



July 8, 2014

**TO:** Centralia City Council Members

**FROM:** Scott Boettcher, Staff, CRBFA (360/480-6600, [scottb@sbgh-partners.com](mailto:scottb@sbgh-partners.com))

**SUBJECT:** Brief Update of Flood Hazard Reduction Activities in the Chehalis Basin

<p><b>1. Local Projects Completed (or by flood season):</b></p> <ul style="list-style-type: none"> <li>• Adna Levee.</li> <li>• Bucoda Water Supply Levee.</li> <li>• Montesano WWTP Levee.</li> <li>• Chehalis Tribe Sickman-Ford Overflow Bridge.</li> <li>• 5 Livestock and Equipment Pads.</li> <li>• 2 Livestock Evacuation Routes.</li> <li>• 10 Additional Livestock/Equipment Pads.</li> <li>• 2 Capacity Expansions For Existing Pads.</li> <li>• 1 Evacuation Route.</li> <li>• Montesano Sheet Pile Wall.</li> <li>• Airport Levee Phase IA.</li> <li>• Pe Ell WWTP Protection Levee.</li> <li>• Map = <a href="http://goo.gl/maps/Vq8YY">http://goo.gl/maps/Vq8YY</a>.</li> </ul>	<p><b>2. Local Projects Proposed for Further Review/Evaluation/Costing**:</b></p> <ul style="list-style-type: none"> <li>• Kirkland Road Flooding Study.</li> <li>• SR6 Bypass and Road Raise.</li> <li>• Dillenbaugh Creek Realignment.</li> <li>• Chehalis Main Street Regrade.</li> <li>• Salzer Creek.</li> <li>• Preliminary designs/costs (Summer 2014).</li> <li>• Map = <a href="http://goo.gl/maps/QqnV5">http://goo.gl/maps/QqnV5</a>.</li> </ul>
<p><b>3. Aquatic Species Enhancement**:</b></p> <ul style="list-style-type: none"> <li>• Salmon populations are 15-25% of historic levels.</li> <li>• Evaluating habitat enhancement options, benefits, costs (barrier removal, riparian enhancement, water quantity/quality, etc.).</li> <li>• Preliminary plan (Summer 2014).</li> <li>• \$63M - \$134M.</li> </ul>	<p><b>4. Upper Basin Retention Structure**:</b></p> <ul style="list-style-type: none"> <li>• Evaluating options, benefits, costs, impacts:             <ul style="list-style-type: none"> <li>○ Flood Retention only (\$265M - \$421M).</li> <li>○ Multipurpose (fish, water, hydro) (\$369M - \$708M).</li> </ul> </li> <li>• Preliminary design (Summer 2014).</li> </ul>
<p><b>5. I-5 Protection**:</b></p> <ul style="list-style-type: none"> <li>• Evaluating protecting I-5 w/ walls, levees, berms.</li> <li>• Dropped raising or relocating I-5.</li> <li>• Preliminary design (Summer 2014).</li> <li>• \$80M - \$100M.</li> </ul>	<p><b>6. Flood Proofing**:</b></p> <ul style="list-style-type: none"> <li>• Evaluating options, benefits, costs of flood proofing residential, commercial, agricultural structures in floodplain.</li> <li>• Compare costs w/ and w/out Dam (Summer 2014).</li> <li>• \$92M (\$57M, \$21M, \$14M).</li> </ul>
<p><b>7. Basin Relationships/Partnerships:</b></p> <ul style="list-style-type: none"> <li>• Very strong.</li> </ul>	<p><b>8. Looking Ahead:</b></p> <ul style="list-style-type: none"> <li>• Sept. 2014 – Technical, policy, public workshops.</li> <li>• Nov. 2014 – Recommendations to Gov./Leg.</li> <li>• \$500M - \$1B.</li> </ul>

