

# Chehalis River Basin

*Reducing Flood Damage and  
Restoring Aquatic Species*

1:00 p.m.

October 12, 2016

Aaron Kunkler (Reporter, The Chronicle)



# 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 salmon, aquatic species.

2. **Basin-wide strategy** -- An action-oriented, multi-phased Basin-wide strategy is needed to protect communities along the river and to enhance aquatic species.

3. **Collaboration is key** -- WA Legislature, Governor's Office, Governor's Chehalis Basin Work Group, Chehalis River Basin Flood Authority, and WA Agencies all working together = Action!

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



# Action . . .



↑  
Photo Source: THE CHRONICLE →

Oct. 2016

# "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 Montesano
  - City of Oakville
- ▶ Lewis County
  - City of Centralia
  - City of Chehalis
  - City of Napavine
  - Town of Pe Ell
- ▶ Thurston County
  - Town of Bucoda

# "Governor's Chehalis Basin Work Group"

- **Appointed by Gov. Gregoire (2012); Re-confirmed by Gov. Inslee (2013).**
- **Role = Develop/oversee Basin-wide strategy, funding authorizations (2017-19).**
  - Flood Retention Dam in paired with Airport Levee Improvements.
  - Basin-wide Aquatic Species Restoration.
  - High-priority, small-scale Local Flood Damage Reduction Projects.
  - Local Land Use Management and Local Floodproofing.
- **Members are:**
  - Vickie Raines (Grays Harbor Commissioner, Chair Flood Authority).
  - Karen Valenzuela (Former Thurston County Commissioner, Former Vice-Chair Flood Authority)
  - Don Secena (Chair Chehalis Tribe).
  - J. Vander Stoep (Private Attorney, Pe Ell Alternate Flood Authority).
  - Steve Malloch (Western Water Futures)
  - Jay Gordon (President Washington Dairy Federation and Chehalis Farmer).
  - Rob Duff (Governor's Natural Resources and Environment Advisor).

