



Yakima River Basin Water Enhancement
Project Workgroup

Yakima Basin Integrated Plan: *Status and Path Forward*

Washington AWRA
September 26, 2013

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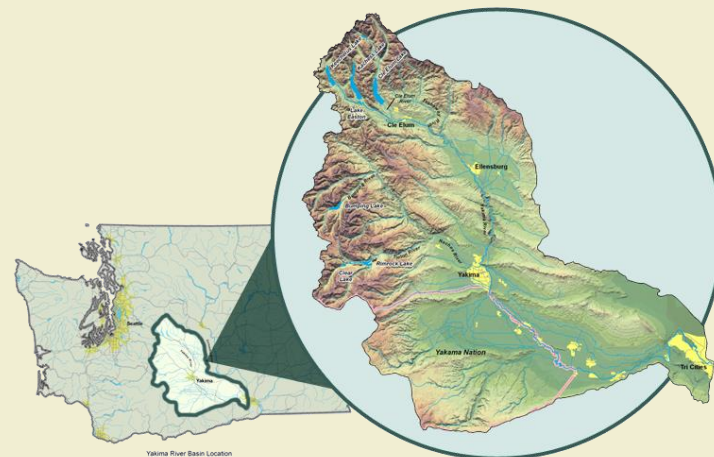


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Yakima Basin: Overview



- 4 million acres
- Largest agricultural-producing region in the Northwest
 - \$1.8 billion Ag; \$2.3 billion food processing industry
 - Apples, wine grapes, hops, hay
- Second only to Snake River in supporting salmon and steelhead runs
- Surface water adjudicated
- Diverse outdoor recreation
 - Pack and saddle, hiking, dirt biking, camping, fishing, hunting, snowmobiling

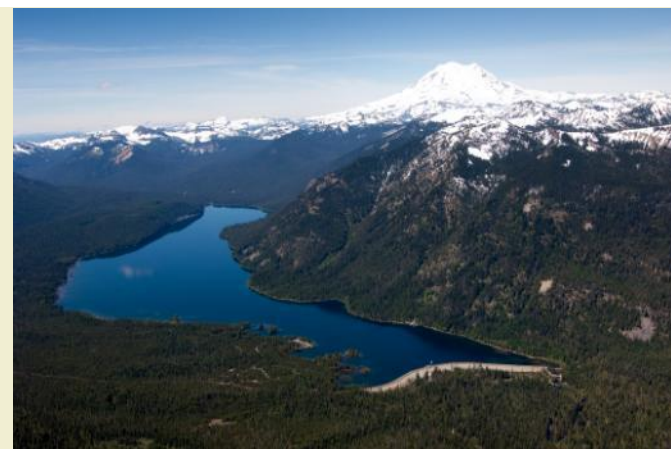




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Yakima Basin Water Management

- Managed by Bureau of Reclamation
- 5 reservoirs with 1 million acre-feet of capacity (average annual runoff 3.3 million acre-feet)
- Snowpack is the “sixth reservoir”
- Irrigation deliveries: 1.7 million acre-feet





Stressed Water Supply



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- Surface water is over- appropriated
- Droughts & Years of Proration: 1977, 1979, 1987, 1988, 1992, 1993, 1994, 2001, 2003, 2004, 2005
- Proratable Irrigation Districts reduced to as little as 37% of allotments
- Snowpack projected to decline (12-71% runoff)
- Groundwater availability limits residential development





Reduced Fisheries



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- Historic salmon and steelhead run
 - 800,000 fish
- Average run size last 10-15 years
 - 15,000-20,000 fish
- Native coho, sockeye and summer Chinook extirpated
 - Coho reestablished, sockeye being reestablished
- Spring and fall Chinook
 - Seriously reduced
- Steelhead and bull trout
 - ESA Threatened species

