

# Chehalis River Basin Flood Authority

*Reducing Flood Damage and  
Restoring Aquatic Species*

1:00 p.m. (Bucoda)

3:00 p.m. (Cosmopolis)

February 13, 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 →

February 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**

- |   |  |   |
|---|--|---|
| <ul style="list-style-type: none"><li>▶ Grays Harbor County<ul style="list-style-type: none"><li>○ City of Aberdeen</li><li>○ City of Cosmopolis</li><li>○ City of Hoquiam</li><li>○ City of Montesano</li><li>○ City of Oakville</li></ul></li></ul> | <ul style="list-style-type: none"><li>▶ Lewis County<ul style="list-style-type: none"><li>○ City of Centralia</li><li>○ City of Chehalis</li><li>○ City of Napavine</li><li>○ Town of Pe Ell</li></ul></li></ul> | <ul style="list-style-type: none"><li>▶ Thurston County<ul style="list-style-type: none"><li>○ Town of Bucoda</li></ul></li></ul> |
|---|--|---|

# "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  
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## 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](#), and [Quinault Indian Nation](#), 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](#).

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	Quinault 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@scc.wa.gov">strefry@scc.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.

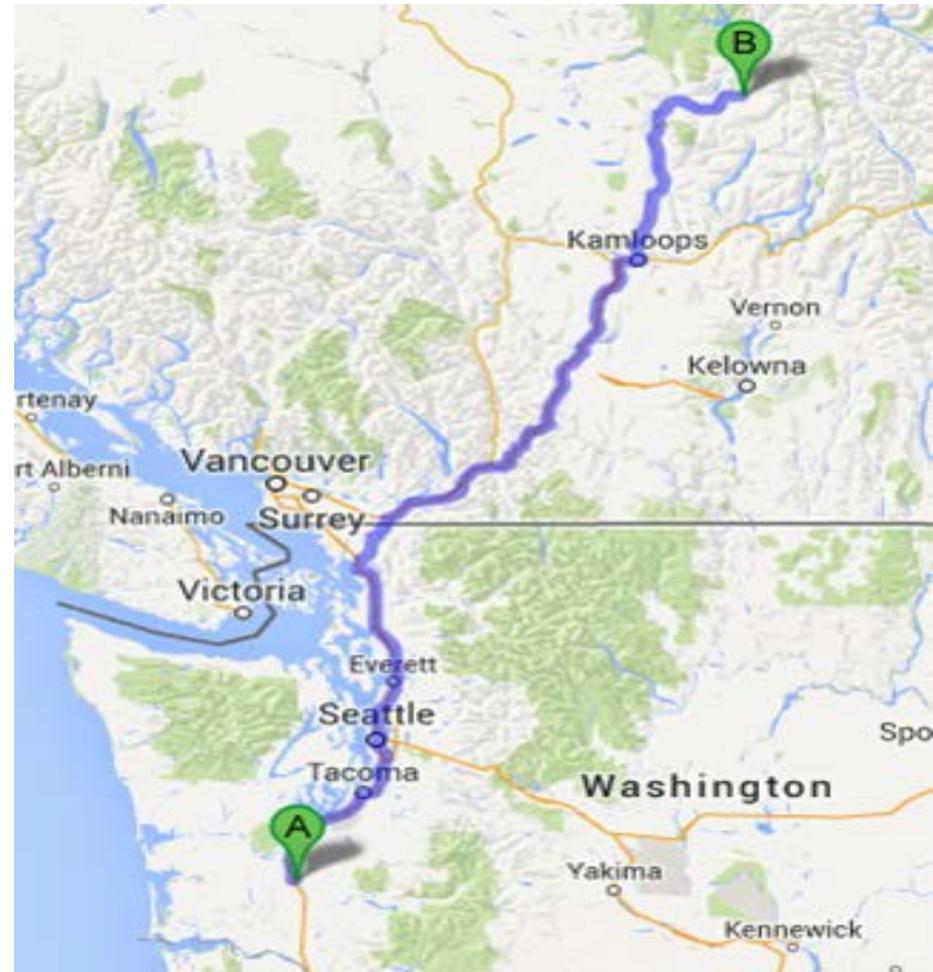


**City of Centralia and I-5**  
STEVE RINGMAN /  
SEATTLE TIMES

February 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.

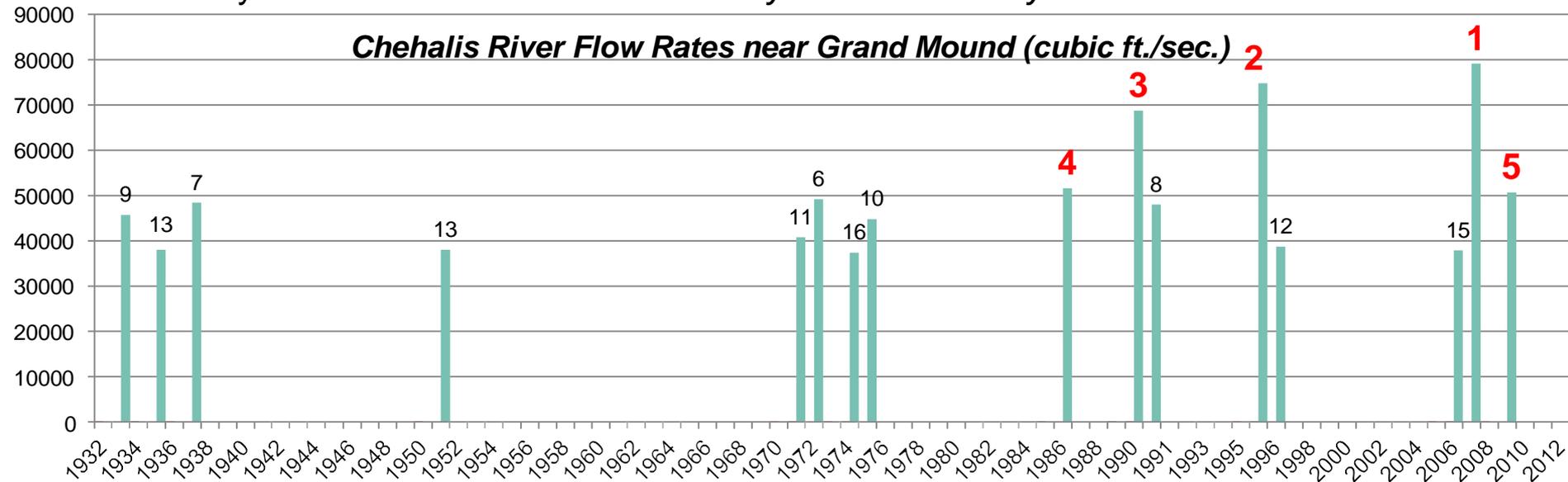


# Background . . .

## ■ 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
Chinook Coho Chin Steelhead Bull trout Cutthroat	<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>	Chinook Coho Chin Steelhead Bull trout Cutthroat