# 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.

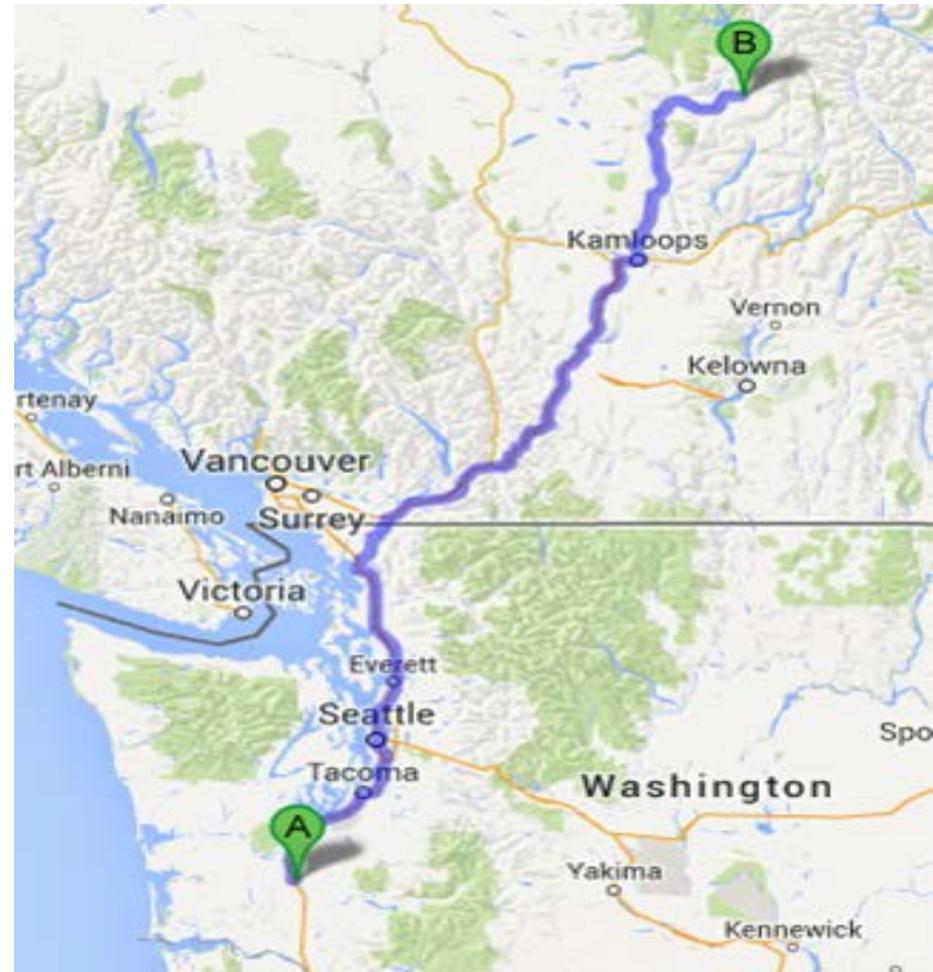


City of Centralia and I-5  
STEVE RINGMAN /  
SEATTLE TIMES

Oct. 2016

# 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.

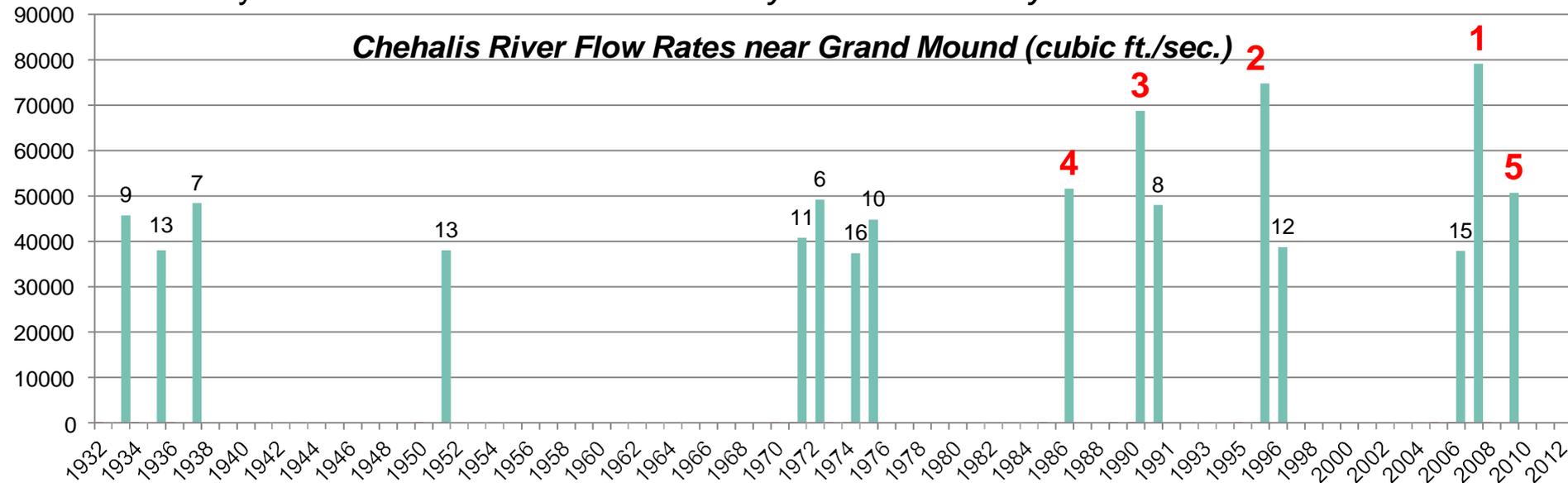


# Background . . .

## ■ 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 15-25% of historic levels.
- TMDL for the basin (<http://www.ecy.wa.gov/programs/wq/tmdl/ChehalisRvrTMDLSummary.html>).



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

CHEHALIS BASIN SALMON & TROUT

OCEAN PHASE		SPAWNING PHASE
<p>Chinook Coho Coho Steelhead Bull trout Cutthroat</p>	<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>	<p>Chinook Coho Coho Steelhead Bull trout Cutthroat</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.*

# 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. Land Use, 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 worst floods struck in the days of a large charge outside from the thousands of acres of small agricultural cropland. These floods have been the most costly, and caused several hundred million dollars in damage. The cost of future floods will be over \$1.5 billion in the next 20 years if the basin is not.



**Salmon Populations Are Seriously Degraded and Continue to Decline.** The natural resources of the Chehalis Basin have suffered because of the loss of riparian habitat and the loss of spawning habitat. The Chehalis Basin supports the world's largest population of steelhead trout, but the steelhead population has declined by 90% since 1980. The steelhead population is 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 extinction of steelhead trout 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 basin. Floods are significant, frequent and repeat events in the Chehalis Basin. Over 200 years of potential actions to address flood damage have been considered, with no real change in flood risk. The Chehalis Basin Flood Action Plan is the first of a number of such plans to address flood damage and restore the basin.

7/2/2015

Implementing a Comprehensive, Integrated Approach for Fish and Floods. An extensive evaluation of the potential of a comprehensive, integrated approach for fish and floods. The Chehalis Basin Flood Action Plan is the first of a number of such plans to address flood damage and restore the basin. The Chehalis Basin Flood Action Plan is the first of a number of such plans to address flood damage and restore the basin.

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

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 Washington State Department of Ecology will also 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).

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

- October 2015: public meeting and formal public comment period on the draft EIS document
- August 2016: public meeting and formal public comment period on the draft EIS document
- November 2016: 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. The Chehalis Basin Flood Action Plan is the first of a number of such plans to address flood damage and restore the basin. The Chehalis Basin Flood Action Plan is the first of a number of such plans to address flood damage and restore 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 or Twitter at (206) 844-2245 or @washingtonstateecology.*

7/2/2015

# 1. Basin-Wide Relationships



TOWN of BUCODA



WASHINGTON STATE  
CONSERVATION  
COMMISSION



WASHINGTON STATE DEPARTMENT OF  
**Natural Resources**



Office of Financial Management

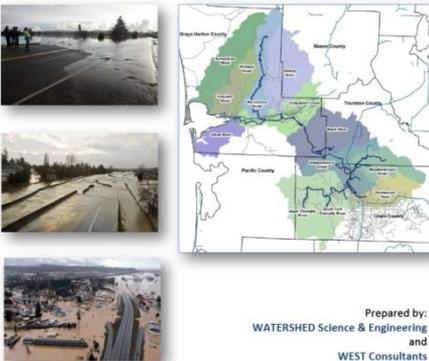
Better information. Better decisions. Better government.

