

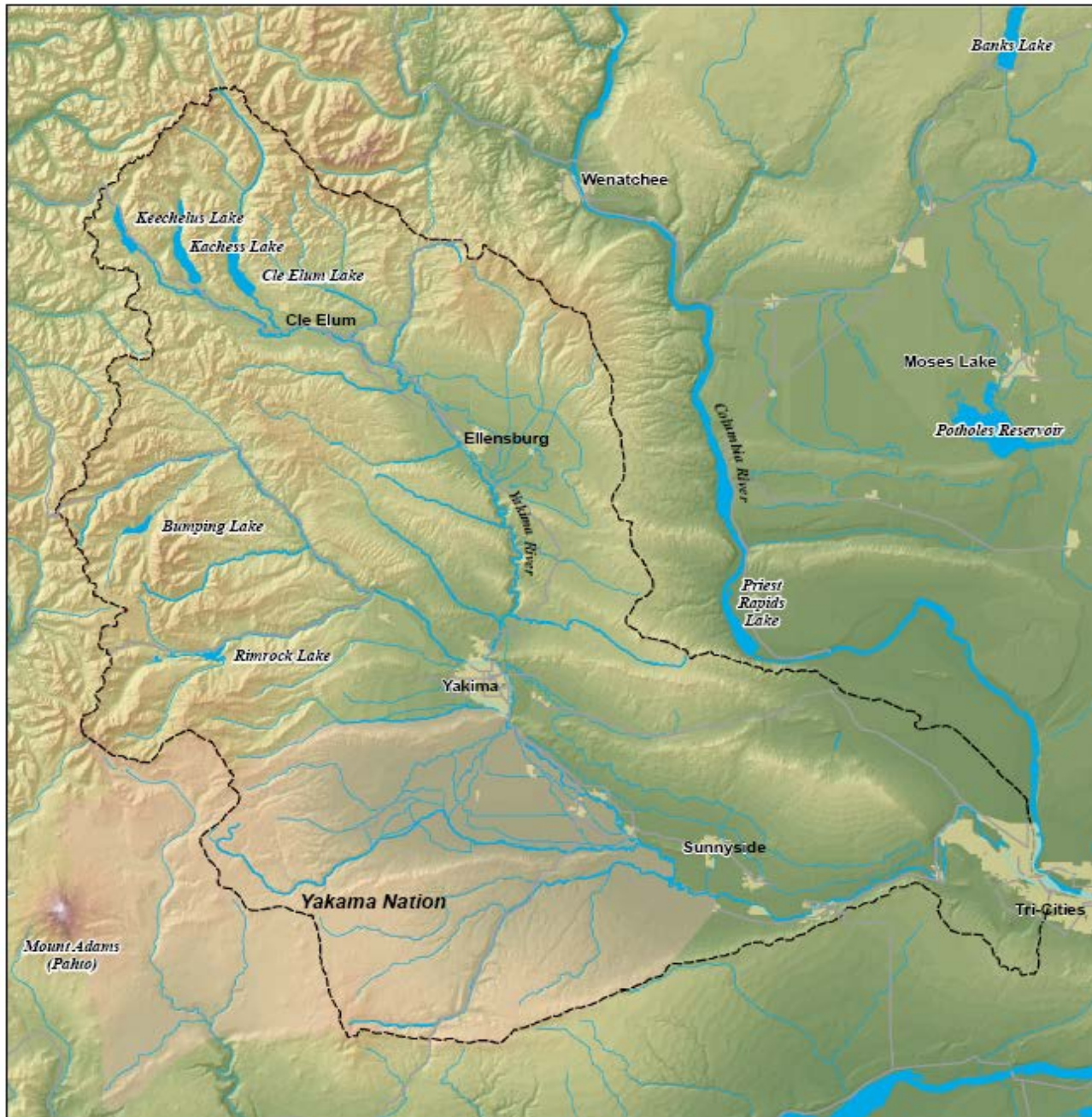
Abundant Salmon & Reliable Water Supplies:

The Yakima Integrated Plan

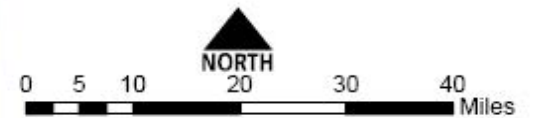


Michael Garrity
Washington Conservation Director
American Rivers

Yakima Basin Reference Graphic



- Major Highways & Roads
- Urban Boundaries
- Hydrology
- Yakima River Basin Boundary
- Yakama Nation



This reference graphic is intended for informational purposes only, to assist in feature location with reference to other landmarks. Data of varying scales and degrees of accuracy have been combined in the production of this graphic. No representation is made as to accuracy of this document.