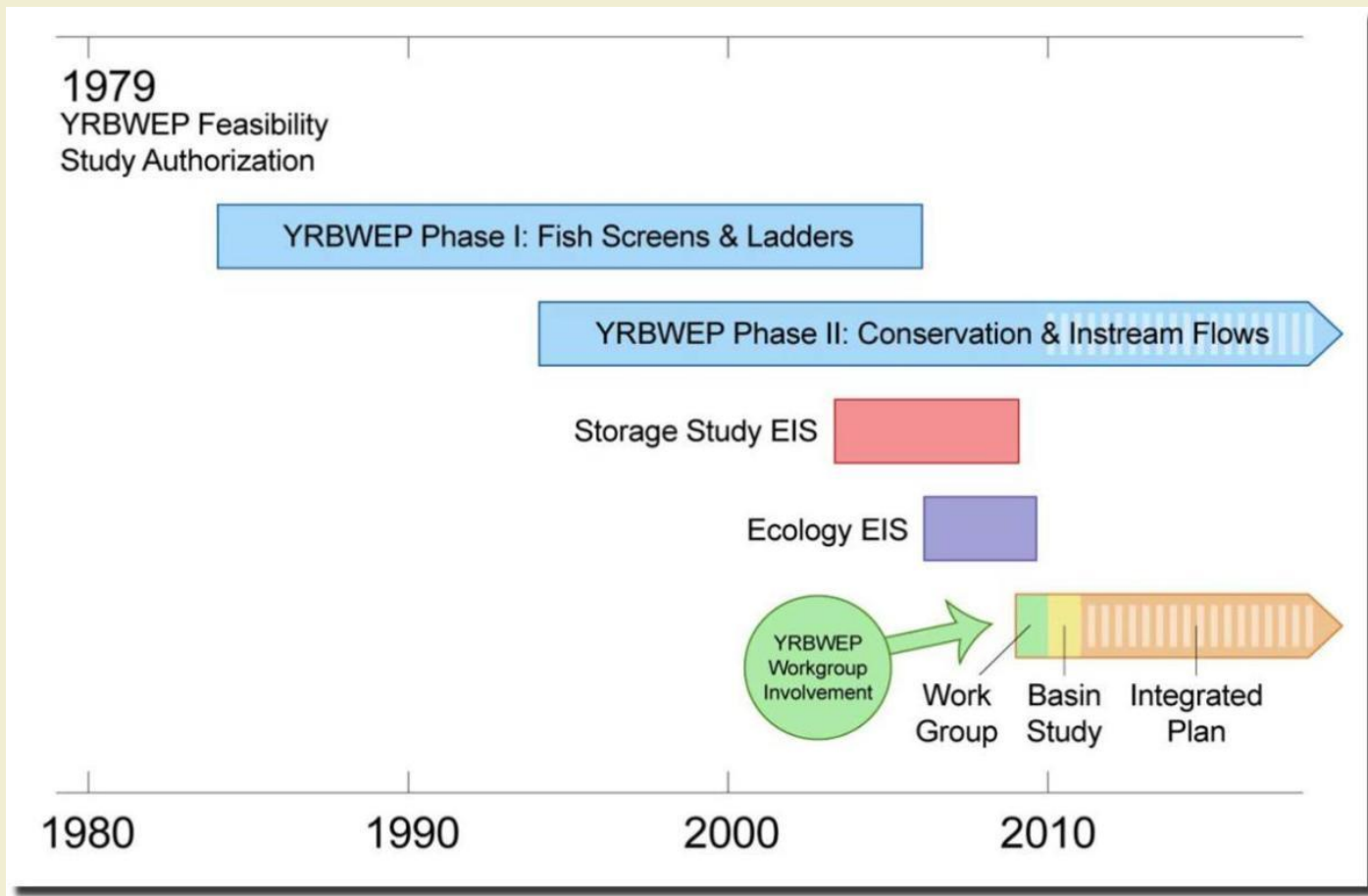


Scott Burtner, Flickr



Integrated Plan Grew from Yakima River Basin Water Enhancement Project

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An Emerging Solution



Yakima Basin Integrated Plan Goals:

1. Restore and enhance ecological function and provide fish passage
2. Improve water supply during drought years (70% proratable supply)
3. Provide for efficient and adaptable water supply management
4. Contribute to sustainable economy and environment



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Yakima Basin Integrated Plan

Seven Elements:

1. Reservoir Fish Passage
2. Structural and Operational Changes
3. Surface water storage
4. Groundwater storage
5. Water Conservation
6. Water Marketing
7. Habitat Enhancement and Protection





2013 State Legislative Session



June 30, 2013

Yakima Jobs, Water and Fish Bill



Capitol Budget - \$132 Million

\$100 million Teanaway Acquisition

\$22 million water storage (214K acre-ft)

\$10 million fish passage

Next Steps

Engineering and Environmental Review for

- Cle Elum Pool Raise
- Kachess Inactive Storage
- Cle Elum Fish Passage

“Fatal Flaw” analysis

- Bumping Reservoir expansion
- Wymer Reservoir

Teanaway Community Forest

Federal legislation and funding

Early Actions – restoration, conservation, efficiency



Enviros Supporting Dams?

- 30 Years of inadequate progress
- Climate change and sustainability
- Promise of real restoration
- Phasing to make the “integration” real
- Prominent place for conservation, efficiency and marketing
- Process that allows for withdrawal if appropriate



Yakima Political Hydrology: *Money*

\$4Billion+/- over 20-40 years

Federal Budget

- Reclamation \$1B budget
- \$5B backlog, \$1.9B Indian projects
- Reduced (!) appetite for federal subsidies, no interest loans, “ability to pay,” aid to irrigation

What mix of Federal, State, Local, water user funds?