[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](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, public facilities, roads, and bridges. Each of the worst floods struck in the days of a large charge outside 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 steps are not 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 both natural and human-caused factors. The Chehalis Basin supports the smallest salmon population of any major river in the Pacific Northwest. It is the most over-logged, most degraded, and most polluted of the 150,000 miles of river habitat in the Pacific Northwest. The Chehalis Basin's salmon populations are estimated to be 10% 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 salmon and other aquatic species in the Chehalis Basin.

**Changing the History of Inaction.** For a long time, there has been a failure to meaningfully address the real problems of our watersheds and riparian habitat. Despite the significant economic and cultural values of the Chehalis Basin, Chehalis Basin's natural resources to address flood damage have been neglected, with no real change in action. The Chehalis Basin Basin Flood Action Plan is a catalyst for a number of such changes to reduce flood damage and restore aquatic species.

7/2/2015

Implementing a Comprehensive, Integrated Approach for Fish and Floods. An extensive evaluation of the potential natural, technical, financial, and social barriers to flood damage reduction, fish and wildlife restoration, and salmon population recovery. The Chehalis Basin Flood Action Plan Work Group (WAG) has supported Governor Brown, state agencies, and the Chehalis Basin Basin Flood Action Plan (BAP) to develop a strategy to reduce flood damage and restore aquatic species. These recommendations include:

- A concrete flood retention dam on the upper Chehalis River, paired with investments to the Chehalis Central Mainstem Restoration.
- Restoration of over 200 miles of Spring Chinook spawning and rearing habitat, removal of priority fish passage barriers, restoration of 100 miles of riparian habitat, and a comprehensive strategy to address riparian habitat.
- Investments in high-priority, low-cost flood damage reduction projects, with a replicable approach to be used statewide.
- Local government land use management actions to protect existing floodplain functions, 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 WAG, Governor Brown's office, 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 Basin Flood Action Plan (BAP). The WAG will continue to support the BAP. The implementation will include the job that is to be done, social, and economic impacts associated with the recommended package of flood damage reduction and aquatic species restoration actions as well as a "roadmap" for the Basin.

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

- October 2015: public meeting and formal public comment period on the draft BAP document
- August 2016: public meeting and formal public comment period on the draft BAP document
- November 2016: public meeting and formal public comment period on the draft BAP document

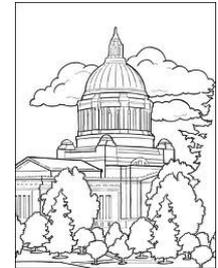
The development of a programmatic BAP is a process for all agencies, stakeholders, and other interested parties with a formal and informal forum in which to evaluate the interests to meet flood damage reduction and restoration goals in the Basin. The WAG will continue to support the BAP. The implementation will include the job that is to be done, social, and economic impacts associated with the recommended package of flood damage reduction and aquatic species restoration actions as well as a "roadmap" for the Basin.



*We are happy to answer questions or provide further information about the work in the Chehalis Basin. We can be reached through Facebook's Ask a Question at (206) 844-2245 or @wrcwr.com/askaguestquestion.*

7/2/2015

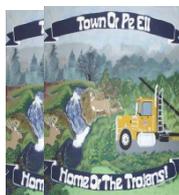
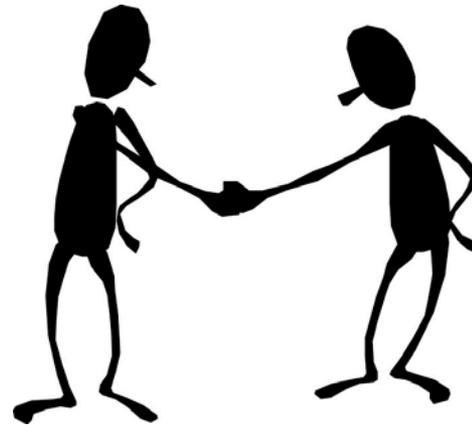
# 1. Basin-Wide Relationships



