

Technical Projects Update

YRBWEP Workgroup Meeting
June 3, 2015



Presented by:

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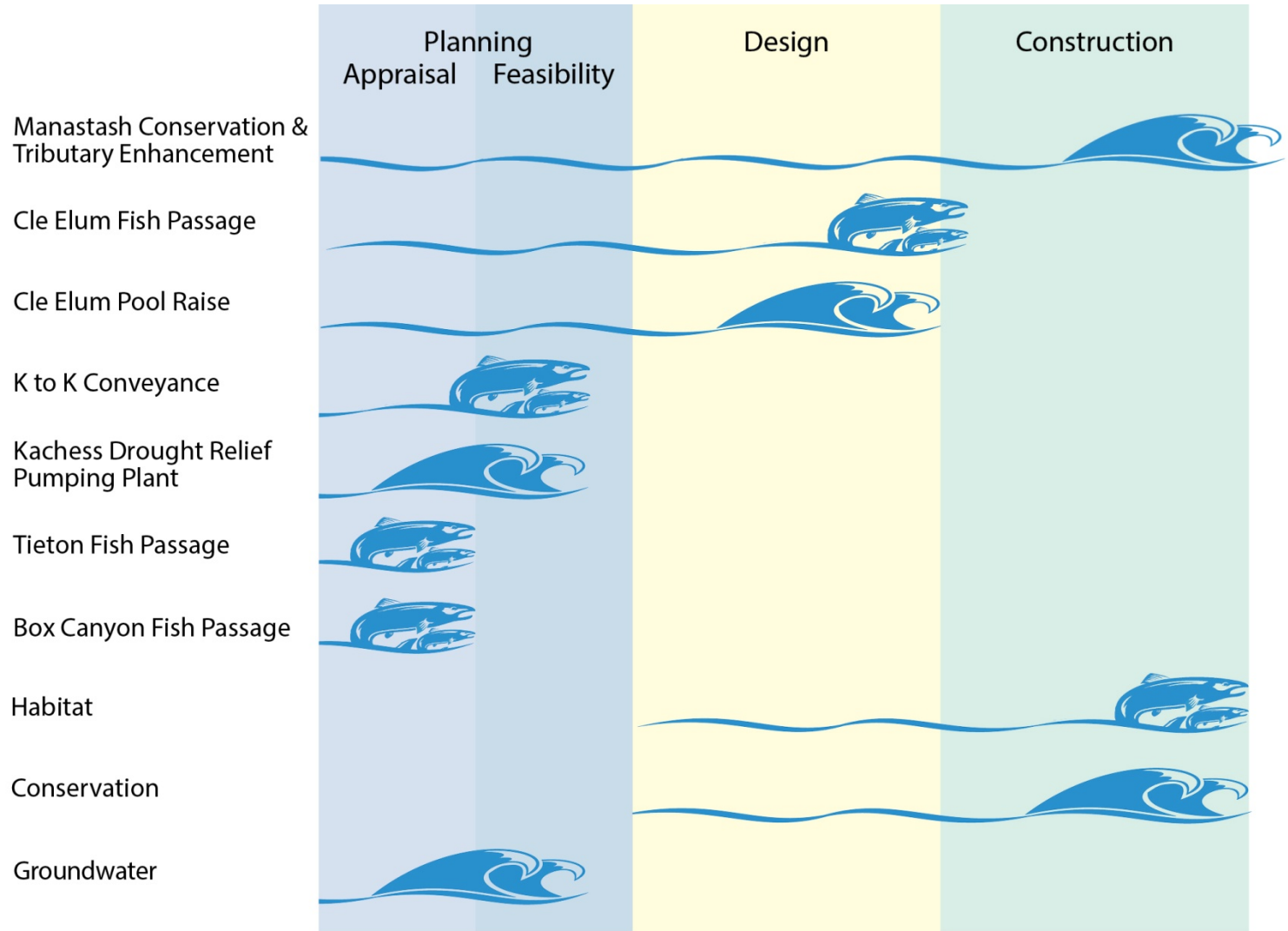