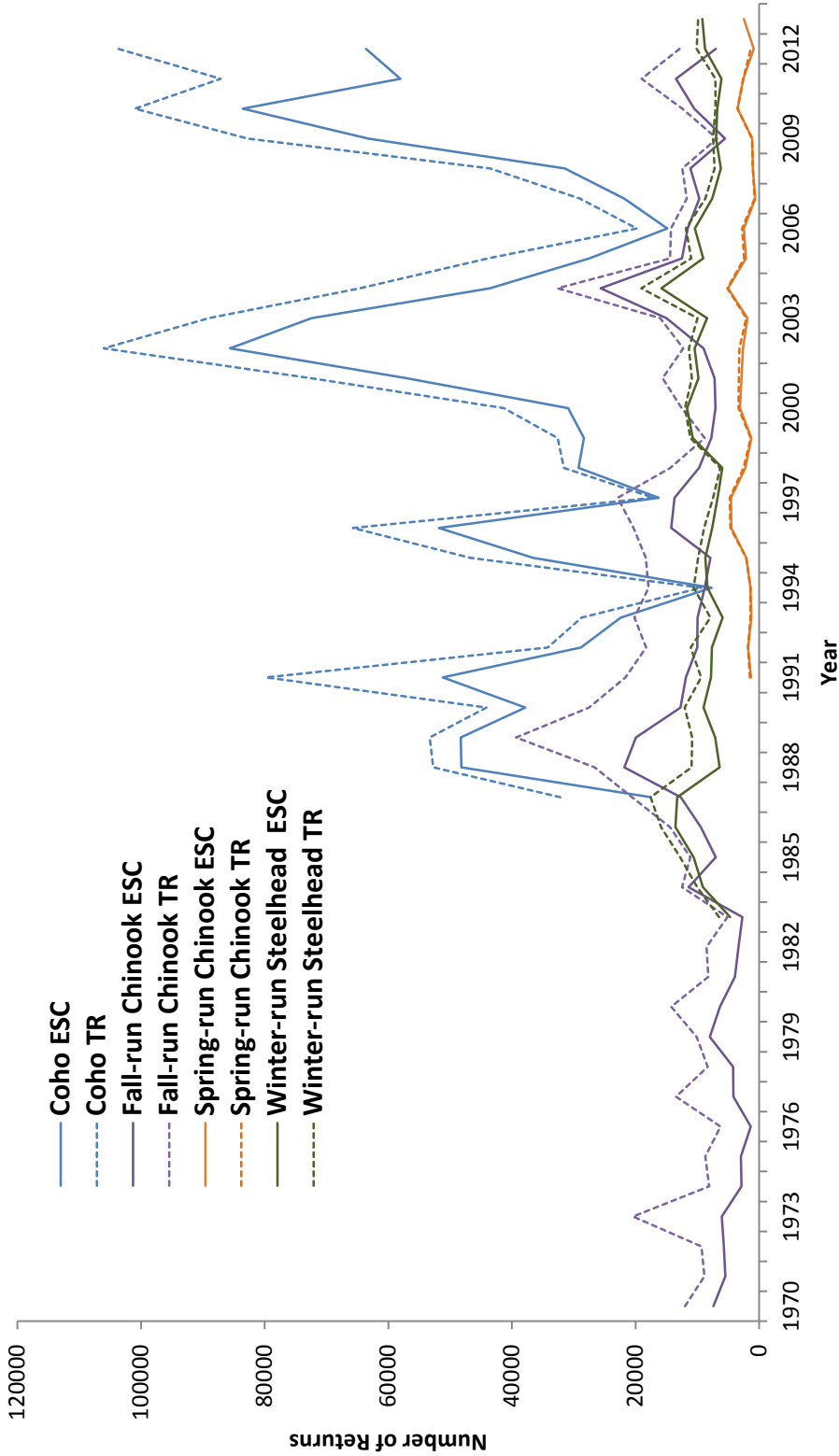
**Outreach/Education Presentation:** [https://www.ezview.wa.gov/site/alias\\_1492/34490/outreach\\_education.aspx](https://www.ezview.wa.gov/site/alias_1492/34490/outreach_education.aspx).

**May 2014 Public Meeting:** [https://www.ezview.wa.gov/site/alias\\_1492/34798/meetings\\_2013-15.aspx](https://www.ezview.wa.gov/site/alias_1492/34798/meetings_2013-15.aspx).

**Local Project Construction Photos:** [https://www.ezview.wa.gov/site/alias\\_1492/35040/Default.aspx](https://www.ezview.wa.gov/site/alias_1492/35040/Default.aspx).

