

Chehalis River Basin Flood Authority

*Reducing Flood Damage and
Restoring Aquatic Species*

Town of Pe Ell
November 19, 2024

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

2 of 24



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



Today's Presentation



**CHEHALIS
RIVER BASIN**
FLOOD CONTROL
ZONE DISTRICT



Office of
Chehalis Basin

Chehalis Basin
Board

<https://chehalisbasinstrategy.com/>

Chehalis River Basin Flood Authority

- **Formed** in 2008
- **Focused on** flood hazard mitigation
- **Decision-making**
 - ❑ informed by science
 - ❑ protective of Basin residents/communities
 - ❑ environmentally appropriate
- **Jurisdictions** represented (see [inter-local agreement](#))
 - Grays Harbor County (2008)
 - City of Aberdeen (2008)
 - City of Cosmopolis (2011)
 - City of Hoquiam (2017)
 - City of Montesano (2008)
 - City of Oakville (2008)
 - Lewis County (2008)
 - City of Centralia (2008)
 - City of Chehalis (2008)
 - City of Napavine (2011)
 - Town of Pe Ell (2008)



- Thurston County (2008)
 - Town of Bucoda (2008)

***Help local communities identify, develop, implement
local flood hazard reduction solutions.***

Local Projects (#1)

1. Reduce flood damage.
2. Protect people, property, infrastructure.
3. Improve readiness, response, resiliency.
 - *Drinking Water* (Boistfort, Bucoda).
 - *Wastewater* (Montesano, Pe Ell).
 - *Emergency Response* (Grays Harbor County, Chehalis-Centralia Airport).
 - *Regional Economic Infrastructure* (Montesano, Port of Chehalis, Port of Grays Harbor).
 - *Community Protection* (Aberdeen, Adna, Bucoda, Centralia, Chehalis, Chehalis Tribe, Hoquiam, Oakville).
 - *Flood Warning* (Basin-wide).

State Capital Budget:

2012-13 -- \$ 5.0M

2013-15 -- \$10.7M

2015-17 -- \$15.7M

2017-19 -- \$ 9.6M

2019-21 -- \$ 6.3M

2021-23 -- \$ 4.1M

2023-25 -- \$ 3.6M

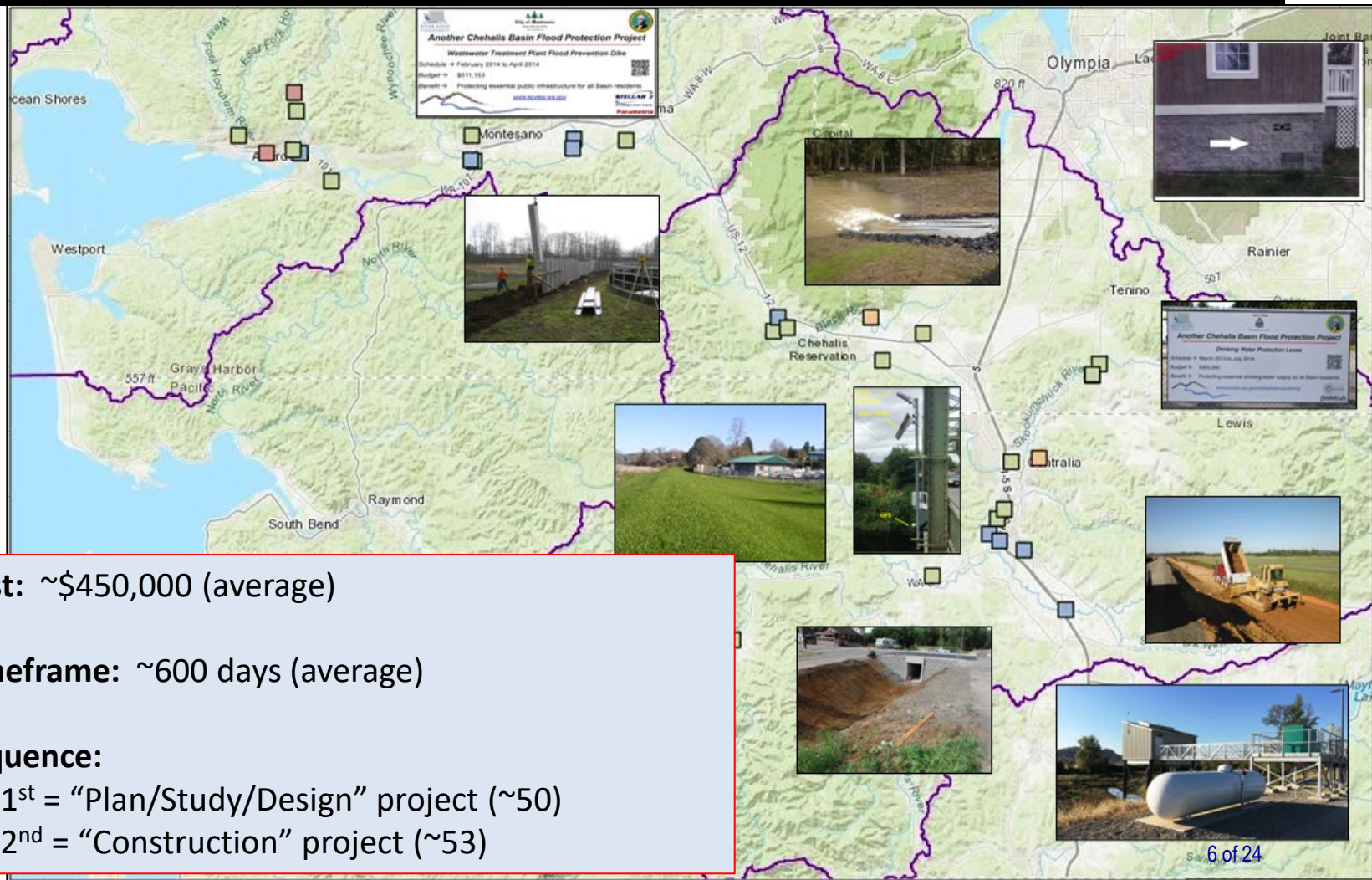
\$55.0M

2025-27 -- \$ 3.0M

to

\$13.0M

Local Projects (100+ Projects Completed 2012-23)