Ongoing Projects

- Kachess Drought Relief Pumping Plant
- Keechelus-to-Kachess Conveyance
- Bull Trout Enhancement
- Wymer Dam and Reservoir
- Bumping Dam and Reservoir Enlargement
- Cle Elum Pool Raise
- Cle Elum Dam Fish Passage Facilities
- Tieton Dam Fish Passage Facilities Study
- Clear Lake Dam Fish Passage
- Groundwater Storage – Basinwide Analysis
- Groundwater Storage – City of Yakima Aquifer Storage and Recovery (ASR)
- Manastash Creek Conservation and Tributary Enhancement
- Habitat Enhancement and Agricultural Conservation Projects
- Teanaway Community Forest



Accomplishments 2013-2015

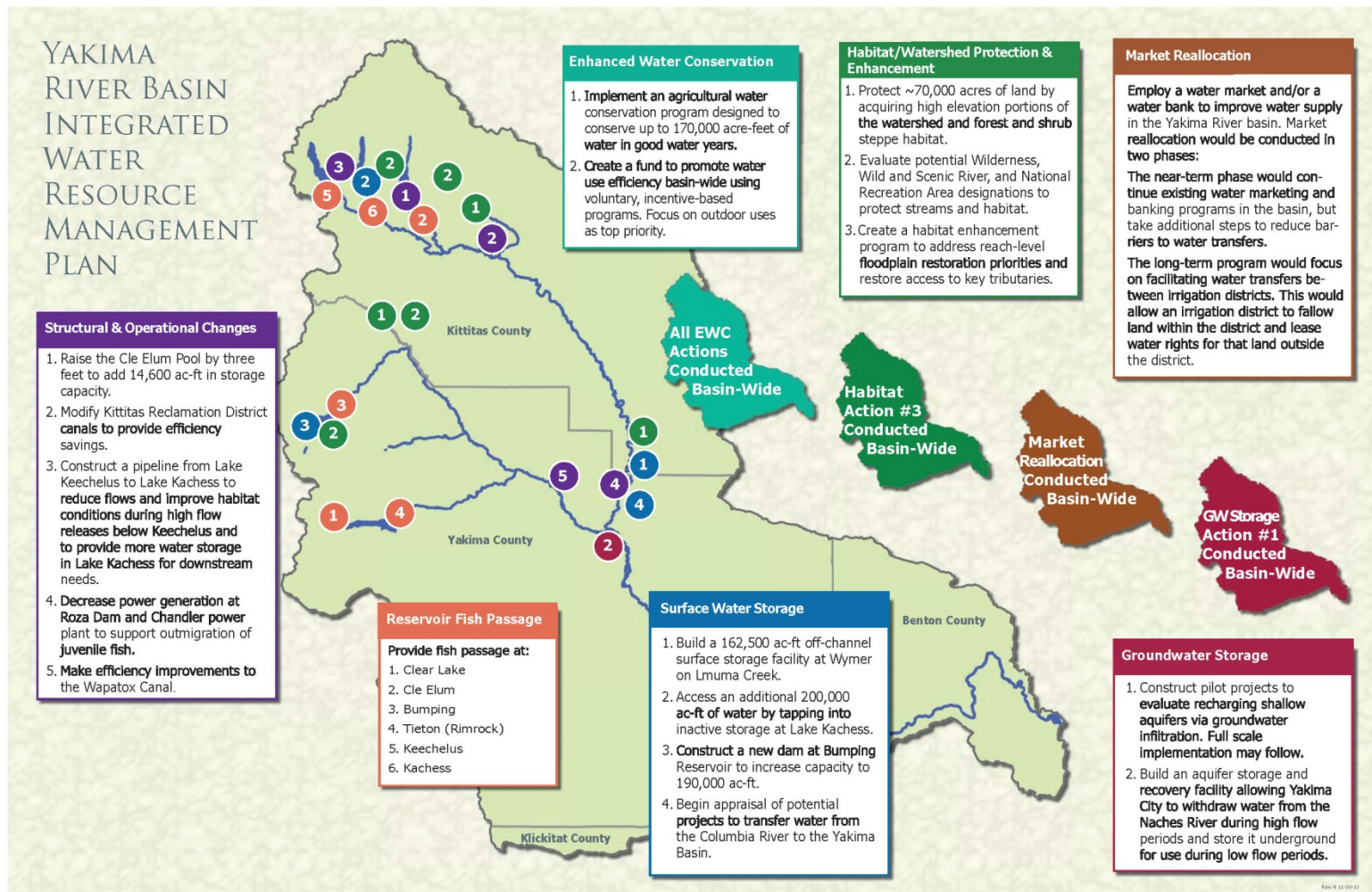


Accomplishments 2013-2015

Teanaway Watershed
Protection



Plan Overview



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Integrated Plan Element	Washington State Capital Budget	2013-2015 Focus
Habitat	\$99,344,000	Outright purchase Teanaway Valley lands. Implement numerous habitat projects*
Fish Passage	\$9,400,000	Cle Elum Dam Fish Passage construction ready / other studies
Operational Modifications	\$650,000	Prepare K-to-K Conveyance FR&EIS
Surface Storage	\$18,800,000	Kachess Drought Relief Pumping Plant FR&EIS and Cle Elum Pool Raise construction ready
Aquifer Storage and Recovery	\$400,000	Regional siting study. Construct one project*
Water Conservation	\$2,500,000	Construct numerous projects*
Market Driven Reallocation	\$350,000	Develop banking and exchange programs
Total State Contribution	\$131,444,000	
*Additional funding being sought through other sources		

Structural and Operational Changes



Structural & Operational Changes

- Raise the Cle Elum Pool by 3 feet, adding 14,600 acre-feet to storage
 - **Final EIS released**
 - **Radial gate modification design complete**
 - **Construction could begin Fall 2015, contingent on completion of environmental compliance and funding.**
- Modify Kittitas Reclamation District canals for efficiency savings
 - **Manastash Creek Restoration - construction complete on Lateral 13.8 and project is operating successfully**