Oct. 2016

## 2. Hydraulic Understanding

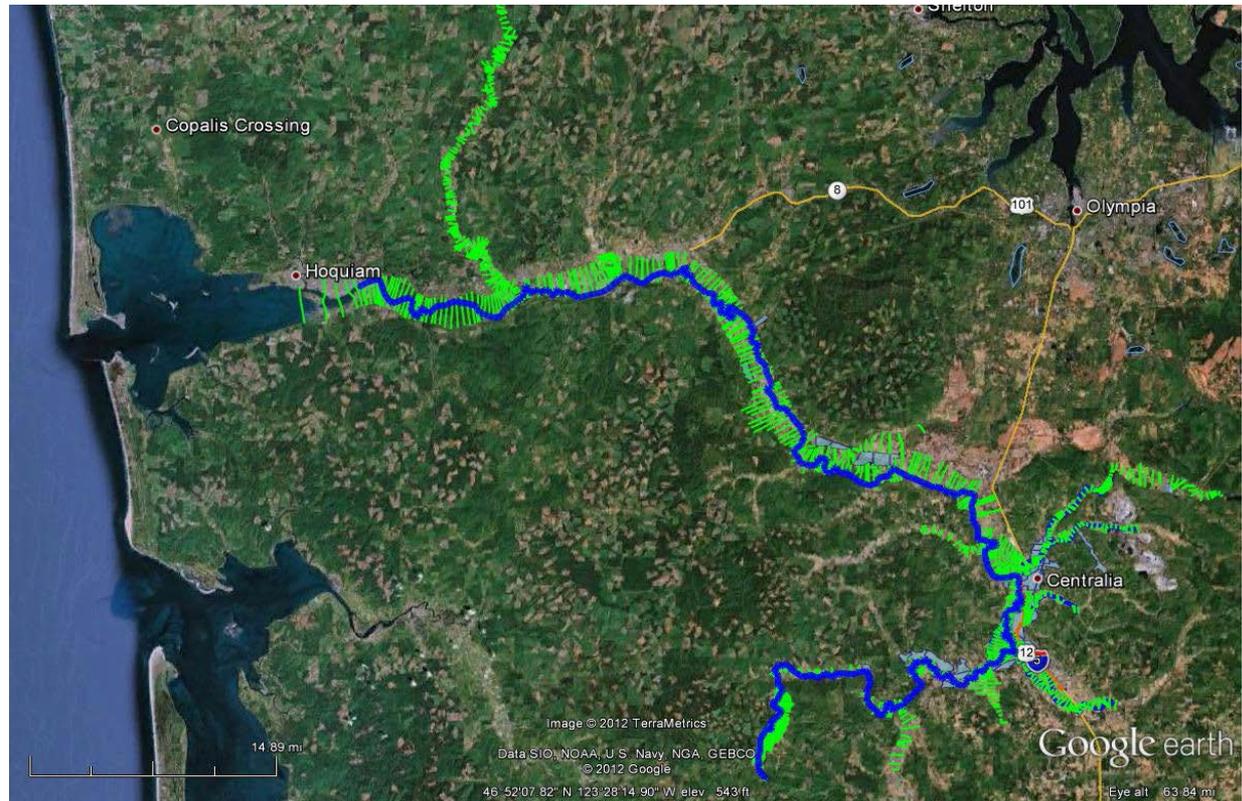
- **Science-based model** -- To inform decision-makers on hydraulic effects of potential flood relief options (at basin-wide and localized scales).
- **108 miles** -- Mouth of Chehalis River upstream to Pe Ell (108 miles).

Draft Report - Chehalis River  
Hydraulic Model Development Project



Prepared by:  
WATERSHED Science & Engineering  
and  
WEST Consultants  
Prepared for:  
Chehalis River Basin Flood Authority

July 23, 2012



Oct. 2016

## 2. Hydraulic Understanding

- **Example: Basin-wide effects analysis**  
(Governor's Chehalis Basin Workgroup, 2014 Recommendations Report, 11/25/2014)

