department of Ecology—in consultation with the Washington State's offices, and other agencies and stakeholders—will set an agenda and set the terms and cost of the recommended package of flood damage reduction and aquatic species restoration actions through implementation of the Chehalis Basin Flood Action Plan (CBFAP). The plan is a catalyst for a number of such actions to reduce flood damage and restore the Basin's aquatic species population. The plan is a catalyst for a number of such actions to reduce flood damage and restore the Basin's aquatic species population. The plan is a catalyst for a number of such actions to reduce flood damage and restore the Basin's aquatic species population.

There is a special opportunity for public input on this programmatic plan:

- October 2019: public meeting and formal public comment period on the draft EIS document
- August 2018: public meeting and formal public comment period on the draft EIS document
- November 2017: public meeting and formal public comment period on the draft EIS document

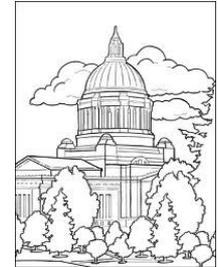
The development of a programmatic plan is a process that involves the public and other interested parties in a number of ways. The plan is a catalyst for a number of such actions to reduce flood damage and restore the Basin's aquatic species population. The plan is a catalyst for a number of such actions to reduce flood damage and restore the Basin's aquatic species population. The plan is a catalyst for a number of such actions to reduce flood damage and restore the Basin's aquatic species population.



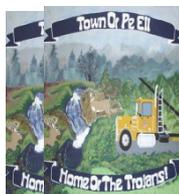
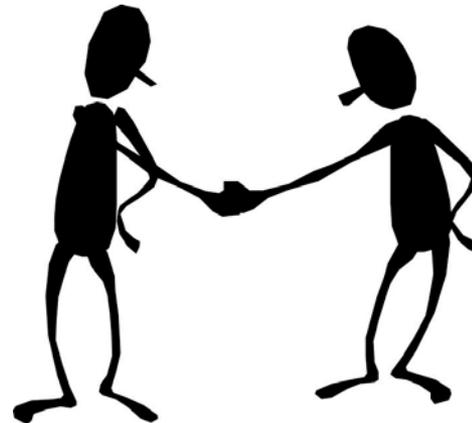
We are happy to answer questions or provide further information about the work in the Chehalis Basin. We can be reached through Facebook at <https://www.facebook.com/chehalisriverbasin> or by email at [chehalis@chehalisriverbasin.org](mailto:chehalis@chehalisriverbasin.org).

7/2/2019

# 1. Basin-Wide Relationships

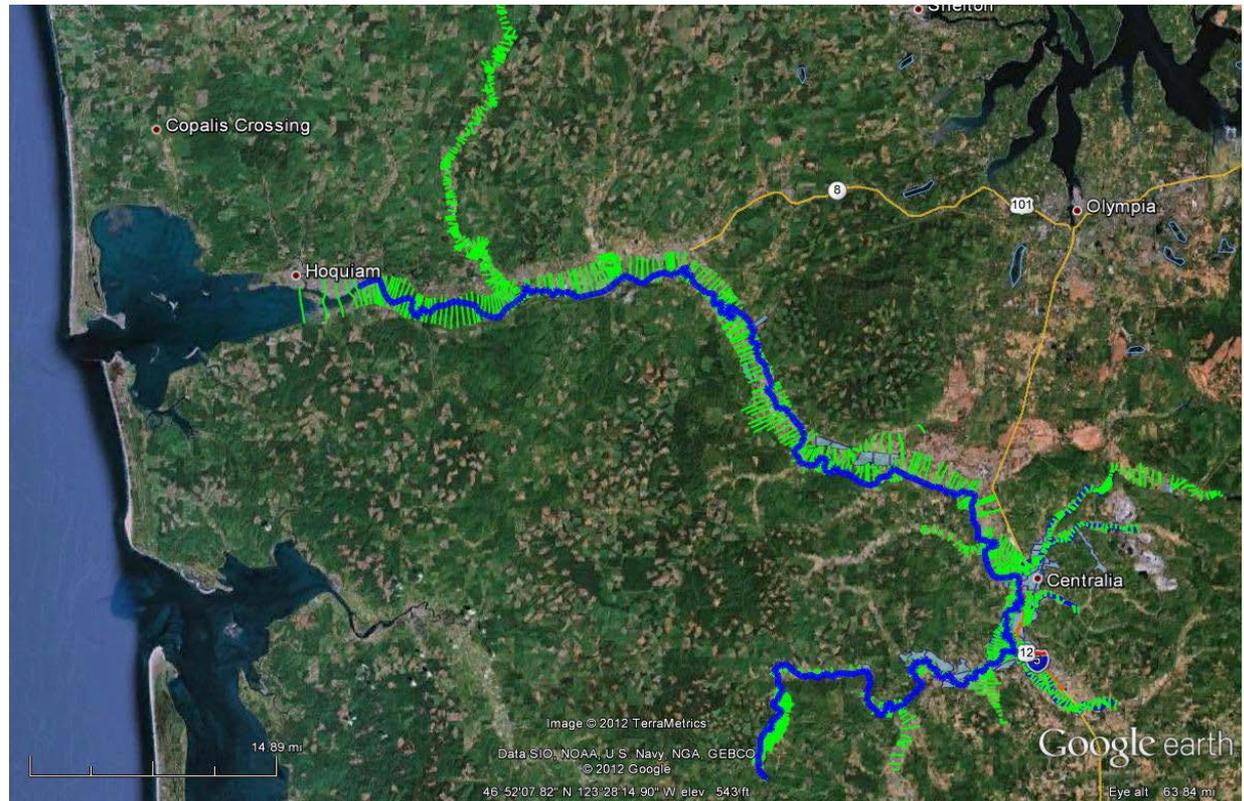


TOWN of BUCODA



# 2. Hydraulic Understanding

- **Science-based model** -- To inform decision-makers on hydraulic effects of potential flood relief options (at basin-wide and localized scales).
- **108 miles** -- Mouth of Chehalis River upstream to Pe Ell (108 miles).



September 2020

## 2. Hydraulic Understanding

- **Example: Basin-wide effects analysis** (Source: *Chehalis Basin Strategy: Reducing Flood Damage and Restoring Aquatic Species; Pe Ell Public Meeting; 10/14/2014; Page 51;* <https://www.ezview.wa.gov/Portals/1492/images/Pe%20Ell%20Meeting%2010%202014%2014.pdf>.)