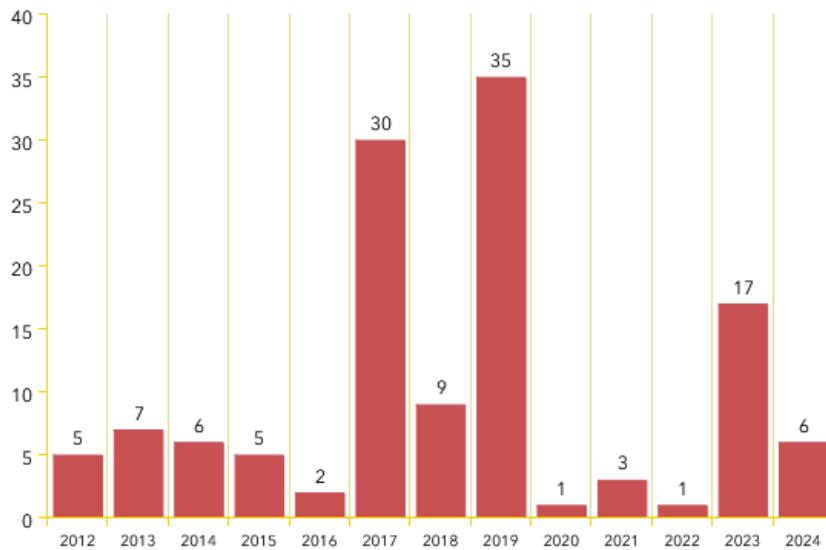


Local Projects (100+ Projects Completed 2012-23)

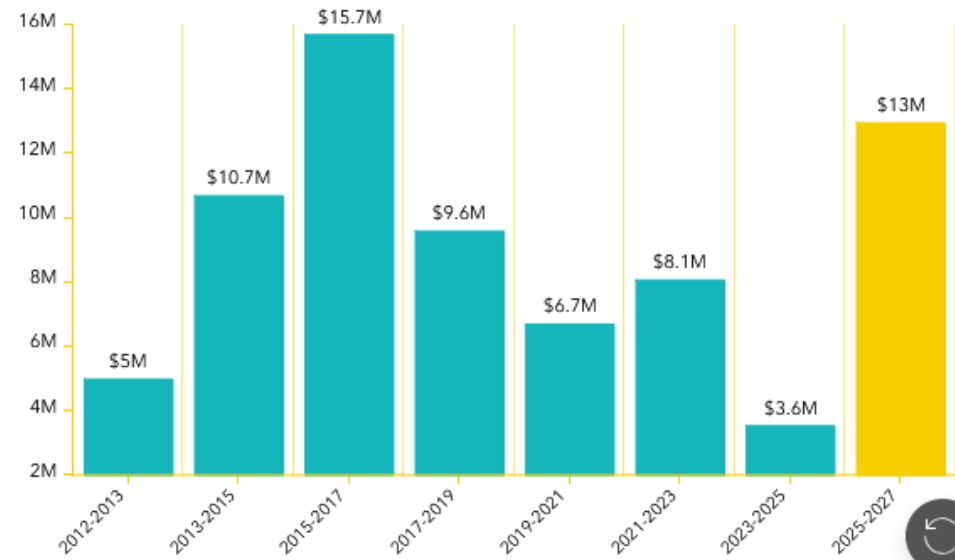


Local Projects (100+ Projects Completed 2012-23)

Projects Completed by Year



Funding by Biennium (Two-Year Periods)



Local Projects (Pe Ell, 2014)



- ✓ Project = Design/construct 900' dike (between Chehalis r. and WWTP).
- ✓ Cost = \$521,000.
- ✓ Photos = https://www.ezview.wa.gov/site/alias_1492/35040/default.aspx#peell.
- ✓ Website = https://www.ezview.wa.gov/site/alias_1782/34858/overview.aspx

Local Projects (Montesano, 2017-2020)

- ✓ Protect WWTP from on-coming Wynoochee river using 220+ “log-jacks.”
- ✓ \$2 million (for “log-jacks”).
- ✓ Small cost compared to WWTP relocation and environmental cleanup (in event of WWTP breaching).