 - **KRD working on developing other projects with coordination with NMFS and Yakama Nation**
 - **Pilot project in process this year for tributary enhancement during drought year**



Structural & Operational Changes (con't)

- Construct a pipeline from Keechelus to Kachess to reduce flows and improve habitat conditions during high-flow releases below Keechelus and to provide more water storage in Lake Kachess for downstream
 - **Draft EIS released to public**
 - **Feasibility study in process**
- Decrease power generation at Roza Dam and Chandler Power Plants to support outmigration of juvenile fish
 - **Chandler**
 - ✓ **Reviewing Chandler Pumping Plant electrification**
 - **Roza**
 - ✓ **Conducted 3-year study; draft final report - May 2015**
 - ✓ **Defined flow-to-survival rate in reach**
 - ✓ **Survival rate based on dam operations**



Reservoir Fish Passage



Reservoir Fish Passage

- Clear Lake Dam
 - **Third year of study completed**
- Cle Elum Dam
 - **Construction to begin Fall 2015**
- Bumping Dam
- Tieton Dam
 - **Appraisal Assessment to be complete Fall 2015**
- Keechelus Dam
 - **Conceptual Design Report drafted, to be finalized after meeting with Yakima Storage Dam Fish Passage Core Team mid-June.**
- Kachess Dam
 - **Conceptual Design Report drafted, to be finalized after meeting with Yakima Storage Dam Fish Passage Core Team in mid-June.**



Surface Water Storage



Surface Water Storage

- Build 162,500 acre-feet off-channel surface storage facility at Wymer on Lmuma Creek
 - **Key Consideration Analysis and WDFW surveys in process**
- Access an additional 200,000 acre-feet of water by tapping into inactive storage at Lake Kachess
 - **Draft EIS released to public**
 - **Feasibility study in process**
- Construct a new dam at Bumping Reservoir to increase capacity to 190,000 acre-feet
 - **Key Consideration Analysis and WDFW surveys in process**
- Begin appraisal of potential projects to transfer water from the Columbia River to the Yakima Basin.



