

# Chehalis Basin: Flooding, People and Fish

For the first time, in over a century of catastrophic floods and years of study, there is broad agreement for the next steps to reduce flood damage, enhance salmon populations, and support the prosperity of communities in the Chehalis Basin.



***Frequent Floods Are Getting Worse and the Damage Is Increasing.*** Major floods in the Chehalis River Basin have occurred about twice each decade, causing loss of human life, loss of livestock, and damage to homes, businesses, farms, roads and railways. The worst floods on record have happened recently, with major, “100-year” floods in 1990, 1996, 2007 and 2009. The economic damages of the 2007 flood alone were estimated at more than \$900 million.



***The Chehalis Is the Second Largest River Basin in the State, Rich in Natural Resources.*** The natural resources of the Chehalis Basin have supported Native Americans for centuries and continue to provide value to all people of the Basin. Despite degradation of natural habitats, salmon, in particular, still play a major cultural, recreational and economic role. In 2004, one of the best years for returning salmon in the last decade, tribal and non-tribal fishers harvested over 80,000 salmon. The protection and restoration of salmon habitat is a primary goal for many in the Basin.

## ***Local Leaders Have Pulled Together to Improve Conditions***

***Now.*** Since the 2007 flood, Basin leaders have been engaged to determine how do reduce the damage from floods. Progress has been made in preparing for future floods; regulations have been changed to restrict development in flood areas; the flood warning system has been improved; and new tools, such as a hydrologic model, have been developed to better understand flooding in the Basin and the potential impacts of flood damage reduction projects.

***A Basin-wide Strategy Can Protect Communities along the River and Enhance Salmon Runs.*** In recognition that the time for decision making has come, Governor Gregoire asked a work group to develop a Basin-wide strategy for moving forward. That work group includes the Chair of the Chehalis Tribe (David Burnett), the Chair and Vice Chair of the Chehalis Basin Flood Authority (Cosmopolis Mayor Vicki Raines and Thurston County Commissioner Karen Valenzuela), a Grays Harbor farmer who heads the Washington Dairy Federation (Jay Gordon), a Chehalis attorney and community leader (J. Vander Stoep) and the Governor’s Natural Resources Policy Advisor (Keith Phillips). With facilitation from the UW/WSU William D. Ruckelshaus Center, the group reached consensus recommendations, which also have the full support of the Chehalis Basin Flood Authority. The recommendations set forth a two-year, twofold, Basin-wide course of action to:

1) promote real improvements through a series of smaller-scale projects now, and 2) complete the analysis needed for decisions to be made about the best mix of additional large and small-scale projects to significantly reduce flood damages and improve salmon runs in the future.

Governor Gregoire endorsed the group's recommendations and her proposed 2013–15 budget directs \$28.2 million in capital funds to implement them. These important investments will lead to reductions in flood damage, healthier ecosystems, and more reliable transportation routes for future generations. They include:



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■ **CONSTRUCT LOCAL FLOOD DAMAGE REDUCTION PROJECTS NOW (\$10.7 MILLION)**

Prioritized projects will protect key infrastructure throughout the Basin to deliver a measurable reduction in damages from major floods. Examples include: protection for the Pe Ell and Montesano wastewater treatment plants and the Bucoda drinking water well, protection of shorelines and roads at Mary's River Lumber and Satsop Business Park and protection for homes and businesses in Cosmopolis and Aberdeen.

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■ **COMPLETE DESIGN ALTERNATIVES FOR LARGE-SCALE FLOOD DAMAGE REDUCTION PROJECTS (\$9.2 MILLION)**

Preliminary feasibility studies on a potential large, upstream water retention structure have been done. The next steps are to refine the engineering designs, further evaluate dam safety, identify more specifically the implications for water quality and quantity and for fish, and complete an economic benefit assessment. Even with an upstream water retention structure, I-5 would require additional flood protection investments in Chehalis and Centralia, and there is a need to complete evaluation of I-5 protection alternatives.

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■ **CONSTRUCT MULTIPURPOSE PROJECTS THAT BOTH REDUCE FLOOD DAMAGE AND BENEFIT FISH (\$4.3 MILLION)**

A coordinated, Basin-wide salmon restoration and enhancement program will be developed to identify and begin construction of projects that can increase flood water storage and other natural flood-plain functions and improve fish habitat.

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■ **REDUCE RESIDENTIAL DAMAGE (\$1.8 MILLION)**

Funding is provided to implement a program of buyouts and flood proofing and to help local communities better manage their flood plains.

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■ **ENSURE SUCCESSFUL IMPLEMENTATION (\$2.2 MILLION)**

Active project management, ongoing government-to-government coordination with tribal nations, and technical and permit assistance from state agencies will ensure that all projects and programs related to the Chehalis Basin are successfully coordinated and implemented.