TOWN of BUCODA



WASHINGTON STATE  
CONSERVATION  
COMMISSION



WASHINGTON STATE DEPARTMENT OF  
**Natural Resources**

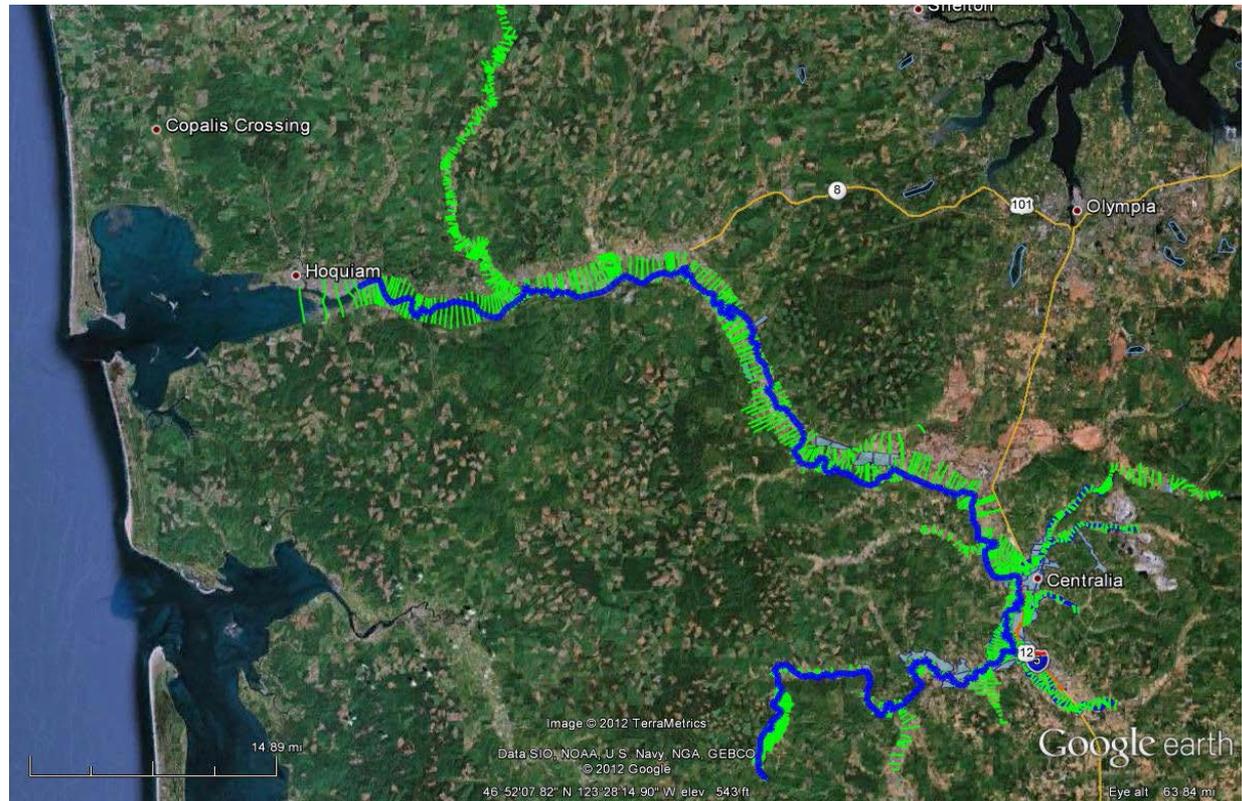


Office of Financial Management

Better information. Better decisions. Better government.

## 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).



February 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%2014%2014.pdf](https://www.ezview.wa.gov/Portals/_1492/images/Pe%20Ell%20Meeting%2010%2014%2014.pdf).)

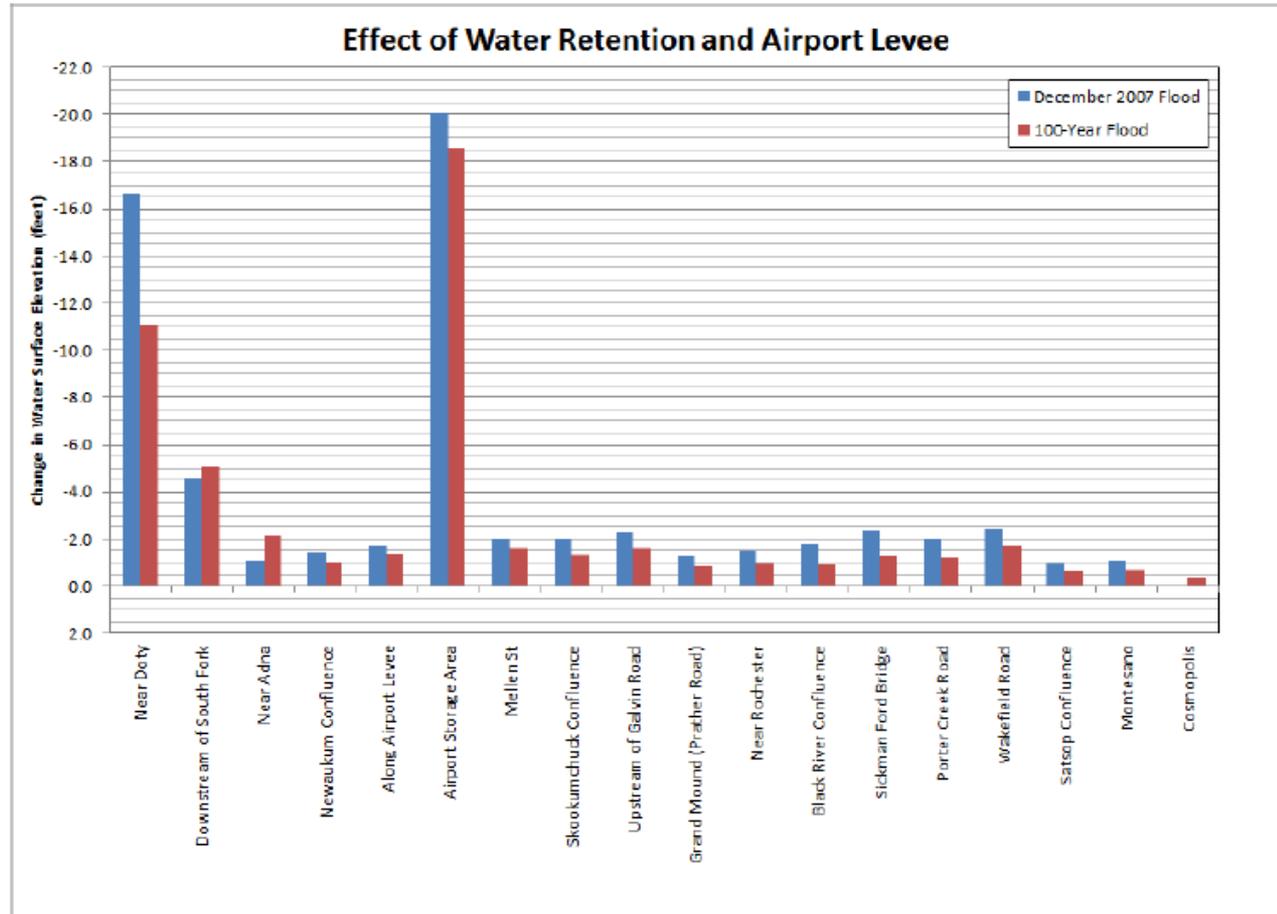


Figure 2: Predicted Changes in Water Surface Elevations from Water Retention and Airport Levee

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.



CHEHALIS BASIN STRATEGY

Governor's Chehalis Basin  
Work Group

2014 Recommendation Report

Final November 25, 2014



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.