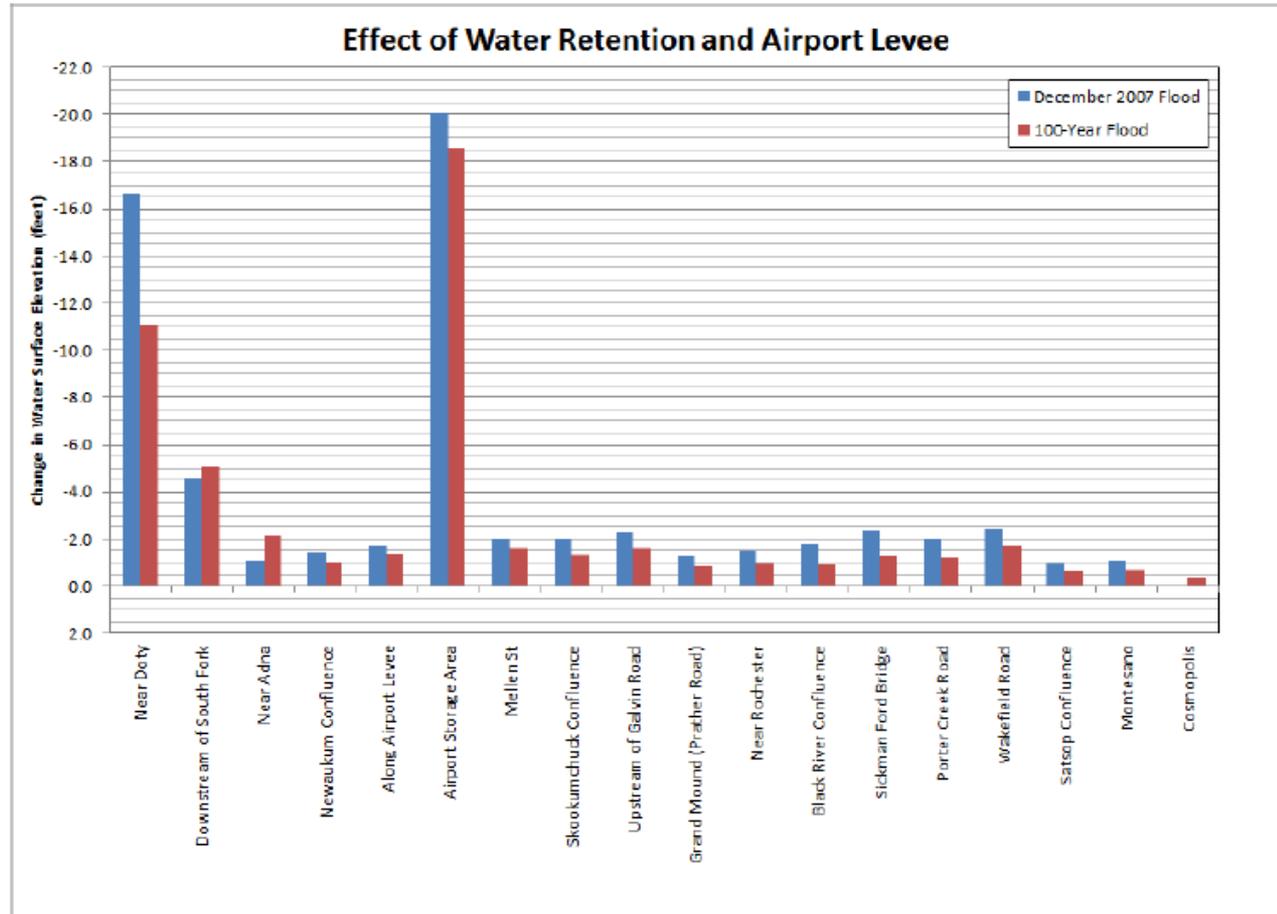


Figure 2: Predicted Changes in Water Surface Elevations from Water Retention and Airport Levee

For 80 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.

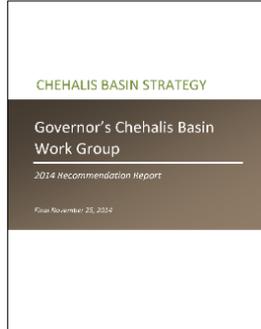


The 2013 legislature funded a \$26 million program of

# 3. Master Strategy (Game Plan)

## 2012, 2013-15 – Framework and Recommendations.

### Key elements:



1. Concrete Flood Retention Dam on upper Chehalis River.
2. Chehalis-Centralia Municipal Airport Levee Improvements.
3. Basin-wide Aquatic Species Restoration (100+ miles spawning/rearing habitat).
4. Local Flood-damage Reduction Projects, including raising homes, floodproofing businesses and public structures.
5. Local actions to Protect Floodplain Functions, ensure development doesn't exacerbate harm.
6. Cost = \$500-600M; Benefit = \$720M (100 yrs.); No Action = \$3.5B (100 yrs.).



## 2015-17 -- \$50M for formal environmental review, implementation of local early-action (projects, floodproofing, etc.).

# 4. Large Capitol Projects

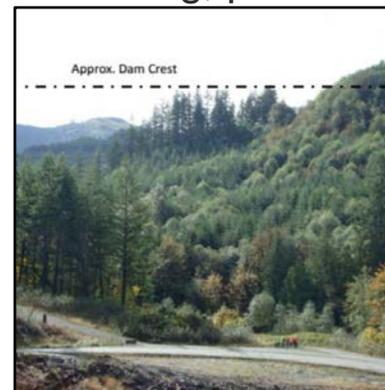
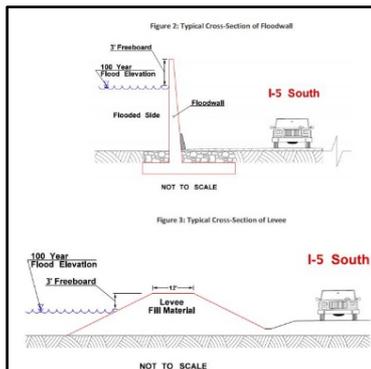


## 2013-15:

- ❑ 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) will be conducted to evaluate alternatives and inform Governor's Workgroup on next steps – funding, permitting, etc.



← Photo source:  
ANCHOR QEA



**Pe Ell Wastewater Treatment Plant  
Flood Protection Dike**

**Aberdeen Proposed Northside  
Dike/Levee**



# 5. Small-Scale Local Projects

## 2012 Supplemental Capital Budget:

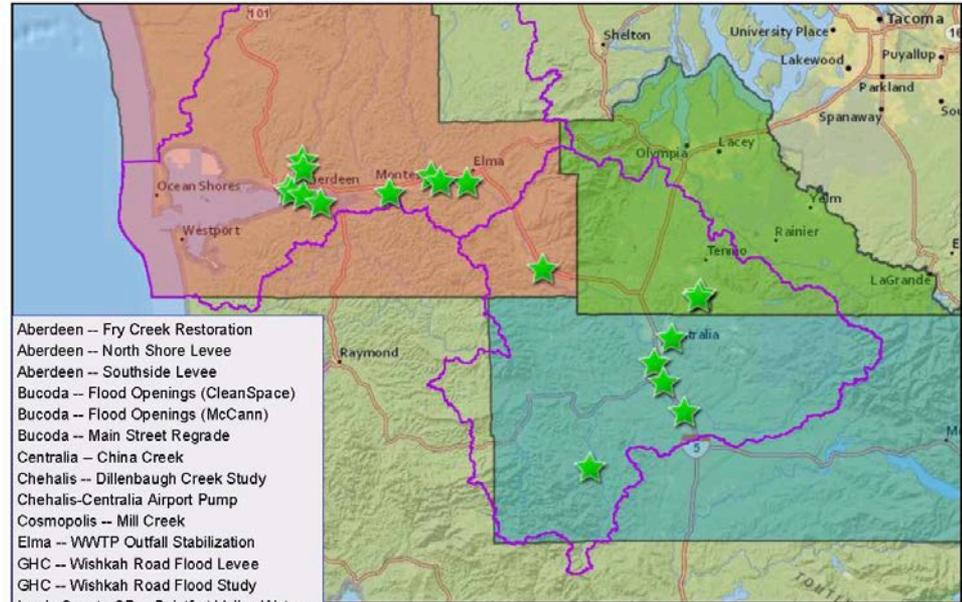
- \$5.0M -- Local projects.