Groundwater Storage



Groundwater Storage

- Construct pilot projects to evaluate recharging shallow aquifers via groundwater infiltration. Full-scale implementation may follow.
 - **Initial siting analysis complete, pilot study in process**
- Build an aquifer storage and recovery facility allowing City of Yakima to withdraw water from the Naches River during high-flow periods and store it under-ground for use during low-flow periods.
 - **City of Yakima began recharging water to the aquifer in March 2015, under a temporary ASR permit issued by Ecology.**

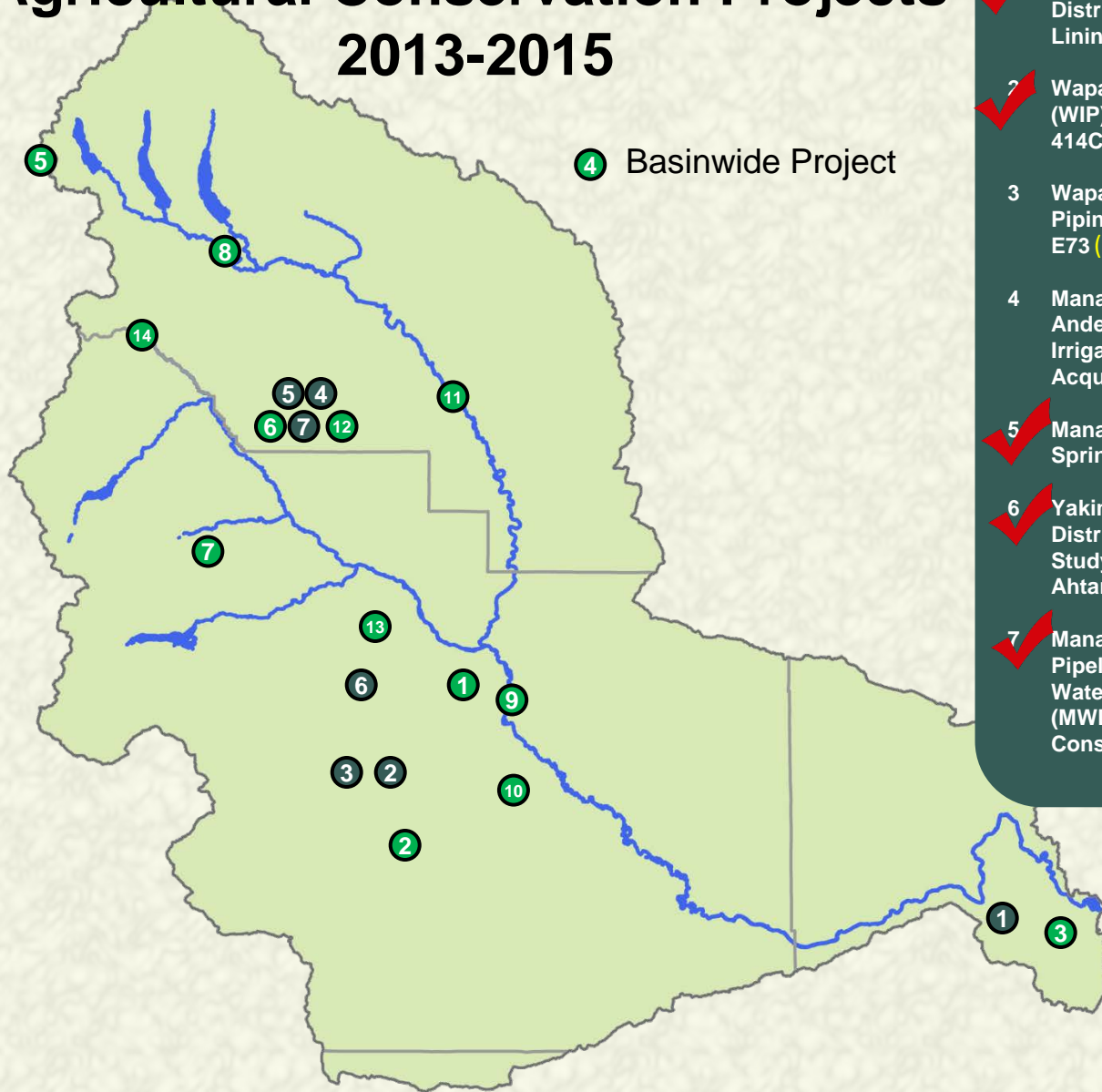


Habitat Enhancement Projects

- 1 ✓ Gap-to-Gap Outfall Relocation
- 2 Toppenish Fan (Spring 2016)
- 3 ✓ Bateman Island Causeway Modification Conceptual Design
- 4 Bull Trout Task Force Habitat Improvements (Oct 2015)
- 5 ✓ Gold Creek Habitat Assessment and Conceptual Design
- 6 Reed Diversion design Barrier Removal (Fall 2015)
- 7 Little Rattlesnake Road Decommissioning (Fall 2015)
- 8 ✓ Cle Elum River Side Channel Restoration Project, Phase 2
- 9 Gap-to-Gap Property Acquisitions (Spring 2016)
- 10 Upper Wapato Riparian Restoration (Spring 2016)
- 11 Ellensburg Water Company / Coleman Creek Restoration (Spring 2016)
- 12 Reed Diversion Barrier Removal (Fall 2016)
- 13 Trout Meadows Acquisition / Enhancement (Spring 2016)
- 14 ✓ Manastash/ Little Naches Land Acquisition

Yakima Integrated Plan

Habitat Enhancement/Enhanced Agricultural Conservation Projects 2013-2015



Agricultural Conservation Projects

- 1 ✓ Kennewick Irrigation District (KID) Division IV Lining
- 2 ✓ Wapato Irrigation Project (WIP) Piping Lateral 4-414C
- 3 Wapato Irrigation Project Piping Satus East Lateral E73 (Spring 2016)
- 4 Manastash Creek, Anderson Diversion Irrigation Water Acquisition (Spring 2016)
- 5 ✓ Manastash Creek Sprinkler Conversions
- 6 ✓ Yakima-Tieton Irrigation District (YTID) Feasibility Study – Tieton to Ahtanum Exchange
- 7 ✓ Manastash – Consolidated Pipeline & Manastash Water Ditch Association (MWDA) Pipeline Construction

