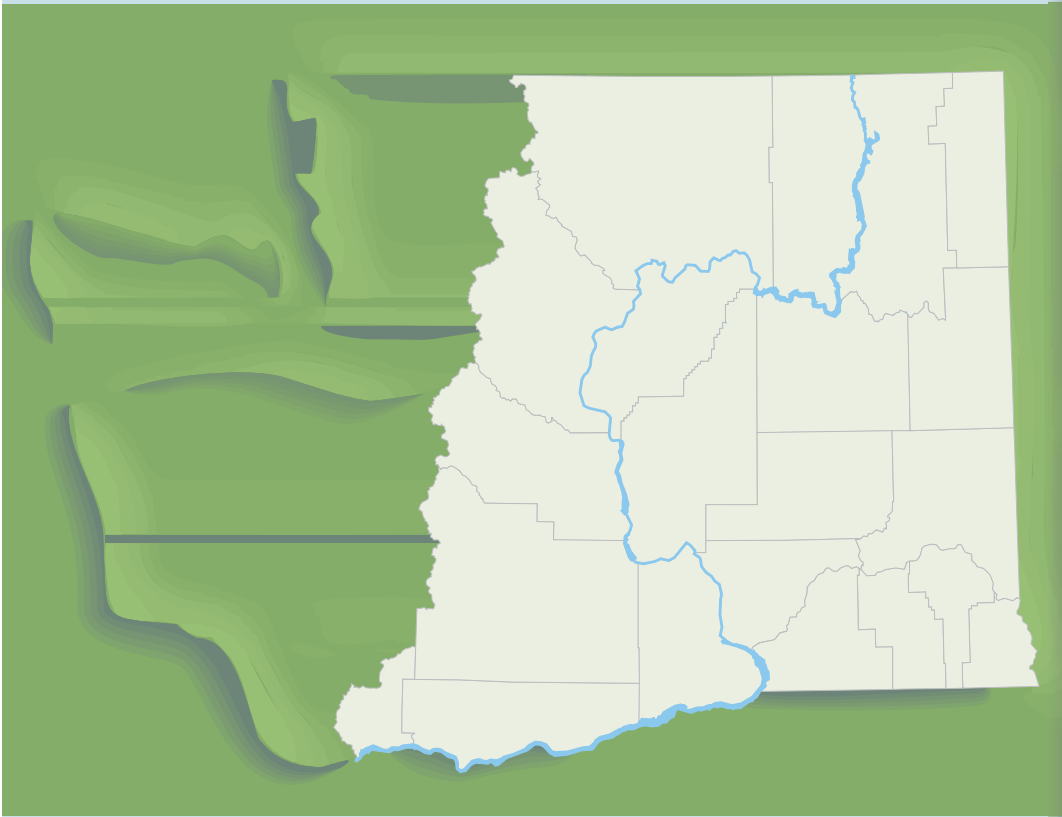


2014 Columbia River Basin WATER SUPPLY INVENTORY REPORT



*Submitted to the Washington State Legislature
Pursuant to RCW 90.90.040*



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



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Central Regional Office - Office of Columbia River
15 West Yakima Avenue, Suite 200 • Yakima Washington 98902 • (509) 575-2490

October 30, 2014

The Honorable Jay Inslee, Governor of Washington
The Honorable Members of the Washington State Legislature
Olympia, Washington

RE: Columbia River Water Supply Inventory Report

The 2014 *Columbia River Basin Water Supply Inventory Report* prepared by the Department of Ecology, Office of Columbia River (OCR) for the Legislature as required under RCW 90.90.040 is now available at this website: <http://www.ecy.wa.gov/biblio/1412002.html>.

This report documents our ongoing efforts in developing water supplies to meet the economic and community development needs of people and the instream flow needs of fish. It includes details on new projects, updates on projects currently underway, and an inventory of water developed through completed projects. It also provides a comprehensive inventory of all storage and conservation opportunities OCR is tracking.

If you have any questions regarding this report or would like more information, please contact me by phone at (509) 457-7120 or e-mail at derek.sandison@ecy.wa.gov. If you would like hard copies of the report, contact Rebecca Zahler by phone at (509) 454-4239 or e-mail at rebecca.zahler@ecy.wa.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Derek I. Sandison".

Derek I. Sandison, Director
Office of Columbia River

TH:DIS:RAZ (141014)

2014 Report to the Legislature



Columbia River Basin Water Supply Inventory Report

submitted by The Office of Columbia River

This report is available on the Department of Ecology website at:
<http://www.ecy.wa.gov/biblio/1412002.html>

For additional copies of this publication, please
refer to Publication No. 14-12-002 and contact:

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This 2014 Columbia River Basin Water Supply Inventory Report
was prepared by The Office of Columbia River

*If you need this publication in an alternate format,
please call the Office of Columbia River at (509) 454-4335.
Persons with hearing loss can call 711 for Washington Relay Service.
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partnerships, and
innovations that
are providing
opportunities
for growing
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and protecting
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Introduction

The Office of Columbia River (OCR), as directed by Chapter 90.90 RCW, Columbia River Basin Water Supply, continues to aggressively develop new water supplies for the Columbia River Basin to:

- ◆ Provide alternatives to groundwater for the Odessa Subarea.
- ◆ Provide water for pending water right applications.
- ◆ Secure water for drought relief and interruptible water users.
- ◆ Provide water for new municipal, domestic, industrial, and irrigation uses.
- ◆ Provide water for instream flows to benefit fish.

