

The Columbia River Program A Decade of Water Supply Development



**Columbia River Policy Advisory Group (CRPAG)
May 12, 2016**



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Office of Columbia River
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

OCR WATER PROJECTS 2015

- Completed, Developed
 - Active, Under Development
- Locations are approximate

Yakima Basin Integrated Plan Initial Development Projects

Basin-Wide Projects

Habitat Enhancement & Restoration through 2015

3,170 acres of floodplain reconnected
47,921 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

Kachess Drought Relief Pumping Plant
200,000 ac-ft Out-of-Stream

Cle Elum Pool Raise
14,000 ac-ft Out-of-Stream

Cle Elum Fish Passage
Reservoir Fish Passage

Teanaway Acquisition
50,272 acres of Watershed Protected

Manastash Conservation and Tributary Enhancement
1,300 ac-ft Instream

Yakima City ASR
10,000 ac-ft Out-of-Stream
Instream ac-ft TBD

Sunnyside Valley ID
7,815 ac-ft instream

KID/Red Mountain
11,005 ac-ft Instream

Horse Heaven Hills
105,000 ac-ft Out-of-Stream

Barker Ranch
6,436 ac-ft Instream

Kennewick ASR
318+ ac-ft instream

Methow Projects
2854 ac-ft Out-of-Stream

Goose Lake & Nine Mile Flat Storage
Ac-Ft TBD

Pine Creek Acquisition
900 ac-ft Out-of-Stream

Mill Creek Storage
11,000 ac-ft Out-of-Stream

Sullivan Lake Water Supply
9,400 ac-ft Out-of-Stream
4,600 ac-ft Instream

Lake Roosevelt Incremental Storage Releases
All Years:
55,000 ac-ft Out-of-Stream
25,000 ac-ft Instream
Drought Years:
88,000 ac-ft Out-of-Stream
44,000 ac-ft Instream

Methow Trust Water Acquisition
79 ac-ft Out-of-Stream

Peshastin Pump Exchange
Ac-Ft TBD

Peshastin ID Piping
360 ac-ft Instream

Lower Wenatchee Instream Flow Enhancement
7,823 ac-ft Instream

Lincoln CD Passive Rehydration
Ac-Ft TBD

Spokane-Rathdrum ASR
105,000 ac-ft Out-of-Stream

Columbia Basin ID Piping
26,000 ac-ft Out-of-Stream
5,000 ac-ft Out-of-Stream

East Low Canal Widening
Conveyance

Odessa Subarea Groundwater Replacement
164,000 ac-ft Out-of-Stream

Potholes Supplemental Feed Route
Conveyance

Pasco Municipal Supply Improvements
5,000 ac-ft Out-of-Stream

Walla Walla Flow Enhancement
30,000 ac-ft Instream

Port of Walla Walla Leases
4,761 ac-ft Out-of-Stream

Weber Siphon
Conveyance

Region-Wide Projects

Conservation Commission Irrigation Efficiency
7,823 ac-ft Instream

Conservation Commission Retiling
Ac-Ft TBD

Regional Aquifer Storage and Recover
Ac-Ft TBD

Donations
13,060 ac-ft Instream

A Decade of State Infrastructure Investments

Office of Columbia River Water Supply Development - 2015

Developed



- » 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)



- » 508.14 Rule Change: TBD
- » Cle Elum Pool Raise: 14,000 ac-ft
- » Columbia Basin ID Piping: 5000 ac-ft
- » Kachess Drought Relief Pumping Plant: 200,000 ac-ft
- » East Low Canal Widening: (conveyance)
- » Kennewick ASR: 318+ ac-ft
- » Methow Projects: 2854 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+)