***The members of the work group are happy to answer questions or provide further information about their recommendations. They can be reached through facilitator Jim Kramer at (206) 841-2145 or [jkramer.consulting@gmail.com](mailto:jkramer.consulting@gmail.com).***

**2012/2013 Projects**

<b>Sponsor</b>	<b>Project</b>	<b>Funded (2012)</b>	<b>Proposed (2013)</b>
1. Aberdeen	<a href="#">Burger King Trail/Dike</a>	\$ 24,600	\$ 140,000
2. Aberdeen	<a href="#">Dike Bank of Wishkah North of Highway</a>	\$ 47,000	\$ 270,000
3. Aberdeen	<a href="#">Market Street Dike</a>	\$ -	\$ 670,000
4. Aberdeen	<a href="#">Southside Dike/Levee Certification</a>	\$ 50,000	\$ -
5. Bucoda	<a href="#">Bucoda Levee</a>	\$ 42,000	\$ 305,000
6. Chehalis Tribe	<a href="#">Flood Gage Station</a>	\$ 50,000	\$ -
7. Chehalis Tribe	<a href="#">Sickman-Ford Overflow Bridge Project</a>	\$ 2,075,000	\$ -
8. Cosmopolis	<a href="#">Mill Creek Dam Improvements</a>	\$ -	\$ 2,250,000
9. Grays Harbor County	<a href="#">Elma-Porter Flood Mitigation Project</a>	\$ -	\$ 584,000
10. Grays Harbor County	<a href="#">Satsop River Floodplain Restoration</a>	\$ 50,000	\$ 510,000
11. Grays Harbor County	<a href="#">Wishkah Road Flood Levee</a>	\$ 125,000	\$ 2,642,000
12. Lewis County	<a href="#">Adna Levee</a>	\$ 244,145	\$ -
13. Lewis County	<a href="#">Airport Levee (Phase I)</a>	\$ 1,239,829	\$ -
14. Montesano	<a href="#">Revetment for Montesano Rd., Sewage Treatment Plant, Mary's River Lumber</a>	\$ 102,426	\$ 2,000,000
15. Pe Ell	<a href="#">Wastewater Treatment Plant Flood Prevention Dike</a>	\$ -	\$ 521,000
16. WA Cons. Comm.	<a href="#">Critter Pads and Evacuation Routes</a>	\$ 500,000	\$ 850,000
17. Sponsor???	<a href="#">Restoration -- Allen Creek</a>	\$ -	\$ 990,000
18. Sponsor???	<a href="#">Restoration -- Oxbow Reconnect at RM 78</a>	\$ -	\$ 861,000
19. Sponsor???	<a href="#">Restoration -- Oxbow Lake Reconnect</a>	\$ -	\$ 1,149,000
20. Sponsor???	<a href="#">Restoration -- Basin-wide Salmon Recovery Strategy</a>	\$ -	\$ 1,350,000
<b>Total =</b>		<b>\$ 4,550,000</b>	<b>\$ 15,092,000</b>

The following projects were prioritized for implementation:

<b>PROJECT</b>	<b>DESCRIPTION</b>	<b>13-15 ACTION</b>	<b>BENEFIT</b>	<b>COST</b>
Allen Creek Restoration - along Case Road, just south of 113th Ave. SW, between Littlerock and Maytown	Restore natural functions to the Allen Creek floodplain. Slow the creek down and restore more natural flood flow paths and flood storage.  Improve 2100 feet of salmon habitat in the Scatter Creek Watershed.	Design and construct	Environmental benefits for fish and wildlife. Channel reconnection and riparian restoration can store and attenuate flood flows.	\$990,000
Near RM 78 on the Chehalis River	Oxbow reconnection with mainstem of the Chehalis River, with side channel and floodplain storage enhancement. Enhance low elevation areas, side channels, and floodplain habitat with vegetated benches and large woody vegetation.	Design and construct	Riparian cover and off-channel storage store and attenuate flood flows.	\$861,000
Oxbow Lake Reconnection	Oxbow reconnection, riparian restoration of 75 acres, install large woody debris	Design and construct	Increased flood storage and attenuation in floodplain. Winter rearing for fish.	\$1,149,000
Chehalis River Basin	Basin-wide salmon recovery strategy, with objectives, targets and priority projects	Identify multipurpose projects	List of priority projects for flood mitigation and fish enhancement work in the Basin	\$1,350,000
			TOTAL	\$4,350,000