The statute provides clear direction that Ecology is to ensure that water supplies made available through OCR funding of new storage facilities and pump exchanges are allocated one-third for instream flow and two-thirds made available for new out-of-stream uses. This report provides updates on how OCR is making more water available for Eastern Washington's farmers, communities, industries and fish. Since the 2006 passage of Chapter 90.90 RCW, OCR has funded projects that have developed 375,815 acre-feet of water available for both instream and out of stream uses, with an additional 245,132 acre-feet or more in near-term development (1-3 years).



Columbia River near Bridgeport, Washington

Office of Columbia River Policy Advisory Group Members

Dale Bambrick, NOAA Fisheries-
U.S. Dept of Commerce

Dr. Brenda Bateman,
Oregon Water Resources Dept

Gary Chandler,
Association of Washington Business

Kathleen Collins,
Water Policy Alliance

Jon Culp, Washington State
Conservation Commission

Jim Fredericks,
U.S. Army Corps of Engineers

Michael Garrity, American Rivers

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NW Power & Conservation Council

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Gary Passmore, The Confederated
Tribes of the Colville Reservation

Lisa Pelly, Trout Unlimited

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Tribes of the Yakama Nation

Mike Schwisow, Columbia
Basin Development League

Craig Simpson, East Columbia
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Rich Stevens,
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Leo Stewart, The Confederated Tribes
of the Umatilla Indian Reservation

John Stuhlmiller,
WA State Farm Bureau

Rob Swedo,
Bonneville Power Administration

Stephanie Utter,
Bureau of Reclamation

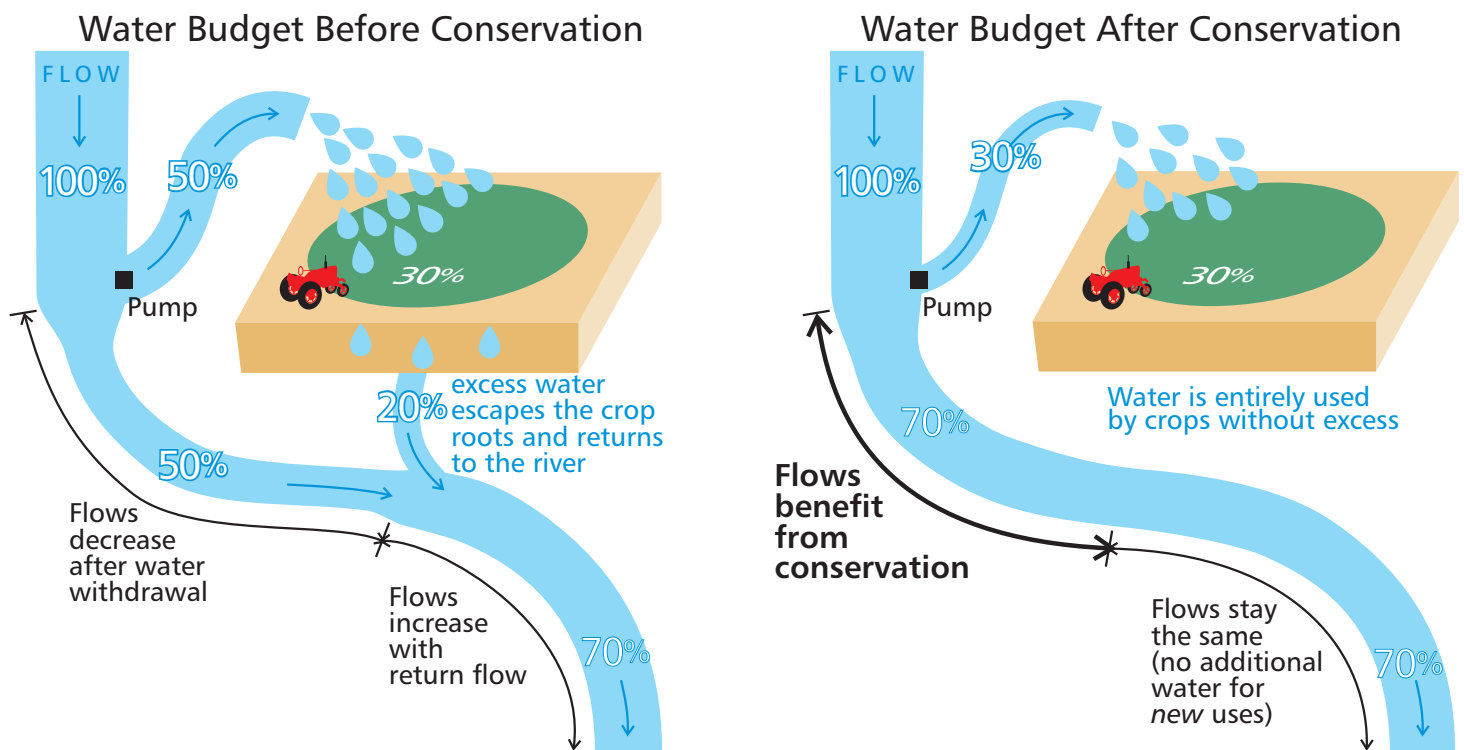
Ron Walter,
Chelan County Commissioner

Matt Watkins, City of Pasco

Lessons Learned

Since OCR's inception, the pursuit of new water supply development has exposed several truths that have shaped the way OCR allocates funds and prioritizes our efforts. It is now apparent that certain project types, such as water acquisition and storage/operation modifications, are preferable over others such as conservation and efficiency improvements in providing water that is suitable to meet the objectives outlined in Chapter 90.90 RCW. We have also learned that some conservation projects, despite their seemingly beneficial attributes, simply cannot provide a supply of water suitable for satisfying demands for new uses of water to maximize program objectives.