Project End



<https://www.google.com/maps/@46.9678637,-123.6077821,197m/data=!3m1!1e3>



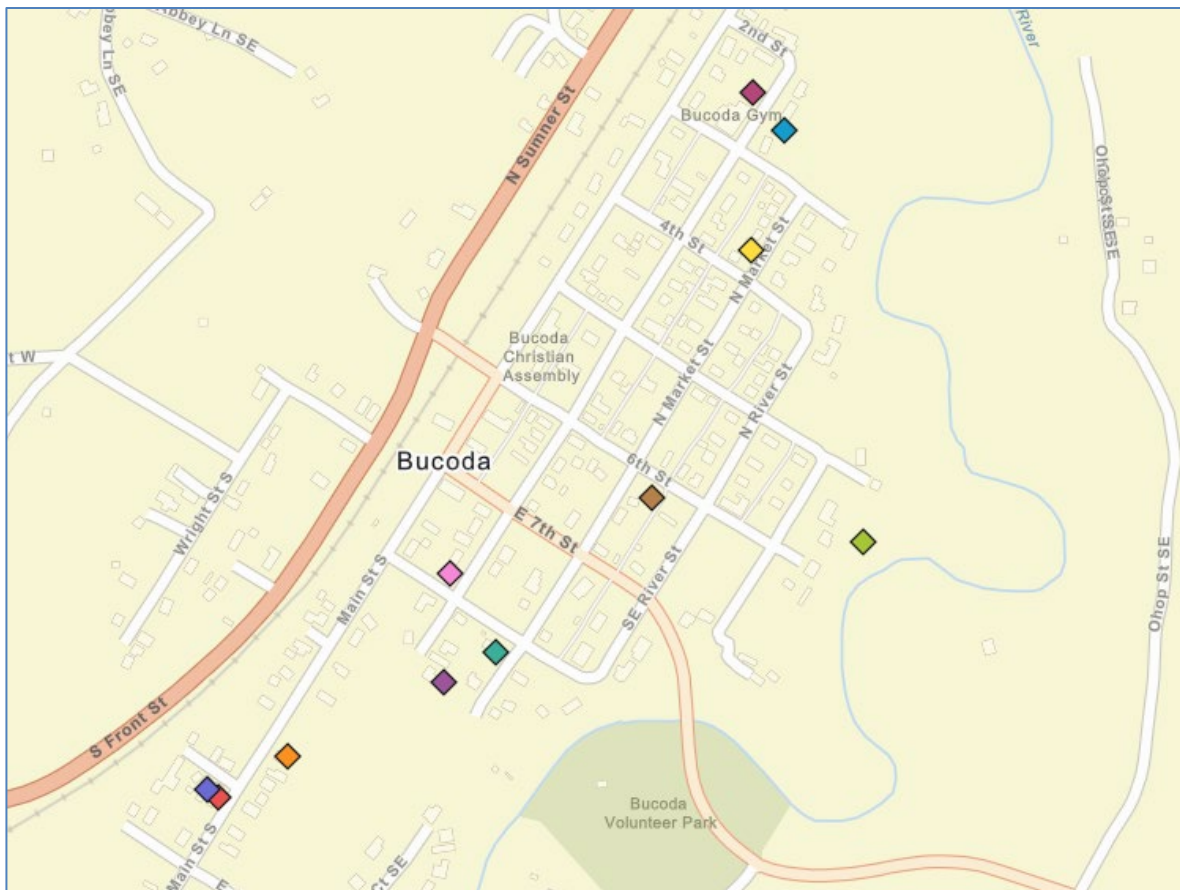
Project Start



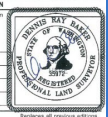
Governor Inslee and Mayor Samuel stand overlooking the Wynoochee River.

July 7, 2022 →

Local Projects (Bucoda, 2016)

[illegible]

03-03-2016



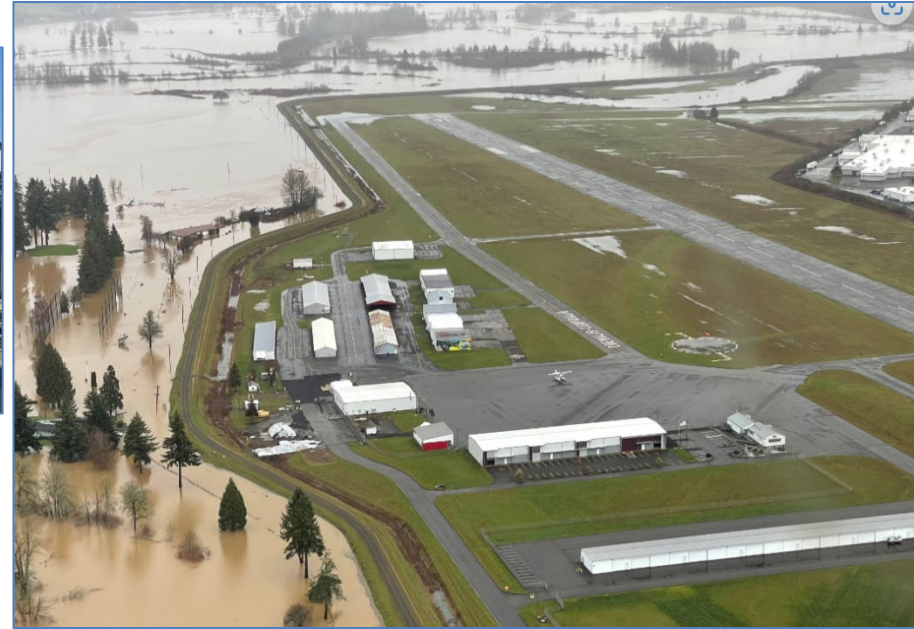
Local Projects (Hoquiam, 2016-2018)

