

Chehalis River Basin Flood Authority

*Reducing Flood Damage and
Restoring Aquatic Species*

**Thurston County Commissioner Wayne Fournier, District 4
February 16, 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



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



Today's Presentation

- Describe the “Flood Authority”
 - #1 -- Local Projects
 - #2 -- Flood Warning System
- Touch on “Chehalis Basin Strategy”
- Allow time for discussion.



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)



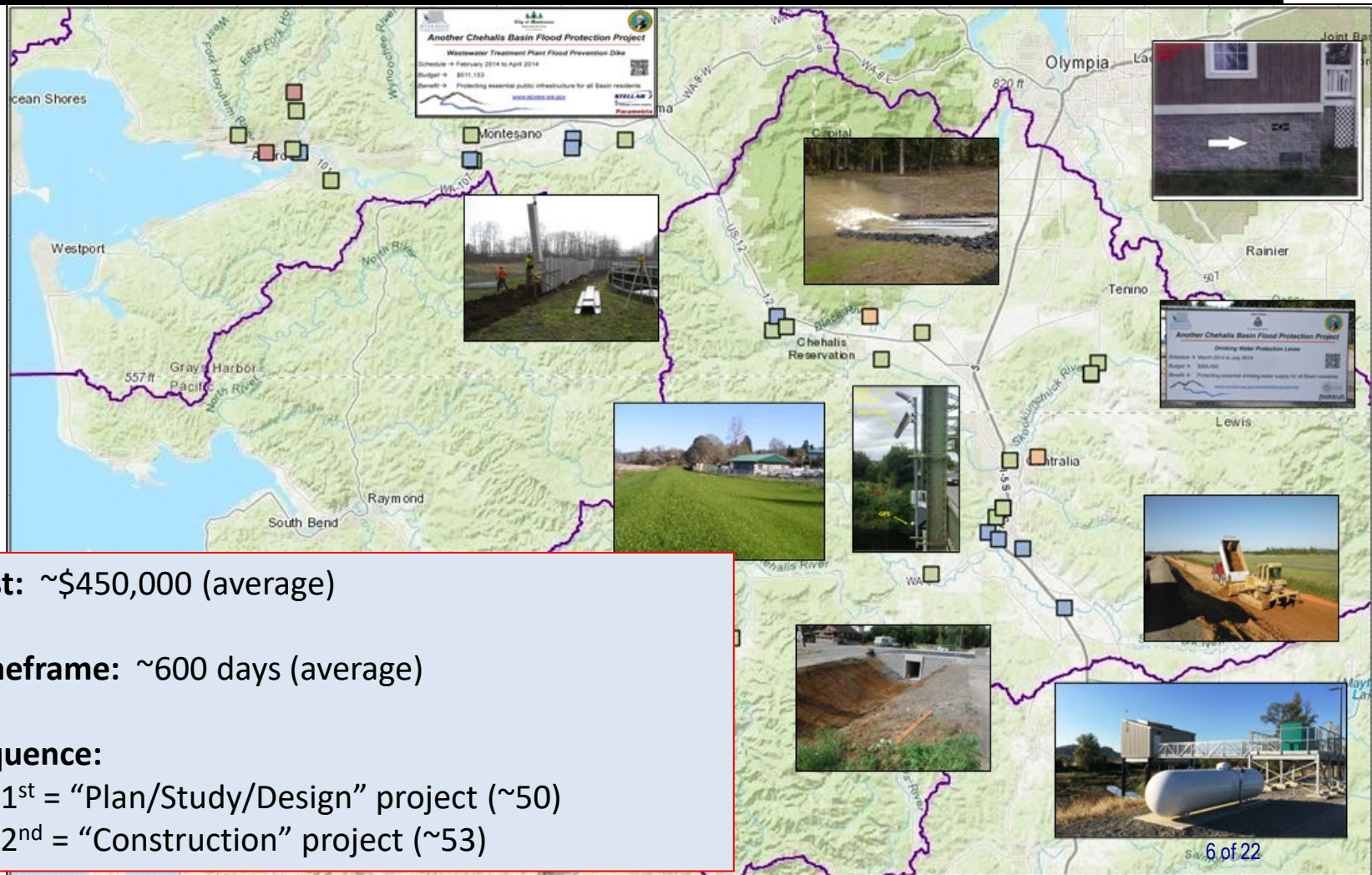
***Help local communities identify, develop, implement
local flood hazard reduction solutions.***

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 -- <u>\$ 3.6M</u>
\$55.0M

Local Projects (103 Projects Completed 2012-23)