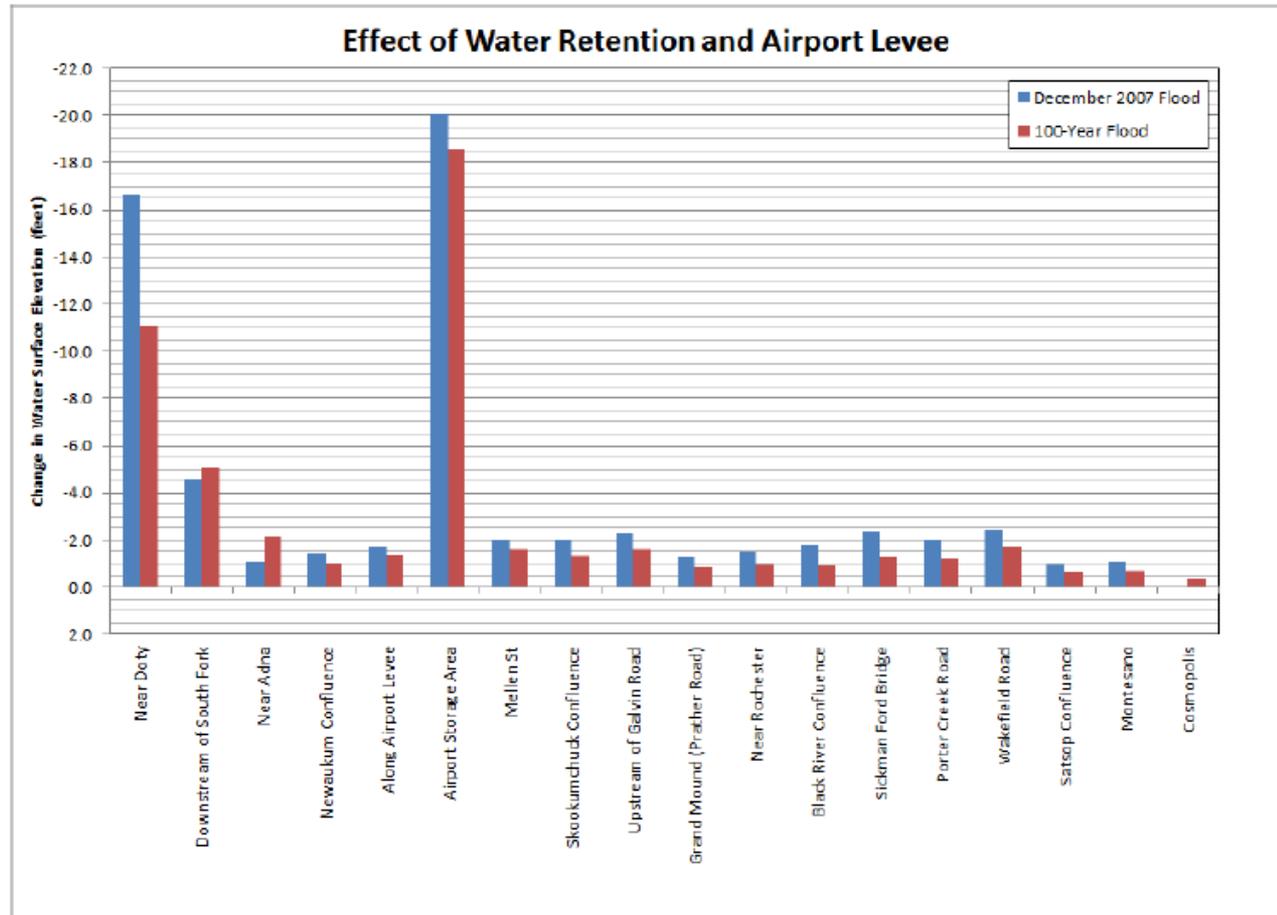


Figure 2: Predicted Changes in Water Surface Elevations from Water Retention and Airport Levee

For 60 years, little has come from efforts to reduce flood damage in the Chehalis Basin. Now, for the first time, there is a broadly-supported, Basin-wide process that is implementing long-sought local projects and leading to a comprehensive strategy to address flooding, while at the same time enhancing aquatic species across the Chehalis Basin.

The 2013 legislature funded a \$26 million program of



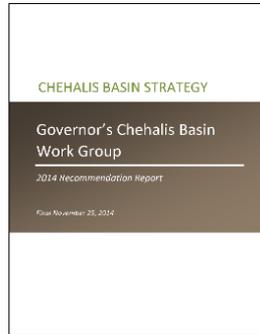
## 3. Master Strategy (Game Plan)

### ❑ Evolution (2008 to present):

Flood Authority → Governor's Workgroup → Office of Chehalis Basin.

### ❑ Key Elements:

1. Evaluation, implementation of Large Capital Projects:
  - Flood Retention Dam on upper Chehalis River.
  - Airport Levee Improvements.
  - North Shore Levee in Aberdeen, Hoquiam.
2. Basin-wide Aquatic Species Restoration (100+ miles spawning/rearing habitat).
3. Local Flood-Damage Reduction Projects.
4. Local Flood-Proofing, including raising homes, CRS actions, local ordinance improvements, etc.
5. Costs/Benefits: Cost = \$500-600M; Benefit = \$720M (100 yrs.); No Action = \$3.5B (100 yrs.).





## 4. Large Capitol Projects

### 2013-15:

- ❑ Technical team developed baseline knowledge on safety, feasibility of Flood Retention Dam alternatives -- field visits, site and design considerations, world-wide research, etc.
  - Permanent reservoir (w/ fish passage) or Run-of-the-river (no permanent reservoir).
  - Roller compact concrete or Earthen fill.
  - Flood-control only or Multi-purpose.
- ❑ WSDOT evaluated I-5 Protection alternatives -- levees, walls, raise road, etc.

### 2015-17:

- ❑ Formal environmental review (Programmatic EIS) was conducted to evaluate alternatives.

### 2017-19:

- ❑ CBFCZD Project-level EIS starts.

### 2019-21:

- ❑ CBFCZD Project-level EIS continues.



September 2020

**Another Chehalis Basin Flood Protection Project**  
**Wastewater Treatment Plant Flood Prevention Dike**  
 Schedule → February 2014 to April 2014  
 Budget → \$511,153  
 Benefit → Protecting essential public infrastructure for all Basin residents  
[www.ezview.wa.gov](http://www.ezview.wa.gov)  
 STELLAR  
 Parametrix

# 5. Local Projects (Basin-wide)

## 2012 Sup Capital Budget:

- \$5.0M

## 2013-15 Capital Budget:

- \$10.7M

## 2015-17 Capital Budget:

- \$15.7M

## 2017-19 Capital Budget:

- \$9.6M

## 2019-21 Capital Budget:

- \$6.3M

- 26 complete

- 10 underway

- \$46.7M State (2012-21)

- \$10.8M Local (2012-21)

**Another Chehalis Basin Flood Protection Project**  
**Wastewater Treatment Plant Flood Prevention Dike**  
 Schedule → February 2014 to April 2014  
 Budget → \$511,153  
 Benefit → Protecting essential public infrastructure for all Basin residents  
[www.ezview.wa.gov](http://www.ezview.wa.gov)  
 STELLAR  
 Parametrix

**Another Chehalis Basin Flood Protection Project**  
**Airport Lane (Phase 2)**  
 Schedule: July 2013 to July 2014 Budget: \$1250000  
 Benefit: Protecting the airport for all Basin residents

1. ~2-4 years to design, permit, construct.
2. Protect people, property, infrastructure.
3. Improve readiness, response, resiliency.
4. Completed examples:
  - Drinking Water (Boistfort, Bucoda).
  - Wastewater (Montesano, Pe Ell).
  - Emergency Response (Grays Harbor County, Chehalis-Centralia Airport).
  - Regional Economic Infrastructure (Montesano).
  - Community Protection (Adna, Bucoda, Centralia, Chehalis, Chehalis Tribe, Oakville).
  - Flood Warning Infrastructure (Basin-wide).
5. Typical funding phase = \$250K to \$2M.