Goals of Yakima Integrated Plan

- Fish restoration
- Ecosystem protection and restoration
- Reliable water supply
- Adaptation – prepare for a changing climate



Photo by Tom O'Keefe



Elements of the Yakima Plan

- Water conservation
- Water marketing
- Groundwater recharge
- Re-operation of existing infrastructure
- New and expanded surface storage
- Habitat restoration and protection
- Fish passage at headwaters dams



Photo by Scott Butner



Water Conservation

- Automation/modernization of irrigation canals and laterals
- Efficient on-farm application
- Irrigation Management Practices





Water Marketing

- Reduce legal, administrative, cultural barriers to transferring water from low value annual uses to high value perennials



Groundwater Recharge

- Recharge groundwater for better flows, colder water
- Pilot projects in Kittitas and Wapato irrigation districts



Photo credit: CWU



Reoperating Existing Infrastructure

- Reduce hydropower diversions at Roza and Chandler dams
- Removal of Roza Dam?
- Improvements in operation or removal of Wapatox Diversion



Photo credit: USBR



New and Expanded Surface Storage

- Kachess Inactive Storage and K-K Pipeline
- Wymer Dam
- Expanded Bumping Lake
- Cle Elum Reservoir 3' raise
- Preliminary analysis of pumped storage from Columbia River





Wymer Dam

- Off-stream storage of 162 KAF of Yakima River water
- Tall dam - 450 feet
- 1400 acres inundated
- Salmon flow benefits



Wymer Footprint

Reservoir Footprint

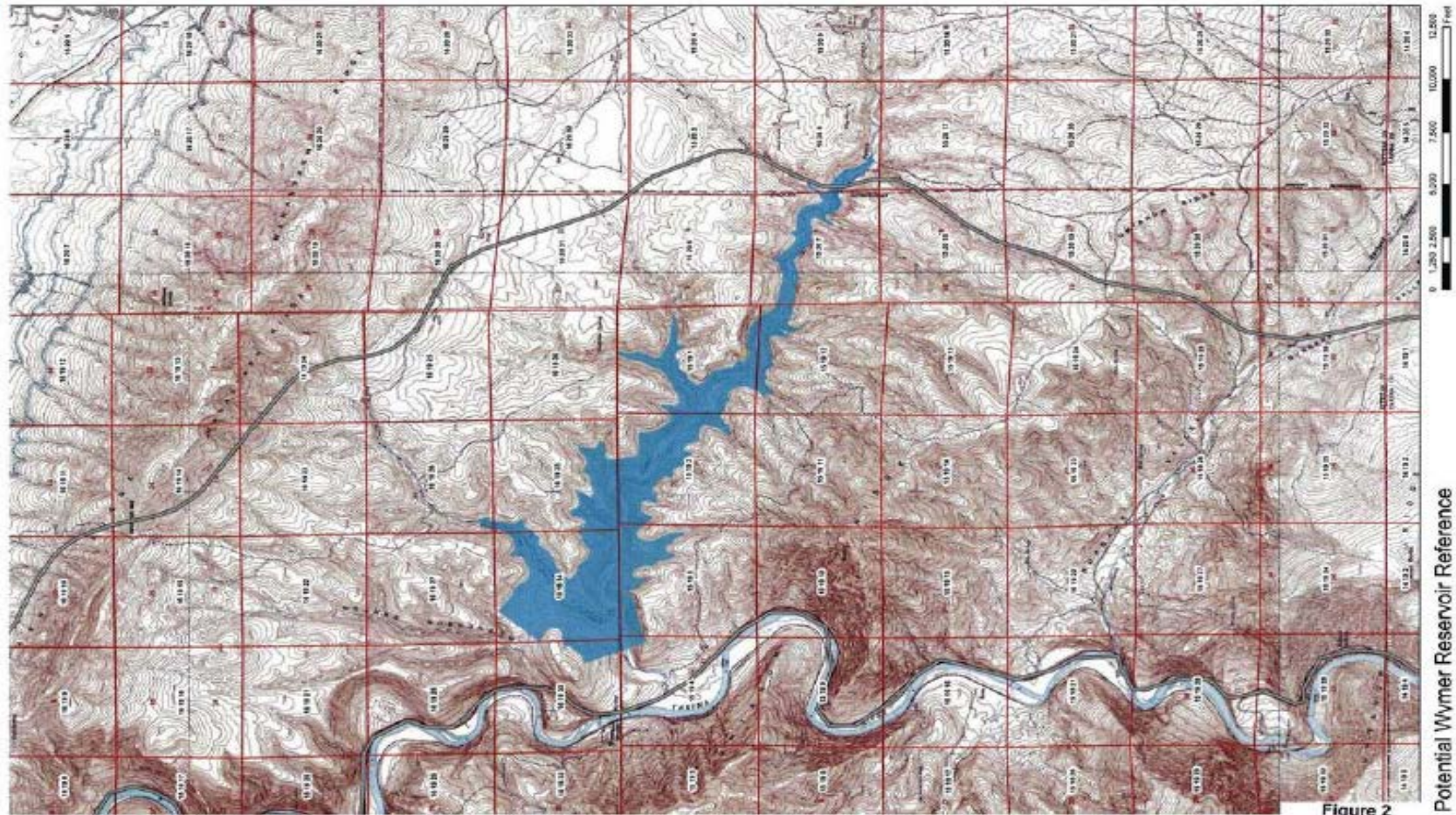
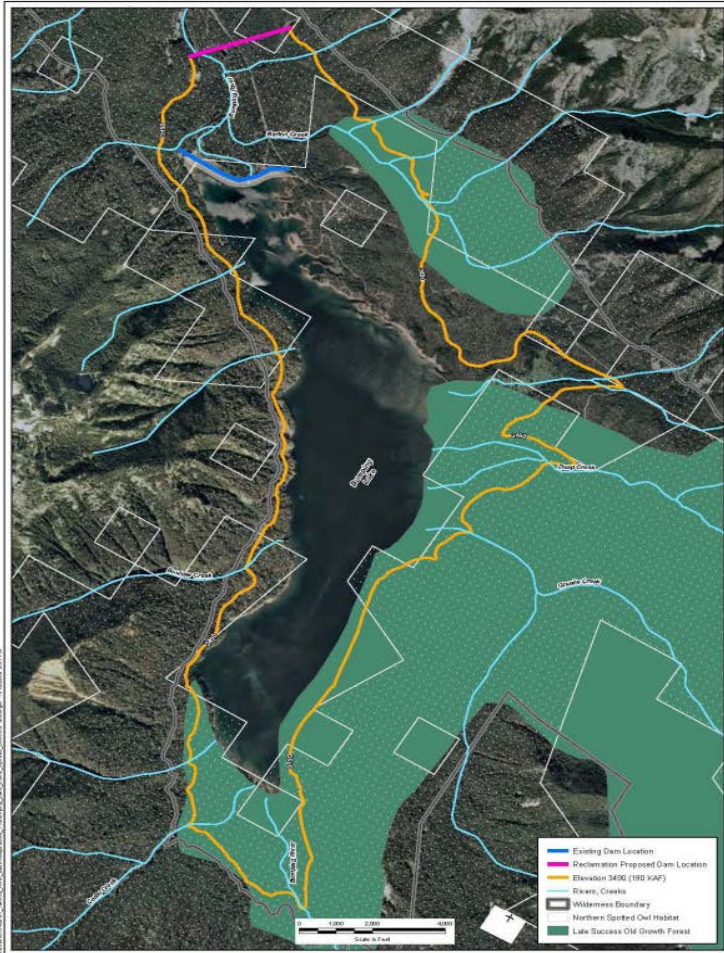