## 2013-15 Capital Budget:

- \$15.1M -- Local projects, aquatic species enhancement.

## 2015-17 Capital Budget:

- \$23.2M -- Local projects, habitat restoration.



- Aberdeen -- Fry Creek Restoration
- Aberdeen -- North Shore Levee
- Aberdeen -- Southside Levee
- Bucoda -- Flood Openings (CleanSpace)
- Bucoda -- Flood Openings (McCann)
- Bucoda -- Main Street Regrade
- Centralia -- China Creek
- Chehalis -- Dillenbaugh Creek Study
- Chehalis-Centralia Airport Pump
- Cosmopolis -- Mill Creek
- Elma -- WWTP Outfall Stabilization
- GHC -- Wishkah Road Flood Levee
- GHC -- Wishkah Road Flood Study
- Lewis County CD -- Boistfort Valley Water
- Montesano -- WWTP Protection Study
- Napavine -- Kirkland Road Study
- Oakville -- Flood Relief Study
- WCC -- Farm Pads & Evacuation Routes
- WDFW -- Lower Satsop Relic Channel

**2015-17 Underway Local Capital  
Construction Projects**  
[www.ezview.wa.gov/chehalisfloodauthority](http://www.ezview.wa.gov/chehalisfloodauthority)



06/2/2016



**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**  
An American owned company  
**Parametrix**



# 5. Small-Scale Local Projects



## ■ Mary's River Lumber Bank Stabilization Wall and WWTP Flood Prevention Dike

- ❑ Mary's River Lumber = 120 family wage jobs.
- ❑ State Highway (SR 107) = At risk of damage.
- ❑ Montesano WWTP = Risk of overtopping.
- ❑ Solutions and Alternative = Balance time, cost, results.
- ❑ Project [website](#).





**CHEHALIS RIVER BASIN FLOOD AUTHORITY**



**City of Montesano**  
Home of the Tree Farms  
[www.montesano.com](http://www.montesano.com)



**Another Chehalis Basin Flood Protection Project**

**Wastewater Treatment Plant Flood Prevention Dike**

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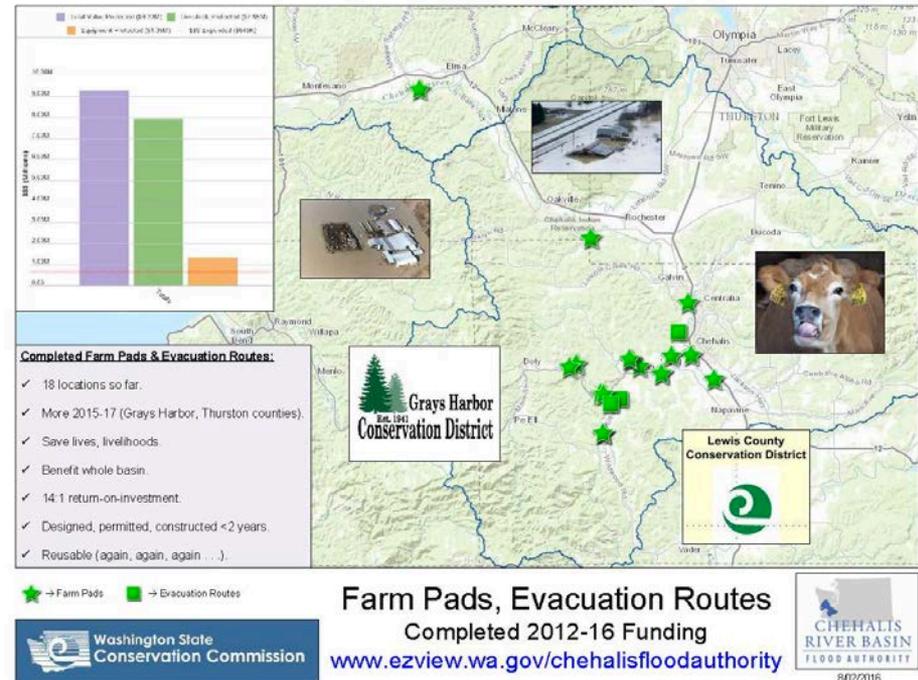
**STELLAR J**  
An employee owned company  
**Parametrix**

# 5. Small-Scale Local Projects

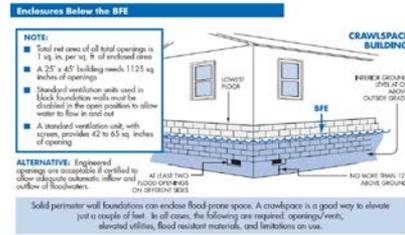


**Projects Completed  
Local Protection!**

**Projects Completed  
14:1 Return-on-investment!**



# 6. Land Use, Floodplain Management



❑ French and Associates under contract.



❑ 2013-15: Analyzed local floodplain management programs.

- Do they protect existing homes/businesses?
- Do they ensure new development does not increase flood hazard risk?
- Are there ways to reduce flood insurance rates?
- Are there repeatedly flood damaged properties that should be addressed?