Conservation projects, which are abundant on our project inventory lists, are often suggested as a way to make more water available for instream flow and other uses. While these projects can provide valuable benefits to streamflows supporting aquatic species and habitat, implementation of these projects generally does not yield benefits that OCR can use for achieving its out-of-stream goals. The amount of water used consumptively by crops remains essentially constant throughout a range of application efficiencies due to water being lost through conveyance leaks or inefficiencies with on-farm application. In some instances, enhanced water use efficiency results in higher consumptive use by crops and less water being available in stream.



As depicted in the illustration, water conserved through increased efficiency, both on-farm and in the conveyance systems, generally would have returned to the water body as “return flow”, and would not have been used consumptively by the crops. As OCR attempts to allocate new sources of water, we cannot use these return flow portions, as it would be ultimately reducing streamflows in areas downstream from the historic return flow location. OCR has successfully used conservation projects in instances where there is a localized need for increasing flows in an affected reach and to ensure that developed supplies are used in the most efficient manner with a minimum amount of waste. Despite the presumed benefits, increasing irrigation efficiency does not easily translate to water supply made available for new allocation.

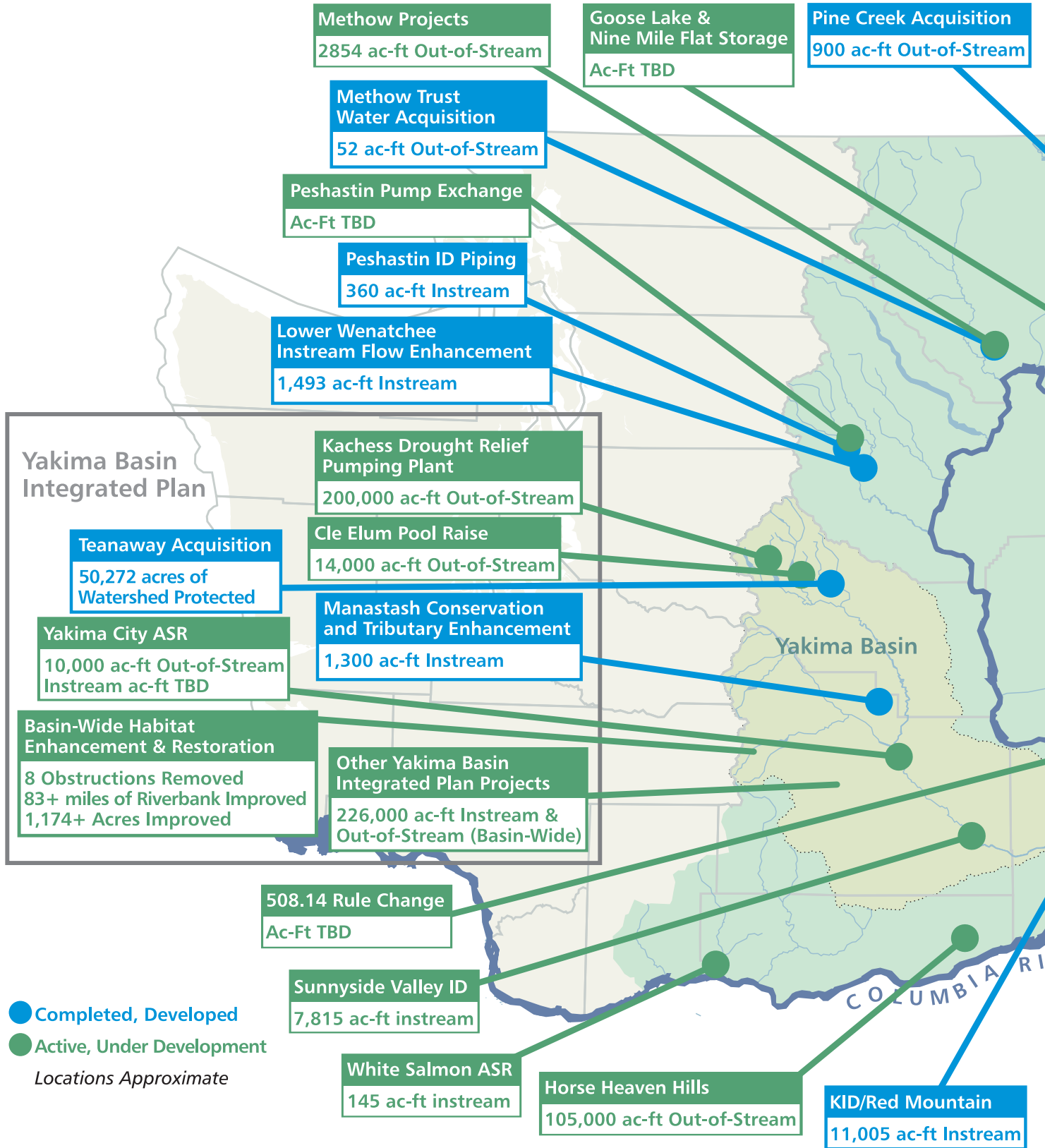
As OCR investigates the feasibility of projects, some present obstacles that are technically, economically, or environmentally unable to be resolved. In these cases, we have removed these projects from consideration at the present time. Should there be shifts in the economic climate, or should other factors arise that make these projects viable, it is possible that further study could be warranted. OCR continues to use the Columbia River Instream Atlas¹ to identify stream reaches where flow is indicated as the limiting factor to environmental health. Conservation projects that directly benefit those reaches are generally more likely to receive OCR funding support.