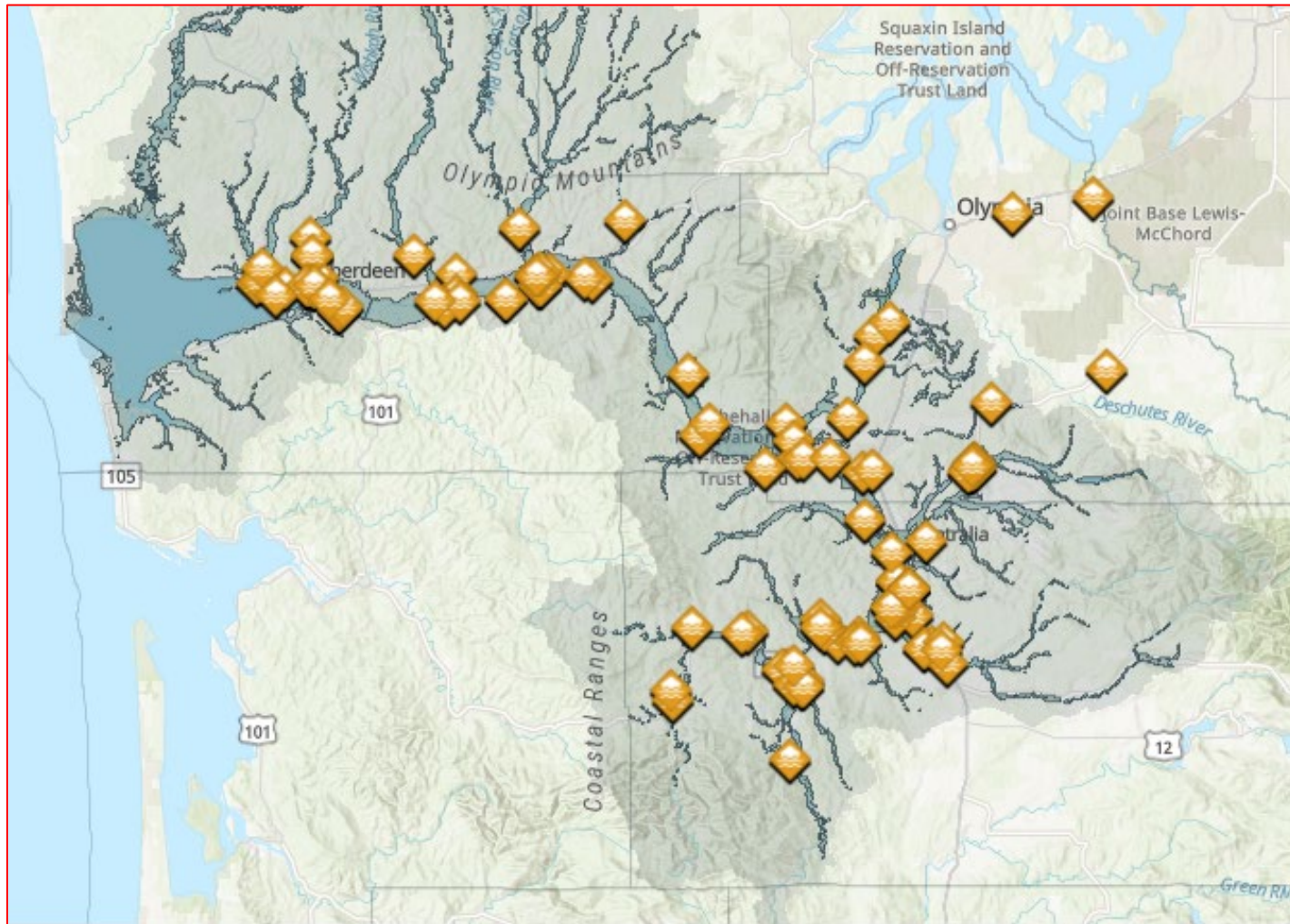
Cost: ~\$450,000 (average)

Timeframe: ~600 days (average)

Sequence:

- 1st = “Plan/Study/Design” project (~50)
- 2nd = “Construction” project (~53)

