The Columbia River Program
A Decade of Water Supply Development

Columbia River Policy Advisory Group (CRPAG)
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Washington State Department of Ecology
A Decade of Water Supply Development

- Where have we been? What has the $200 million bonding authority funded?

- Where are we now? What projects are currently under construction/in planning?

- Where are we going? What does the budget request for 2017-19 look like?
Program Evolution

- Problem solving focus

- Seeking balance
  - In water allocation
  - Between mainstem and tributaries in program focus
  - In geographic distribution of projects
  - In types of projects
  - Between water quantity and overall aquatic resources
RCW 90.90 Statutory Focus

1. Find alternatives to groundwater for the Odessa subarea aquifer

2. Develop water supply for pending water right applications

3. Create uninterruptible supply of water for interruptible water right holders

4. Meet new municipal, domestic, industrial and irrigation water needs

5. Provide water for instream needs
OCR Water Projects 2006 - 2016

Yakima Basin
Integrated Plan Initial Development Projects
- Kochers Drought Relief Pumping Plant
- Cle Elum Pool Release
- Cle Elum Fish Passage
- Teanaway Acquisition
- Manastash Conservation and Rehabilitation Enhancement
- Yakima City ASR
- 15,000 ac-ft Out-of-Stream
- 145 ac-ft Instream

Basin-Wide Projects
- Habitat Enhancement & Restoration through 2015
- 5,316 acres of Thompson reconnected
- 47,360 acres of Little Naches watershed protected
- Enhanced Water Conservation through 2015
- 2,874 acre-feet

Other Yakima Basin Integrated Plan Projects
- 226,000 ac-ft Instream & Out-of-Stream

Columbia Basin
- Idaho/Red Mountain
- Horse Heaven Hills
- Pomeroy Ranch
- Kennewick ASR
- 7815 ac-ft Instream
- 11,805 ac-ft Instream
- 105,000 ac-ft Out-of-Stream
- 6,436 ac-ft Instream
- 318 ac-ft Instream

Gosex & Nine Mile Flat Storage
- Methow Projects
- 283 ac-ft Out-of-Stream

Peshastin Pump Exchange
- 1,000 ac-ft Instream

Peshastin ID Piping
- 2,874 ac-ft Instream

Lower Wenatchee Instream Flow Enhancement
- 2,874 ac-ft Instream

Lake Roosevelt
- reservoir, Bosque, Appleton, and other Storage Releases
- 15,000 ac-ft Out-of-Stream
- 1,000 ac-ft Out-of-Stream

Spokane-Spokane ASR
- 145,000 ac-ft Out-of-Stream

Region-Wide Projects
- Conservation Commission Irrigation Efficiency
- 1,000 ac-ft Out-of-Stream
- Conservation Commission Reimbursement
- 1,000 ac-ft Out-of-Stream
- Regional Aquifer Storage and Recovery
- 1,000 ac-ft Out-of-Stream
- Donations
- 1,000 ac-ft Out-of-Stream
A Decade of State Infrastructure Investments

Office of Columbia River
Water Supply Development - 2015

Developed

395,700 Acre-Feet

- Barker Ranch: 6,436 ac-ft
- Columbia Basin ID Piping: 26,000 ac-ft
- Conservation Commission Irrigation Efficiency: 3,476 ac-ft
- Donations: 13,060 ac-ft
- KID/Red Mountain: 11,005 ac-ft
- Lake Roosevelt: 132,500 ac-ft
- Lower Wenatchee Piping: 7,823 ac-ft
- Manastash: 1,300 ac-ft
- Methow Trust Water Acquisition: 79 ac-ft
- Odessa Subarea: 164,000 ac-ft
- Peshastin ID Piping: 360 ac-ft
- Potholes Supplemental Feed Route (conveyance)
- Pine Creek Acquisition: 900 ac-ft
- Sullivan Lake: 14,000 ac-ft
- Port of Walla Walla Leases: 4,761 ac-ft
- Weber Siphon (conveyance)
- Yakima City ASR: 10,000 ac-ft