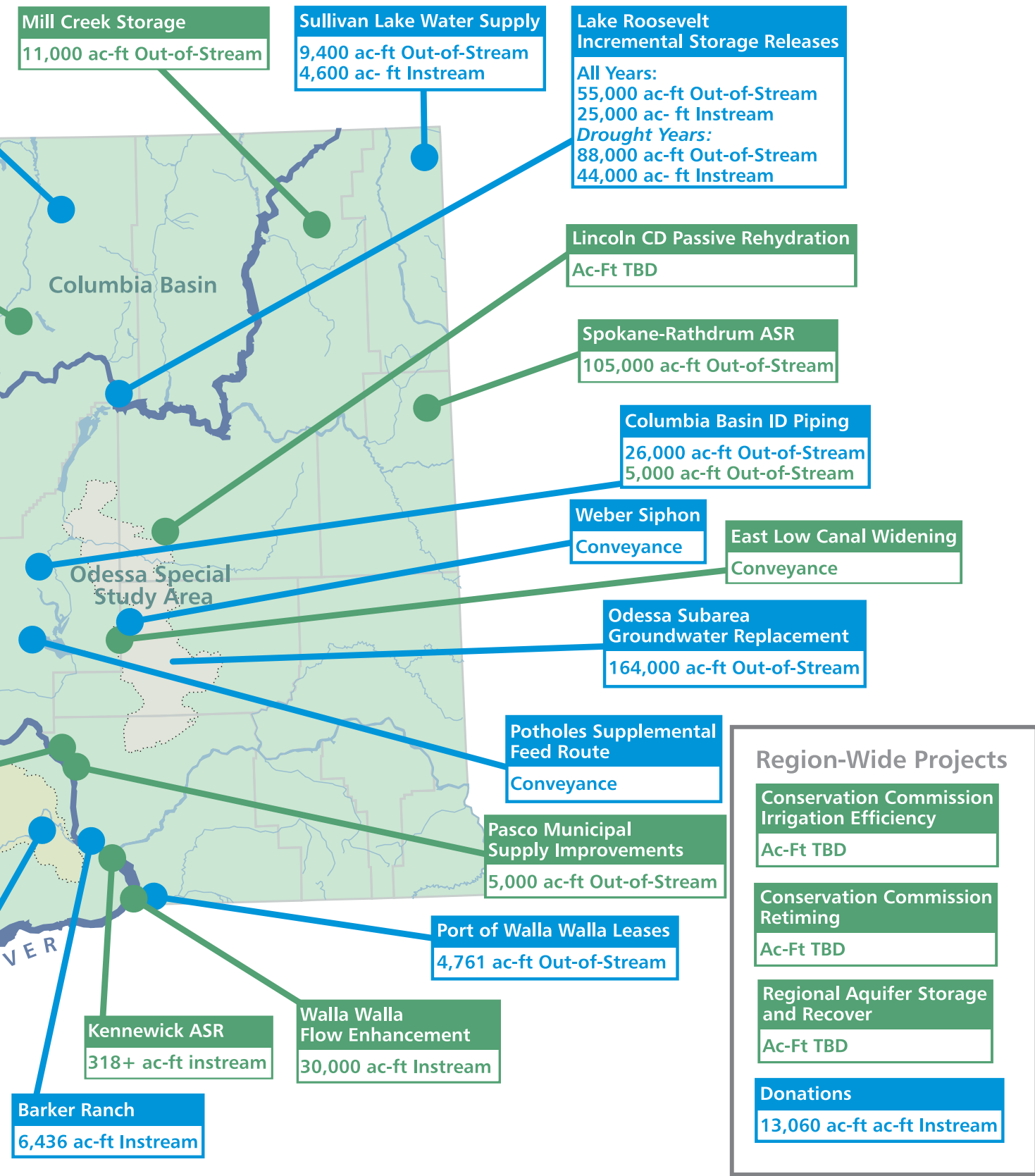
*Columbia River
near Crescent Bar*



¹ http://www.ecy.wa.gov/programs/wr/cwp/cr_fish-1.html

Office of Columbia River Funded Projects





Along with meeting the five legislative directives that provide benefits for instream and out-of-stream users, OCR-funded projects produce economic benefits by creating jobs and generating revenue.

Project Updates and Achievements

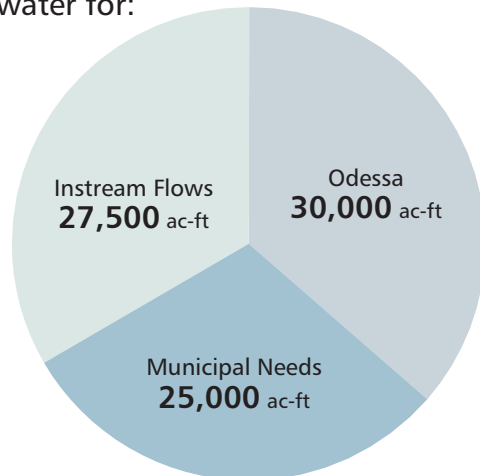
Lake Roosevelt Incremental Storage Releases Program



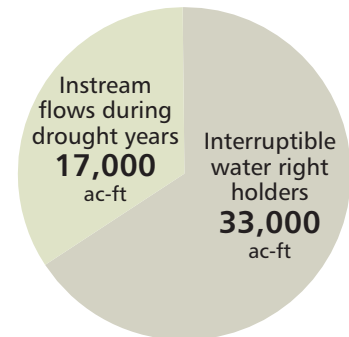
OCR is actively processing applications for municipal, domestic, and industrial water using the 25,000 acre-feet made available through this program. To date we have permitted 29 water rights totaling 2,773 acre-feet per year, and have contacted the remaining list of 20 pending applicants totaling up to approximately 12,000 acre-feet per year to determine interest and eligibility and begin permitting. OCR is now able to begin processing new applications which qualify for this program as they are submitted. Recipients of water under this program are required to pay cost-recovery fees associated with the development of the source at a rate of \$35 per acre-foot per year.