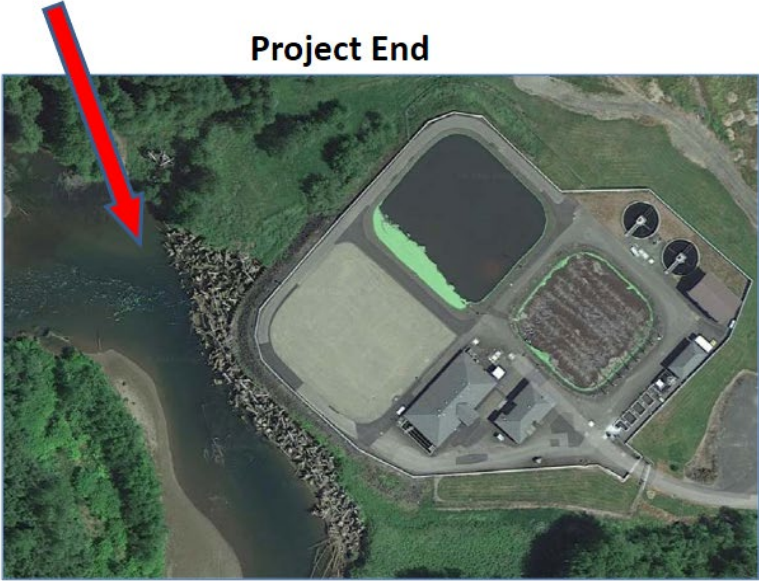
Local Projects (103 Projects Completed 2012-23)



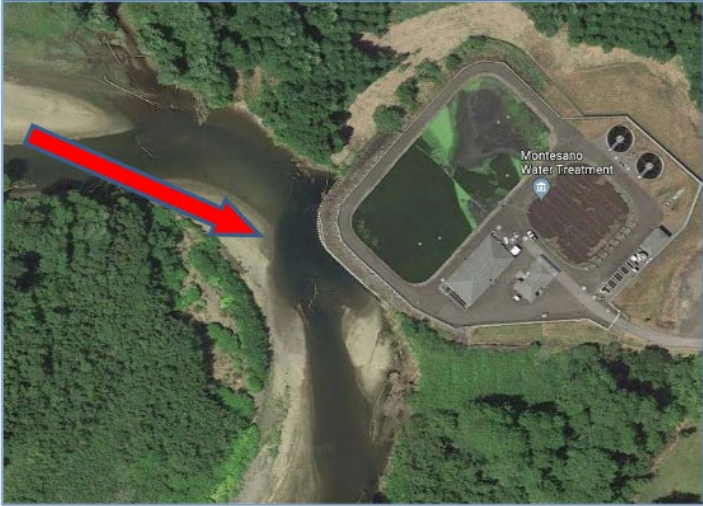
COMPLETED FLOOD AND FISH –
Montesano WWTP Protection
Project (2017-2020)

Local Projects (Montesano)

- ✓ 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).



<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 →

COMPLETED FLOOD AND FISH – Mill Creek Dam

Local Projects (Cosmopolis)

Mill Creek Multi-Objective Implementation Plan:

- ✓ Part I = Reconstruct Mill Creek Dam (done).
- ✓ Phase II project = Address 4,500' of Mill Creek flow, culverts, and flood water evacuation (under development).



CHEHALIS RIVER BASIN FLOOD AUTHORITY
CITY OF COSMOPOLIS
Another Chehalis Basin Flood Protection Project
Mill Creek Dam Improvement Project
Schedule → October 2015 to July 2017
Budget → \$3,082,000
Benefit → Protecting and restoring essential Community flood control assets
www.ezview.wa.gov/chehalisfloodauthority
HDR



City of Cosmopolis, Sep 29, 2018



The Daily World
AGAIN, Voted
It's You that makes us better. BEST BANK & BEST PLACE TO GET A LOAN Thanks!

News Sports Life Opinion Weather Obituaries Print Editions Contests Classifieds All Sections