**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

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)	9.30
Livestock Protected (\$7.95M)	7.95
Equipment Protected (\$1.35M)	1.35
SSS Expended (\$645K)	0.645

**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

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

**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@sbgh-partners.com

# 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



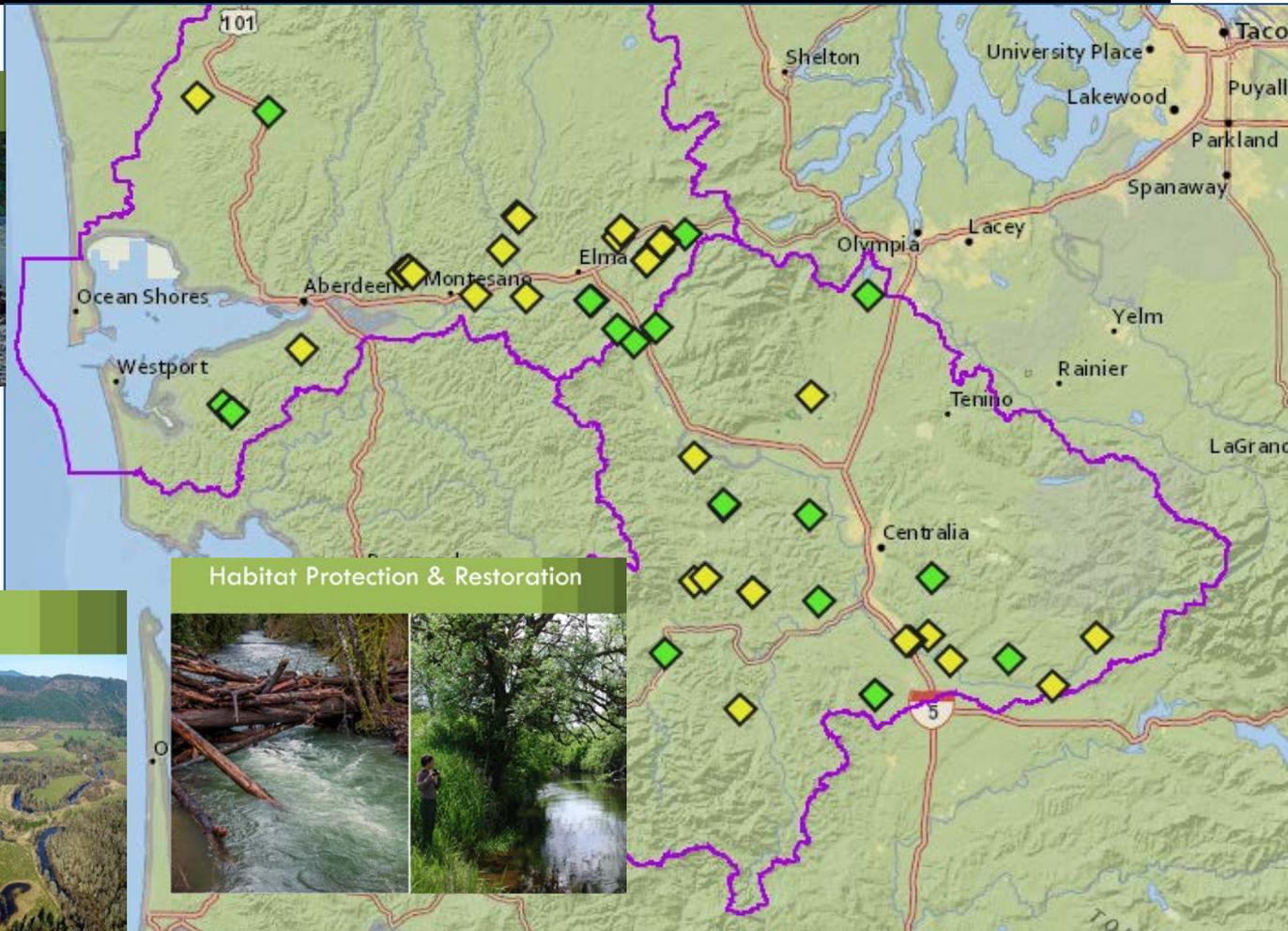
Results so far (2019) . . .

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

## Uplands & Floodplains



## Habitat Protection & Restoration



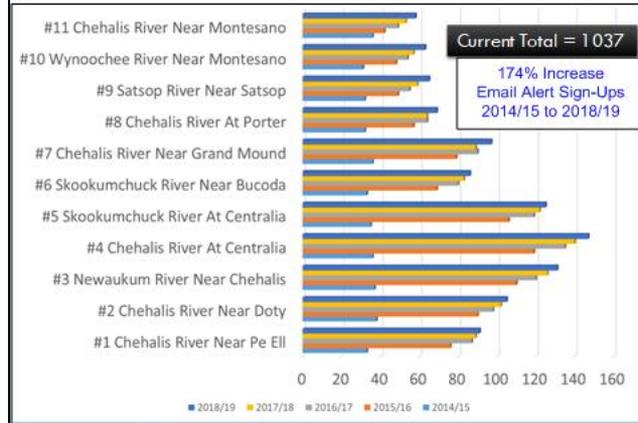
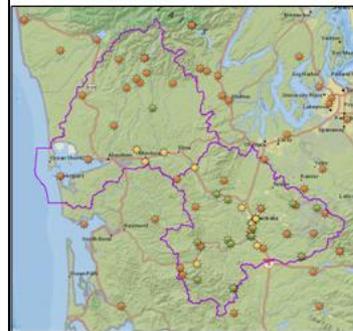
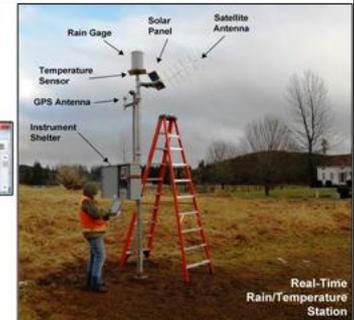
# 7. Restore Salmon and Aquatic Species