- Construction, Complete
- Construction, Incomplete
- Plan/Study/Tool, Complete
- Plan/Study/Tool, Incomplete

[www.ezview.wa.gov/chehalisbasinlocalfloodreliefprojects](http://www.ezview.wa.gov/chehalisbasinlocalfloodreliefprojects)

## Local Projects (2012-21)

[www.ezview.wa.gov/chehalisfloodauthority](http://www.ezview.wa.gov/chehalisfloodauthority)

Contact: Scott Boettcher; Staff, Chehalis River Basin Flood Authority; 360/480-6600; scottb@sbgh-partners.com



# 5. Local Projects (Farm Pads)

**2015 Analysis**

Category	Value (Millions)
Total Value Protected	\$9.30M
Livestock Protected	\$7.95M
Equipment Protected	\$1.35M
SSS Expended	\$645K

**Animal/Equipment Now Protected:**

• Beef	4
• Bulls	3
• Calves	210
• Cows	2,480
• Goats	118
• Heifers	645
• Horses	77
• Sheep	165
• Yearlings	9
• Tractors	36
• Pieces	42

**8. Testimonials → <http://arcg.is/2b632Ai>.**

1. Save lives, livelihoods.
2. Protects people, animals, equipment.
3. 26 locations throughout Basin.
4. <2 years to design, permit, construct.
5. 14:1 return-on-investment.
6. Benefit whole basin.
7. Reusable.

**Farm Pads, Evacuation Routes (2012-19)**

**Washington State Conservation Commission** | [www.ezview.wa.gov/chehalisfloodauthority](http://www.ezview.wa.gov/chehalisfloodauthority)

**CHEHALIS RIVER BASIN FLOOD AUTHORITY**

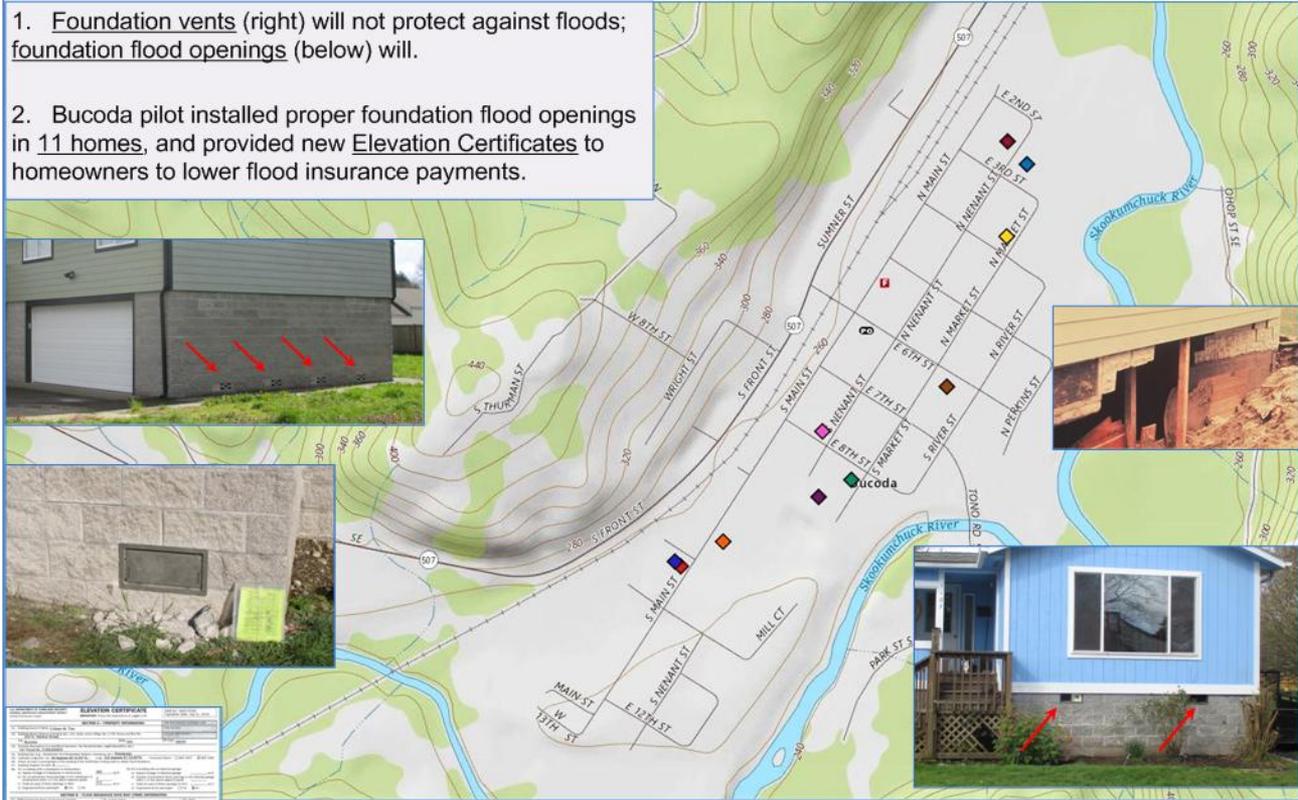
10/17/2019

Contact: Scott Boetcher; Staff, Chehalis River Basin Flood Authority; 360/480-6600; scottb@sbg-h-partners.com

September 2020

# 6. Land Use, Floodplain Management (Floodproofing Pilot)

1. Foundation vents (right) will not protect against floods; foundation flood openings (below) will.
2. Bucoda pilot installed proper foundation flood openings in 11 homes, and provided new Elevation Certificates to homeowners to lower flood insurance payments.



## 2015-16 Local Floodproofing Pilot "Bucoda Foundation Flood Opening Retrofits"

[www.ezview.wa.gov/bucodafloodrelief](http://www.ezview.wa.gov/bucodafloodrelief)

Contact: Scott Boettcher, Staff, Chehalis River Basin Flood Authority; 360/480-6600; scottb@sbgh-partners.com



10/17/2019

# 7. Restore Salmon and Aquatic Species

## Correcting Fish Barriers



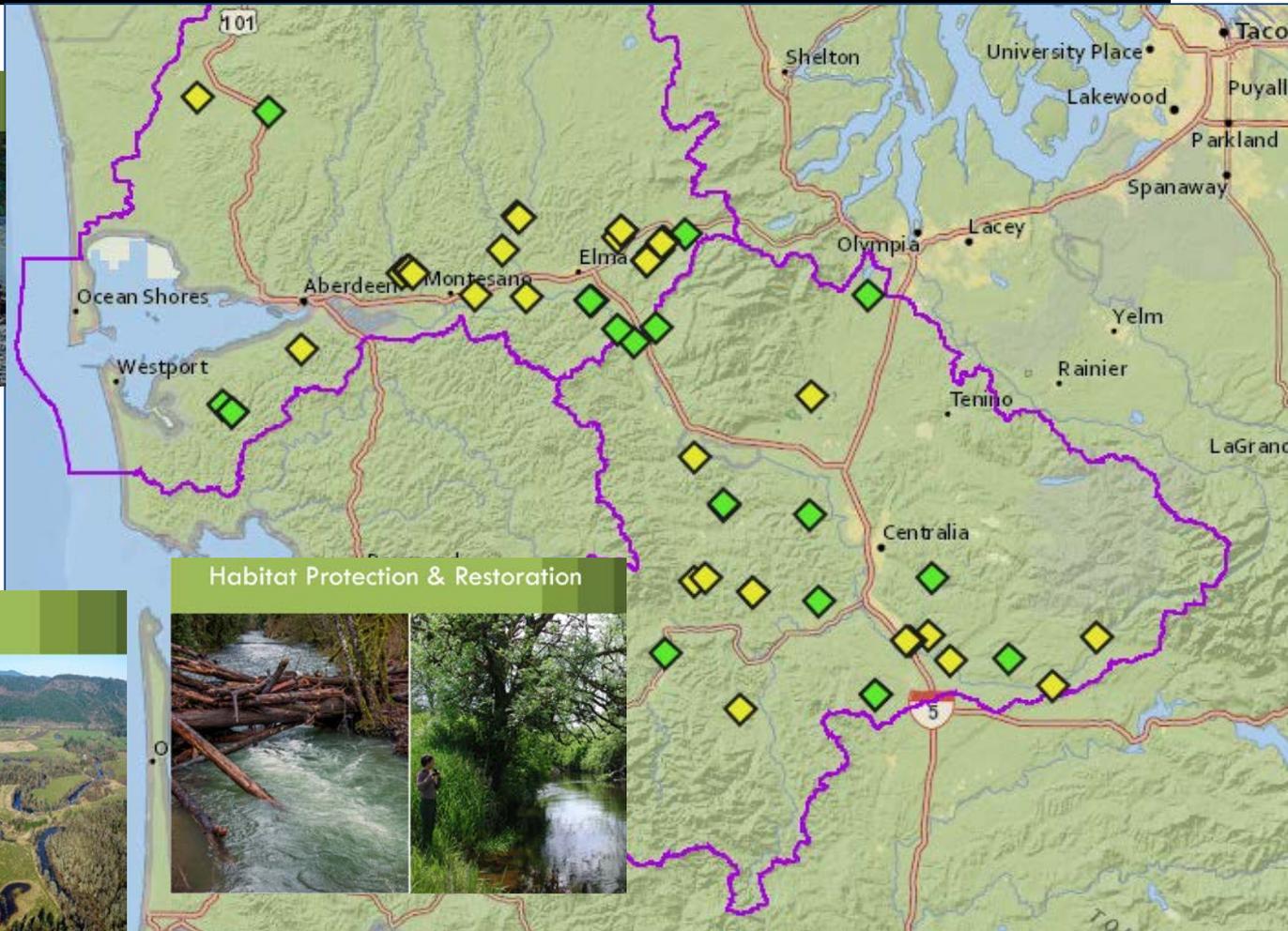
Results so far (2019) . . .