NEWS

New Mill Creek Dam ribbon cutting Saturday in Cosmopolis

September 28, 2018 7:00 pm

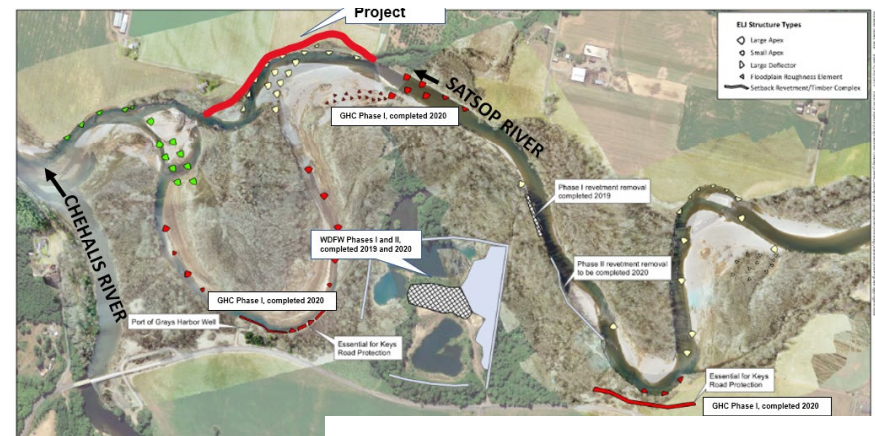
f t r e p



FILE PHOTO Cosmopolis Mayor Frank Chestnut (left) will officiate a ribbon cutting ceremony for the new Mill Creek Dam Saturday at noon.

<https://www.thedailyworld.com/news/new-mill-creek-dam-ribbon-cutting-saturday-in-cosmopolis/>

Local Projects (Grays Harbor County, Grays Harbor Conservation District, WDFW)

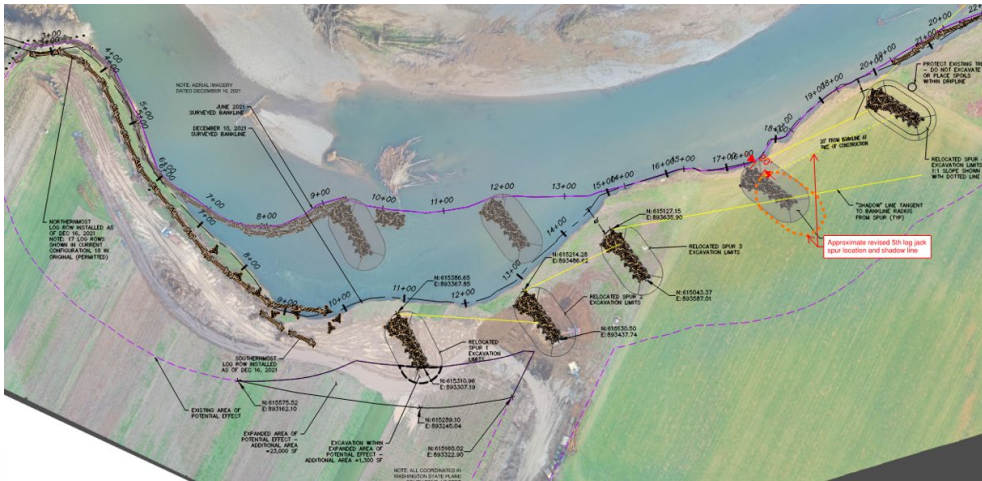


COMPLETED FLOOD AND FISH –

- 2022 Right Bank Conservation Project (Phase IB)
- 2020 Keys Road Infrastructure Protection (Phase IA)
- 2019-20 WDFW Ponds



Image = 2019



COMPLETED FLOOD – Chehalis-Centralia Airport

Local Projects (Chehalis)



New Pump -- 2017



✓ New Pump Cost = \$1.1M **January 2022**

✓ Widening Levee = \$1.2M

✓ ROI = Substantial:

- Jobs: 1,658
- Labor income: \$68 million
- Value added: \$115.3 million
- Business revenues: \$186.4 million
- Annual tax revenues (local, state): ~\$9M

✓ 1/2022 High-water event = Airport stayed operational



Old Pump – 1940s

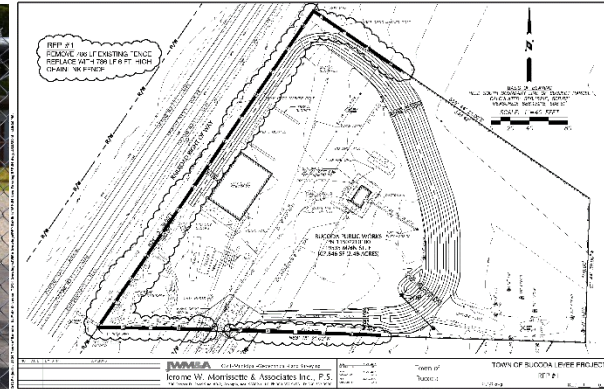


Widening/Repairing

Levee – 2014 9-21-2022

Local Projects (Bucoda)

COMPLETED 2014
Drinking Water
Protection Levee – Read
[more.](#)



SECTION A - PROPERTY INFORMATION		FOR INSURANCE COVERAGE USE
11. Building Owner Name: Chehalis M. Tree	12. Building Address (including Nat. Vets. Status and/or Bldg. No.): BC Route and Box No.	13. Insured Name: _____
14. Building Use: Other	15. City: Bucoda	16. State: WA
17. Parcel No.: 6150030000	18. Parcel No.: _____	19. Parcel No.: _____
20. Building No.: _____	21. Building No.: _____	22. Building No.: _____
23. Building No.: _____	24. Building No.: _____	25. Building No.: _____
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95. Building No.: _____	96. Building No.: _____	97. Building No.: _____
98. Building No.: _____	99. Building No.: _____	100. Building No.: _____

ON-HOLD 2016 Main Street
Regrade Project – Read
[more](#)
 (and [here](#)).