## 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

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

CHEHALIS RIVER BASIN FLOOD AUTHORITY

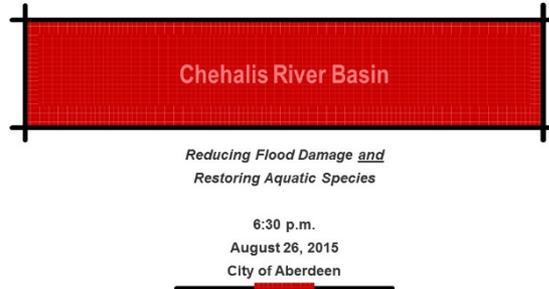
Contact: Scott Boettcher, Staff, Chehalis River Basin Flood Authority; 360/480-6600; scottb@sbg-hpartners.com 23 10/17/2019

# 9. Outreach, Education and Communication

## Website



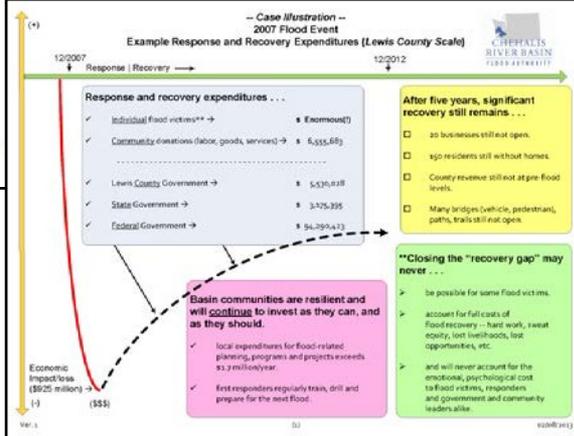
## Outreach Visits



## Project Signs



## Informational Analyses



## Chehalis Basin Flood Stories

### Chehalis Basin Flood Stories

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



# 9. Outreach, Education and Communication

Washington State Department of Ecology  
<https://ecology.wa.gov/About-us/Get-to-know-us/Our-Programs/Office-of-Chehalis-Basin>

DEPARTMENT OF ECOLOGY  
 State of Washington

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

About us > Get to know us > Our programs > Office of Chehalis Basin

## Office of Chehalis Basin

Building on the success of the earlier Chehalis Basin Work Group, the 2016 Washington Legislature created a new Office of Chehalis Basin within Ecology to administer legislative funding to implement the Chehalis Basin Strategy. In April 2018, Director Maia Bellon selected **Andrea McNamara Doyle** to lead our newest office.

When the Legislature formed the Office of Chehalis Basin, lawmakers 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.

The seven-member board typically meets the third Thursday of every month. Members represent the Chehalis River Basin Flood Authority, Confederated Tribes of the Chehalis Reservation, and Quinault Indian Nation, as well as agricultural, environmental, and economic interests in the basin. There are also five non-voting Board members representing various state agencies. Meeting agendas and materials as well as Board members and their contact information is available on the [Chehalis Basin Board's EZ View website](#).

[www.chehalisbasinstrategy.com](http://www.chehalisbasinstrategy.com)

## Chehalis Basin Strategy

Reducing Flood Damage and Restoring Aquatic Species

HOME | STRATEGY | ENVIRONMENTAL REVIEW | GET INVOLVED | CURRENT ACTIONS | RESOURCES

Watch this short presentation on the Chehalis Basin Strategy

Draft EIS Available for Review  
 To submit comments on the EIS, click here

Chehalis Basin Strategy  
 Challenges and Opportunities

0:00 / 3:58

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

CHEHALIS RIVER BASIN FLOOD AUTHORITY

Project: Chehalis River Basin Flood Authority  
 UPT#: 1492

Search Documents | Message

Home | Local Projects | Meetings | Capital Budget 2013-15 | Outreach & Education | Gages & Stations | Documents | Contacts | Library | FAQs

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

THE CHEHALIS BASIN STRATEGY  
 Reducing Flood Damage and Enhancing Aquatic Species  
 (Click icon for 2014 strategy)

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

**Current Flood Forecast**  
 (Click icon for current river forecast)

CHEHALIS RIVER BASIN FLOOD AUTHORITY

CRBFA Governing Documents

[www.chehalisriverflood.com](http://www.chehalisriverflood.com)

Home | Information

Flood inundation maps for the Nooksack River near Chehalis are now available.  
 Chehalis - 02/07/2019 @ 09:31:29  
 Click on the Flood Maps Area to see new flood inundation maps for the Centralia, Chehalis, Orly, and Buxton areas. Maps for Grand Mound and Puyallup will be available soon.

Links

- WWSU Interactive River Site Map
- WWSU Flood Authority Projects
- NWRI Chehalis River Basin Flood Authority Website
- NOAA NWRI Chehalis Flood
- Wash. Institute of Science, Report
- Sturgeon County, Alberta, Canada
- USGS Chehalis River Basin
- USGS Chehalis Basin

Weather Forecast | Baseline Forecast | River Forecast | Flood Maps | Open Data Location

Open Data Maps | Flood Authority News | Flood Conditions | USGS Gages | Help

# Closing – 2007 Flood Damage . . .



Chehalis  
River near  
Doty  
USGS

# Closing – 2007 Flood Damage . . .



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

February 2020

# Closing – 2007 Flood Damage . . .

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



February 2020

# Closing – 2007 Flood Damage . . .

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



February 2020

# Closing – 2007 Flood Damage . . .



February 2020

# Closing – 2007 Flood Damage . . .



February 2020

# Closing – 2007 Flood Damage . . .

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



February 2020

# Closing – 2007 Flood Damage . . .

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



February 2020

# Closing – 2007 Flood Damage . . .



February 2020

# Closing – 2007 Flood Damage . . .

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



February 2020

# Closing – 2007 Flood Damage . . .



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

# Closing – 2007 Flood Damage . . .



**Photos Source:**  
WSDOT

February 2020

# Closing – 2007 Flood Damage . . .



February 2020

# Closing – 2007 Flood Damage . . .



# Closing – 2007 Flood Damage . . .



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

# What's Next – Floodplain Regulations

Administering Floodplain Regulations workshop | May 2020

BC Bailey, Chrissy (ECY) <chr461@ECY.WA.GOV>

To gconnelly@chehalisriversystem.org; dtery@chehalisriversystem.org; Dave Bingaman; Vickie Raines; MSigler@co.grays-harbor.wa.us; ashawyer@co.grays-harbor.wa.us; dshaw@aberdeenwa.gov; Wed 2/12/2020 2:37 PM  
Kris Koski; manglesey@aberdeenwa.gov; rsander@aberdeenwa.gov; lscott@aberdeenwa.gov; bsidor@aberdeenwa.gov; Raines, Darrin; kpauley@cosmopolis.wa.gov; +23 others  
Cc Scott Boettcher; Rosen, Alex (ECY); French Wetmore; Jerry Louthain

Reply by Friday, February 21, 2020 12:00 PM.