- New model to be developed



Yakima Political Hydrology: *Review*

1983 Principles and Guidelines

Single Clear Federal Objective:

The Federal objective of water resources planning is to contribute to **national economic development** (NED) while protecting the nation's environment.

2013 Principles and Requirements

Federal investment justified by public benefits compared to costs

- Maximize sustainable economic development
- Avoid unwise use of floodplains
- Protect and restore natural systems



P&G Review

Benefits **double** the cost (2.1:1)

- NPV \$7.4B:\$3.5B
- Fishery benefits of \$6.2B
- Irrigation benefit of \$800M
- M&I benefit of \$395M

Costs allocated

- Ecosystem: \$2.44B (2.54:1)
- Irrigation: \$729M (1.1:1)
- M&I \$351M (1.12:1)

How will individual and groups of projects fare in P&G/P&R?



Yakima Political Hydrology: *Environmental*

New Dams Antipathy

- Era of dam building over
- Marketing and conservation can fill any legitimate need
- Subsidies

Specific projects

- Bumping – ESA, Old Growth, Cabins, Recreation, Refill
- Wymer – ESA, Gorge
- Cle Elum – lakeside owners
- NRCA – OHV use



Yakima Political Hydrology: *Legislative*

Are the Legislatures receptive to a new, integrated approach to Water?

Congress

- Political Gridlock
- D's wary of new water projects
- R's wary of spending programs
- Currently, authorization is an earmark – need offset
- Strong support from Administration, WA Delegation
- Other Secure Water Act projects in the wings
- Will need a reasonable funding model to go forward

Olympia

- Remarkable support in 2013
- Legislative intent requirements
 - Federal funding
 - Water projects to go forward
 - Independent economic analysis



Yakima Political Hydrology: *Messaging*

30 years after the end of the dam building era, and 15 years into the era of dam removal, are we entering into an era of new water projects driven by climate change and ecosystem restoration?

- What is a balanced, integrated project?
- How is that case made?
- Dams for the environment?
- What is enough conservation and efficiency?
- Role of water marketing?
- Who pays for what is important
- Getting beyond “just say no”
- “New conservation” - sustainable economies





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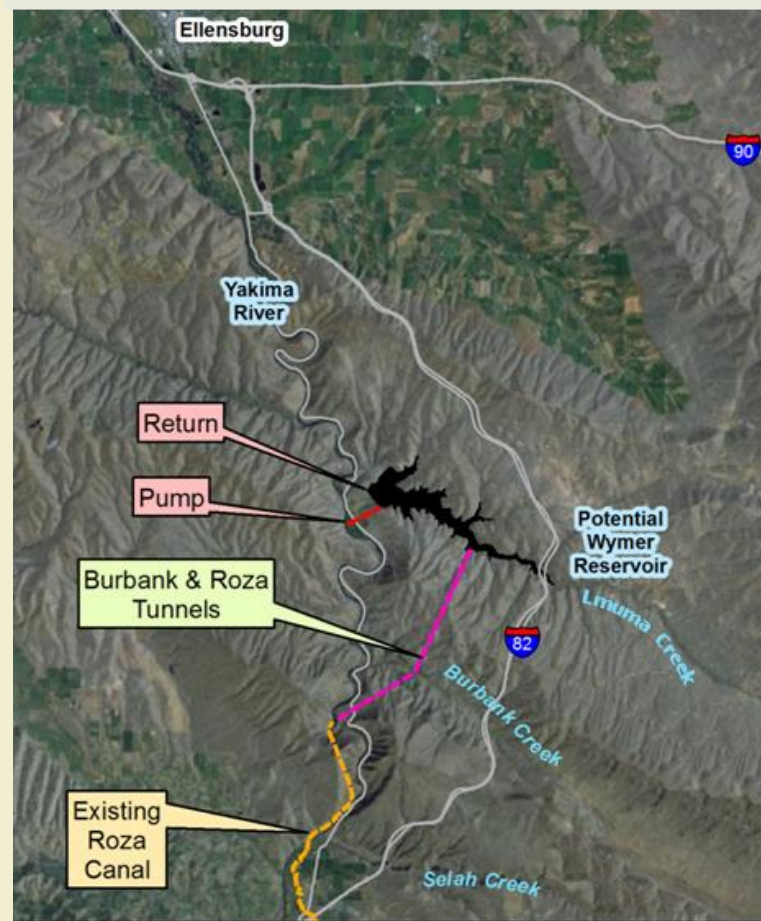