- 23 Complete (\$3.8M)
- 31 Underway (\$7.9)

## Uplands & Floodplains



## Habitat Protection & Restoration



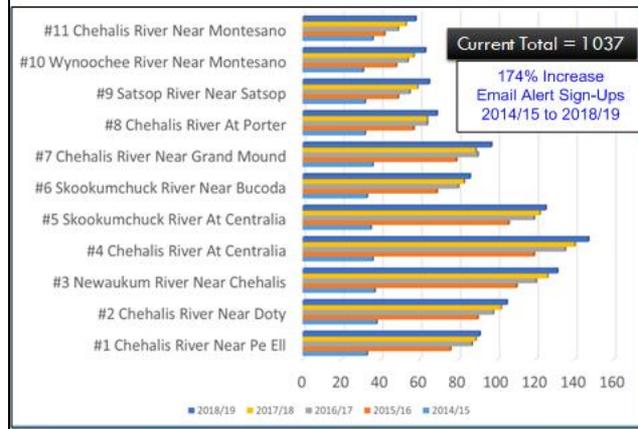
# 7. Restore Salmon and Aquatic Species

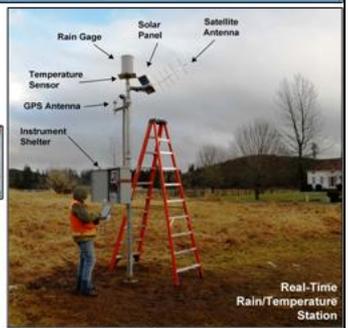
## Other Fish and Aquatic Species



# 8. Early Flood Warning

- [www.chehalisriverflood.com](http://www.chehalisriverflood.com)
- Front-facing website.
- Data collection, data synchronization.
- Improved forecasting, early-warning.





Chehalis River Basin - Flood Warning System  
[www.chehalisriverflood.com](http://www.chehalisriverflood.com)

**Chehalis Basin Flood Warning & Alert System**  
[www.chehalisriverflood.com](http://www.chehalisriverflood.com)

CHEHALIS RIVER BASIN FLOOD AUTHORITY

Contact: Scott Boettcher; Staff, Chehalis River Basin Flood Authority; 360/480-6600; [scottb@sbg-h-partners.com](mailto:scottb@sbg-h-partners.com) 23 10/17/2019

# 9. Outreach, Education and Communication

## Website

Project: Chehalis River Basin Flood Authority  
 Home | About Us | News | Contact Us | Search Documents | Messages

**ANNOUNCEMENTS!!**  
 (Click for latest news)

**GIVE US YOUR FEEDBACK**  
 (Click icon to provide feedback)

**CHEHALIS RIVER BASIN FLOOD AUTHORITY**

## Outreach Visits

**Chehalis River Basin**

Reducing Flood Damage and Restoring Aquatic Species

6:30 p.m.  
 August 26, 2015  
 City of Aberdeen

## Project Signs

**Another Chehalis Basin Flood Protection Project**

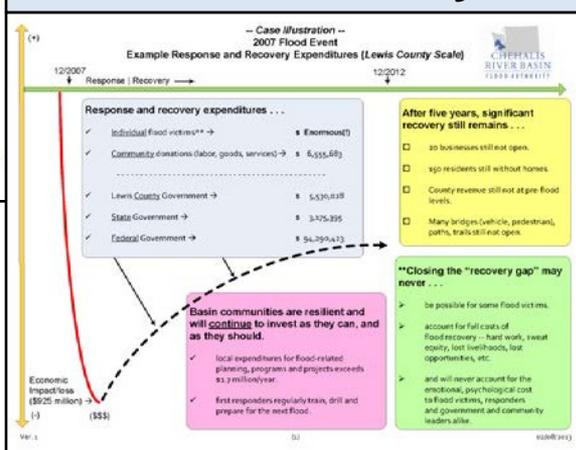
**Wastewater Treatment Plant Flood Prevention Dike**

Schedule → February 2014 to April 2014  
 Budget → \$511,153  
 Benefit → Protecting essential public infrastructure for all Basin residents

[www.ezview.wa.gov](http://www.ezview.wa.gov)

STELLAR J  
 Parametrix

## Informational Analyses



## Chehalis Basin Flood Stories

### Chehalis Basin Flood Stories

- [Farm Pads & Evacuation Routes](#)
- [Flood Warning System](#)
- [Local Capital Construction Projects](#)