**Chehalis River Basin  
Basin-Wide Floodplain  
Management Assessment**



November 30, 2014

**F** French & Associates, LTD.  
2001 Havelock Court  
Steilacoom, WA 98588

❑ 2015-17: Advise Flood Authority, Governor's Workgroup, and Basin communities on:

- Retrofitting buildings to meet flood opening criteria.
- Identify home elevation projects.
- Improving local floodplain management programs.



# 7. Restore Salmon and Aquatic Species

## Salmon:

- At 15-25% historic levels.
- Habitat substantially degraded.

## 2013-15:

- Collected data (aquatic species, water quality, hydrologic, etc.).
- Analyzed/modelled data to understand relationships (fish, wildlife, water quality, sediment, streamflow, flooding, etc.).
- Developed “Aquatic Species Enhancement Plan“ (8/29/2014).

## 2015-17:

- Convene broad group to identify, implement early actions
  - Remove barriers to fish passage.
  - Restore off-channel habitat.
  - Address bank erosion.

Chinook Salmon  
- Learn more -



Coho Salmon  
- Learn more -



Steelhead  
- Learn more -



Snorkel Surveys



Seine Collections

# 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.

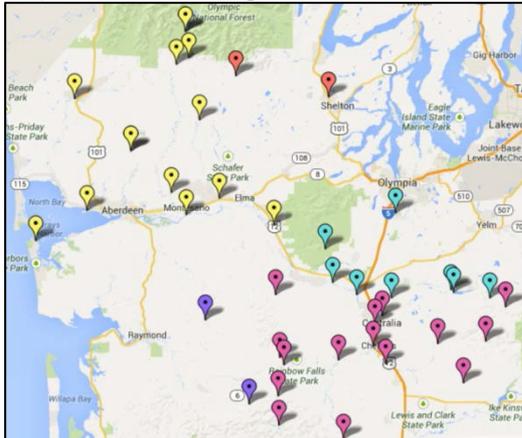
- Improved forecasting, early-warning.



Home <http://www.chehalisriverflood.com>

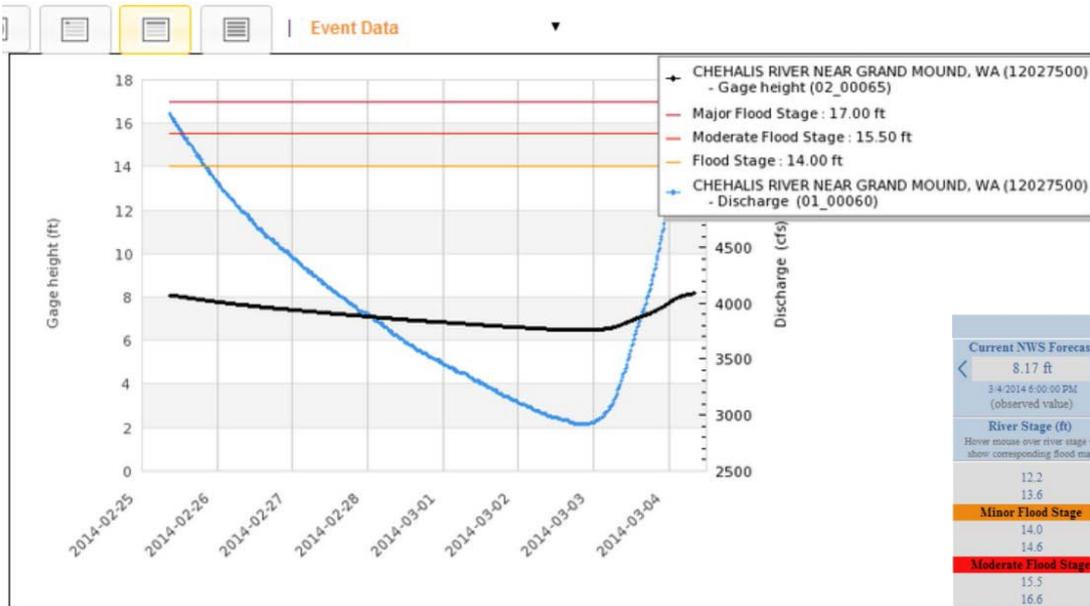
## Chehalis River Basin Flood Authority

 Weather Forecast	 Rainfall Forecast	 River Forecast	 Flood Maps	 Gage Data Graphs
 Gage Data Maps	 Flood Authority News	 Road Conditions	 USGS Gages	 Help



# 8. Early Flood Warning

## Localized tracking, forecasting . . .



Daily discharge, cubic feet per second -- statistics for Mar 4 based on 84 years of record [more](#)

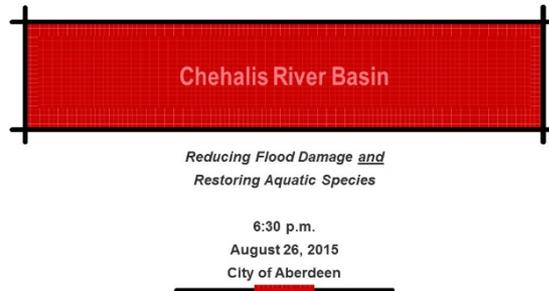
Min (2005)	25th percentile	Median	Mean	Most Recent Instantaneous Value Mar 4	75th percentile	Max (1987)
903	2340	3260	4670	5830	6340	22700