COMPLETED 2016 Foundation
Flood Opening Pilot (11
properties) – Read
[more](#)
 (and [here](#))

Local Projects (New and Continuing, 2023-25)

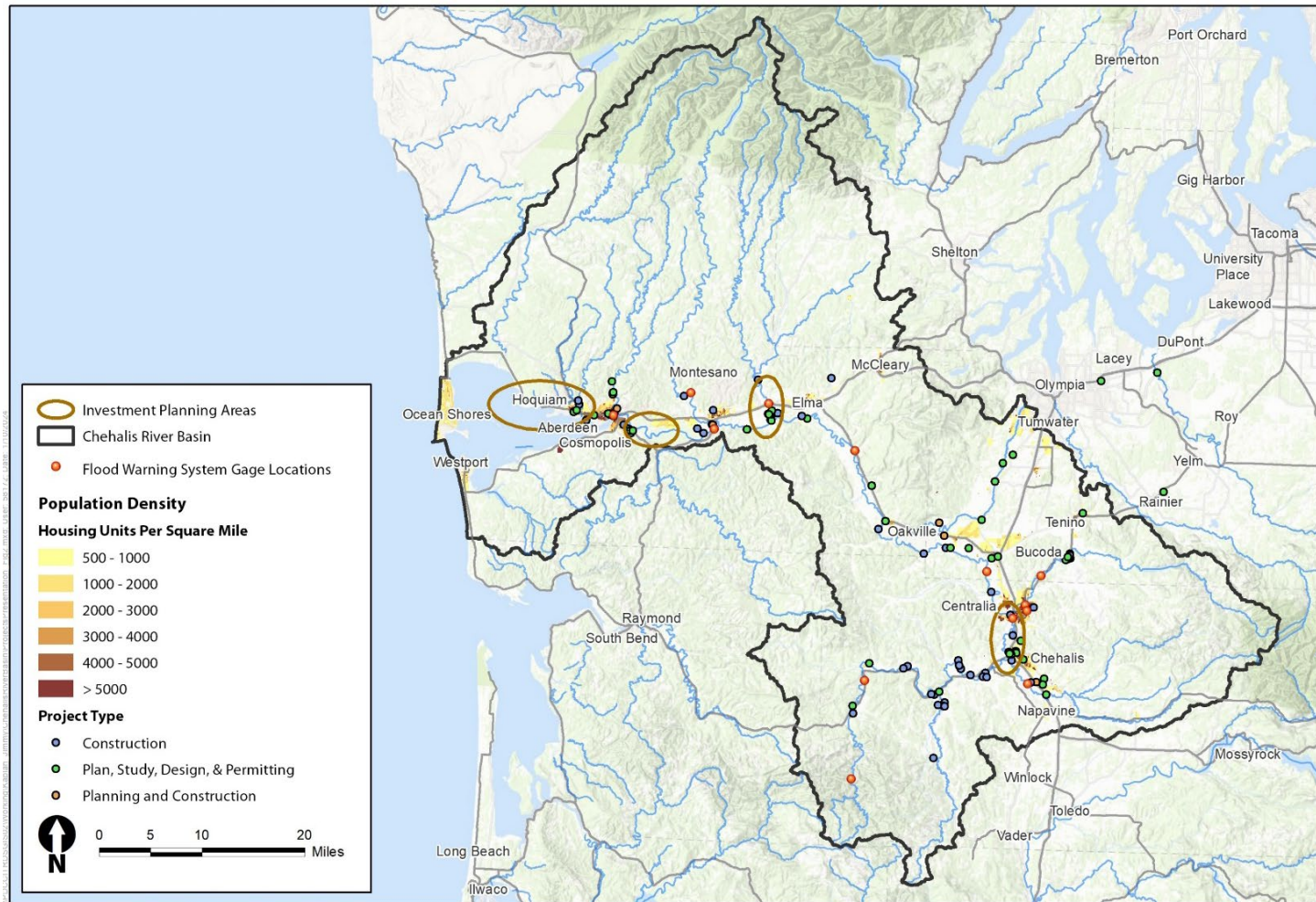
Aberdeen	22-2301	Aberdeen Pump Stations
	22-1728	Design and Permitting of Farragut Pump Station
	23-1219	Fry Creek Phase 3 Design
Cosmopolis	22-2277	Joint Surface Water Management Comp Plan
	21-1451	Mill Creek Multi-Objective Implementation Plan, Ph II
GHCD	22-2546	Lower Satsop Right Bank Conservation, Phase 2
Hoquiam	21-1466	10th Street Pump Station Design and Permitting
	22-2278	Hoquiam Pump Stations
	21-1467	Queen Ave Pump Station Design and Permitting
Montesano	23-1482	Montesano Water Supply Resiliency
Port of Grays Harbor	22-2358	Haul Road Mid Term Project