# Closing – 2007 Flood Damage . . .



Chehalis  
River near  
Doty  
USGS

# Closing – 2007 Flood Damage . . .



**Clearing Mud in  
Curtis, WA**  
STEVE RINGMAN /  
SEATTLE TIMES

# Closing – 2007 Flood Damage . . .



**Curtis, WA, Aftermath  
of 7 Feet of Water**  
STEVE RINGMAN /  
SEATTLE TIMES

# Closing – 2007 Flood Damage . . .

**Chandler Road Bridge  
near Doty, WA**  
STEVE RINGMAN /  
SEATTLE TIMES



September 2020

# Closing – 2007 Flood Damage . . .



September 2020

# Closing – 2007 Flood Damage . . .



September 2020

# Closing – 2007 Flood Damage . . .

**I-5 Under Water**  
BRUCE ELY /  
OREGONIAN



September 2020

# Closing – 2007 Flood Damage . . .

**Chehalis, WA**  
STEVE RINGMAN /  
SEATTLE TIMES



# Closing – 2007 Flood Damage . . .



September 2020

# Closing – 2007 Flood Damage . . .

**Jackson Street,  
Centralia, WA**  
STEVE RINGMAN /  
SEATTLE TIMES



September 2020

# Closing – 2007 Flood Damage . . .



**I-5 Under Water**  
BRUCE ELY / OREGONIAN

# Closing – 2007 Flood Damage . . .



**Photos Source:**  
WSDOT

September  
2020

# Closing – 2007 Flood Damage . . .



September 2020

# Closing – 2007 Flood Damage . . .

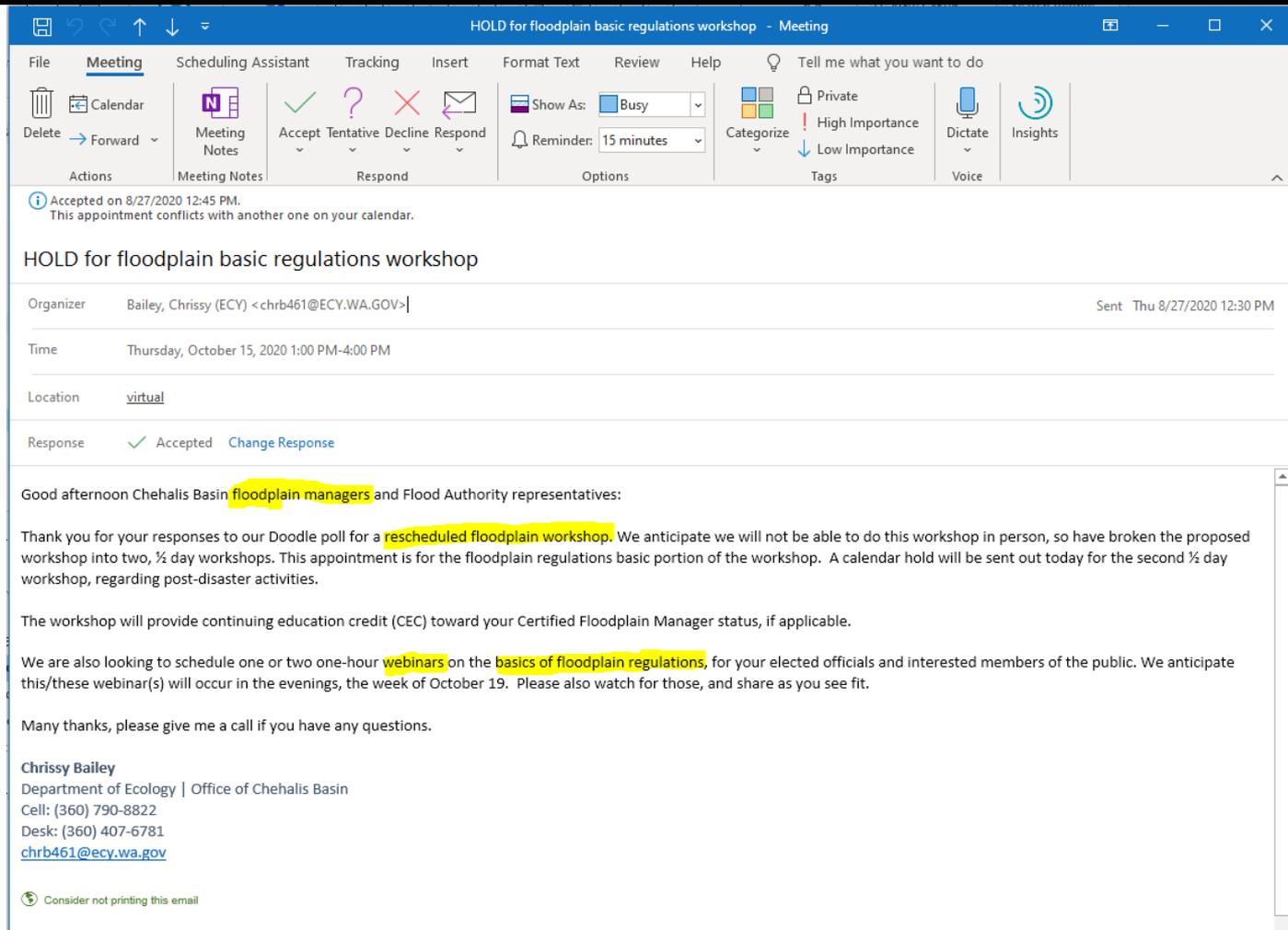


# Closing – 2007 Flood Damage . . .



**Wakefield Road,  
Elma, WA**  
GREG GILBERT /  
SEATTLE TIMES

# What's Next – Floodplain Regulations



The screenshot shows an Outlook meeting invitation window. The title bar reads "HOLD for floodplain basic regulations workshop - Meeting". The ribbon includes "Meeting", "Scheduling Assistant", "Tracking", "Insert", "Format Text", "Review", and "Help". The "Meeting" ribbon is active, showing options like "Delete", "Forward", "Meeting Notes", "Respond" (with "Accept", "Tentative", and "Decline" sub-options), "Options" (with "Show As" set to "Busy" and "Reminder" set to "15 minutes"), "Tags" (with "Private", "High Importance", and "Low Importance" options), "Dictate", and "Voice".

Below the ribbon, a conflict warning states: "Accepted on 8/27/2020 12:45 PM. This appointment conflicts with another one on your calendar." The meeting title is "HOLD for floodplain basic regulations workshop". The organizer is "Bailey, Chrissy (ECY) <chr461@ECY.WA.GOV>" and it was sent on "Thu 8/27/2020 12:30 PM". The time is "Thursday, October 15, 2020 1:00 PM-4:00 PM" and the location is "virtual". The response is "Accepted" with a "Change Response" link.

The main body of the email contains the following text:

Good afternoon Chehalis Basin floodplain managers and Flood Authority representatives:

Thank you for your responses to our Doodle poll for a rescheduled floodplain workshop. We anticipate we will not be able to do this workshop in person, so have broken the proposed workshop into two, ½ day workshops. This appointment is for the floodplain regulations basic portion of the workshop. A calendar hold will be sent out today for the second ½ day workshop, regarding post-disaster activities.

The workshop will provide continuing education credit (CEC) toward your Certified Floodplain Manager status, if applicable.

We are also looking to schedule one or two one-hour webinars on the basics of floodplain regulations, for your elected officials and interested members of the public. We anticipate this/these webinar(s) will occur in the evenings, the week of October 19. Please also watch for those, and share as you see fit.

Many thanks, please give me a call if you have any questions.

**Chrissy Bailey**  
Department of Ecology | Office of Chehalis Basin  
Cell: (360) 790-8822  
Desk: (360) 407-6781  
[chr461@ecy.wa.gov](mailto:chr461@ecy.wa.gov)

Consider not printing this email

# What's Next – Draft EIS (SEPA)

JAY INSLEE  
Governor



July 22, 2020

Dear Members of the Chehalis Basin Board:

I value the important work that you do to advance consensus-based, win-win solutions for flooding and fish in the Chehalis Basin. The complex challenges facing our communities require science, collaboration, and innovative thinking to forge lasting solutions.

Recent work evaluating a proposed large-scale flood retention project in the upper Chehalis River has brought additional and significant questions and concerns about impacts and alternatives. In light of these concerns, I am requesting that the board work together to:

- Define a process and timeline for developing and evaluating a basin-wide non-dam alternative to reducing flood damage.
- Continue evaluating the issues raised regarding the retention project and other flood risk reduction projects and the potential to avoid, minimize, and mitigate the identified impacts.
- Deliver a consensus recommendation on the process back to me no later than the end of **September 2020** that will lead to a long-term strategy for consideration by me and the legislature in the first quarter of 2021.

Since the Board's recommendations will have implications for the State Environmental Policy Act (SEPA) process currently under way, I have requested that Ecology pause the Environmental Impact Statement (EIS) process through at least the end of the year. I am also directing Ecology to use available funding within the Office of Chehalis Basin budget to assist the Board in its development of a non-dam alternative.