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Surface Water Storage

- **Wymer Dam and Pump Station**
 - New off-channel reservoir, 163,000 acre-feet
- **Lake Kachess Inactive Storage**
 - Existing Reservoir: Access 200,000 acre-feet from inactive storage pool in dry years
- **Bumping Lake Enlargement**
 - Replace existing dam to add 165,000 acre-feet

Proposed Wymer Reservoir





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Lands Protections - Principles



The Yakima Basin Integrated Plan team is committed to land protection that:

- Enhances watershed and fish habitat protection and preserves or improves recreational opportunities;
- Minimizes negative effects on existing or reasonably foreseeable economic uses;
- Directly complements other actions in the Integrated Plan;
- Purchases private lands only from willing sellers at fair market value;
- Maintains economic uses where lands have historically been used as working lands; and
- Includes long-term funding for restoration and management activities.

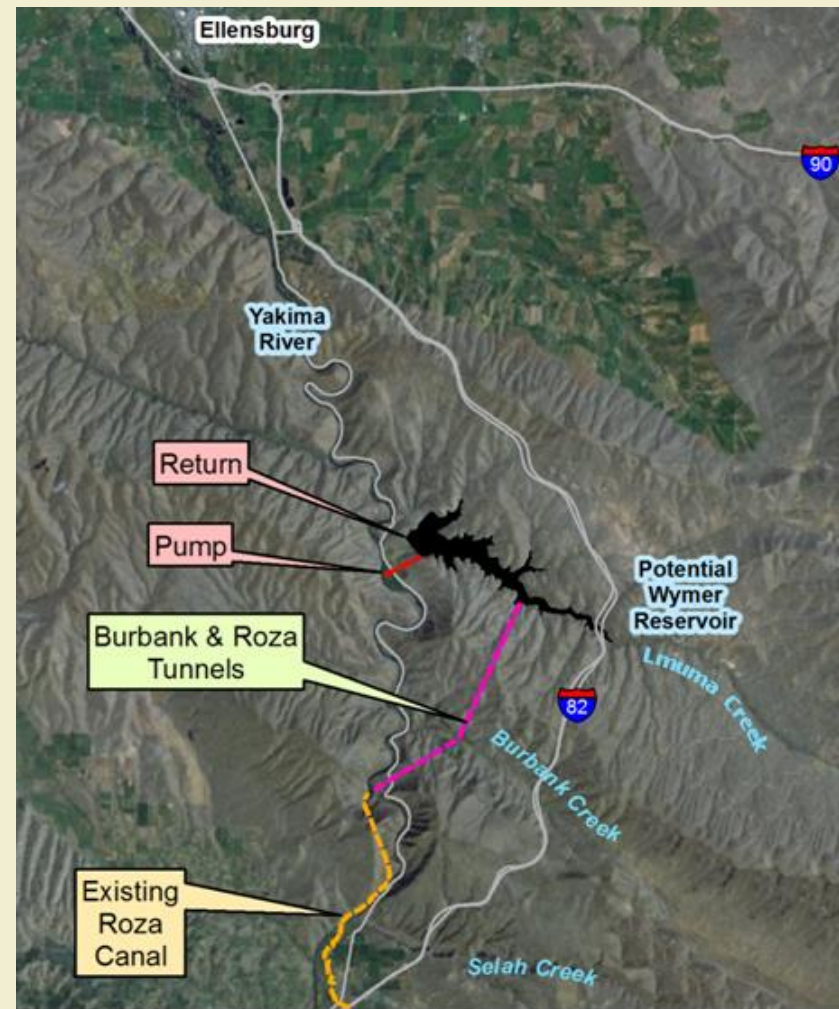


Proposed Wymer Reservoir

Before



After



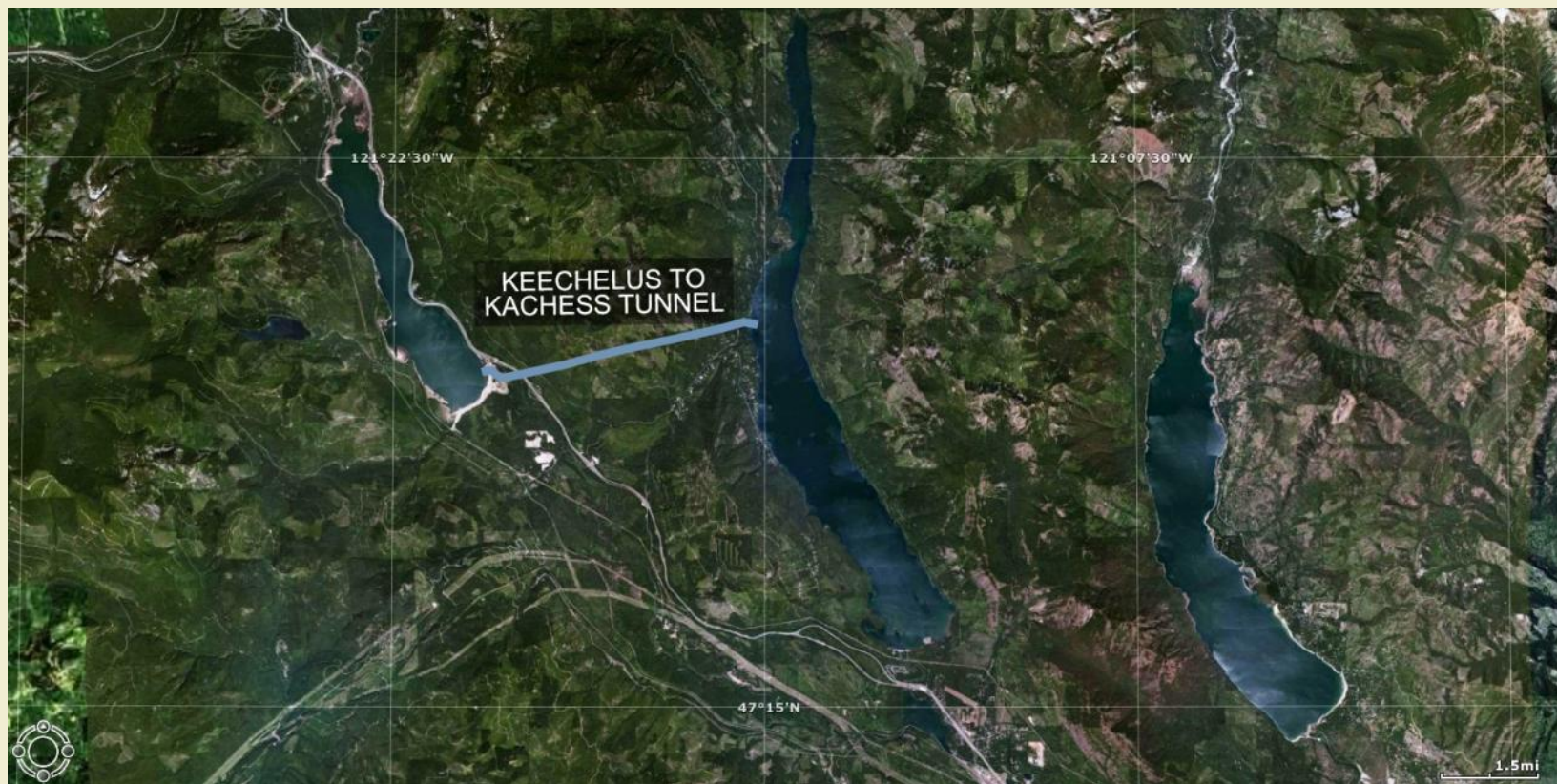


Kachess Inactive Storage



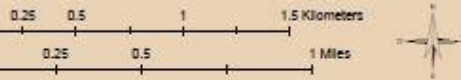


K to K Conveyance Project





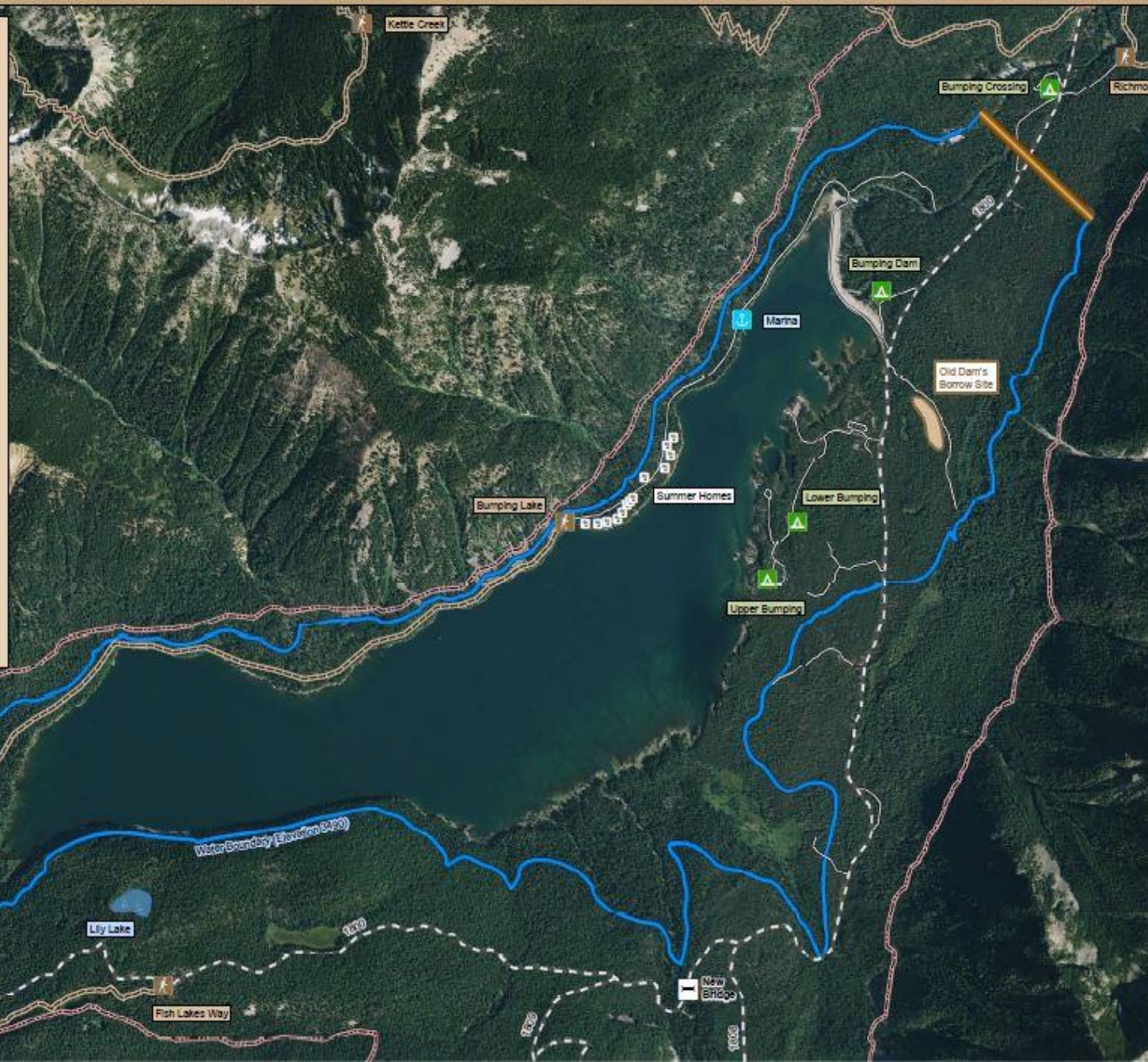
- Legend**
- Campgrounds
 - Summer Homes
 - Marina
 - Bridges (New)
 - Trailheads
 - Trails
 - Lily Lake
 - Wilderness Boundary
 - Transportation (F.S. 1800, 1808, 1809)
 - Transportation (Secondary)
 - New Reservoir Level (Elevation 3450)
 - New Bumping Lake Dam
 - Old Bumping Dam Borrow Site



Mapping Information:
 Cartography: U.S. Bureau of Reclamation, Cascades-Columbia Area Office
 Projection: Washington State Plane, South Zone, NAD 83, Feet
 Date Produced: March 1, 2011 (Last Modified on March 28, 2012)
 NOTE: THIS MAP DOES NOT CONFORM TO THE NATIONAL MAP ACCURACY STANDARD

Legend:
 Campgrounds = Digitized using 7.5 Minute USGS DRG data (1:24,000 NMAAS)
 Summer Homes = Located using the USFS Constructed Features GDB (1:24,000 NMAAS)
 Marina = Digitized using 2009 NAIP photography (1:12,000 NMAAS)
 Bridges (New) = Located using 2009 NAIP photography and USFS information (1:12,000 NMAAS)
 Trailheads = Located using the USFS Transportation GDB (1:24,000 NMAAS)
 Trails = Located using the USFS Transportation GDB (1:24,000 NMAAS)
 Lily Lake = Digitized using 2009 NAIP photography (1:12,000 NMAAS)
 Wilderness Boundary = Located using the USFS Management Direction GDB (1:24,000 NMAAS)
 Transportation = Located using the USFS Transportation GDB (1:24,000 NMAAS)
 Reservoir Level = Contractor supplied data set, probably based on 30 meter DEM data
 Bumping Dam Borrow Site = Digitized using 2009 NAIP photography and a map from the original Bumping Dam construction (1:12,000 NMAAS)
 Photography = Acquired during 2011 by the Aerial Photography Field Office (APFO) of the USDA's Farm Service Agency.