Good afternoon,

The Office of Chehalis Basin is sponsoring a workshop in the first week of May, 2020, on Administering Floodplain Regulations. As many of you are aware, a Community Flood Assistance and Resilience (CFAR) program is being developed as part of the Chehalis Basin Strategy, and an element of this program is technical assistance. The workshop will be held at a central location within the Chehalis Basin.

This workshop will be similar to one held in March 2017 in Elma. That workshop was a half day on regulatory standards and administration of flood hazard ordinances. The plan for the upcoming workshop is to have a similar morning session, plus an afternoon session on regulating reconstruction after a flood or other disaster. Your community is invited to send representatives to either or both sessions (no limit on the number of representatives). You have been included on this email because you are a representative or alternate on the Flood Authority, you attended the March 2017 meeting, or are on a contact list maintained by our consultant, French & Associates.

Based on the information above, please respond to this Doodle Poll to help us determine the best day during the first week of May: <https://doodle.com/poll/5xyabhdhywe69rq>. Please respond by the end of the day on February 21, 2020.

Meanwhile, you can help us by answering the following questions:

1. Are there any particular topics you would like to see emphasized at the May workshop?
2. If you attended the 2017 workshop in Elma, what were its strong points and what could use improvement? Did you get useful handouts? Were there topics that could have been skipped?

If you can help us with these questions or other thoughts, please send them via an e-mail reply to me. When we have the agenda, date, and location finalized, we'll send out an announcement and ask for RSVPs.

Thank you very much for your time, and we hope to see you in early May!

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)

February 2020

# What's Next – Draft EIS

Re: Important Upcoming Dates for the Draft State Environmental Review of the Proposed Chehalis River Basin Flood Damage Reduction Project - Message (Plain Text)

File Message Help Tell me what you want to do

Ignore Delete Archive Reply Reply All Forward More Move OneNote Mark Unread Categorize Follow Up Translate Related Select Read Aloud Zoom

Re: Important Upcoming Dates for the Draft State Environmental Review of the Proposed Chehalis River Basin Flood Damage Reduction Project

DB Diane Butorac <diane.butorac@ECY.WA.GOV>  
To CHEHALISSEPAEIS@LISTSERV.ECOLOGY.WA.GOV

Tue 2/4/2020 9:29 AM

Hello everyone,

Below is information about the release of the draft state Environmental Impact Statement (EIS) for the proposed Chehalis River Basin Flood Damage Reduction Project for planning purposes. It includes the dates of the extended public comment period and for two public hearings.

The draft EIS analyzes the likely impacts to the environment from the proposed Chehalis River Basin Flood Damage Reduction Project.

Beginning February 27, 2020, the draft state EIS will be available for public review and comment.

- o There will be multiple ways to provide your comments – online using a comment form, by mail, and at public hearings.
- o Detailed information on how to provide comments will be available on February 27th.
- o All comments (online, by mail, or at public hearings) will be considered equally.

The comment period has been extended and will be open for 61 days—from Thursday, February 27 through Monday, April 27, 2020.

Ecology plans to hold two public hearings with open houses:

- o March 31, 2020 at Centralia College.
- o April 2, 2020 at Montesano High School.
- o For both dates, the open house begins at 5:00 pm with a presentation at 5:30 pm about the draft EIS. Then public comments will be taken from 6:00 pm through 8:30 pm.

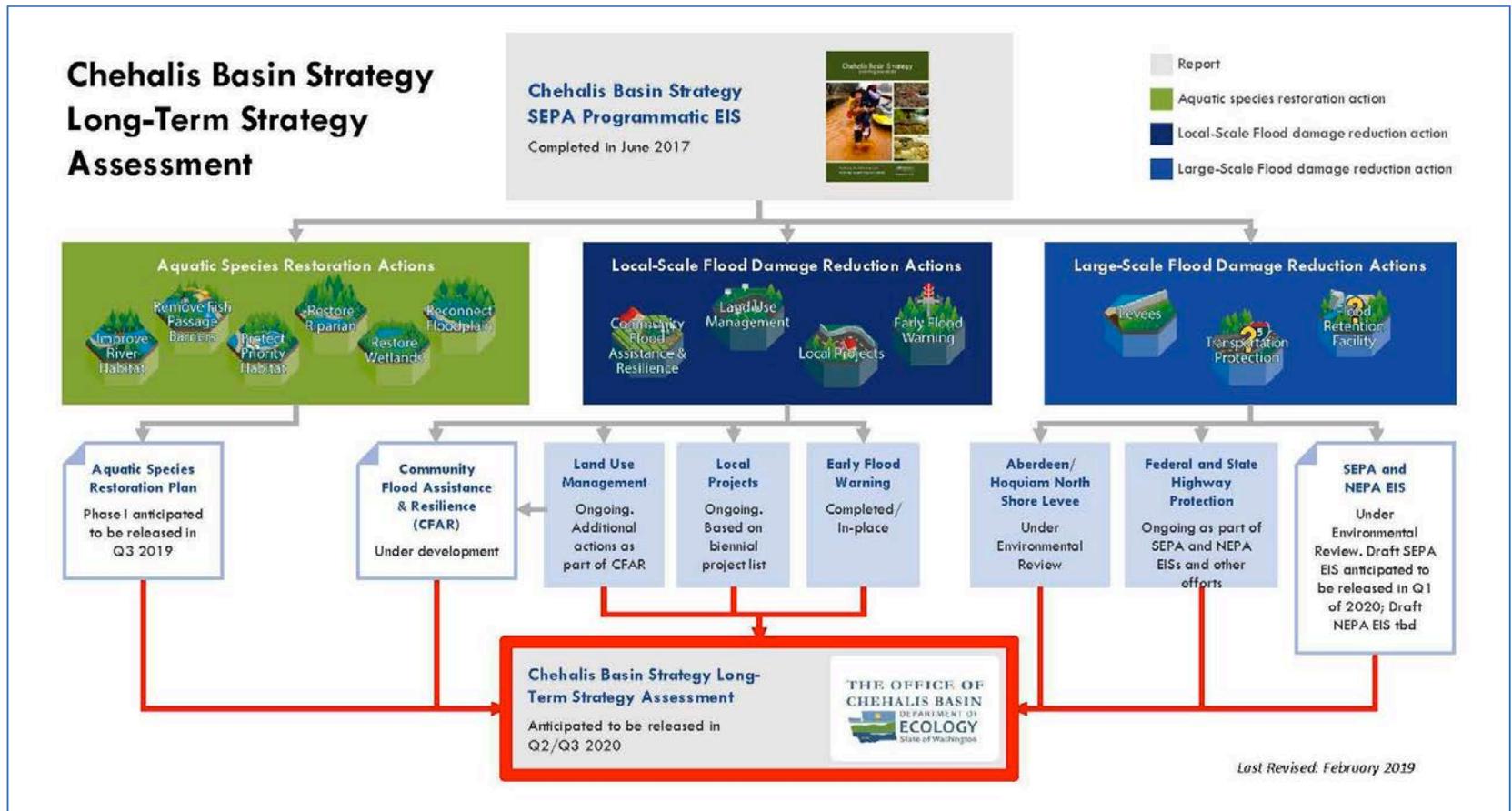
This information is also available on Ecology's webpage (<https://ecology.wa.gov/About-us/Get-to-know-us/Our-Programs/Office-of-Chehalis-Basin/EIS>) and the Chehalis Basin Strategy SEPA EIS webpage (<http://chehalisbasinstrategy.com/eis/sepa-process/>).