Additionally, this program designates 30,000 acre-feet to replace declining groundwater in the Odessa Subarea (additional information below) and 27,500 acre-feet for instream flows. In drought years, an additional 50,000 acre-feet is available, with one-third (17k acre-feet) for instream flow and two-thirds (33K acre-feet) for interruptible water users. More information: http://www.ecy.wa.gov/programs/wr/cwp/cr_lkroos.html

The Lake Roosevelt storage release would divert up to 82.5K ac-ft of water for:



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



Port of Walla Walla Lease Project (🏠)

OCR has issued 4 term permits totaling 4,761 ac-ft of water leased from the Port of Walla Walla. The term permits provide water on a temporary basis, allowing time for water users to find a permanent supply. The term permits expire December 31, 2020. Term permits are issued to seasonal water users and, in some cases, to unauthorized users as a means to attain temporary compliance. Water users are required to pay an annual cost-recovery fee of \$105 per acre-foot to offset costs to Ecology.



Red Mountain AVA Pump Project (🏠, 🏡, 🐟)

The Red Mountain AVA Pump Project, after years of collaboration with stakeholders, is now nearing completion. Water delivery infrastructure is being installed by the Kennewick Irrigation District to enable the irrigation of 1,785 acres of new vineyards, while allowing up to 14,155 acre-feet per year to remain in low-flowing reaches of the Yakima River. More information: <http://www.ecy.wa.gov/programs/wr/cwp/redmnt13.html>

In addition to the benefits listed (above), the Red Mountain AVA pump project also brings large economic benefits to the area. The project, when complete, is expected to produce over \$9 million annually and provide for over 100 jobs. As a testament to the project's value, Kennewick Irrigation District was recently able to auction 670 acres of soon-to-be irrigated lands for a price of \$8.3 million, a price far exceeding what could have been expected without the availability of water for irrigation.

Throughout the report, these symbols are used to identify the legislative directive that the project addresses:



Alternatives to groundwater for Odessa Subarea



Pending water right applications



Future water supplies for interruptible water right holders



Future water supplies for municipal, domestic, industrial and irrigation



Instream benefits



Expanded infrastructure will provide replacement surface water for up to 90,000 acres currently irrigated by groundwater from the declining aquifer of the Odessa Subarea.

Odessa Subarea Groundwater Replacement Program (●)

OCR, in partnership with the US Bureau of Reclamation (Reclamation), has provided replacement water from the Lake Roosevelt Incremental Storage Releases Program for 10,000 acres of groundwater irrigated land used by farmers in the rapidly declining aquifer of the Odessa Subarea. OCR and Reclamation released a final Environmental Impact Statement in mid-2012 for the Odessa Subarea Special Study which identified the preferred alternative of a modified partial replacement which would allow for up to 70,000 acres of currently groundwater irrigated lands to receive replacement water from the Federal Columbia Basin Project. Additionally the Coordinated Conservation Program, involving all 3 Columbia Basin Irrigation Districts, will result in a maximum of 10,000 acres of replacement water. In total, approximately 90,000 acres of Odessa lands are eligible for replacement water from the Federal Columbia Basin Project via the Odessa Groundwater Replacement Program.

Eligibility for replacement water under the Program is subject to the following criteria:

1. Lands must be within the Federal Columbia Basin Project.
2. Lands must have a valid state-issued groundwater right (*permit or certificate*).
3. Lands must be within the Odessa Subarea Special Study area boundary.
4. Landowners must be able to enter into a water service contract.

Water service contracts are being secured and it is expected that irrigators will begin converting to surface water by as early as 2015.

Other major project components include:

- ◆ Construction of a second Weber Siphon under I-90 (complete)
- ◆ Canal and distribution efficiency improvements (ongoing through 2015)
- ◆ Potholes Supplemental Feedroute (nearing completion 2014)

More information: http://www.ecy.wa.gov/programs/wr/cwp/cr_odessa.html



Sullivan Lake Water Supply Project (🏠,🏡,🚰)

This project makes 14,000 acre-feet of water available for instream flow in the Columbia River and out-of-stream uses in six northeastern Washington counties. As directed by the legislature, 4,700 acre-feet of water will be available for municipal, domestic, and industrial needs, and another 4,700 acre-feet will be available for irrigation and other uses. The remainder will be used for instream flow enhancement. Pend Oreille County Public Utility District, OCR's partner in this project, has released the first increment of water which is being placed into the State Trust Water Program to offset the new uses. Further construction activities are planned that will allow the PUD to release the entire 14,000 acre-feet per year after installation of a cold water discharge facility necessary to preserve water quality standards. It is anticipated that Ecology will begin processing the pending applications which qualify for this water supply project in mid- 2014. Recipients will be required to pay a one-time cost-recovery fee of \$1,500 per acre-foot, with payment plans available. More information: <http://www.ecy.wa.gov/programs/wr/cwp/sullivan.html>