Disclaimer:
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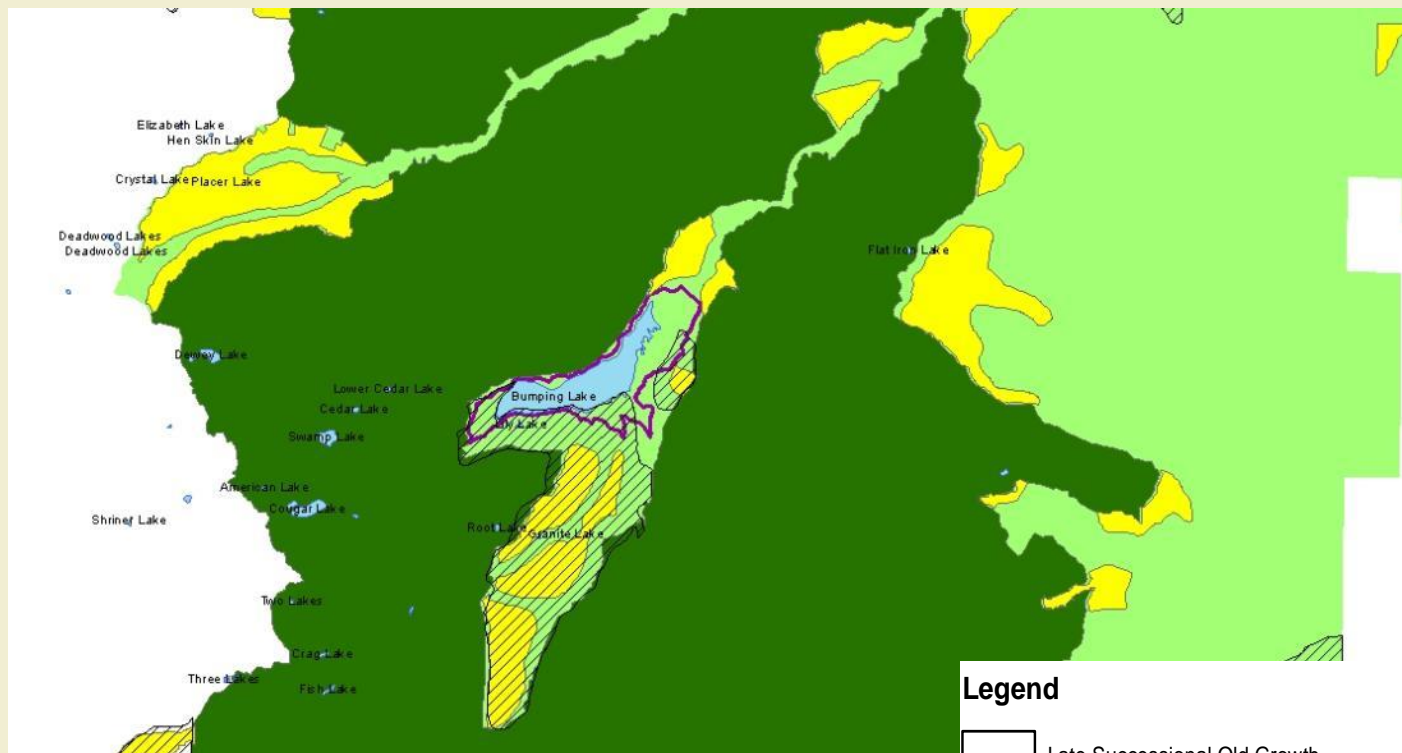









Bumping Lake Expansion



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Legend

-  Late Successional Old Growth
-  Inventoried Roadless
-  Proposed Expansion
-  FS Wilderness
-  Other National Forest



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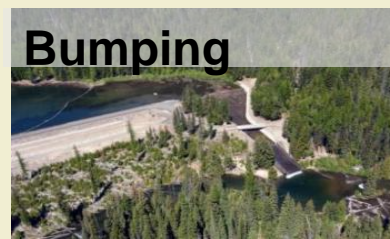
Reservoir Fish Passage

Benefits:

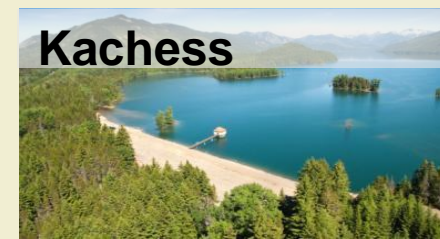
- Access to high quality habitat
- Increase anadromous species abundance
- Reintroduction of sockeye
- Genetic interchange for bull trout



Cle Elum



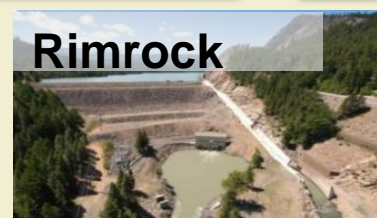
Bumping



Kachess



Keechelus



Rimrock





Structural and Operational Changes



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- Keechelus-to-Kachess tunnel or pipeline
- Kittitas Reclamation District canal modifications and new pump station
- Reduce power diversions at Roza and Chandler Dams
- Wapatox Canal improvements
- Raise Cle Elum Lake by 3 feet