Climate change poses a significant risk to aquatic species and increased flood damage in the basin, and I believe that we will need the best scientific evaluation of options to preserve and restore salmon runs and protect the basin's human communities. Time is of the essence as climate change is already impacting the basin.

I look forward to hearing back from you soon. If you have questions, please contact my Senior Policy Advisor, Jennifer Hennessey at [Jennifer.hennessey@gov.wa.gov](mailto:Jennifer.hennessey@gov.wa.gov). Thank you again for your dedication and hard work.

Very truly yours,

Jay Inslee  
Governor

CC: Laura Watson, Director, Department of Ecology

JAY INSLEE  
Governor



July 22, 2020

The Honorable Laura Watson  
Director  
Department of Ecology  
PO Box 47600  
Olympia, WA 98504-7600

The Honorable Kelly Susewind  
Director  
Department of Fish and Wildlife  
PO Box 43200  
Olympia, WA 98504-3200

Dear Director Watson and Director Susewind:

Your agencies play an important role in evaluating impacts and advancing win-win solutions for flooding and fish in the Chehalis Basin. The complex challenges facing our communities require science, collaboration, and innovative thinking to forge lasting solutions. I appreciate the expertise and experience your staff bring to these challenges.

Recent work evaluating a proposed large-scale flood retention project in the upper Chehalis River has brought additional and significant questions and concerns about impacts and alternatives. I have requested that the Chehalis Basin Board provide recommendations on the process for addressing some of these concerns, particularly the development of a basin-wide, non-dam alternative to flood damage reduction and evaluating the potential to avoid, minimize, and mitigate the impacts of the flood retention and other flood risk reduction projects.

Furthermore, I am directing that Ecology pause the Environmental Impact Statement (EIS) process through the end of the year and to use funding available within the Office of Chehalis Basin budget to assist the Board in the development of a non-dam alternative.

Tribes have further expressed a desire for greater engagement by the State in these processes. In light of these concerns, I am also requesting that you work together to:

- Invite government-to-government consultations with Tribes, including an initial consultation with interested Tribes individually with both of your agencies.
- Create a more structured process for Tribal staff and their consultants to engage, when they so choose, on technical aspects of agency analyses and related work.

# What's Next – Draft EIS (NEPA)



US Army Corps  
of Engineers  
Seattle District

## Public Notice of Application for a Department of the Army Permit, and Draft Environmental Impact Statement Availability

US Army Corps of Engineers  
Regulatory Branch  
Post Office Box 3755  
Seattle, WA 98124-3755  
Telephone: (206) 316-3164  
ATTN: Brandon Clinton,  
Project Manager

Public Notice Date: September 18, 2020  
Expiration Date: November 17, 2020

Reference No.: NWS-2014-1118  
Name: Chehalis River Basin Flood  
Damage Reduction Project

Interested parties are hereby notified that an application has been received for a Department of the Army permit in accordance with Section 404 of the Clean Water Act (CWA) to perform work in waters of the U.S. as described below and as shown on the enclosed drawings dated July 29, 2020. The work is part of the Chehalis River Basin Flood Damage Reduction Project.

Interested parties are also notified that the Seattle District, US Army Corp of Engineers (Corps) has prepared a Draft Environmental Impact Statement (EIS) for the Chehalis River Basin Flood Damage Reduction Project. The Draft EIS and supporting documents can be accessed at <https://chehalisbasinstrategy.com/eis/nepa-process/>

**APPLICANT:** Chehalis River Basin Flood Control Zone District  
Attention: Erik Martin  
351 Northwest North Street  
Chehalis, Washington 98532  
Telephone: (360) 740-2697

**AGENT:** Lewis County Public Works  
Attention: Betsy Dillin  
2025 Northeast Kresky Avenue  
Chehalis, Washington 98532  
Telephone: (360) 740-1138

**LOCATION:** The proposed project includes structures and work in two separate locations. The proposed flood retention facility and associated infrastructure would be located in and along the mainstem Chehalis River south of Pe Ell, in Lewis County. The levee work would occur at the Chehalis-Centralia Airport in Chehalis, Lewis County.

**WORK:** The Chehalis River Basin Flood Control Zone District (Applicant) is proposing to construct a new flood retention expandable structure (FRE) and temporary reservoir on the Chehalis River, and to raise an existing levee at the Chehalis-Centralia Airport.

Construction of the FRE would result in permanent fill placement in up to 1.23 acres of wetlands, 1.91 acres of the Chehalis River, and 0.74 of an acre of unnamed intermittent streams. Construction of the temporary reservoir would

NWS-2014-1118; Chehalis River Basin Flood Damage Reduction Project

endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments will be used in the preparation of a Final Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the activity.

**COMMENT AND REVIEW PERIOD:** Comments on this public notice and Draft EIS will be made part of the record and will be considered by the Corps in determining whether authorizing the proposed work would be contrary to the public interest.

Comments may be submitted in the following ways:

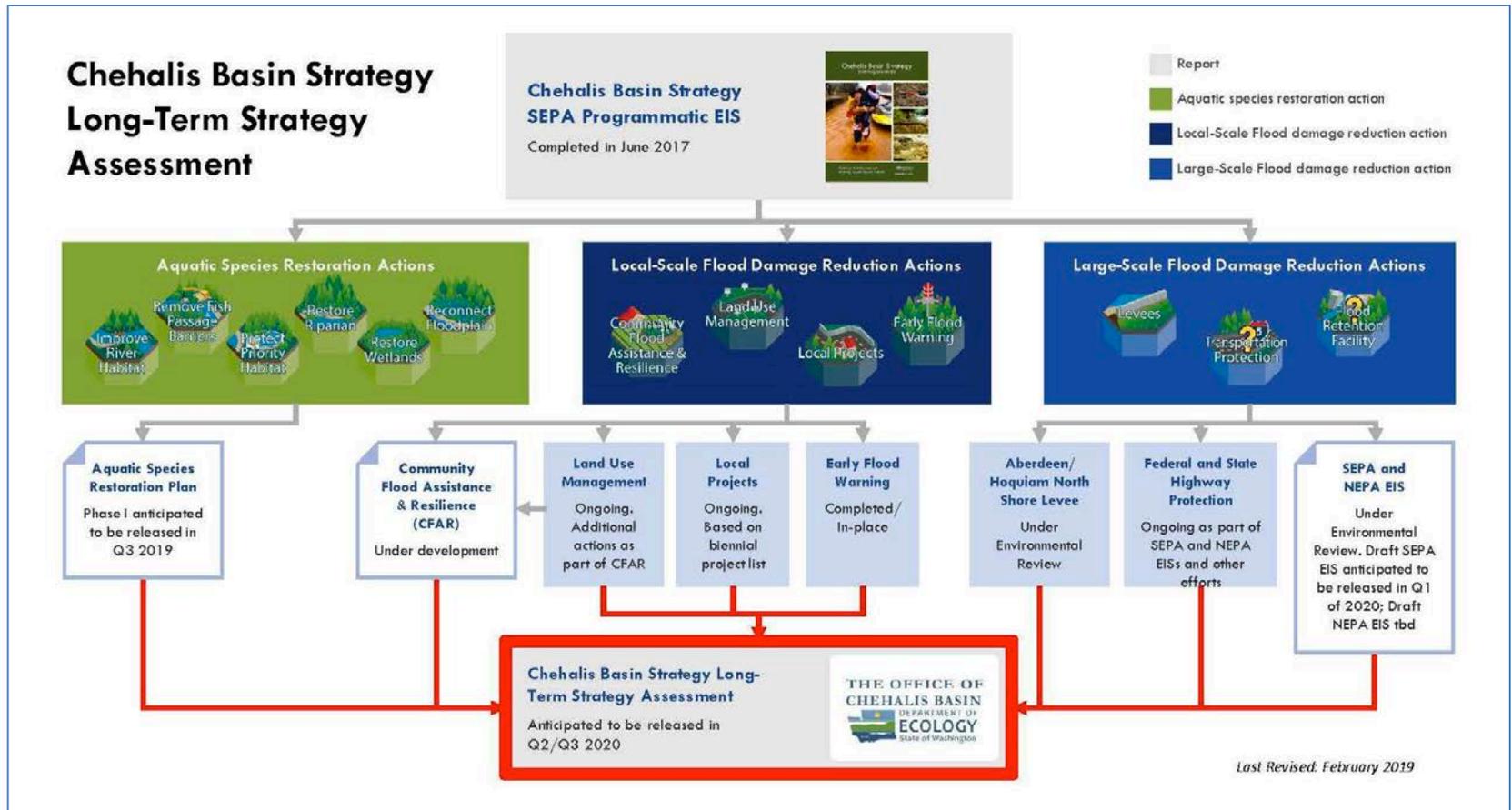
- In person during **two virtual public meetings**. Meeting dates and times are listed below, and will be held using the WebEx video conference software. WebEx meetings can be joined by following the meeting links or calling the associated phone number on the NEPA EIS webpage (<https://chehalisbasinstrategy.com/eis/nepa-process/>) at the identified time.
  - **October 8** from 6:00pm to 8:00pm
  - **October 14** from 4:00pm to 6:00pm
- Filling out an online comment form at the NEPA EIS webpage above
- Emailing comments to [Chehalis@usace.army.mil](mailto:Chehalis@usace.army.mil)
- Leaving a voicemail message at: (206) 709-6928
- By conventional mail to:
  - Chehalis River Basin Flood Damage Reduction Project
  - c/o Anchor QEA
  - 6720 South Macadam Street, Suite 125
  - Portland, Oregon 97219