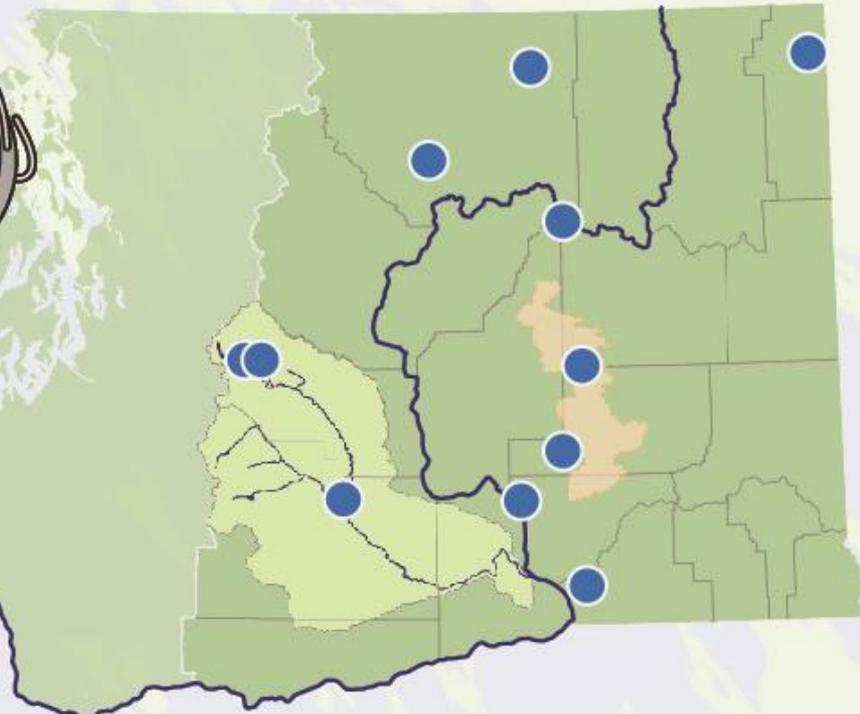
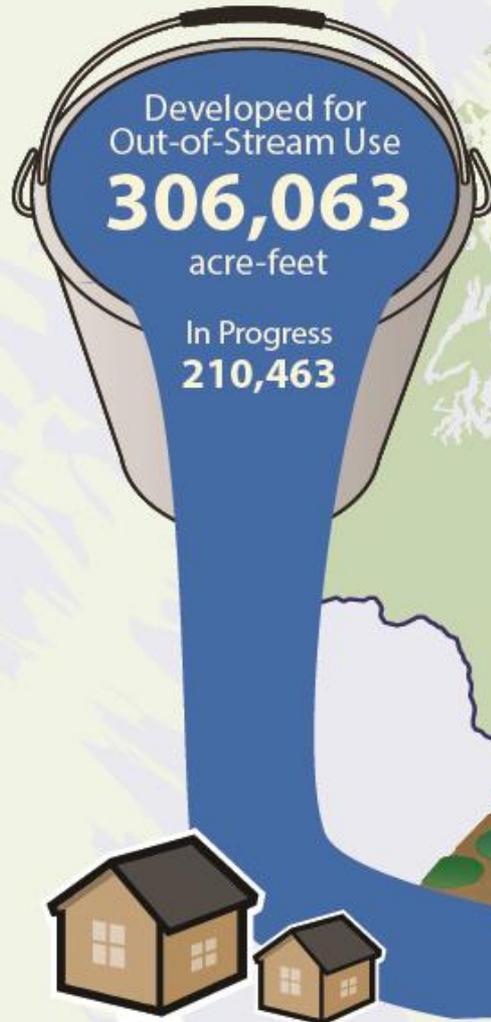


- » Regional Aquifer Storage and Recover: TBD
- » Conservation Commission Retiming: TBD
- » Goose Lake & Nine Mile Flat Storage: TBD
- » Horse Heaven Hills: 105,000 ac-ft
- » Lincoln CD Passive Rehydration: TBD
- » Mill Creek Storage: 2,000 to 11,000 ac-ft
- » Peshastin Pump Exchange: TBD
- » Spokane-Rathdrum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