Enhanced Water Conservation



Enhanced Water Conservation

- Implement an agricultural water conservation program designed to conserve up to 170,000 acre-feet of water in average water years
 - **Completed 5 out of 7 projects for 2013-2015**
 - **Water savings 2,874 acre-feet, in addition to the 40,000 acre-feet that has been acquired through YRBWEP.**



Habitat/Watershed Protection and Enhancement



Habitat/Watershed Protection and Enhancement

- Protect ~ 70,000 acres of land by acquiring high-elevation portions of the watershed and forest and shrub-steppe habitat
 - **Over 55,000 acres of land has been acquired**
- Create a habitat enhancement program to address reach-level floodplain restoration priorities and restore access to key tributaries
 - **5 out of 14 projects for 2013-2015 have been completed**
 - **3,170 acres of floodplain connectivity**
 - **47,921 acres forested lands in little Naches**
 - **1.9 cfs winter stock in trust Nov-Mar in Manastash Creek**
 - **5 miles of improved instream flow in Cle Elum River side channel**



Market Reallocation



Market Reallocation

- Employ a water market and/or a water bank to improve water supply in the Yakima River basin. Market reallocation would be conducted in two phases.
- The near-term phase would continue existing water marketing and banking programs in the basin, but take additional steps to reduce barriers to water transfers.
- The long-term program would focus on facilitating water transfers between irrigation districts. This would allow an irrigation district to fallow land within the district and lease water rights for that land outside the district.
 - **Yakima County and Kittitas County continue to work on procedures to enable property development that rely, in part, on acquisition of water or mitigation credits from willing sellers.**
 - **Governor Inslee issued a drought declaration affecting the Yakima River basin, and this will enable the Department of Ecology to lease water from willing sellers to meet certain needs within the basin this year.**