- ✓ Completed -- February 2018.
- ✓ Cost -- \$1.3M.
- ✓ January 2022 Flood Event – Ramer basin stayed dry
(51M gallons pumped over 30 hours)
- ✓ ROI (2024) -- \$72M in assets protected.
 - ~200 homes
 - Lincoln Elementary School
 - Commercial yacht builder
 - 8 acres of prime development property
 - Large low-income residential neighborhood
 - Coastal Harvest food distribution center



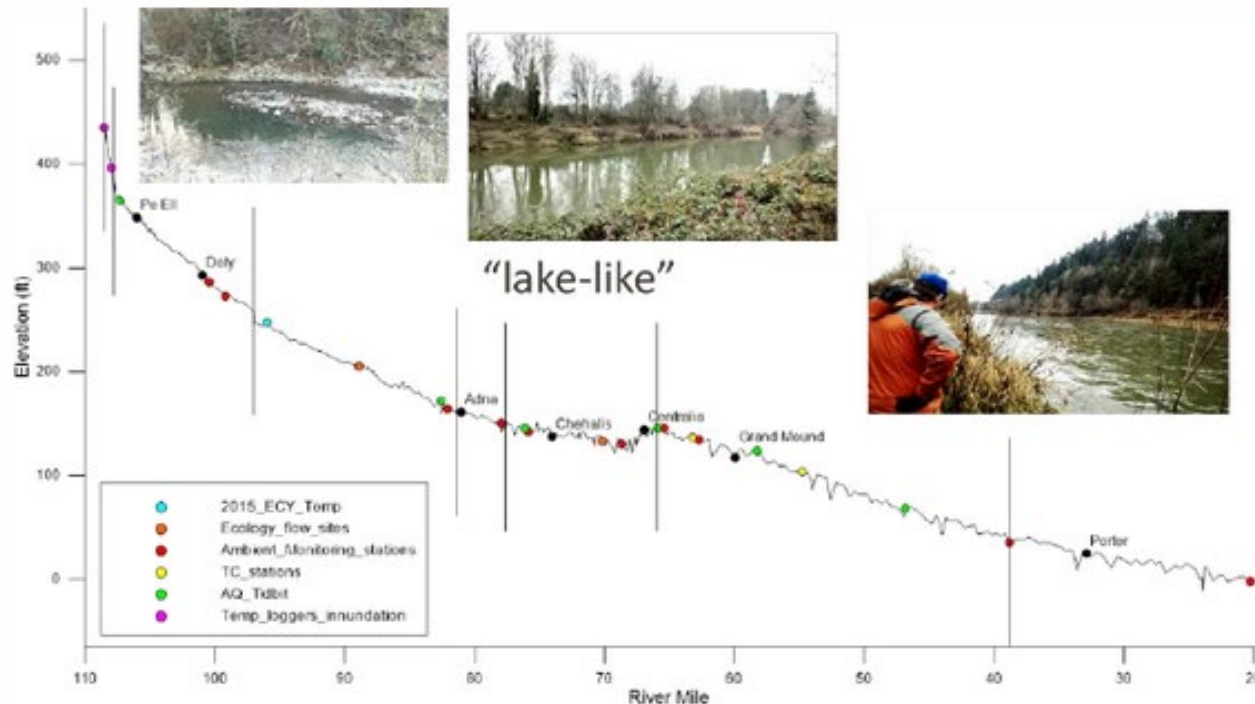
Read More -- [Here](#).

Local Projects (Chehalis-Centralia Airport, 2017)



- ✓ Completed -- Fall 2017.
- ✓ Cost -- \$1.14M.
- ✓ January 2022 Flood Event – Pumped 518.4M gallons over many days to keep levee dry.
- ✓ ROI (2018) -- Protects \$45M in assets, ensures \$9M in annual tax revenue.
- ✓ Read More -- [Here](#).

Local Projects (Moving to Geographically-Based)