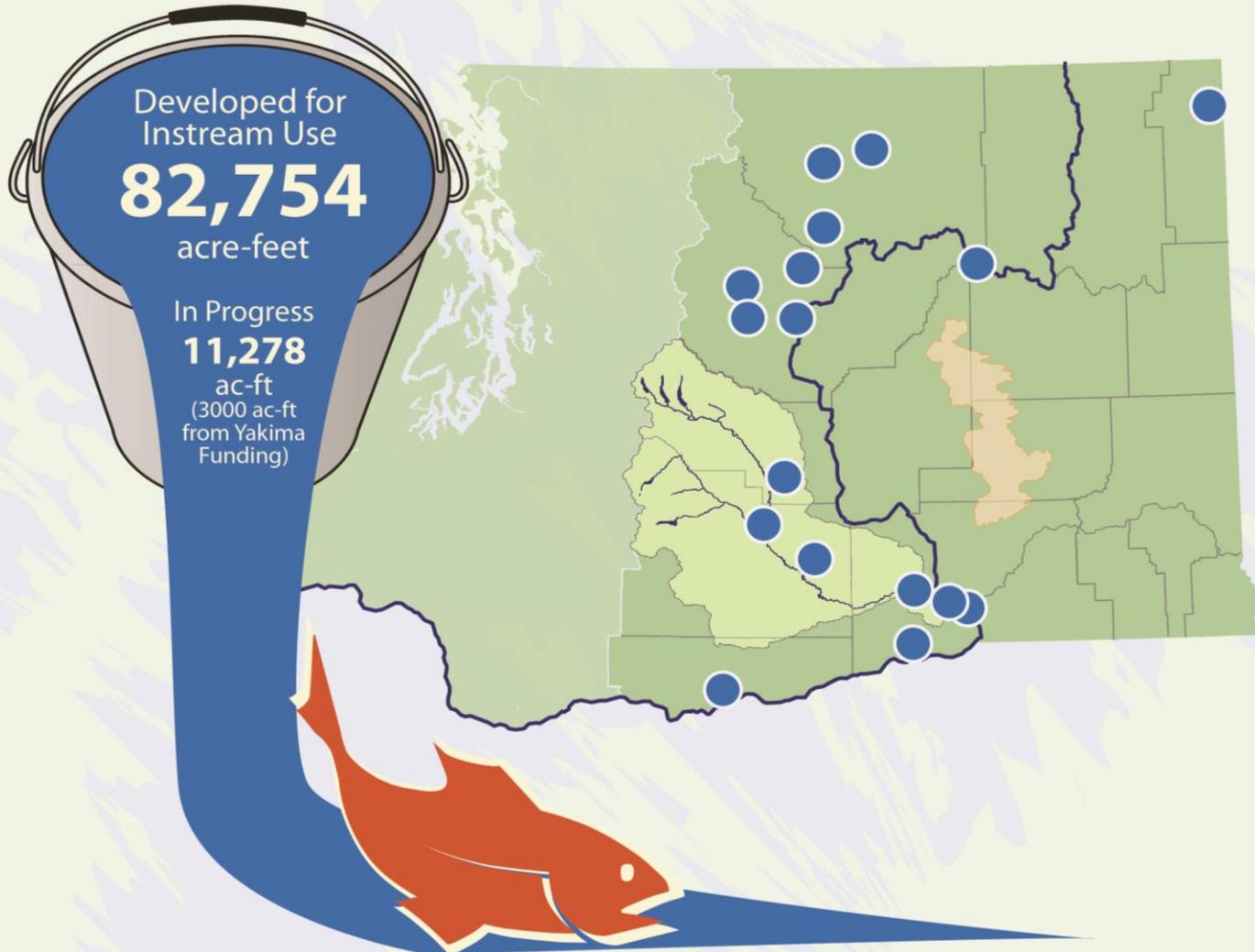


THE OFFICE OF
COLUMBIA RIVER
Water for Families, Farms, and Fish

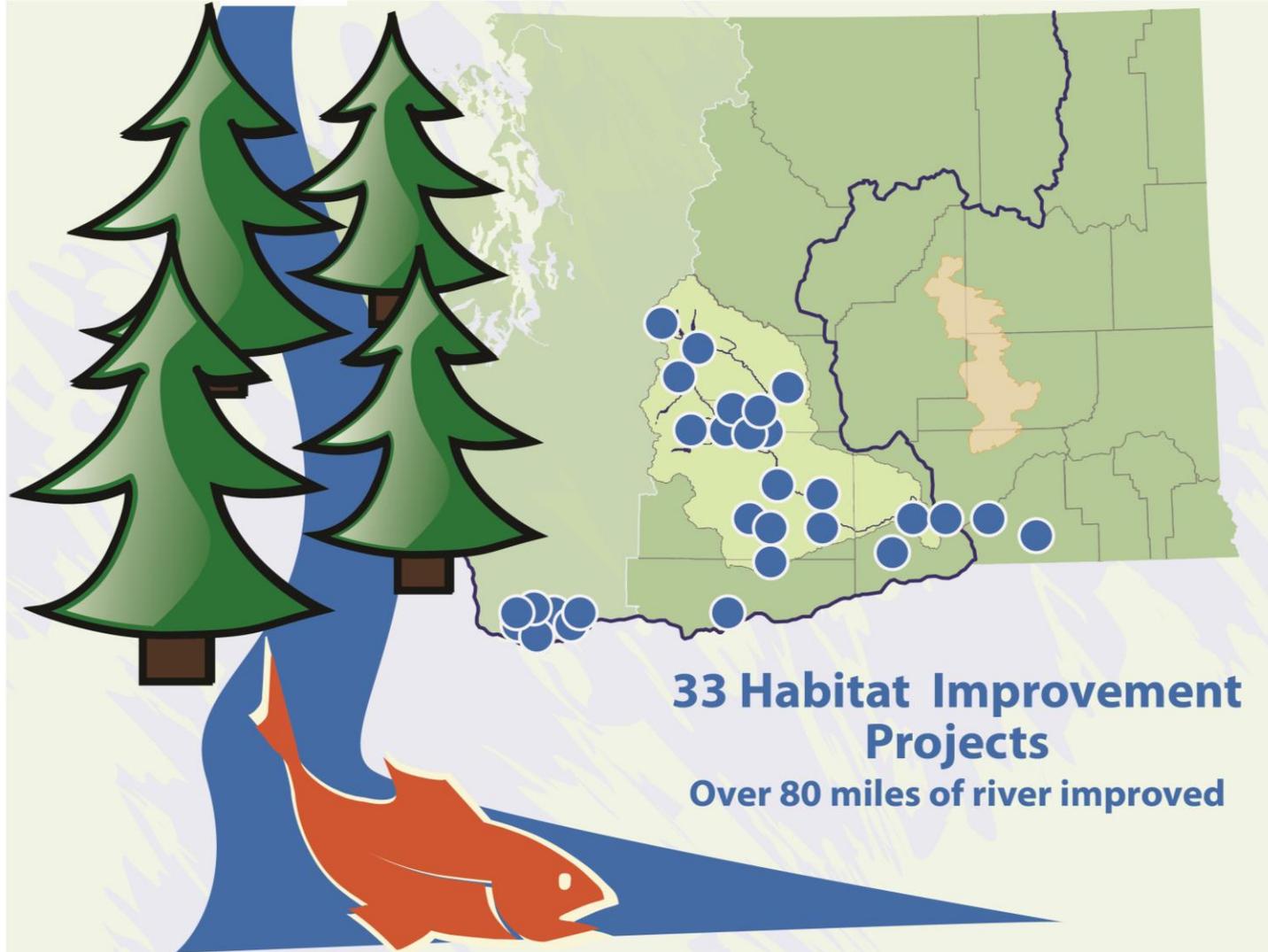