Figure 2

Potential Wymer Reservoir Reference



Bumping Expansion



- New dam downstream
 - 125 feet high
 - 190 KAF (up from 34 KAF)
- Old growth
 - 980 acres
- Bull Trout -- Deep Ck.
- Steelhead – Bumping R.
- Cabins, Camping
- Fish passage
- Fish flows

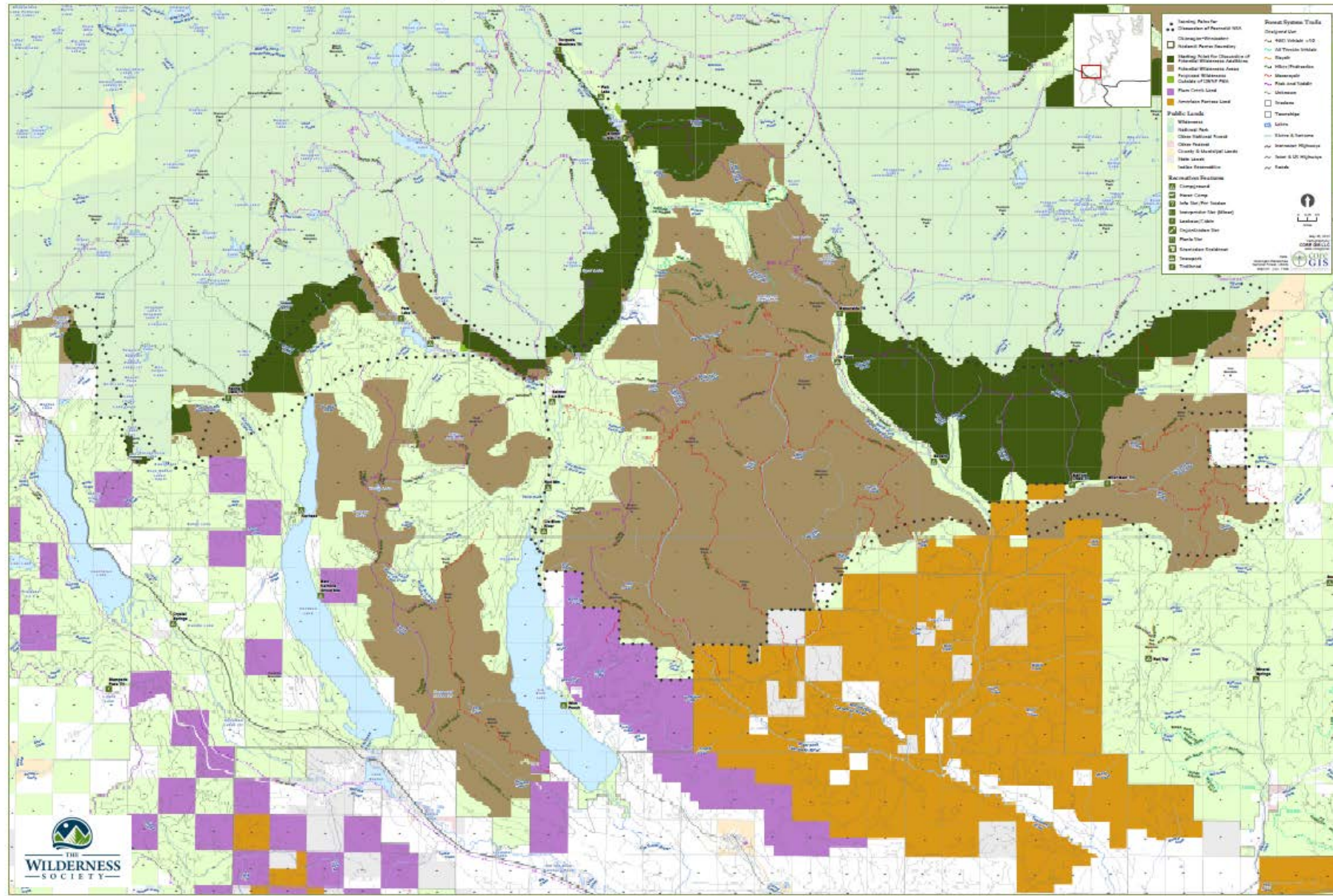


Habitat Restoration and Protection

- Mainstem & trib. floodplain restoration
- Passage improvements in tributaries
- Instream flow improvements
- Acquisition/protection of Teanaway
- Conservation and recreational designations (Alpine Lakes/Teaaway, Manastash-Taneum, William O. Douglas)
- 12 new Wild & Scenic rivers segments

Watershed Land Conservation Subcommittee Upper Yakima Conceptual Map

Click on Sign to add text
place signature on a PDF





Fish Passage

- Fish passage installed at:
 - Cle Elum (first)
 - Keechelus
 - Kachess
 - Bumping
 - Rimrock
 - Clear Lake



Credit: USBR



Results of Plan

- Major fish restoration (~200K sockeye, up to 400,000 salmon overall)
- Long-term protection of key watersheds, rivers, and riparian areas
- More certain water supply for irrigators, cities, developers
- Trade-offs: Inundated forest, shrub steppe, stream habitat



Photo credit: YKFP



Ecosystem restoration costs

- Fish passage (total): \$409.7 m
- Floodplain restoration: \$270.0 m
- Trib. habitat restoration: \$180 m
- Water management projects generally have ecosystem benefits as well as water supply benefits (cost next page)



Water management costs

- Wymer Dam and Reservoir: ~\$1.2 b
- Bumping Reservoir expansion: \$402.5 m
- K-K pipeline and Kachess drawdown: \$444.5 m
- Water conservation/efficiency: \$400 m
- Water marketing: \$2 m
- Groundwater infiltration: \$98.2 m
- **Total project cost: ~\$4 billion (\$3.1 b – \$5.6 b)**



Details TBD

- Exact boundaries/zoning within protected lands
- How much new storage water goes to fish and when
- Better define water marketing plan
- Refine phasing and sequencing
- Determine funding strategy for tough fiscal times
- Legal/process hurdles



Next steps

- Framework document, NEPA ROD
- More negotiations
 - Detailed discussions of phasing, financing
 - Near-term funding requests
 - New federal and state legislation as soon as 2013
- Project-specific NEPA/SEPA/ESA review



Closing thoughts

- Promising plan with broad support despite tough trade-offs
- Ecosystem gains likely unattainable w/o package
- New model for integrated water and ecosystem mgmt. (?)
- Some key details remain unresolved



Photo: Scott Butner



Questions/comments?



Photo credit: Scott Butner

mgarrity@amrivers.org