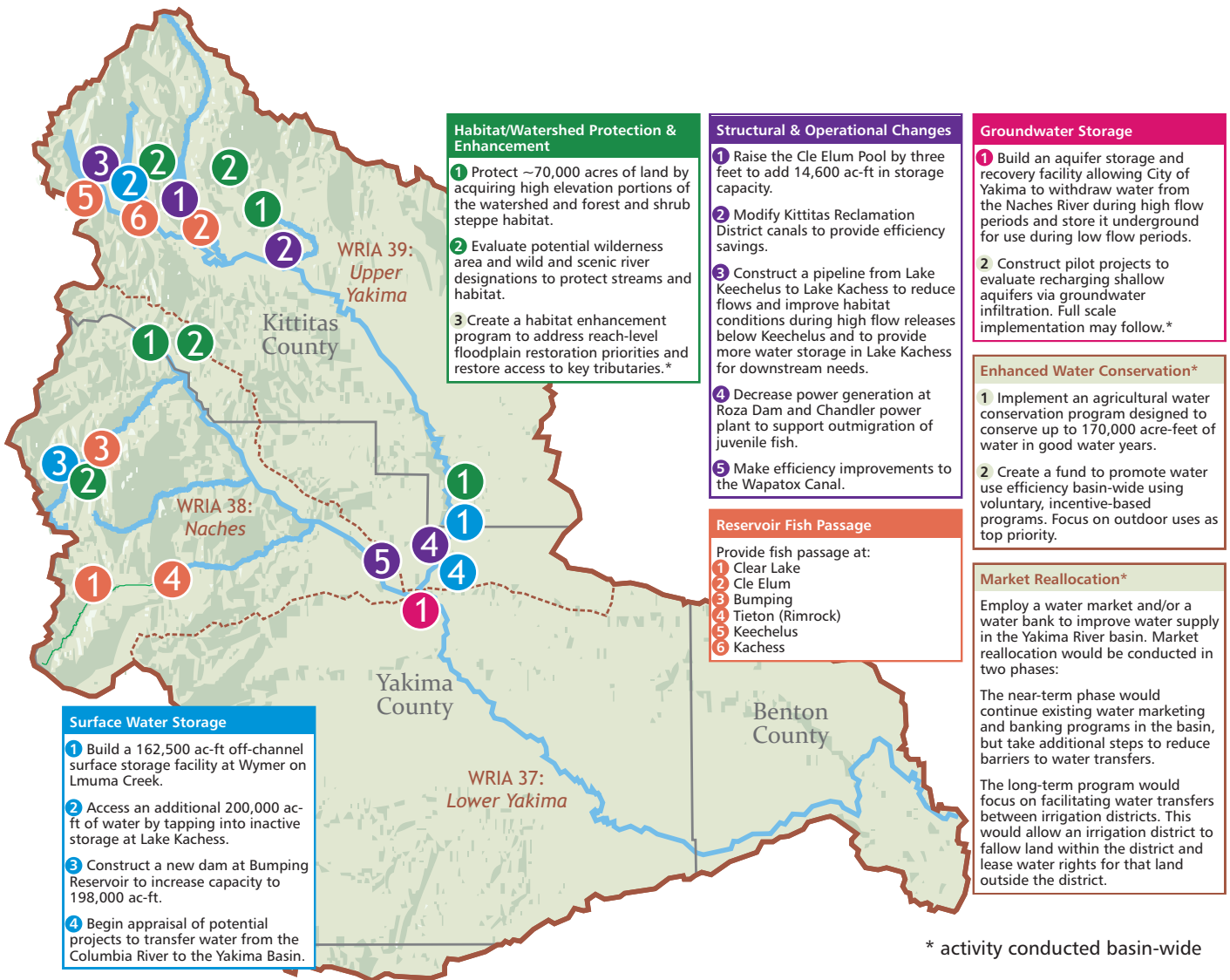
The Sullivan Lake Water Supply Project provides OCR the ability to resolve a long-standing dispute between Ecology and the City of Bridgeport. For nearly two decades, the city has challenged Ecology's interpretation of how much water it may use under its existing water rights, leading to a lawsuit filed in 2010. Ecology and the city agreed to stay the lawsuit until potential water supply sources became available to satisfy the city's demands for water. Having developed suitable supplies of water to resolve this dispute, OCR has issued a Report of Examination and a new water right permit allocating the city new water to satisfy 20 years of projected growth.

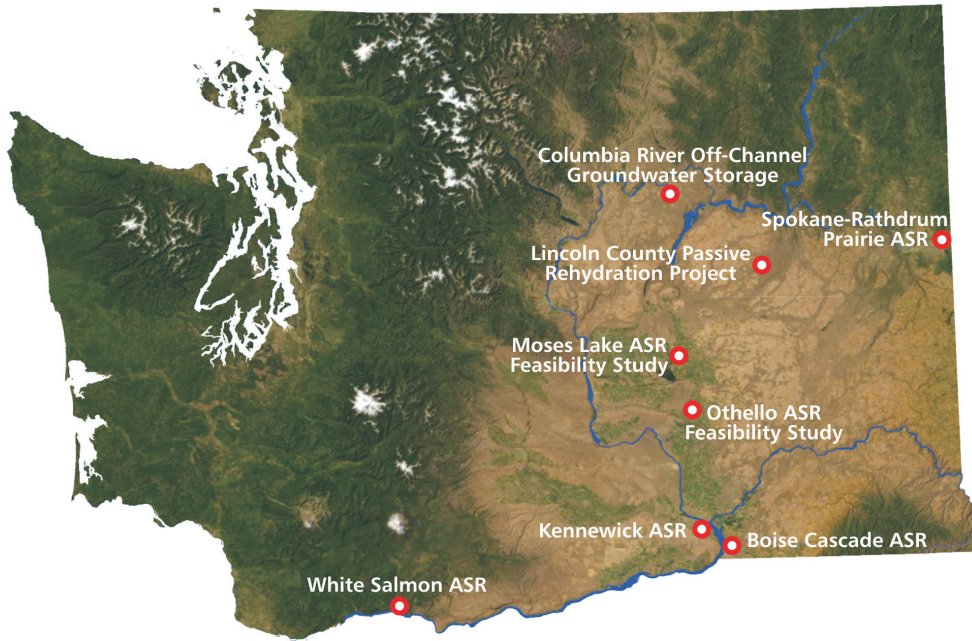


Cherries and other tree fruits comprise a large portion of the irrigated agricultural market in the region served by the Sullivan Lake Water Supply Project.