Acre-Feet Out-of-Stream



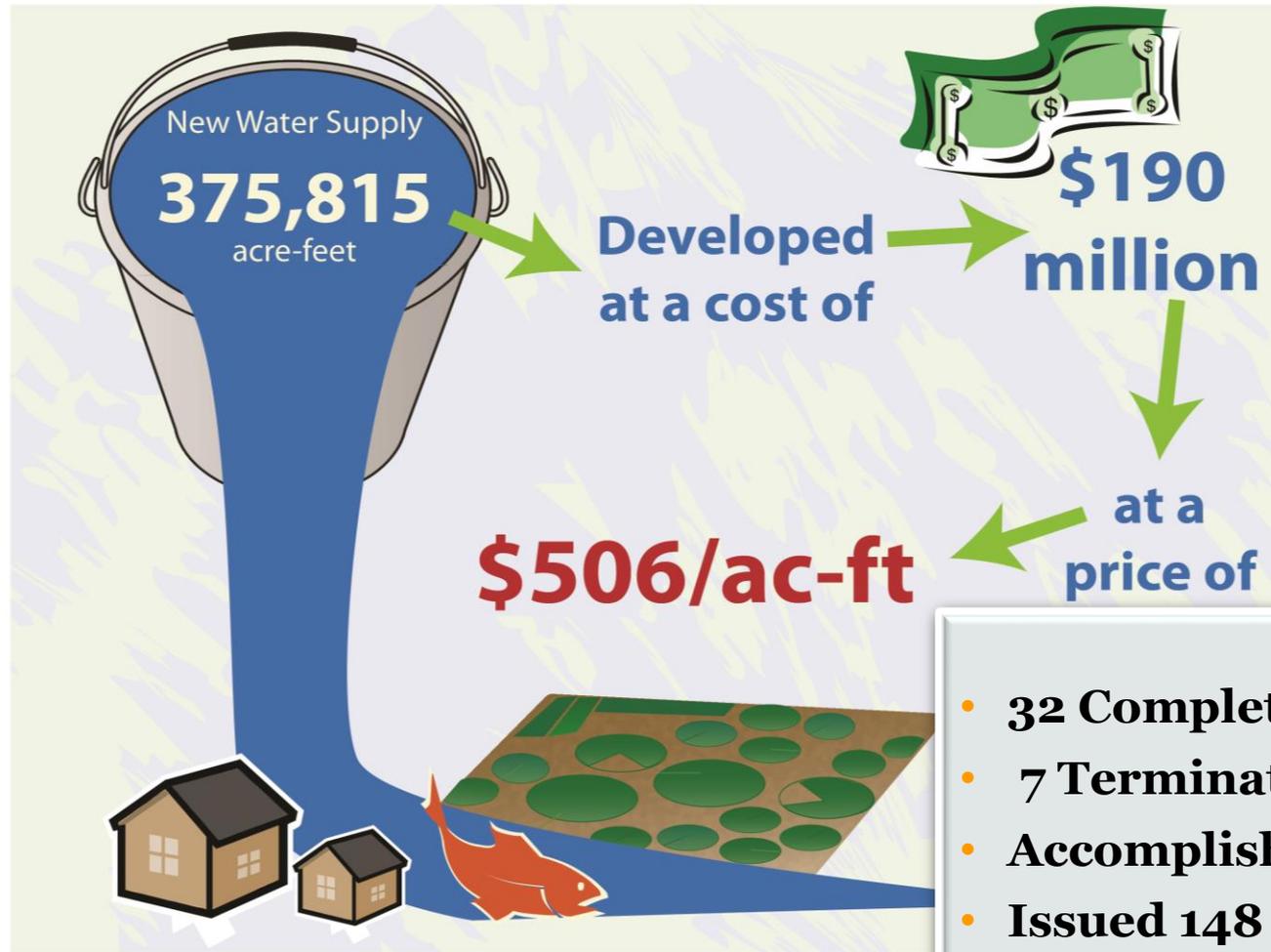
Acre-Feet Instream



Results of State Infrastructure Investment Habitat Improvements



Cost Per Acre-Foot



- **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)