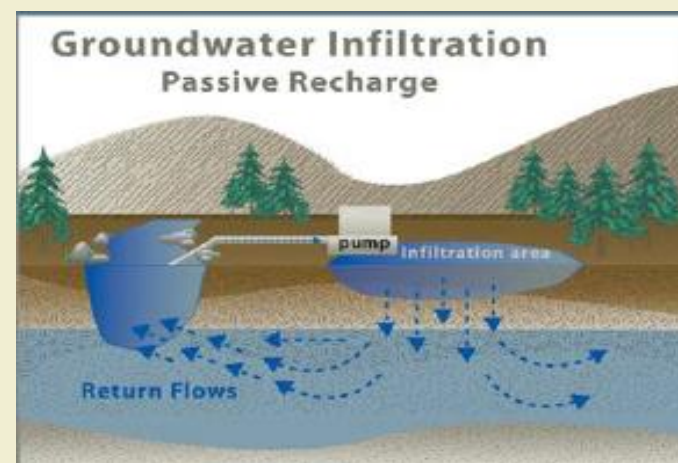
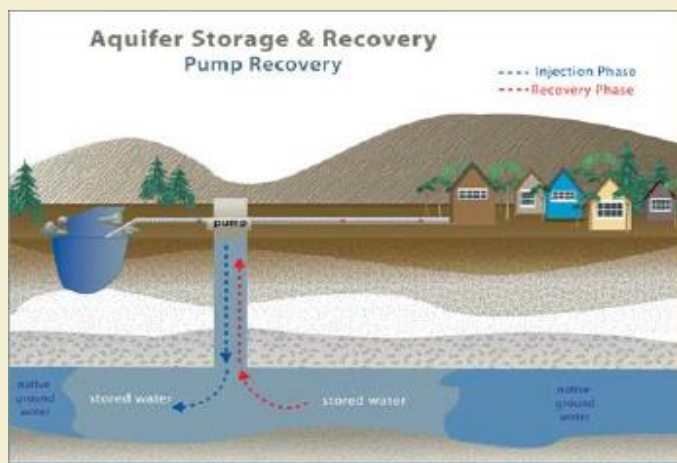


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Groundwater Storage



Use surface water during periods of high runoff.
Recharge aquifers for later withdrawal.





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Water Conservation



Agricultural Conservation

(Up to 170,000 acre-feet)

- Lining/piping canals and laterals
- Re-regulation reservoirs
- Irrigation efficiency: reduce seepage, evaporation and spills



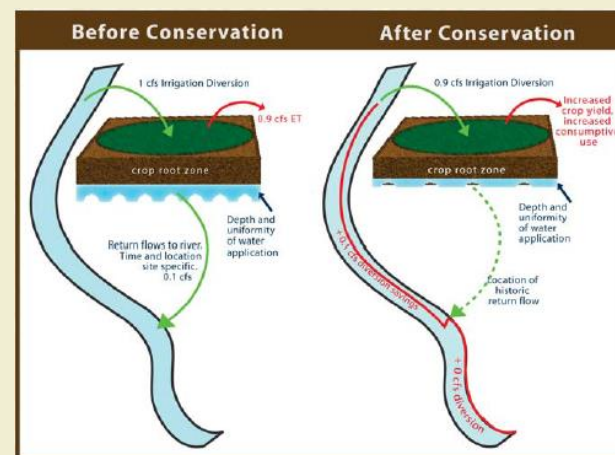
Re-Regulation Reservoir



Drip Irrigation

Municipal and Domestic Conservation Program

- Promote efficient landscape irrigation practices
- Expand education/incentives to encourage voluntary efficiency
- Establish best practice standards





Water Marketing



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Near-term effort

- Build on existing water market programs
- Take steps to reduce barriers

Longer-term effort

- Focus on water transfers between districts
- Allow following within district, leases to outside district
- Requires substantial changes to existing laws/policies





Habitat/Watershed Protection and Enhancement



Headwaters land acquisitions

- 50,000 acres in Teanaway Basin
- 15,000 acres in Yakima Canyon
- 10,000 acres at Little Naches headwaters

Protective designations on public lands and waters (Congressional Action)

- 140,000 acres National Recreation Area
- 21,000 acres Wilderness
- 200 miles Wild and Scenic River designation

Principles

- Watershed, recreation, economic values
- Compliments other elements
- Maintain working lands
- Willing sellers
- Long-term funding

Mainstem floodplain and tributaries fish habitat enhancement program



Before



After



Habitat Restoration