Near-Term Development
(2015-2019)

320,132+ Acre-Feet

- 508.14 Rule Change: TBD
- Cle Elum Pool Raise: 14,000 ac-ft
- Columbia Basin ID Piping: 5,000 ac-ft
- Kachess Drought Relief Pumping Plant: 200,000 ac-ft
- East Low Canal Widening: (conveyance)
- Kennewick ASR: 318+ ac-ft
- Methow Projects: 2,854 ac-ft
- Pasco Municipal Supply Improvements: 5,000 ac-ft
- SVID: 7,815 ac-ft
- White Salmon ASR: 145 ac-ft
- Yakima Basin Enhanced Conservation: 85,000 ac-ft

Long-Term Development
(2019+)

Meet Forecasted Demand

- Regional Aquifer Storage and Recover: TBD
- Conservation Commission Retiming: TBD
- Goose Lake & Nine Mile Flat Storage: TBD
- Horse Heaven Hills: 105,000 ac-ft
- Lincoln CD Passive Rehydration: TBD
- Mill Creek Storage: 2,000 to 11,000 ac-ft
- Peshastin Pump Exchange: TBD
- Spokane-Rathdrum ASR: 105,000 ac-ft
- Walla Walla Flow Enhancement: 30,000 ac-ft
- Yakima Basin Integrated Plan Projects: 226,000 ac-ft

The Office of Columbia River
Water for Families, Farms, and Fish
Rev. 10.13.15
Acre-Feet Out-of-Stream
Acre-Feet Instream

Developed for Instream Use

82,754
acre-feet

In Progress
11,278
ac-ft
(3000 ac-ft from Yakima Funding)
Results of State Infrastructure Investment
Habitat Improvements

33 Habitat Improvement Projects
Over 80 miles of river improved
32 Completed Projects
7 Terminated Projects
Accomplished all 5 Mandates
Issued 148 Permit Decisions
2 Supply and Demand Forecasts
Alternatives to Groundwater for Agricultural Users the Odessa Subarea Aquifer
RCW 90.90.020(3)(a)

- Lake Roosevelt Incremental Storage and Releases Program (30,000 ac-ft)
- Coordinated Conservation Projects with Columbia Basin Irrigation District (30,000 ac-ft)
- Odessa Groundwater Replacement (164,000 ac-ft)
- Weber Siphon Complex (additional conveyance)
- Potholes Supplemental Feedroute Enhancements and Mitigation (alternate conveyance route)
- East Low Canal Improvements (additional conveyance)
- Lower Columbia Chum Salmon (OGWRP mitigation)

Water deliveries began in 2015 now up to ~ 3,000 acres of replacement water
Develop Sources of Water Supply for PENDING Water Right Applications

RCW 90.90.020(3)(b)

- Lake Roosevelt Incremental Storage and Releases Program (25,000 ac-ft Municipal and Industrial)
- Sullivan Lake (9,333 ac-ft Municipal, Industrial, Irrigation)
- Port of Walla Walla Leases (4,761 ac-ft Irrigation)
- Kennewick Irrigation District - Red Mountain AVA Project (2,678 ac-ft irrigation)
- City of Pasco Piping Project (5,000 ac-ft municipal)
- MVID & Town of Twisp (248 ac-ft municipal)
- City of Yakima Aquifer Storage and Recovery Project (10,000 ac-ft municipal)
- Kennewick General Hospital (4,000 ac-ft irrigation)

Issued 148 water right decisions between 2007 - 2014
Find a New Uninterruptible Supply of Water for Interruptible Water Rights on the Columbia River Mainstem
RCW 90.90.020(3)(c)

- Lake Roosevelt Incremental Storage and Releases Program (33,000 ac-ft Interruptible)

This water will increase the water available to interruptible users by approximately 11% in total.
Develop Sources of Water Supply for New Municipal, Domestic, Industrial, and Irrigation Water Needs
RCW 90.90.020(3)(d)