# 9. Outreach, Education and Communication

## Website



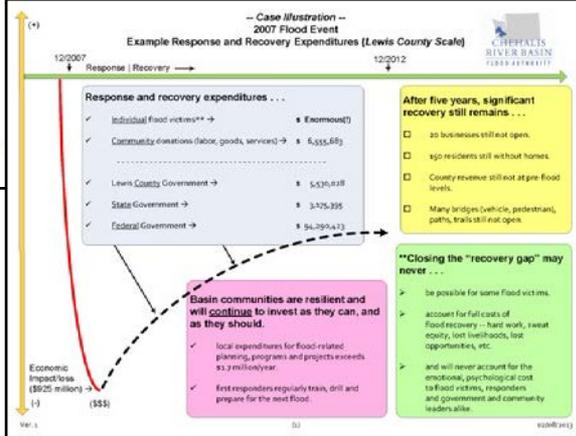
## Outreach Visits



## 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

<http://ruckelshauscenter.wsu.edu/projects/current-projects/chehalisfloodingfish/du/ChehalisFlooding.html>

WASHINGTON STATE UNIVERSITY

## THE WILLIAM D. RUCKELSHAUS CENTER

UNIVERSITY OF WASHINGTON

### Chehalis Basin Strategy

**Chehalis Basin Work Group Recommendations Report**

The Chehalis Basin Work Group has released its [2014 Recommendations Report](#), along with the [Technical Reports](#) referenced in the Work Group's 2014 Recommendations Report.

Read the [press release](#).

Read the [endorsement](#).

**Project Description**

The Chehalis River Basin has experienced significant degradation and a failure to address the

[Documents and Resources](#)

[Group Recommendations](#)

[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

EZview

Project: Chehalis River Basin Flood Authority  
LPT#: 1492

Search Documents Message

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

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

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

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

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

**CHEHALIS RIVER BASIN FLOOD AUTHORITY**

**Staff Governance Board**  
(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 - 01/09/2014 @ 09:31:00  
Click on the Flood Maps Area to see new flood inundation maps for the Centralia, Chehalis, Orly, and Skubbs areas. Maps for Grand Mound and Puyallup will be available soon.

**Links**

WSU: Interactive River Site Map  
WSU: Flood Authority Projects  
WSU: Chehalis River Basin Flood Authority Website  
WSU: LWR Strategic Plan  
Wash. Inland Empire, Regent, Skagitum County, Eastern, Pacific  
Linnik County America - Pacific  
Chehalis Basin Radio  
CRBFA: Chehalis Radio

Weather Forecast  
Basin Forecast  
River Forecast  
Flood Maps  
Open Data Location

Open Data Maps  
Flood Authority News  
Road 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

# 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



Oct. 2016

# Closing – 2007 Flood Damage . . .



# Closing – 2007 Flood Damage . . .



Oct. 2016

# Closing – 2007 Flood Damage . . .

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



Oct. 2016

# Closing – 2007 Flood Damage . . .

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



Oct. 2016

# Closing – 2007 Flood Damage . . .



Oct. 2016

# Closing – 2007 Flood Damage . . .

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



Oct. 2016

# Closing – 2007 Flood Damage . . .



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

# Closing – 2007 Flood Damage . . .



Photos Source:  
WSDOT

Oct. 2016

# Closing – 2007 Flood Damage . . .



Oct. 2016

# Closing – 2007 Flood Damage . . .



# Closing – 2007 Flood Damage . . .



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

# For Further Information . . .

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

Chair, Chehalis River Basin Flood Authority  
Member, Governor's Chehalis Basin Work Group  
360/249-3731  
[vraines@co.grays-harbor.wa.us](mailto:vraines@co.grays-harbor.wa.us)

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

Chehalis River Basin Flood Authority  
Vice-Chair, Chehalis River Basin Flood Authority  
360/740-1283  
[Edna.Fund@lewiscountywa.gov](mailto:Edna.Fund@lewiscountywa.gov)

**Jim Kramer, *Facilitator***

Chehalis River Basin Flood Authority  
Governor's Chehalis Basin Work Group  
206/841-2145  
[jkramer.consulting@gmail.com](mailto:jkramer.consulting@gmail.com)

**Scott Boettcher, *Staff***

Chehalis River Basin Flood Authority  
360/480-6600  
[scottb@sbgh-partners.com](mailto:scottb@sbgh-partners.com)

# Key Links . . .

## 1. Chehalis River Basin Flood Authority -- [www.ezview.wa.gov/chehalisfloodauthority](http://www.ezview.wa.gov/chehalisfloodauthority)

- **Flood Warning System** -- [www.chehalisriverflood.com](http://www.chehalisriverflood.com)
- **Sign-Up for Email Gage Alerts** -- [https://www.ezview.wa.gov/Portals/\\_1492/images/Print50%20--%20HANDOUT%20--%20Gage%20Alerts%20Sign-Up%2008102016.pdf](https://www.ezview.wa.gov/Portals/_1492/images/Print50%20--%20HANDOUT%20--%20Gage%20Alerts%20Sign-Up%2008102016.pdf)
- **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)

## 2. Chehalis Basin Strategy -- [www.chehalisbasinstrategy.com](http://www.chehalisbasinstrategy.com)

- **Department of Ecology** -- <http://www.ecy.wa.gov/programs/sea/sepa/chehalisbasin.html>
- **Ruckelshaus Center** -- <http://ruckelshauscenter.wsu.edu/projects/current-projects/chehalisfloodingfish/du/ChehalisFlooding.html>

## 3. Office of Chehalis Basin – <http://lawfilesexternal.wa.gov/biennium/2015-16/Pdf/Bills/Session%20Laws/House/2856.SL.pdf>