Basin Geography

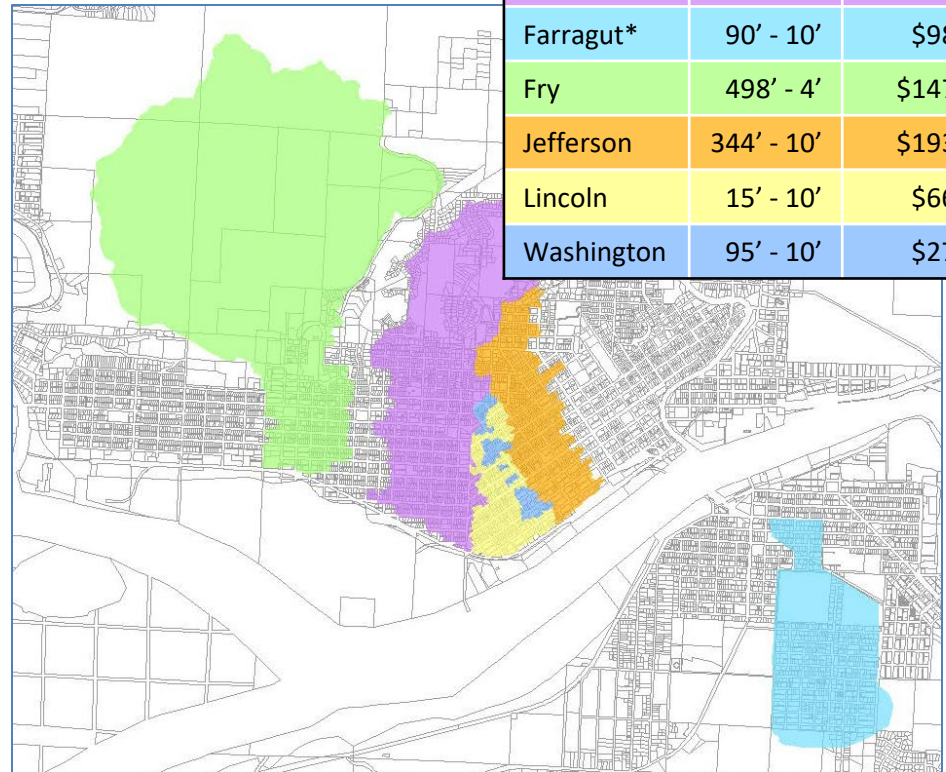
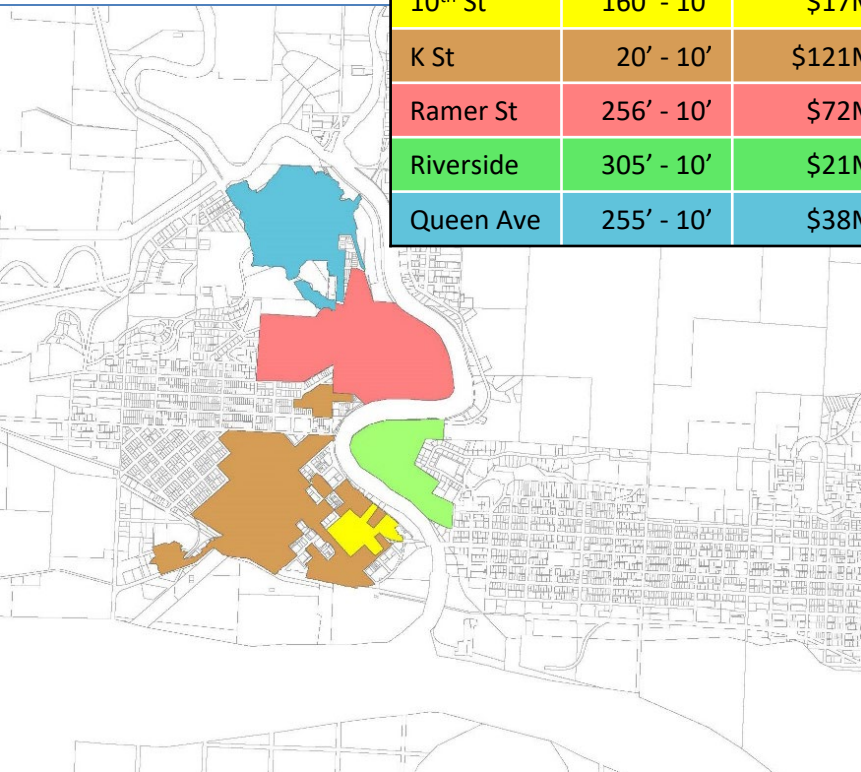
- ☐ Upper = Steep, narrow, fast flowing.
- ☐ Middle = Flat, “lake like”, slow to drain.
- ☒ Lower = Flat, coastal, difficult to drain.

Shah, Mohammad. (2021). inland water-dynamics and ecology. [10.5772/intechopen.87463](https://doi.org/10.5772/intechopen.87463).

Local Projects (Moving to Geographically-Based)

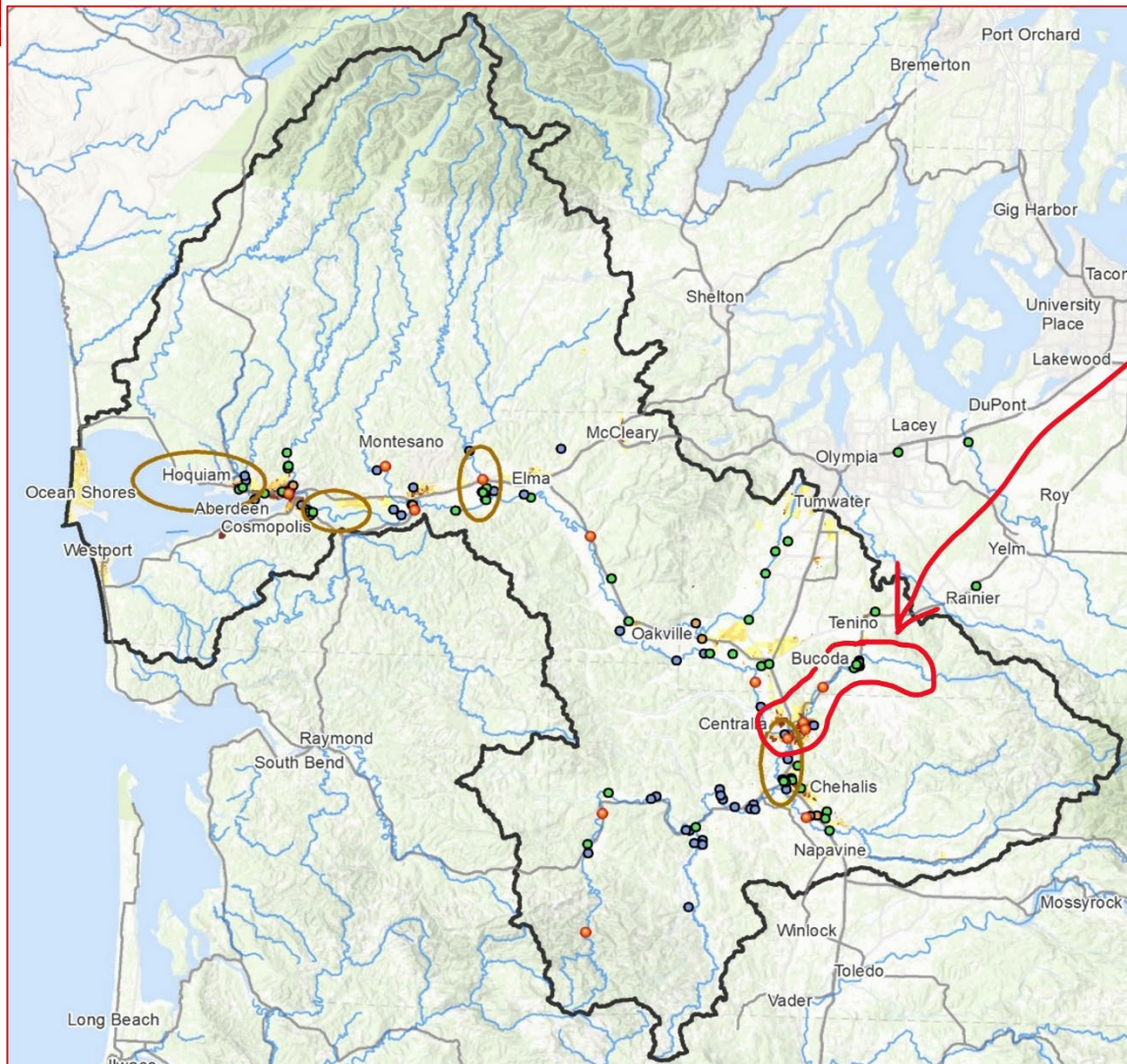
Sub-Basin	Elevation	Assessed
10 th St	160' - 10'	\$17M
K St	20' - 10'	\$121M
Ramer St	256' - 10'	\$72M
Riverside	305' - 10'	\$21M
Queen Ave	255' - 10'	\$38M