Lewis County	-	New Skookumchuck Reservoir Gage
	23-1483	S.F. Chehalis /Boistfort CMZ
Chehalis	23-1221	Chehalis Flooding Strategy and Investment Plan
	23-1481	Derelict WWTP Demolition and Removal
Port of Chehalis	18-2614	Berwick Creek Flood Reduction and Restoration

Plan/Design	Construct
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Local Projects (Future, Beyond 2023-25)

Identify future projects through local investment planning.



Flood Warning System (#2)

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

https://chehalis.onerain.com

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:

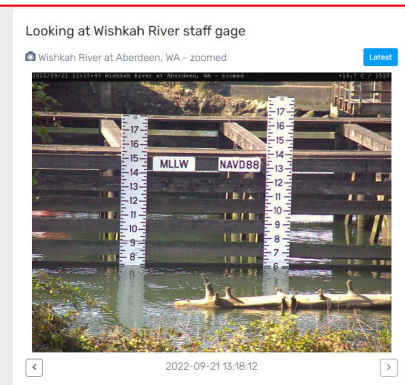
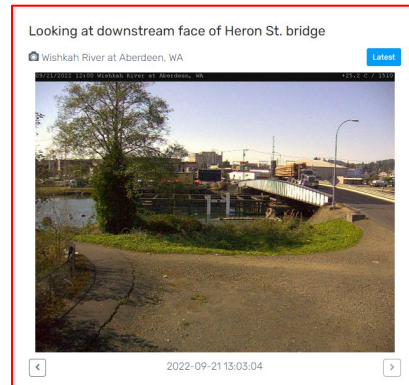
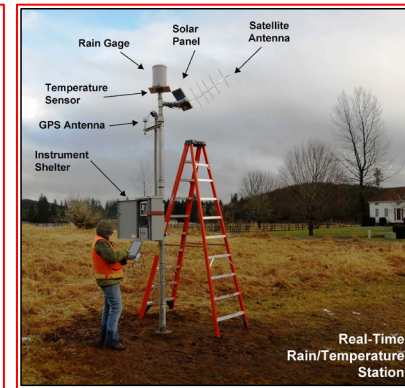
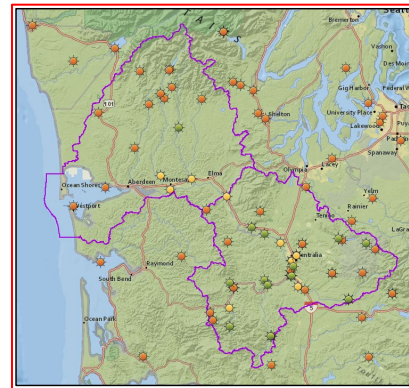
Questions?
Contact Cheryl Vincent at cvincent@westconsultants.com and Jennifer McAdoo at jennifer.mcadoo@icf.com.