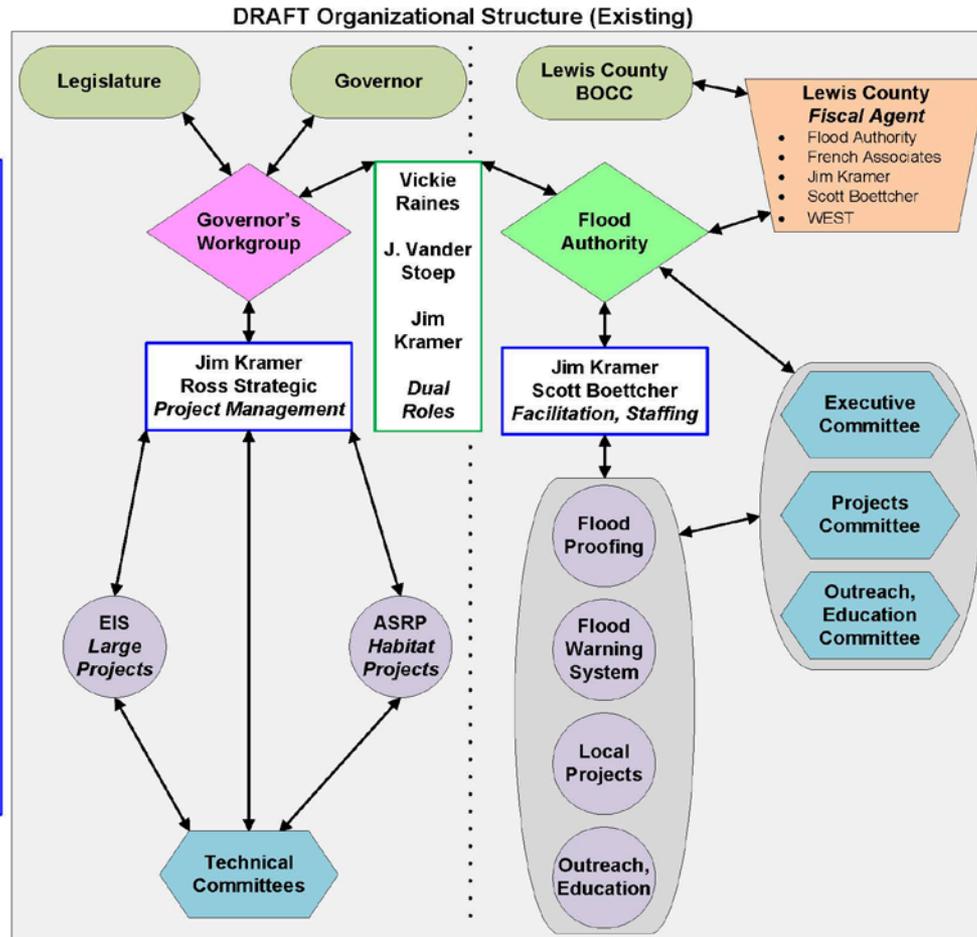
- **Also** -- [https://www.ezview.wa.gov/Portals/\\_1492/images/Office%20of%20Chehalis%20summary%20for%20Flood%20Authority%205%2019%2016.pdf](https://www.ezview.wa.gov/Portals/_1492/images/Office%20of%20Chehalis%20summary%20for%20Flood%20Authority%205%2019%2016.pdf)

# Organizational Structure . . .

**RCO Contracting Agent**

- 64 Contracts
- \$51.6M Total
- 29 Contract Entities

- Contract Entities:**
- Anchor QEA, LLC
  - Capitol Land Trust
  - Chehalis Basin FTF
  - Chehalis Confederated Tribes
  - City of Aberdeen
  - City of Centralia
  - City of Chehalis
  - City of Cosmopolis
  - City of Elma
  - City of Montesano
  - City of Napavine
  - Clean Space Northwest
  - Conservation Commission
  - Dept of Commerce
  - Dept of Ecology
  - Dept of Fish & Wildlife
  - Dept of Natural Resources
  - Grays Harbor County
  - Lewis County Community Development
  - Lewis County Conservation District
  - Lewis County Public Works
  - McCann Construction LLC
  - Quinault Indian Nation
  - Sylvan Terrace Owners Assoc
  - Town of Bucoda
  - Town of Oakville
  - WA Coast Sustainable Salmon Coalition
  - Washington State University
  - Wild Fish Conservancy



**Lewis County Fiscal Agent**

- Flood Authority
- French Associates
- Jim Kramer
- Scott Boettcher
- WEST

**Vickie Raines**  
**J. Vander Stoep**  
**Jim Kramer**  
**Dual Roles**

**Jim Kramer**  
**Scott Boettcher**  
**Facilitation, Staffing**

**Executive Committee**

**Projects Committee**

**Outreach, Education Committee**

**Flood Proofing**

**Flood Warning System**

**Local Projects**

**Outreach, Education**

**Technical Committees**

**EIS Large Projects**

**ASRP Habitat Projects**

**Legislature**

**Governor**

**Lewis County BOCC**

**Governor's Workgroup**

**Flood Authority**

**Jim Kramer  
Ross Strategic  
Project Management**

**Jim Kramer  
Scott Boettcher  
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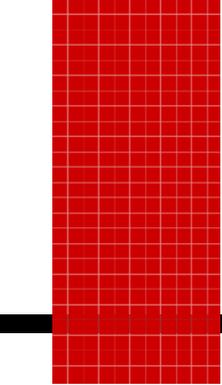
**Outreach, Education**

**EIS Large Projects**

**ASRP Habitat Projects**

9-15-2016

Oct. 2016



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).

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Oct. 2016

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