# Salmon Runs

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# Other Fish and Aquatic Species

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# Flood Retention Only Reservoir

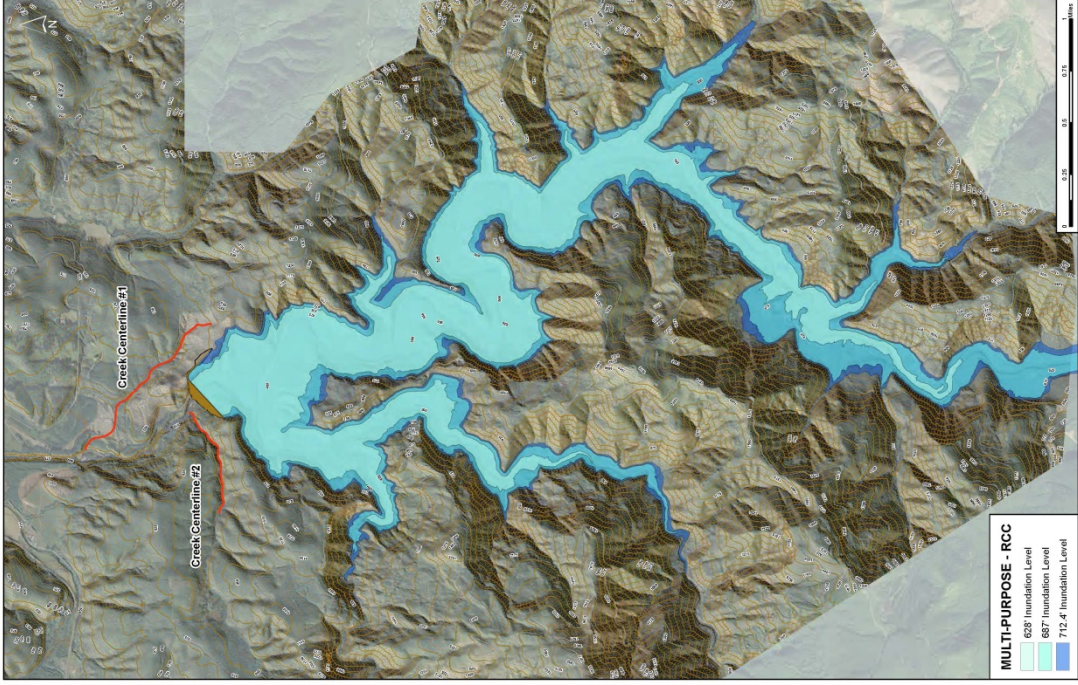
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- Dam Height = 227'
- Spillway Crest Elev. = 628
- Dam Crest Elev. = 654
- Area = 860 Acres
- River Inundation Length = 6.8 mi
- Maximum Storage = 65K acre/feet