**Water deliveries
began in 2015
now up to ~ 3,000
acres of
replacement water**

- **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)**

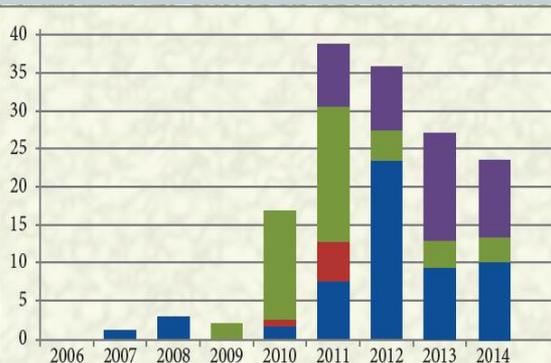


Develop Sources of Water Supply for PENDING Water Right Applications

RCW 90.90.020(3)(b)



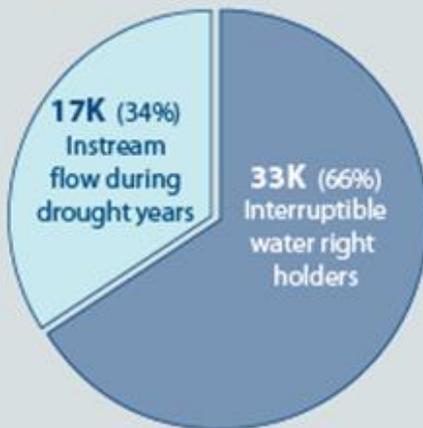
**Issued 148 water
right decisions
between
2007 - 2014**



- **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)

Find a New Uninterruptible Supply of Water for Interruptible Water Rights on the Columbia River Mainstem RCW 90.90.020(3)(c)

In a drought year an additional 50K ac-ft of water for:

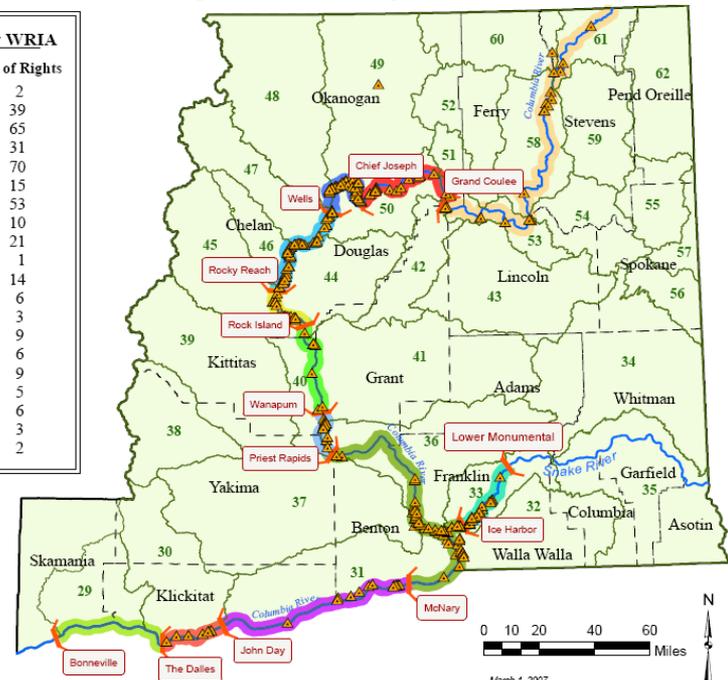
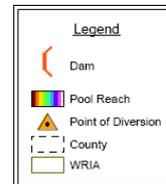


- Lake Roosevelt Incremental Storage and Releases Program (33,000 ac-ft Interruptible)

Interruptible Water Rights within the Columbia River Water Management Program Draft