Comments must include the permit applicant's name and reference number, as shown below. All comments received will become part of the administrative record and are subject to public release under the Freedom of Information Act including any personally identifiable information such as names, phone numbers, and addresses. All comments must be received no later than the expiration date of this public notice to ensure consideration. Please include the following name and reference number:

Chehalis River Basin Flood Control Zone District (NWS-2014-1118)

Encl: Figures (22)

# What's Next – Long-Term Strategy



<https://www.ezview.wa.gov/DesktopModules/Documents2/View.aspx?tabID=37068&alias=1962&mid=70197&ItemID=8343>

# What's Next – 2021-23 Local Projects Solicitation

## C. Further Information Verification/Clarification Needs (by mid-October)

Initial Rank	Sponsor	Project	Initial Cost	Revised Cost	Further Information
1	Grays Harbor County	Lower Satsop Restoration & Protection Program – Phase II (Habitat Connectivity and Reach-Scale Aquatic, Riparian and Floodplain Restoration)	\$1,416,829	\$1,561,405	<ul style="list-style-type: none"> <li>Verify means/method for ensuring post-construction monitoring (e.g., invasives, plantings, geomorphic changes).</li> </ul>
2	Aberdeen	Fry Creek Restoration & Flood Reduction Phase IIIa: Sumner and Simpson Avenues Pre- Design Planning & Alternatives Analysis	\$145,000		<ul style="list-style-type: none"> <li>Verify cost/budget.</li> </ul>
3	Cosmopolis	Mill Creek Multi-Objective Implementation Plan: Channel and Culvert Improvements for Flood Reduction and Fish Passage/Habitat Restoration	\$184,234	\$145,000	<ul style="list-style-type: none"> <li>Coordinate with WDFW regarding <a href="#">Chehalis Fish Passage Barrier Prioritization</a>.</li> <li>Coordinate with Aberdeen regarding Farragut Pump Station.</li> </ul>
4	Hoquiam	Hoquiam 10th Street Pump Station	\$2,500,000		<ul style="list-style-type: none"> <li>Verify cost/budget.</li> </ul>
5	Aberdeen	Farragut Street Pump Station Rebuild	\$2,600,000		<ul style="list-style-type: none"> <li>Verify stand-alone benefit.</li> </ul>
6	Hoquiam	Hoquiam Queen Ave Pump Station	\$1,800,000		<ul style="list-style-type: none"> <li>Provide more detail on pump outfall, discharge, and impact avoidance/mitigation.</li> </ul>
7	LCFCZD#1	Chehalis Industrial Park Stormwater Management Project	\$1,569,000	\$1,569,000	<ul style="list-style-type: none"> <li>Verify Capital Budget eligibility (maintenance??).</li> <li>Provide more detail on fish impact avoidance/mitigation.</li> </ul>
8	Lewis County	Boistfort Road Infrastructure Vulnerability Assessment	\$50,000		<ul style="list-style-type: none"> <li>Provide more detail on availability of existing information, problem documentation.</li> </ul>
Construction -->			\$9,885,829		
Plan/Study/Design -->			\$379,234		
Total -->			\$10,265,063		

2021-23 Local Projects Recruitment Process

Date: 9-16-2020

The Chehalis River Basin Flood Authority is pleased to initiate a call for 2021-23 local projects. The following website provides access to downloadable versions of the 2021-23 recruitment form as well a schedule of key dates and further contact information. This website will be updated in the weeks and months ahead as the local project review/consideration process proceeds. Updates to this website will be communicated via the Flood Authority's master distribution list. Please periodically check-back as well. Lastly, as questions are raised through the local review/consideration process answers to those questions will be posted here for all to see.

**I. Recruitment Form (Part I):**

Download Microsoft Word version of 2021-23 local projects recruitment form --> Click [here](#).  
 Download Adobe PDF version of 2021-23 local projects recruitment form --> Click [here](#).

**II. Background (Part II):**

2021-23 Local Projects Recruitment Process, Schedule --> Click [here](#).

**III. Recruitment Schedule -- Significant Key Dates:**

May 14, 2020	Flood Authority posts/distributes FINAL 2021-23 local project recruitment request.
July 8, 2020	Project sponsors submit proposals no later than 5:00 p.m., Wednesday, July 8, 2020 to Scott Boettcher, <a href="mailto:scottb@sbggh-partners.com">scottb@sbggh-partners.com</a> .
July 16, 2020	Flood Authority reviews/discusses local project proposals received and future local project needs.
August 6, 2020	Chehalis Basin Board reviews/discusses local project proposals received and future local project needs.
September 17, 2020	Flood Authority discusses update on local projects review process.
November 19, 2020	Flood Authority approves ranked, prioritized funding recommendation to Chehalis Basin Board.
December 3, 2020	Chehalis Basin Board approves ranked, prioritized funding recommendation to Governor.