Para leer esta información en español, haga clic aquí

Click here or 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



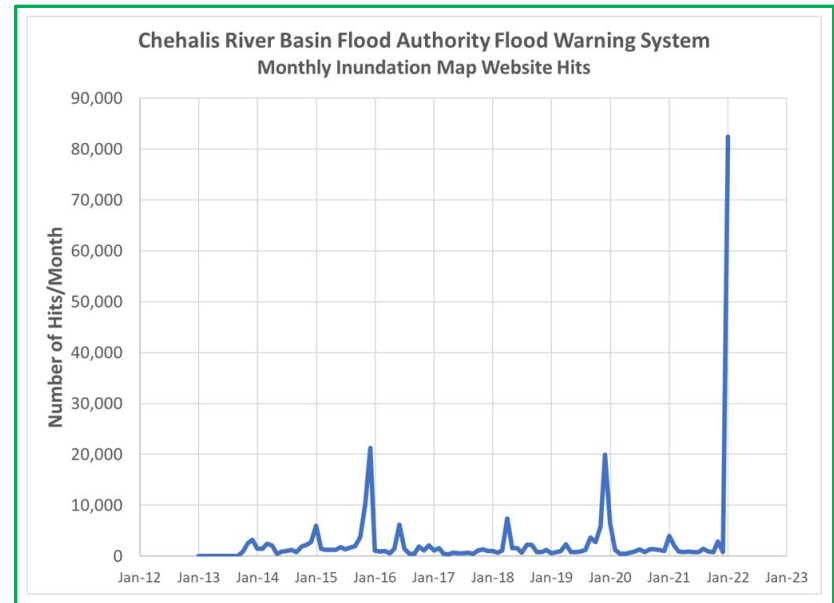
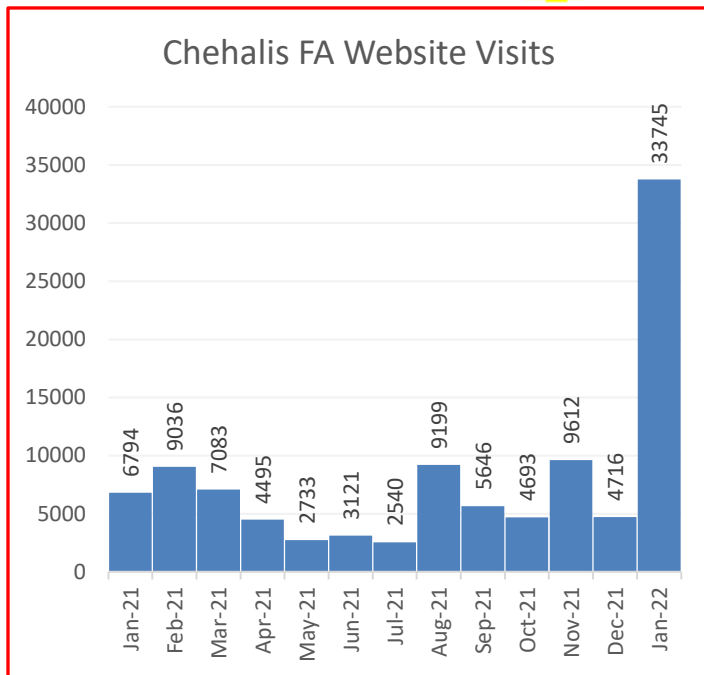
Flood Warning System (2022 Flood Event)

Flood Warning System Works!

The Flood Authority's flood warning system website was incredibly active during the January flood. Nearly 25,000 individual user logins were recorded and the flood inundation maps received almost 75,000 hits, providing vital information to the community during the flood emergency. *Dave Curtis, West Consultants, 2/01/2022*

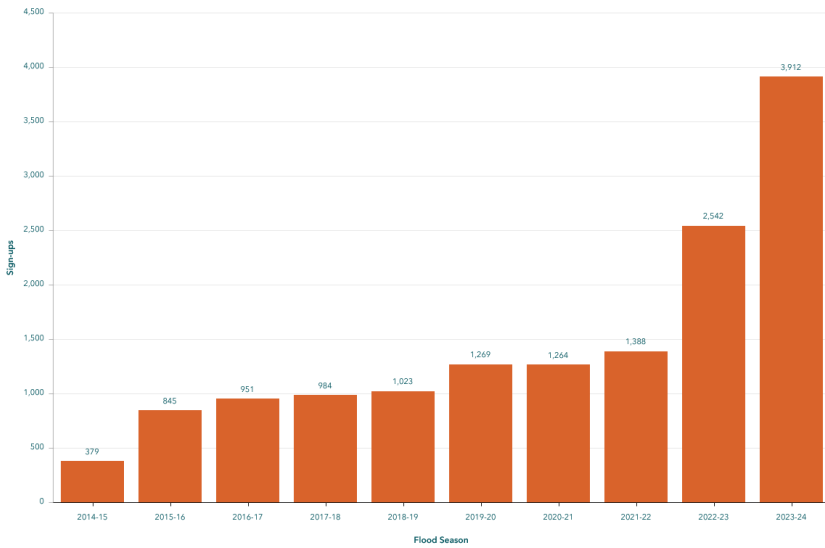
Unknown contact said:

"Our house flooded in '96 and '07--we like to be prepared The gauges and alerts give us more peace of mind. Info=peace of mind" *Survey Respondent, 2/01/2022*

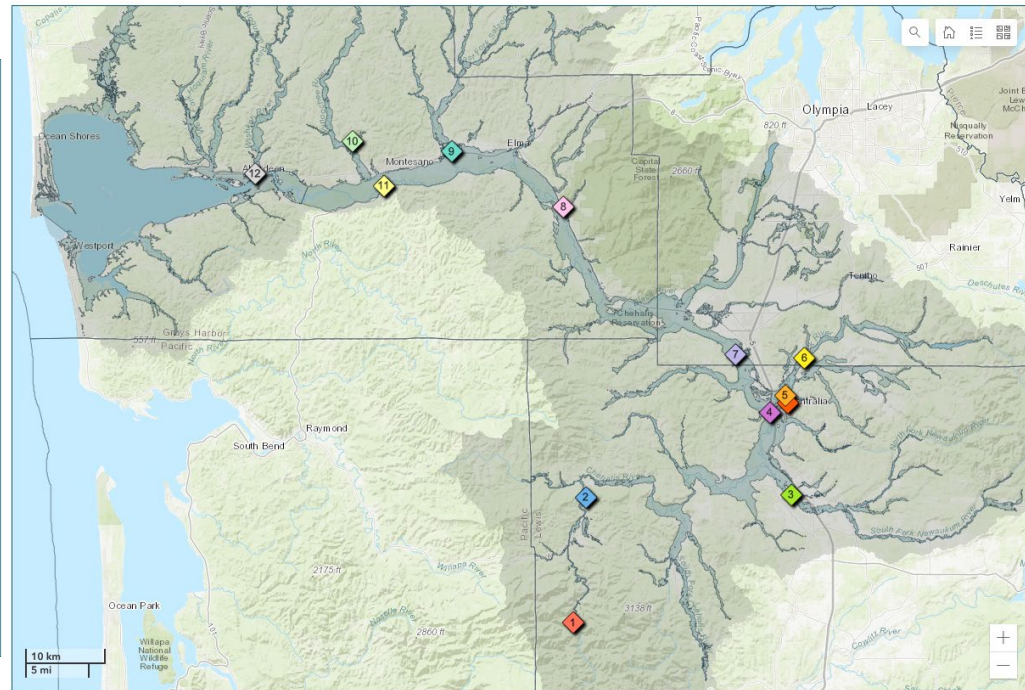


Flood Warning System (Alert Sign-Ups)

Data Fact - Total sign-ups continue to increase year-over-year.



Map Sign-ups by Flood Season Operating Cost Sign-ups by Gage & Flood Season



Esi Canada, Esi, HERE, Garmin, USGS, NGA, EPA, USDA, NPS | Washington State Department of Natural Resources | Washington State Department of Ecology. Originally created by ICF International Inc. Powered by Esi
Map Sign-ups by Flood Season Operating Cost Sign-ups by Gage & Flood Season

Chehalis Basin Strategy



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

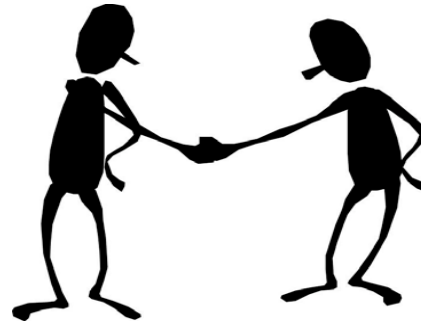
Office of Chehalis Basin

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)



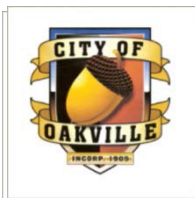
WASHINGTON STATE
CONSERVATION
COMMISSION



Chehalis Lead Entity



CHEHALIS RIVER BASIN
FLOOD CONTROL ZONE DISTRICT



WASHINGTON STATE DEPARTMENT OF
Natural Resources

TOWN of BUCODA



Office of Financial Management
Better information. Better decisions. Better government.

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.
- ✓ We have a governance, administrative, and funding structure that's delivering results.



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

Key Contacts

Vickie Raines, Grays Harbor County Representative

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Chair, Chehalis Basin Board

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Vice-Chair, Chehalis River Basin Flood Authority

Member, Chehalis Basin Board

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Thank You!

This Presentation:

Available at “Chehalis River Basin Flood Authority” Website at
https://www.ezview.wa.gov/site/alias__1492/34490/outreach_education.aspx

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Also -- 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.)