Thank you.

#####

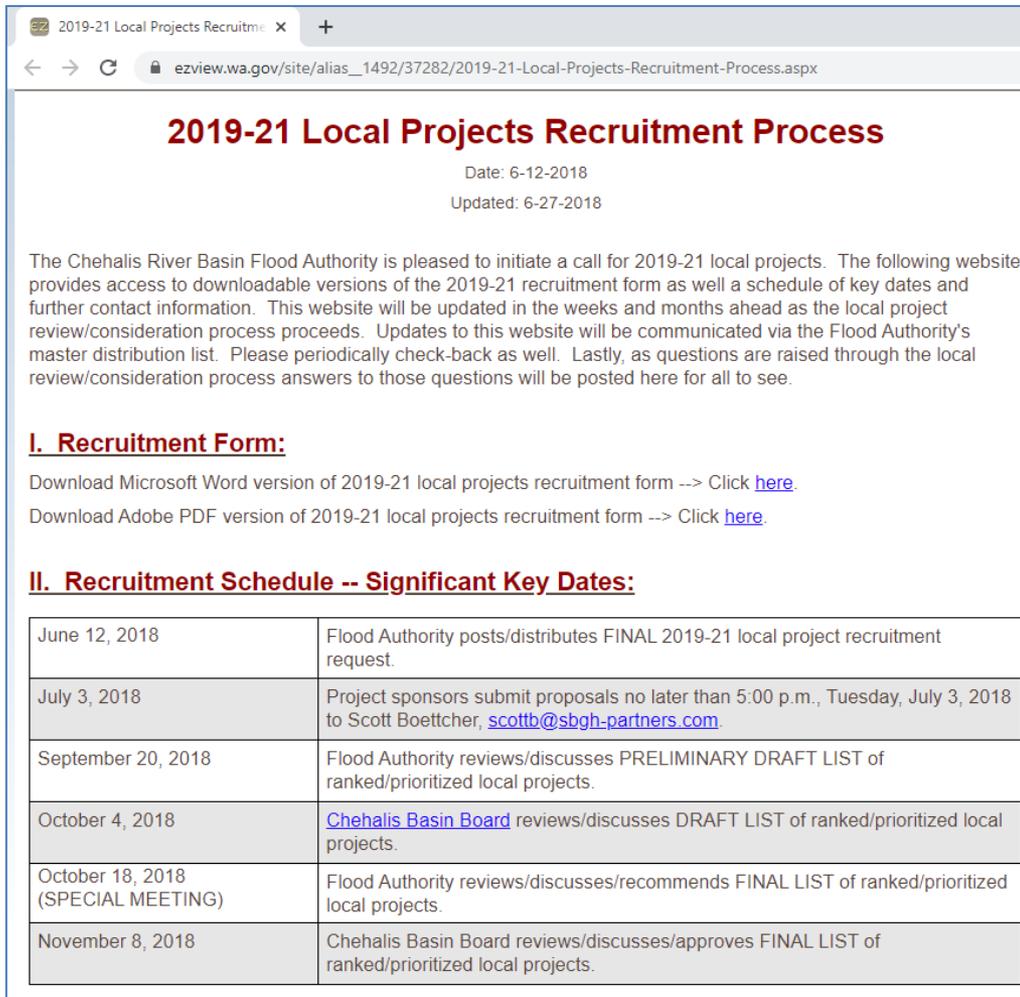
To unsubscribe from the CHEHALISSEPAEIS list, click the following link:  
<http://listserv.ecology.wa.gov/scripts/wa-ECOLOGY.exe?SUBED1=CHEHALISSEPAEIS&A=1>

# 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



2019-21 Local Projects Recruitment Process

Date: 6-12-2018  
Updated: 6-27-2018

The Chehalis River Basin Flood Authority is pleased to initiate a call for 2019-21 local projects. The following website provides access to downloadable versions of the 2019-21 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:**

Download Microsoft Word version of 2019-21 local projects recruitment form --> Click [here](#).  
Download Adobe PDF version of 2019-21 local projects recruitment form --> Click [here](#).