2012/2013 Funded Projects				
Project Contact/Lead	Project	Ecology Contact	WDFW Contact	Federal Agency Contact
Malcolm Bowie, Public Works Director City of Aberdeen 360/537-3228 <a href="mailto:mbowie@aberdeenwa.gov">mbowie@aberdeenwa.gov</a>	a. <a href="#">City of Aberdeen -- Market Street Dike</a>	Rick Mraz 360-407-6221 <a href="mailto:rmra461@ecy.wa.gov">rmra461@ecy.wa.gov</a>	Amy Spoon 360-249-4628 ex 1228 <a href="mailto:Amy.Spoon@dfw.wa.gov">Amy.Spoon@dfw.wa.gov</a>	Ron Wilcox, USACE 206-316-3893 <a href="mailto:Ronald.J.Wilcox@usace.army.mil">Ronald.J.Wilcox@usace.army.mil</a>  Jerry Gregory, USACE 206-764-6665 <a href="mailto:Jerry.gregory@usace.army.mil">Jerry.gregory@usace.army.mil</a>  Tom Hausman, NOAA 360-753-9596 <a href="mailto:tom.hausmann@noaa.gov">tom.hausmann@noaa.gov</a>  Jeff Fisher, NOAA 360-705-2251 <a href="mailto:jeff.fisher@noaa.gov">jeff.fisher@noaa.gov</a>
	b. <a href="#">City of Aberdeen -- Burger King Trail/Dike</a>	Lori Ochoa 360-407-6926 <a href="mailto:lori.ochoa@ecy.wa.gov">lori.ochoa@ecy.wa.gov</a>		
	c. <a href="#">City of Aberdeen -- Dike Bank of Wishkah North of Highway</a>	Deborah Cornett 360-407-7269 <a href="mailto:deborah.cornett@ecy.wa.gov">deborah.cornett@ecy.wa.gov</a>		
	d. <a href="#">City of Aberdeen -- Southside Dike/Levee Certification</a>			
Russell D. Esses, County Engineer Grays Harbor County 360/249-4222 <a href="mailto:resses@co.grays-harbor.wa.us">resses@co.grays-harbor.wa.us</a>	e. <a href="#">Grays Harbor County -- Satsop River Floodplain Restoration</a>		Ryan McReynolds 360-753-6047 <a href="mailto:ryan_mcreynolds@fws.gov">ryan_mcreynolds@fws.gov</a>	
	f. <a href="#">Grays Harbor County -- Wishkah Road (Kersh) Flood Levee</a>			
	g. <a href="#">Grays Harbor County -- Elma-Porter Flood Mitigation Project</a>			
Ken Estes, Mayor City of Montesano 360/249-3021 X-102 <a href="mailto:mayor@montesano.us">mayor@montesano.us</a>	h. <a href="#">City of Montesano -- Revetment to Protect Montesano Rd, Sewage Treatment Plant and Mary's River Lumber</a>			
Darrin Raines, Public Works / Community Development Director City of Cosmopolis 360/533-4280 <a href="mailto:draines@cosmopolis.us.com">draines@cosmopolis.us.com</a>	i. <a href="#">City of Cosmopolis -- Mill Creek Dam Improvements</a>			

2012/2013 Funded Projects				
Project Contact/Lead	Project	Ecology Contact	WDFW Contact	Federal Agency Contact
Alan Carr, Mayor Town of Bucoda 360/250-2318 <a href="mailto:mayorofbucoda@scattercreek.com">mayorofbucoda@scattercreek.com</a>	j. <a href="#">Town of Bucoda -- Bucoda Levee</a>	Alex Callender 360-407-6167 <a href="mailto:alex.callender@ecy.wa.gov">alex.callender@ecy.wa.gov</a>  Lori Ochoa 360-407-6926 <a href="mailto:lori.ochoa@ecy.wa.gov">lori.ochoa@ecy.wa.gov</a>		
Rod Lakey, Assistant County Engineer Lewis County 360/740-2780 <a href="mailto:rodney.lakey@lewiscountywa.gov">rodney.lakey@lewiscountywa.gov</a>	k. <a href="#">Lewis County -- Adna Levee (Construct Full Project)</a>	Deborah Cornett 360-407-7269 <a href="mailto:deborah.cornett@ecy.wa.gov">deborah.cornett@ecy.wa.gov</a>	Scott Brummer (360) 520-6843 <a href="mailto:Scott.Brummer@dfw.wa.gov">Scott.Brummer@dfw.wa.gov</a>	
Tim Elsea, County Engineer Lewis County 360/740-2697 <a href="mailto:tim.elsea@lewiscountywa.gov">tim.elsea@lewiscountywa.gov</a>	l. <a href="#">Lewis County -- Airport Levee (Construct Phase I)</a>			
Mike Johnson Gray and Osbourne 360/292-7481 <a href="mailto:olympia@g-o.com">olympia@g-o.com</a>	m. <a href="#">Town of Pe Ell -- Wastewater Treatment Plant Flood Prevention Dike</a>			
Butch Ogden WA Conservation Commission 360/274-6117 <a href="mailto:bogden@scc.wa.gov">bogden@scc.wa.gov</a>	n. <a href="#">WA Conservation Commission – Critter Pads and Evacuation Routes</a>	Rick Mraz 360-407-6221 <a href="mailto:rmra461@ecy.wa.gov">rmra461@ecy.wa.gov</a>  Alex Callender 360-407-6167 <a href="mailto:alex.callender@ecy.wa.gov">alex.callender@ecy.wa.gov</a>  Lori Ochoa 360-407-6926 <a href="mailto:lori.ochoa@ecy.wa.gov">lori.ochoa@ecy.wa.gov</a>  Deborah Cornett 360-407-7269 <a href="mailto:deborah.cornett@ecy.wa.gov">deborah.cornett@ecy.wa.gov</a>	Amy Spoon 360-249-4628 ex 1228 <a href="mailto:Amy.Spoon@dfw.wa.gov">Amy.Spoon@dfw.wa.gov</a>  Scott Brummer (360) 520-6843 <a href="mailto:Scott.Brummer@dfw.wa.gov">Scott.Brummer@dfw.wa.gov</a>	