Sub-Basin	Elevation	Assessed
Division	345' - 10'	\$300M
Farragut*	90' - 10'	\$98M
Fry	498' - 4'	\$147M
Jefferson	344' - 10'	\$193M
Lincoln	15' - 10'	\$66M
Washington	95' - 10'	\$27M



11 urbanized low elevation sub-basins + Adverse meteorologic conditions -- high tides, heavy rain, bankfull rivers, saturated soils, SW winds = **Very difficult to drain!** (\$1.1B assessed value at risk)

Local Projects (Moving to Geographically-Based)



Future Geographic Investment Planning -
- Skookumchuck.

- ✓ New gage ([here](#)).
- ✓ Future of Skookumchuck dam ([here](#)).
- ✓ Bucoda flooding.
- ✓ Centralia flooding.

Flood Warning System (#2)

- ✓ **Developed** with State Capital Budget \$.
- ✓ **Maintained** with local \$.


www.chehalisriverflood.com

https://chehalis.rain.com 67%

The Chehalis River Basin Flood Warning System
Be Aware, Be Prepared: Flood Season is here!

Sign Up Now to receive 2023-24 email high water alerts - The Chehalis Basin Flood Warning System sends automatic email alerts about rising floodwaters.

To sign up for email alerts, click the icon below:



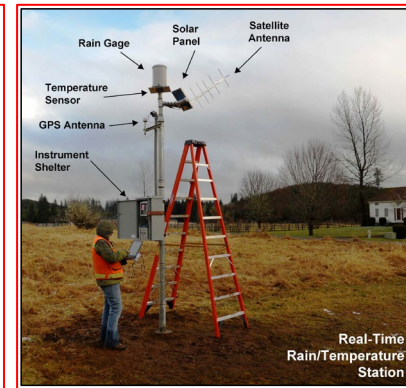
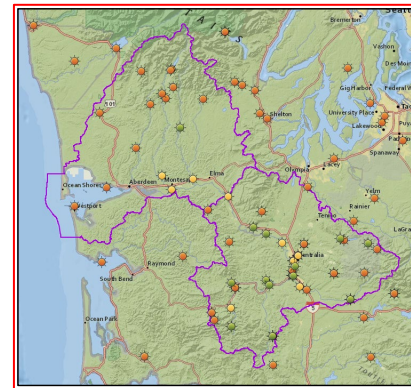
Questions?
Contact Cheryl Vincent at cvincent@westconsultants.com and Jennifer McAdoo at jennifer.mcadoo@icf.com.

Para leer esta información en español, haga clic aquí

Click here on the image above to visit our Interactive ArcGIS Dashboard!

Chehalis River Basin Forecasting Tools

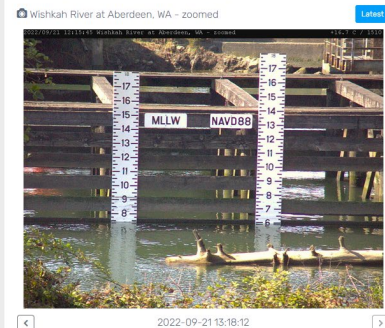
- Chehalis River (and tributaries) Dashboard
- Weather Forecast
- Rainfall Forecast
- Radar Rainfall
- River Forecast
- Flood Maps
- Atmospheric Rivers
- King Tides Calendar
- Seasonal Precipitation and Temperature Forecasts