# For Further Information . . .

**Vickie Raines, *Grays Harbor County Representative***

*Chair*, Chehalis River Basin Flood Authority

*Chair*, Chehalis Basin Board

360/249-3731

[vraines@co.grays-harbor.wa.us](mailto:vraines@co.grays-harbor.wa.us)

**Edna Fund, *Lewis County Representative***

*Vice-Chair*, Chehalis River Basin Flood Authority

*Member*, Chehalis Basin Board

360/740-1283

[Edna.Fund@lewiscountywa.gov](mailto:Edna.Fund@lewiscountywa.gov)

**Scott Boettcher**

*Staff*, Chehalis River Basin Flood Authority

360/480-6600

[scottb@sbgh-partners.com](mailto:scottb@sbgh-partners.com)

**Chrissy Bailey**

*Staff*, Office of Chehalis Basin

360/407-6781

[chrb461@ECY.WA.GOV](mailto:chrb461@ECY.WA.GOV)

# Key Links . . .

## **Key Organizations:**

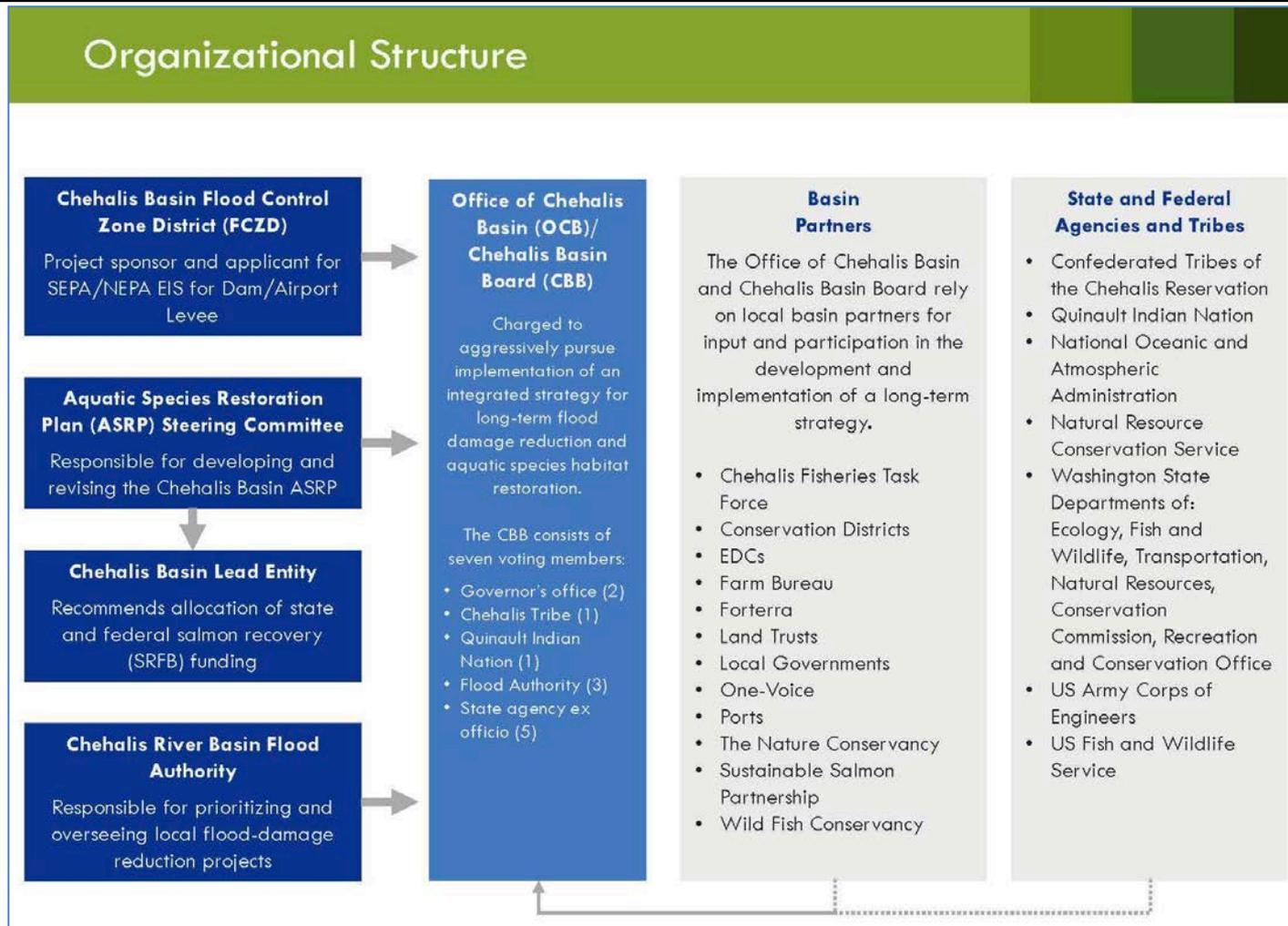
1. Chehalis River Basin Flood Authority -- [www.ezview.wa.gov/chehalisfloodauthority](http://www.ezview.wa.gov/chehalisfloodauthority)
2. Office of Chehalis Basin -- <https://ecology.wa.gov/About-us/Get-to-know-us/Our-Programs/Office-of-Chehalis-Basin>
3. Chehalis Basin Board -- [https://www.ezview.wa.gov/site/alias\\_1962/37068/chehalis\\_basin\\_board.aspx](https://www.ezview.wa.gov/site/alias_1962/37068/chehalis_basin_board.aspx)
4. Chehalis River Basin Flood Control Zone District -- <https://www.chehalisriverbasinfczd.com/>
5. Chehalis Basin Lead Entity -- <http://www.chehalisleadentity.org/>

## **Key Activity Areas:**

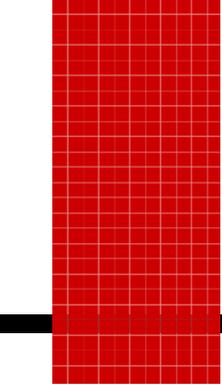
1. Flood Warning System -- [www.chehalisriverflood.com](http://www.chehalisriverflood.com)
2. Local Projects -- [https://www.ezview.wa.gov/site/alias\\_1492/34489/local\\_projects.aspx](https://www.ezview.wa.gov/site/alias_1492/34489/local_projects.aspx)
3. EIS -- <https://ecology.wa.gov/About-us/Get-to-know-us/Our-Programs/Office-of-Chehalis-Basin/EIS>
4. Long-Term Strategy --  
<https://www.ezview.wa.gov/DesktopModules/Documents2/View.aspx?tabID=37068&alias=1962&mid=70197&ItemID=8343>
5. Chehalis Basin Strategy -- [www.chehalisbasinstrategy.com](http://www.chehalisbasinstrategy.com)
6. ASRP -- <http://chehalisbasinstrategy.com/asrp/>
7. Flood Retention Facility (operation) --  
[https://www.dropbox.com/s/cn1kmoj3ftw06ag/Chehalis\\_Final\\_09.30.2019.mp4?dl=0](https://www.dropbox.com/s/cn1kmoj3ftw06ag/Chehalis_Final_09.30.2019.mp4?dl=0) (visualization)

**Also** → Sign-Up for Email Gage Alerts -- [https://www.ezview.wa.gov/Portals/\\_1492/images/2019-20%20Flood%20Warning%20System%20Gage%20Alerts%2010-15-2019.pdf](https://www.ezview.wa.gov/Portals/_1492/images/2019-20%20Flood%20Warning%20System%20Gage%20Alerts%2010-15-2019.pdf)

# Key Organizations . . .



September 2020



Thank You . . .

---

# Thank You!

**Note:**

This Presentation is Available at  
“Chehalis River Basin Flood Authority” Website  
at [www.ezview.wa.gov/chehalisfloodauthority](http://www.ezview.wa.gov/chehalisfloodauthority).

## **Email Distribution Lists**

**Pat Anderson (Flood Authority)**

[Pat.Anderson@lewiscountywa.gov](mailto:Pat.Anderson@lewiscountywa.gov)

**Cindy Bradley (Office of Chehalis Basin)**

[Cindy.Bradley@ecy.wa.gov](mailto:Cindy.Bradley@ecy.wa.gov)