- Icicle Creek Water Resource management Strategy (4 cfs ag, 5 cfs domestic, 77 cfs instream flow)
- Aquifer Storage and Recovery Projects (~500 ac-ft White Salmon, Kennewick)
- Horse Heaven Hills Water Storage (44,000 ac-ft Switzler Canyon)
- Lincoln County Passive Rehydration (1,000’s ac-ft)
- WAC 508-14 Future Rulemaking (16,000 ac-ft Pasco Basin)
- Colville Tribes Cooperative Water Supply Development Projects (10,000’s ac-ft)

Many projects in feasibility phase for exploration of water supply development
Develop Water Supplies for Instream Flows
RCW 90.90.020(4)

- Lake Roosevelt Incremental Storage and Releases Program (44,500 ac-ft Columbia Mainstem)
- Barker Ranch (6,436 ac-ft Yakima River)
- Conservation Commission Irrigation Efficiencies (3,476 ac-ft basin wide tributaries)
- Pioneer Water Users Piping Project (7,823 ac-ft Wenatchee River)
- Peshatin Irrigation District Piping (360 ac-ft Peshastin Creek)
- Trust water right acquisitions & donations (14,097 ac-ft Mainstem and tributaries)
- Kennewick Irrigation District - Red Mountain AVA project (11,005 ac-ft Yakima River)
- Methow Valley Instream Flow Improvement Project (2,716 ac-ft Twisp River)
OCR’s 17-19 Budget request reflects the desire to finish water supply projects already underway?
**Odessa Groundwater Replacement Project**

**FUNDING:** $10-12 million  
**EST. NWS:** 87,700 acres (total)  
**OCR DIR:** Odessa

**Where have we been:** Columbia River Partners MOU, Weber Siphon Complex, Lake Roosevelt Incremental Storage and Releases, Potholes Supplemental Feed Route, and Odessa Subarea Special Study.

**Where are we now:** Widening East Low Canal, Lind Coulee Siphon Complex, county road bridge upgrades, radial gates installed, and first canal side pumping plant underway.
Where have we been: Convened Icicle Workgroup, developed Guiding Principles & finalized integrated project list of conservation, fish habitat, fish passage, storage optimization & hatchery improvements to meet out-of-stream demands and restore stream flows in Icicle Creek.

Where are we now: Initiated Programmatic SEPA EIS, seek funding partners to begin to early action implementation of integrated project.
Where have we been: Invested incrementally in aquifer storage and recovery projects (Boise Cascade, Kennewick, White Salmon, Yakima) over the past decade. Exploration of off-channel storage options.

Where are we now: Have a better sense of environmental benefits, economic drivers, and permitting requirements for ASR projects. Still need some level of funding for streamlining and performance reliability of ASR as a water supply development tool.
Columbia Basin Project - Coordinated Conservation

FUNDING: $1.5 million
EST. NWS: ~34,800 ac-ft (total)
OCR DIR: Odessa

Where have we been: OCR began investing with the 3 Columbia Basin Irrigation Districts to implement conservation projects. The conserved water is used to replace groundwater for 10,000 acres of irrigation lands in the Odessa Subarea & for fish and wildlife enhancements.

Where are we now: Continue the coordinated conservation program and began water deliveries to direct canal pumpers in 2015.
Horse Heaven Hills - Switzler Canyon Storage

FUNDING: $1 million
EST. NWS: 44,000 ac-ft
OCR DIR: New Water Rights, Pending Apps., Instream Flows

Where have we been: Feasibility and fatal flaw analysis of a surface storage reservoir to be constructed in Switzler Canyon in WRIA 31. Reservoir is filled during periods of water availability on the Columbia River and released from the reservoir as mitigation for new water demands when water is not available.

Where are we now: Survey of potential landowners & water users, SEPA EIS scoping
Where have we been: Walla Walla Basin Integrated Flow Enhancement Study has been evaluating strategies to increase stream flows in the Walla Walla River Basin.