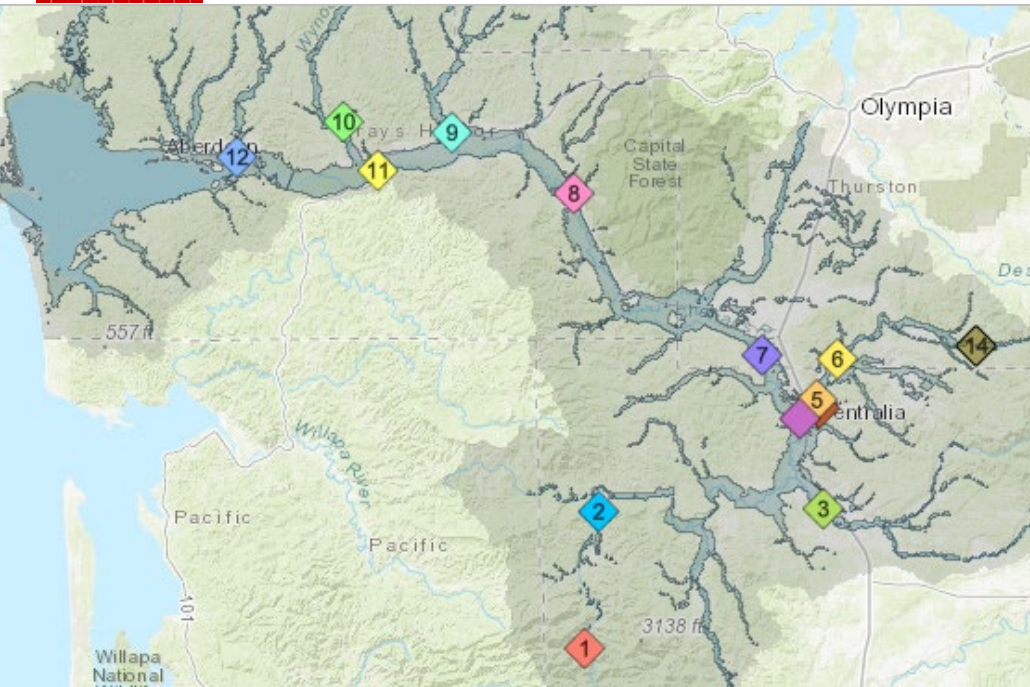
Looking at downstream face of Heron St. bridge



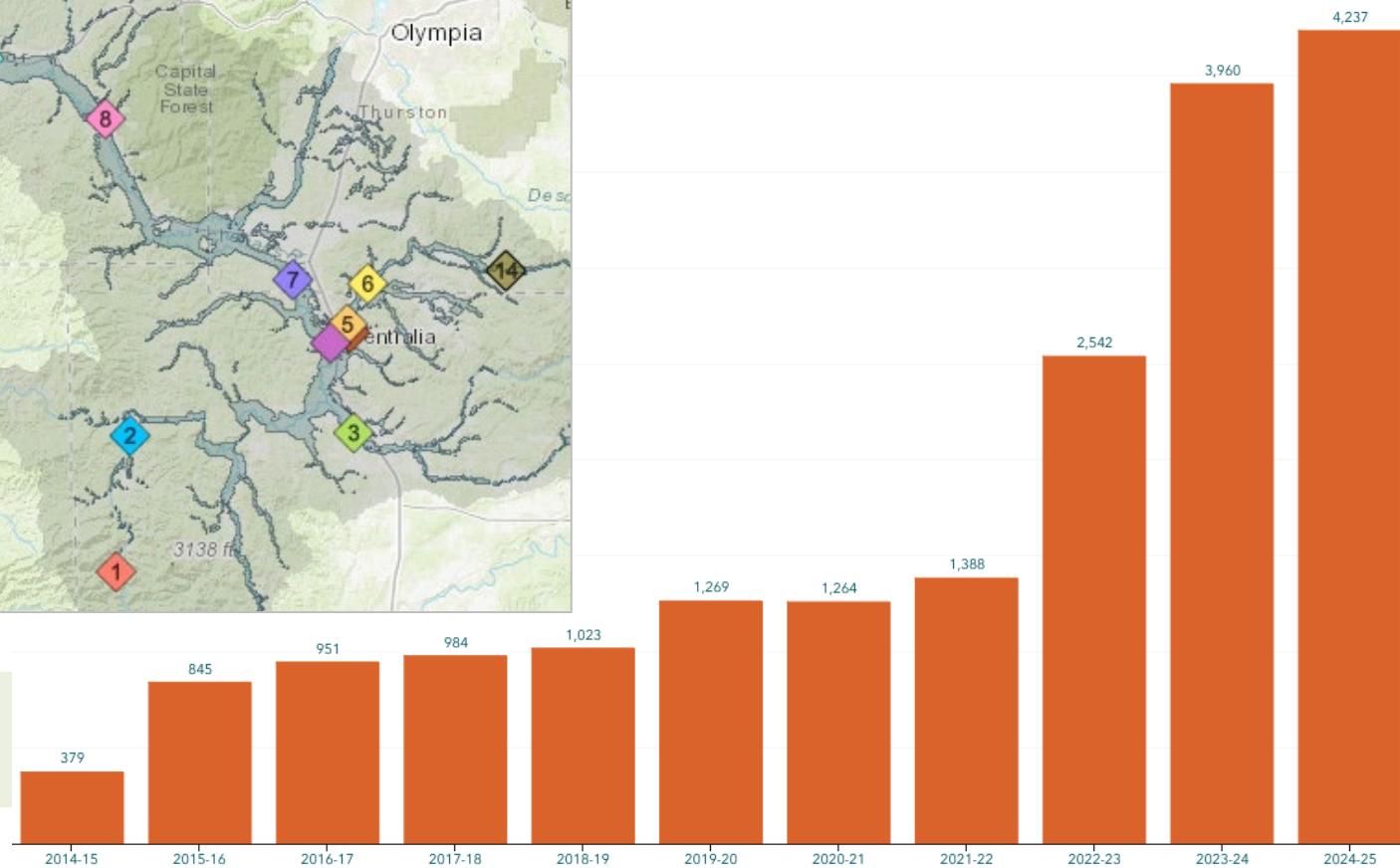
Looking at Wishkah River staff gage



Flood Warning System (Alert Sign-Ups)



Sign-up for email high water alerts [here](#).