Interruptible Qa by WRIA

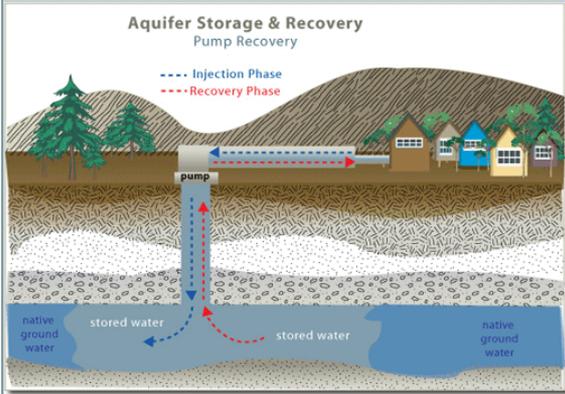
WRIA	Qa (afy)	No. of Rights
42	214,000	2
33	106,043	39
31	53,062	65
40	26,764	31
50	24,745	70
36	14,703	15
44	12,949	53
32	10,823	10
49	5,756	21
37	4,960	1
47	2,697	14
53	1,573	6
45	1,502	3
30	824	9
48	677	6
58	466	9
41	413	5
46	146	6
61	34	3
60	7	2



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)



Many projects in feasibility phase for exploration of water supply development



- **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)

Develop Water Supplies for Instream Flows

RCW 90.90.020(4)



Twisp River

**89,694 ac-ft
Instream Flows**



Yakima River

- **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.

Icicle Creek Water Resource Management Strategy



FUNDING: \$3 - 4 million

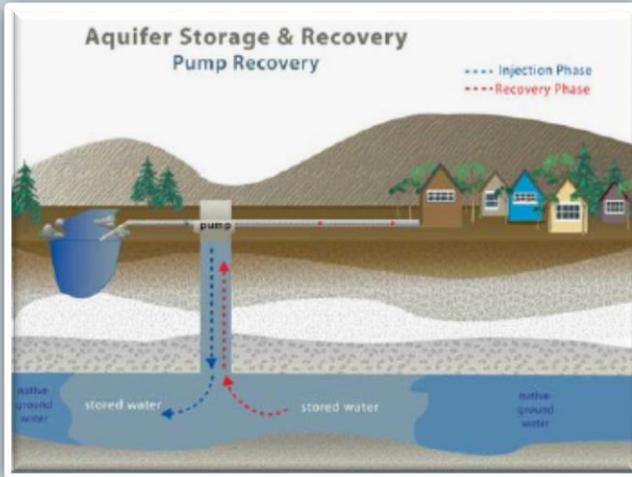
EST. NWS: 60+ cfs

OCR DIR: Instream, New Water Rights, Interruptible Rights

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.

ASR Exploration and Development



FUNDING: \$2 – 3 million
EST. NWS: TBD
OCR DIR: Instream, New Water Rights, Interruptible Water Rights