Where are we now: Walla Walla Basin Work Group needs to complete NEPA/SEPA and finalize an integrated project list of water acquisition, conservation, pump exchange, fish habitat, &/or groundwater recharge projects, to restore stream flows in the river.
2017 - 2019 Projects: New Project Proposals

- Stemilt WRIA 40A, Small Scale Storage Feasibility - $100,000
  Project Proponent – Chelan County

- Public Private Partnerships - $200,000
  Project Proponent – Ecology

- Colville Tribe - Water Supply Development - $500,000
  Project Proponent – Colville Tribe

- Walla Walla Leased Water - $1 million
  Project Proponent – Ecology

- Lake Roosevelt Incremental Storage Releases Program - $1 million
  Project Proponent – Ecology

- Water acquisitions and leases - $1 million
  Project Proponent – Ecology

- New water supply development projects - $1 million
  Project Proponent – Ecology

- Pasco Basin - 508-14 rule making - $500,000
  Project Proponent – Ecology & US Bureau of Reclamation

- OCR Staffing and WDFW Staffing Support - $1.7 million
  Project Proponent – Ecology & WDFW

- OCR Facilitation & Legislative Report Support - $500,000
  Project Proponent – Ecology
**Yakima Basin Integrated Plan**

**Building A Future for Water, Wildlife and Working Lands**

**Yakima River Basin Integrated Water Resource Management Plan**

**Reservoir Fish Passage**
- Provide fish passage at:
  1. Clear Lake
  2. Cle Elum
  3. Bumping
  4. Tieton (Rimmock)
  5. Keechelus
  6. Kachess

**Enhanced Water Conservation**
1. Implement an agricultural water conservation program designed to conserve up to 170,000 acre-feet of water in good water years.
2. Create a fund to promote water use efficiency basin wide using voluntary, incentive-based programs. Focus on outdoor uses as top priority.

**Habitat/Watershed Protection & Enhancement**
1. Protect ~76,000 acres of land by acquiring high elevation portions of the watershed and forest and shrub steppe habitat.
2. Evaluate potential wilderness area and wild and scenic river designations to protect streams and habitat.
3. Create a habitat enhancement program to address reach-level floodplain restoration priorities and restore access to key tributaries.

**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 sell land within the district and lease water rights for land outside the district.

**Structural & Operational Changes**
1. Raise the Cle Elum Pond by three feet to add 14,600 ac-ft in storage capacity.
2. Modify Kittitas Recreation District canals to provide efficiency savings.
3. Construct a pipeline from Lake Keechelus to Lake 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 needs.
4. Decrease power generation at Rasa Dam and Chandler power plant to support outmigration of juvenile fish.
5. Make efficiency improvements to the Wapatos Canal.

**Surface Water Storage**
1. Build a 162,500 ac-ft off-channel surface storage facility at Wymer on Lsumna Creek.
2. Access and additional 203,000 ac-ft of water by tapping into active storage at Lake Kachess.
3. Construct a new dam at Bumping Reservoir to increase capacity to 190,000 ac-ft.
4. Begin appraisal of potential projects to transfer water from the Columbia River to the Yakima Basin.

**Groundwater Storage**
1. Construct pilot projects to evaluate recharging shallow aquifers via groundwater infiltration. Full scale implementation may follow.
2. Build an aquifer storage and recovery facility allowing Yakima City to withdraw water from the Naches River during high flow periods and store it underground for use during low flow periods.
## 17-19 Yakima Basin Integrated Plan

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<td><strong>$ 30 million</strong></td>
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• OCRs 17-19 capital budget proposal = $30 million.

• YBIPs capital budget proposal = $31 million.

• Agency budget proposal due to OFM in Sept. 2016.

• After the 17-19 biennium, this leaves approximately zero ($0) million in OCR’s bonding authority.
2017 - 2019 Capital Budget

Questions ?