Proposed Flow-through Dam for Flood Control (#3)

ABOUT THE DISTRICT

The Chehalis River Basin Flood Control Zone District works to make the basin a safer place for communities impacted by flooding. The District's goals are to:

- ✓ Reduce the risk associated with flooding and preserve life
- ✓ Prevent damage to property
- ✓ Protect, preserve, and conserve natural resources

The District is proposing a flow-through dam for flood control as a flood risk solution that serves the needs of fish, preserves the riverine ecosystem, and protects communities.

📅 [Event Calendar](#)

**CHEHALIS
RIVER BASIN
FLOOD CONTROL
ZONE DISTRICT**

www.chehalisriverbasinfczd.com

Upcoming Events

📅 **OCTOBER 10**

**Chehalis River Basin
FCZD Advisory
Committee meeting**

**Oct 10, 2024, 8:00 AM –
9:00 AM**

Commissioners' Hearing
Room 351 NW North St.
Chehalis, WA 98532

📅 **OCTOBER 15**

**Chehalis River Basin
FCZD Supervisor
meeting**

**Oct 15, 2024, 11:00 AM –
12:00 PM**

Commissioners' Hearing
Room 351 NW North St.
Chehalis, WA 98532

📅 **NOVEMBER 14**

**Chehalis River Basin
FCZD Advisory
Committee meeting**

**Nov 14, 2024, 8:00 AM –
9:00 AM**

Commissioners' Hearing
Room 351 NW North St.
Chehalis, WA 98532

Proposed Flow-Through Dam for Flood Control (#3)

1. Move through unobstructed
 - ✓ Water
 - ✓ Fish
 - ✓ Sediment
2. Delivers top-to-bottom benefit, Pe Ell to Cosmopolis.
3. See recent presentation [here](#).



Chehalis Basin Strategy

State Law

“The primary purpose of the office is to aggressively pursue implementation of an integrated strategy and administer funding for long-term flood damage reduction and aquatic species restoration in the Chehalis river basin.” ([RCW 43.21A.730](#))



Office of Chehalis
Basin

Chehalis Basin
Board

<https://chehalisbasinstrategy.com/>

appoints 3
member



Chehalis Basin Board

Community leaders, Chehalis and
Quinault tribal representatives,
local and state government liaisons

Office of Chehalis Basin

Small team within the WA
Department of Ecology

“Network of Partners”

Organizations and local
entities who turn ideas into
shovel-ready reality

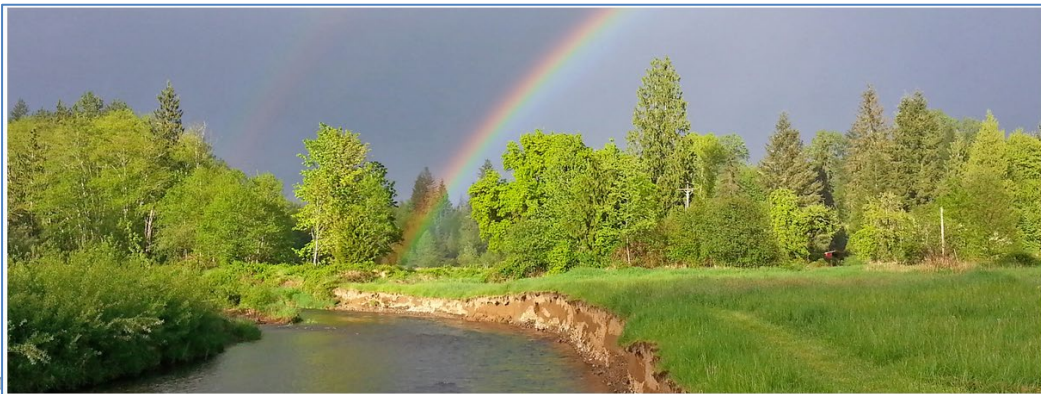
Chehalis Basin Strategy (Network of Partners)



Today vs 2007

Today, we are substantially more aware, better prepared for catastrophic flooding than ever before.

- ✓ We have a state-of-the art flood warning system.
- ✓ We've completed many cost-efficient local projects and habitat projects.
- ✓ We're serving people, local governments, emergency responders, agriculture, fish, and habitat alike
- ✓ We have a governance, administrative, and funding structure that's delivering results, and is committed to a balanced basin-wide flood and fish solution (see Local Resolution Library).



<https://chehalisbasinstrategy.com/office-of-chehalis-basin/>

Key Contacts

Vickie Raines, Grays Harbor County Representative

Chair, Chehalis River Basin Flood Authority

Chair, Chehalis Basin Board

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Edna Fund, Lewis County Representative

Vice-Chair, Chehalis River Basin Flood Authority

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