Yakima River Basin Integrated Plan (🚧, 🌿, 🏠, 🐟)

OCR support for the Integrated Plan continues into what will surely be a milestone year as many habitat and operational components of the plan are put into place. Additionally, the passage of the Yakima Policy Bill and accompanying capital expenditures has established the framework to implement future phases of the plan, and has already been used to establish the Teanaway Community Forest and fund irrigation infrastructure projects in the basin that will improve water supply while increasing stream access for endangered fish species. Near-term projects include constructing fish passage facilities at Cle Elum Reservoir, reconfiguring existing storage to increase operational capacity, conservation projects and developing market based water reallocation programs. More information: <http://www.ecy.wa.gov/programs/wr/cwp/YBIP.html>





Aquifer Storage and Recovery Exploration Projects



The study of aquifer storage and recovery sites throughout the Columbia Basin continues with funding from OCR. Drilling, testing, and analysis is currently ongoing and OCR endeavors to find suitable areas to locate new water storage. Preferred sites will have minimal environmental impacts, low capital costs, and will not impair existing water rights. If water supply is developed, two-thirds of the water will be for out of stream uses and one-third for instream benefit. More detailed information on the individual projects can be found on our interactive project map at: <http://www.ecy.wa.gov/programs/wr/cwp/projects.html>

508-14 Project (🏠, 🏠)

The rule amendment will define how much groundwater in an area northwest of Pasco may be allocated by the State and how much is reserved for the federal Columbia Basin Project. This will allow new water rights to be issued in portions of Franklin, Adams and Grant Counties. Initial economic analyses indicate that the rule change would significantly increase agricultural and commercial land values, farm production incomes and jobs. The Department of Ecology plans to have an amendment to the rule drafted in 2015.

Water Development Progress

OCR has added over 375,815 acre-feet to Eastern Washington’s water supply and continues to develop additional water resources through near term and long term projects. To assist OCR in assessment and funding of water supply and conservation projects, every five years OCR prepares a Long-Term Water Supply and Demand forecast (Forecast). The recently released 2011 Forecast provides a generalized, system-wide assessment of how future environmental and economic conditions are likely to change water supply and demand by 2030. Understanding where additional water supply is most critically needed will assist OCR in making smarter investments that help improve water supply for eastern Washington’s instream and out-of-stream users.

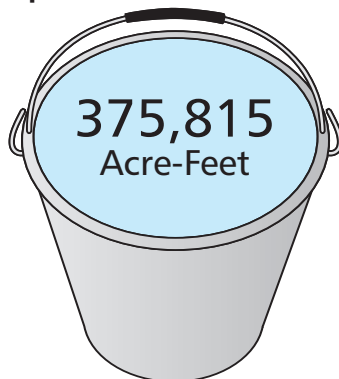
Once new water supplies are developed for instream flows, minimal processing is required and they are available to use. However, making water available for out-of-stream uses requires several steps before permits are issued. Numerous requirements are followed and may include: consultations with government agencies, tribal councils, and interested parties; environmental reviews and, sometimes, litigation. Typically, it takes one year or more to issue a new water right permit. The graphic below shows the status of OCR’s water supply development activity.

The first bucket shows the total amount of water currently developed through new projects for out-of-stream and instream uses. The second bucket shows the amount of water expected to be developed within 1 to 3 years. The third bucket shows the amount of water expected to be developed beginning 3 or more years from now.

Long term projects are either under study or waiting for federal or other approval. The results will determine if the projects move forward.

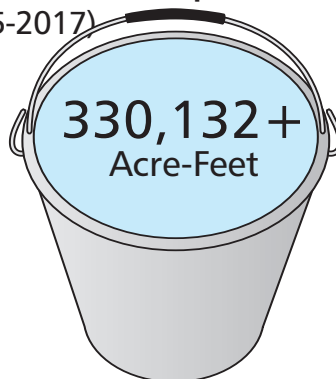
New Water Supply Developed by the Office of Columbia River

Developed



- » Barker Ranch: 6,436 ac-ft
- » Columbia Basin ID Piping: 26,000 ac-ft
- » Donations: 13,060 ac-ft
- » KID/Red Mountain: 11,005 ac-ft
- » Lake Roosevelt: 132,500 ac-ft
- » Lower Wenatchee Piping: 1,493
- » Manastash: 1,300 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)

Near Term Development (2015-2017)



- » 508.14 Rule Change: TBD
- » Cle Elum Pool Raise: 14,000 ac-ft
- » Columbia Basin ID Piping: 5000 ac-ft
- » Conservation Commission Irrigation Efficiency: TBD
- » 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
- » Yakima City ASR: 10,000 ac-ft