# Multi-purpose Reservoir Overview

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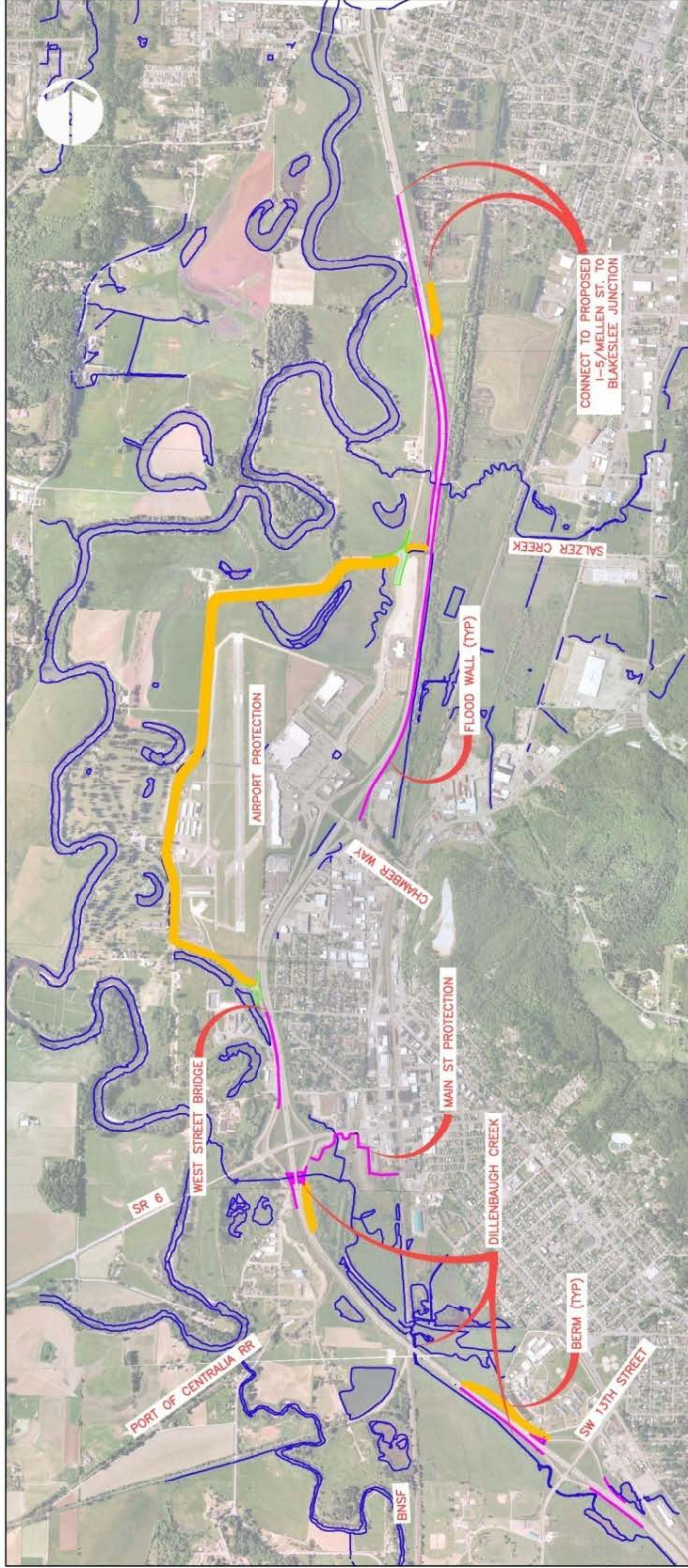


- Dam Height = 287'
- Spillway Crest Elev. = 687
- Dam Crest Elev. = 714
- Area = 1,307 Ac
- River Inundation Length = 7.5 mi
- Maximum Storage = 130K acre/feet

# Protect I-5 with walls and levees

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Project Cost: \$ 80 – 100 Million



# Floodproofing - Structures Affected

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Summary of Structures At Risk of Flooding in Chehalis River Floodplain

Number of Structures	Baseline					With Dam and Airport Levee		
	Dec 07	500-Year	100-Year	20-Year	10-Year	Dec 07	500-Year	100-Year
<b>Flooded</b>	2040	3645	1384	372	175	753	2031	821
<b>&gt;1.0 feet</b>	1368	2743	829	167	83	432	1306	459
<b>&gt;2.0 feet</b>	820	1926	489	76	28	241	762	241
<b>&gt;3.0 feet</b>	470	1159	293	22	7	139	471	117
<b>&gt;4.0 feet</b>	263	657	155	6	2	65	300	54
<b>&gt;5.0 feet</b>	159	385	76	1	0	28	158	25
<b>Assessed Value of Improvements Inundated (\$Million)</b>	\$238	\$411	\$137	\$30	\$13	\$64	\$206	\$73
<b>Cost to Floodproof all Inundated Structures (\$Million)</b>	\$146	\$273	\$92	\$20	\$9	\$46	\$149	\$50
<b>Residential (\$ Mil)</b>	\$107	\$205	\$57	\$10	\$4	\$28	\$101	\$28
<b>Commercial (\$ Mil)</b>	\$26	\$44	\$21	\$6	\$3	\$11	\$26	\$12
<b>Agricultural (\$ Mil)</b>	\$13	\$24	\$14	\$4	\$2	\$7	\$22	\$10

# 1. Basin-Wide Relationships

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