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

June 12, 2018	Flood Authority posts/distributes FINAL 2019-21 local project recruitment request.
July 3, 2018	Project sponsors submit proposals no later than 5:00 p.m., Tuesday, July 3, 2018 to Scott Boettcher, <a href="mailto:scottb@sbgh-partners.com">scottb@sbgh-partners.com</a> .
September 20, 2018	Flood Authority reviews/discusses PRELIMINARY DRAFT LIST of ranked/prioritized local projects.
October 4, 2018	<a href="#">Chehalis Basin Board</a> reviews/discusses DRAFT LIST of ranked/prioritized local projects.
October 18, 2018 (SPECIAL MEETING)	Flood Authority reviews/discusses/recommends FINAL LIST of ranked/prioritized local projects.
November 8, 2018	Chehalis Basin Board reviews/discusses/approves FINAL LIST of ranked/prioritized local projects.

[https://www.ezview.wa.gov/site/alias\\_1492/37282/2019-21-Local-Projects-Recruitment-Process.aspx](https://www.ezview.wa.gov/site/alias_1492/37282/2019-21-Local-Projects-Recruitment-Process.aspx)

# 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:**

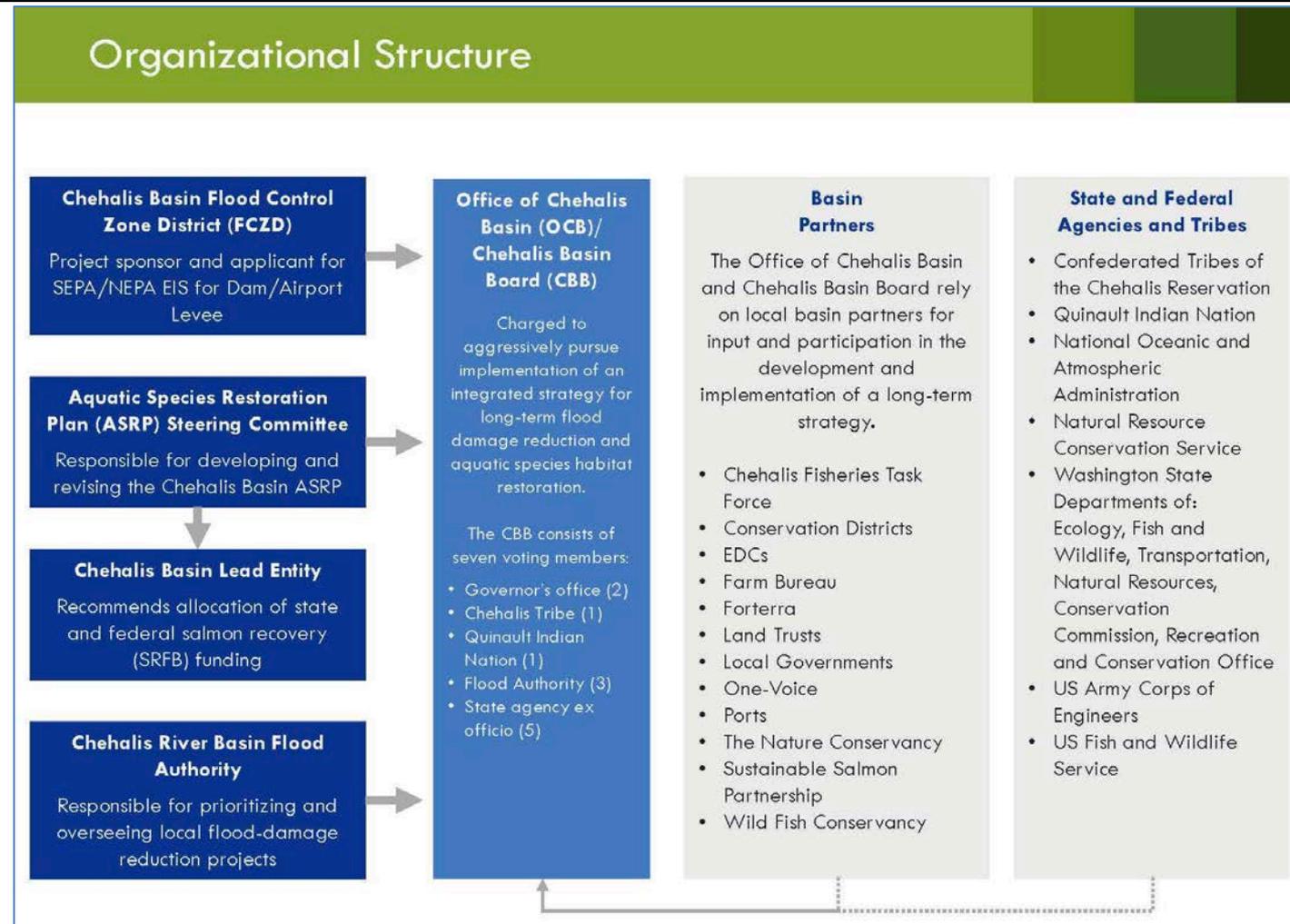
1. Chehalis River Basin Flood Authority -- [www.ezview.wa.gov/chehalisfloodauthority](http://www.ezview.wa.gov/chehalisfloodauthority)
2. Office of Chehalis Basin -- <https://ecology.wa.gov/About-us/Get-to-know-us/Our-Programs/Office-of-Chehalis-Basin>
3. Chehalis Basin Board -- [https://www.ezview.wa.gov/site/alias\\_1962/37068/chehalis\\_basin\\_board.aspx](https://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:**

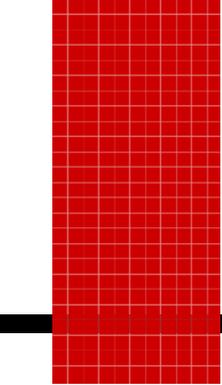
1. Flood Warning System -- [www.chehalisriverflood.com](http://www.chehalisriverflood.com)
2. Local Projects -- [https://www.ezview.wa.gov/site/alias\\_1492/34489/local\\_projects.aspx](https://www.ezview.wa.gov/site/alias_1492/34489/local_projects.aspx)
3. EIS -- <https://ecology.wa.gov/About-us/Get-to-know-us/Our-Programs/Office-of-Chehalis-Basin/EIS>
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/cnlkmoj3ftw06ag/Chehalis\\_Final\\_09.30.2019.mp4?dl=0](https://www.dropbox.com/s/cnlkmoj3ftw06ag/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 . . .



February 2020



Thank You . . .

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# 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)