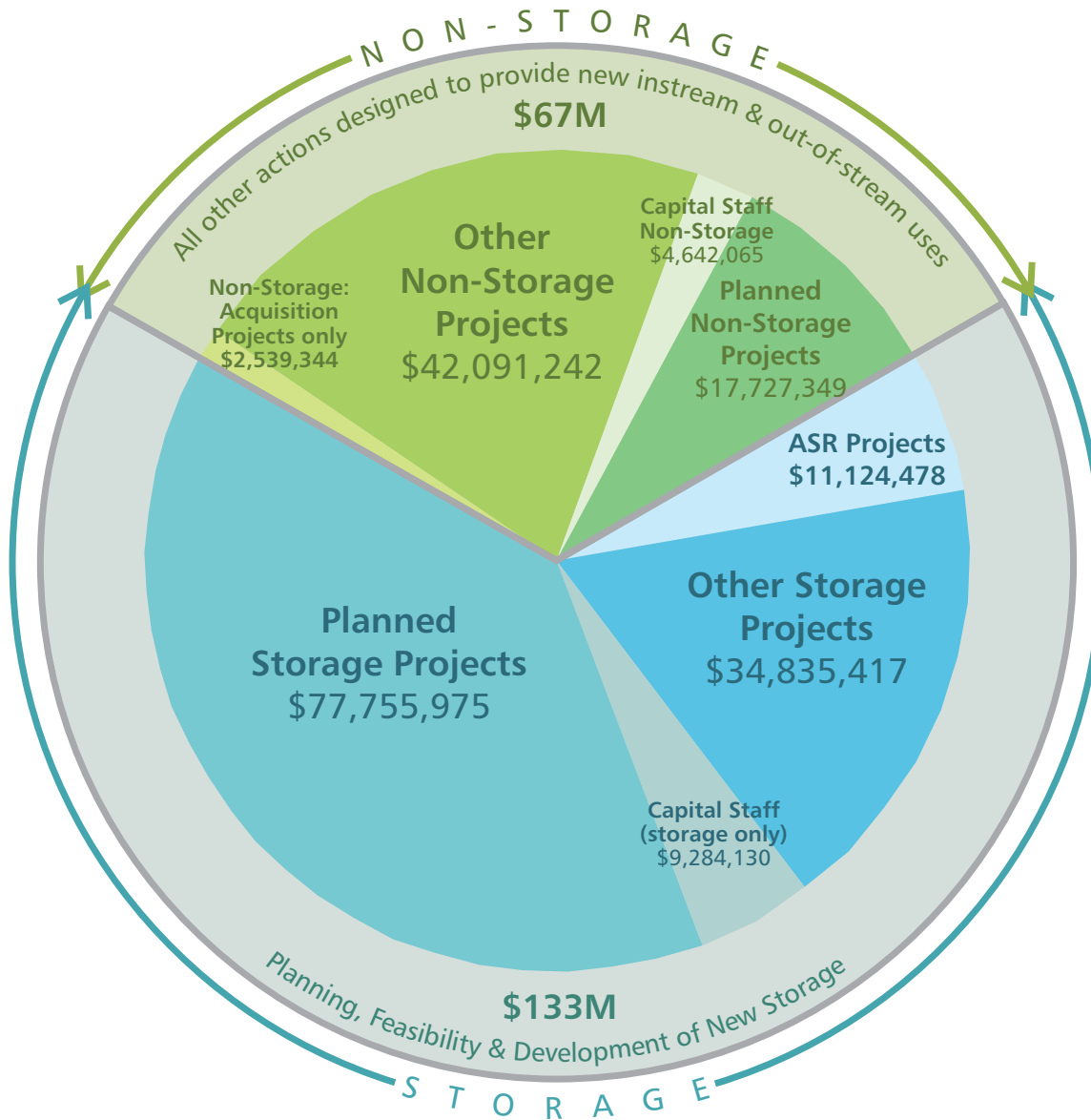
Long Term Development (2017+)



- » 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

Status of the Columbia River Basin Water Supply Account

The pie chart shows the current allocation of funds from the Columbia River Basin Water Supply Development Account. Under RCW 90.90.010(2)(b), two-thirds of the account must be spent on storage and pump exchanges and, one third for other purposes. The arrows surrounding the circle reflect this split. The pie slices that make up the circle reflect the allocated and remaining funds within each category.



Supply Inventory

Two new projects were submitted for the 2013 inventory, bringing the total projects compiled between 2006-2013 to 6,191. OCR's grant program focuses on projects that will deliver permitable water to the Columbia River or one of its tributaries. Permitable water is water that is stored, re-timed or conserved through farm management practices such as crop changes or fallowing. OCR screens the projects in its inventory and meets with project proponents to determine grant eligibility. While the inventory shows approximately 11 million acre-feet of water supplies that could be developed, the inventory includes projects whose feasibility is untested, lack project proponents and inadequate funding. Also, OCR's prioritization of projects seeks to balance where supply is available with the demands for the five legislative directives: Odessa Subarea, Pending Water Right Applications, Drought Relief, New Municipal, Domestic, Industrial and Irrigation, and Instream Flows. Since OCR's \$200 million dollar funding is relatively small to the total costs to develop projects, OCR favors projects that leverage other federal, state and local funding sources. This approach maximizes the public return on investment.

In future reports, OCR will be attempting to eliminate projects from our inventory lists that do not provide attainable benefits in reaching our statutory goals. This includes large projects that have critical defects due to environmental, technical, or economic issues as well as smaller projects such as irrigation efficiency upgrades that provide no permitable water or needed instream flow benefits. Removing such projects allows the inventory list to be more useful in determining and accounting for potential OCR projects which meet our goals. To view our current inventory of projects, please refer to the expanded supply inventory located on the enclosed disc.

Expanded Supply Inventory

CD placeholder