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

Walla Walla Basin Integrated Plan



FUNDING: \$0.5 million
EST. NWS: TBD
OCR DIR: Instream Flows

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

2015 - 2017 Projects: New Project Proposals



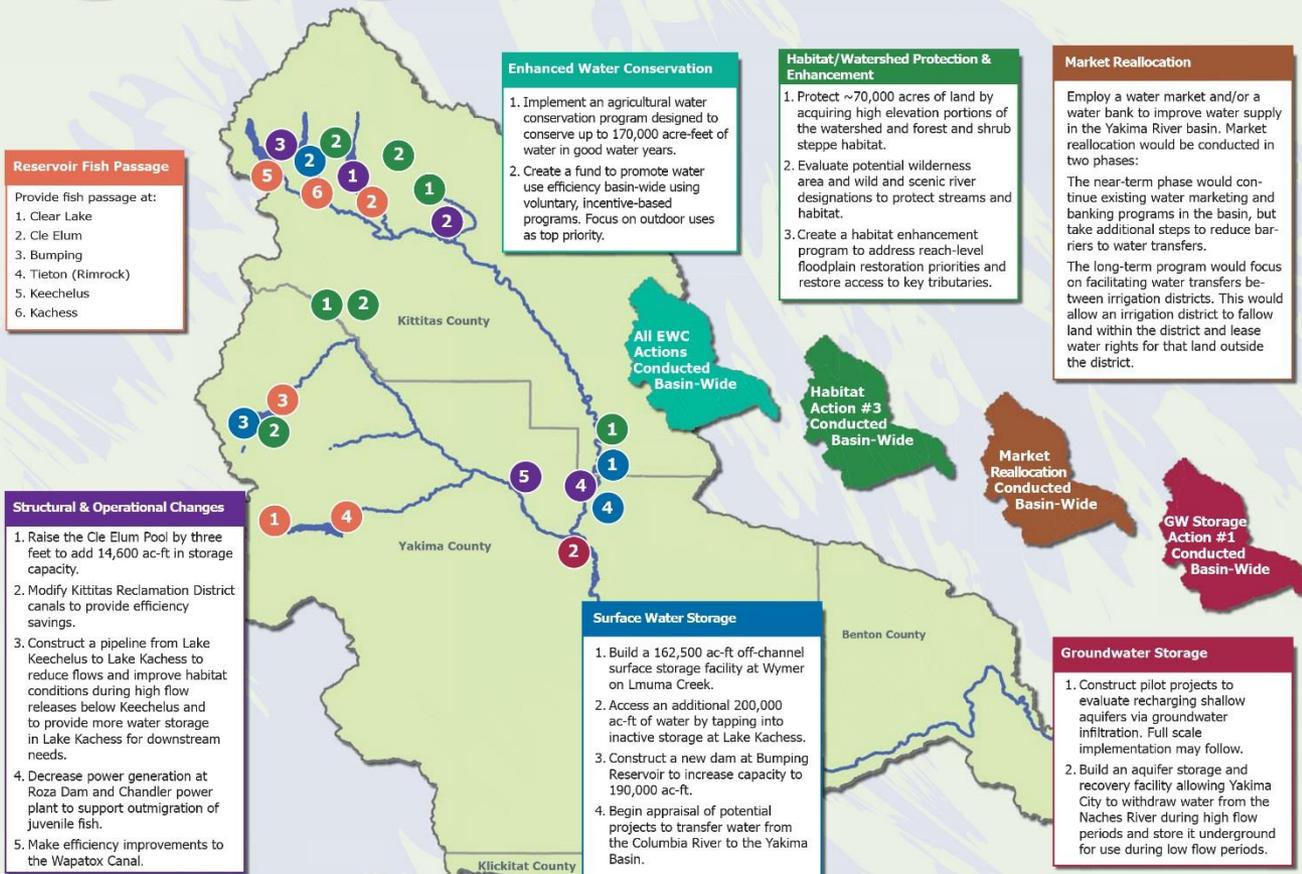
- Water acquisitions and leases - \$1 million
Project Proponent – Ecology
- New water supply development projects - \$1 million
Project Proponent – Ecology
- Pasco Basin - 508-14 rule making - \$500,000
Project Proponent – Ecology & US Bureau of Reclamation
- OCR Staffing and WDFW Staffing Support - \$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



17-19 Yakima Basin Integrated Plan



Yakima Basin Integrated Plan Elements	Projects	Appropriated Funds 2015-2017	Anticipated Funding Request 2017-2019
Habitat	Tributary/Mainstem Habitat Restoration Projects	3	5.4
	Bull Trout Enhancement - Phase 1	1.7	0
	Federal, Tribal and/or Local Habitat Actions	0.3	0
Fish Passage	Cle Elum Dam passage	9	9
	Tieton Dam passage	0.5	0
	Clear Lake Dam passage	0	1.5
Structural & Operational Modifications	Cle Elum Pool Raise	1	3
	KKC	4.2	0
Surface Storage	KDRPP (cost assumes floating plant alternative)	4.3	2.4
	Wymer or Bumping Reservoir	0	3
Groundwater Storage	Regional Storage Options	0.5	1.1
Water Conservation	Agricultural Conservation Projects	4.8	5
	Municipal/Domestic Conservation Programs	0.2	0.1
Market Driven Water Reallocation	General support for markets and banking	0.5	0.6
Totals		\$ 30 million	\$ 31.1 million

2017 - 2019 Capital Budget - Conclusions



- 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 ?