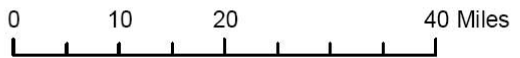
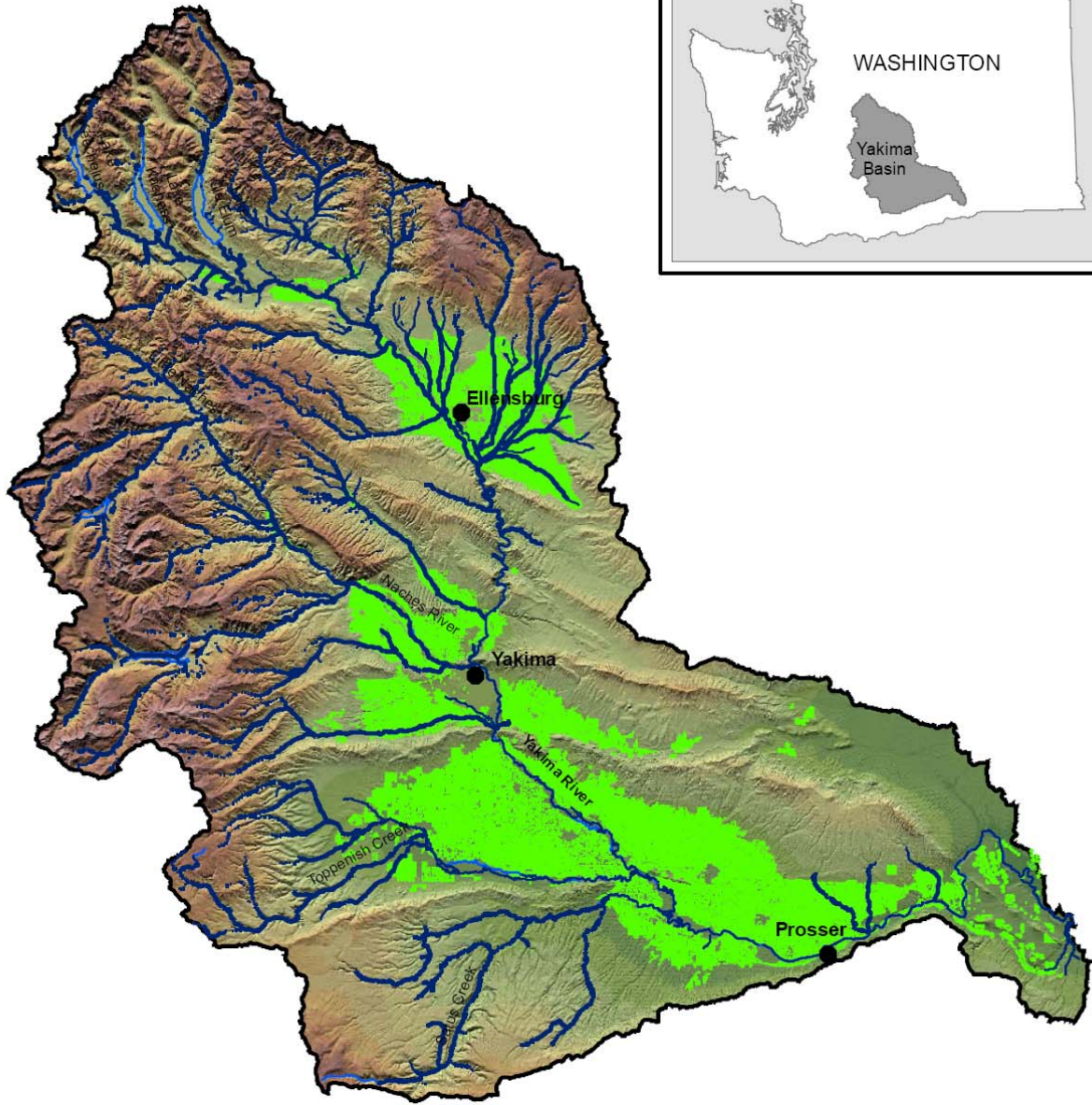
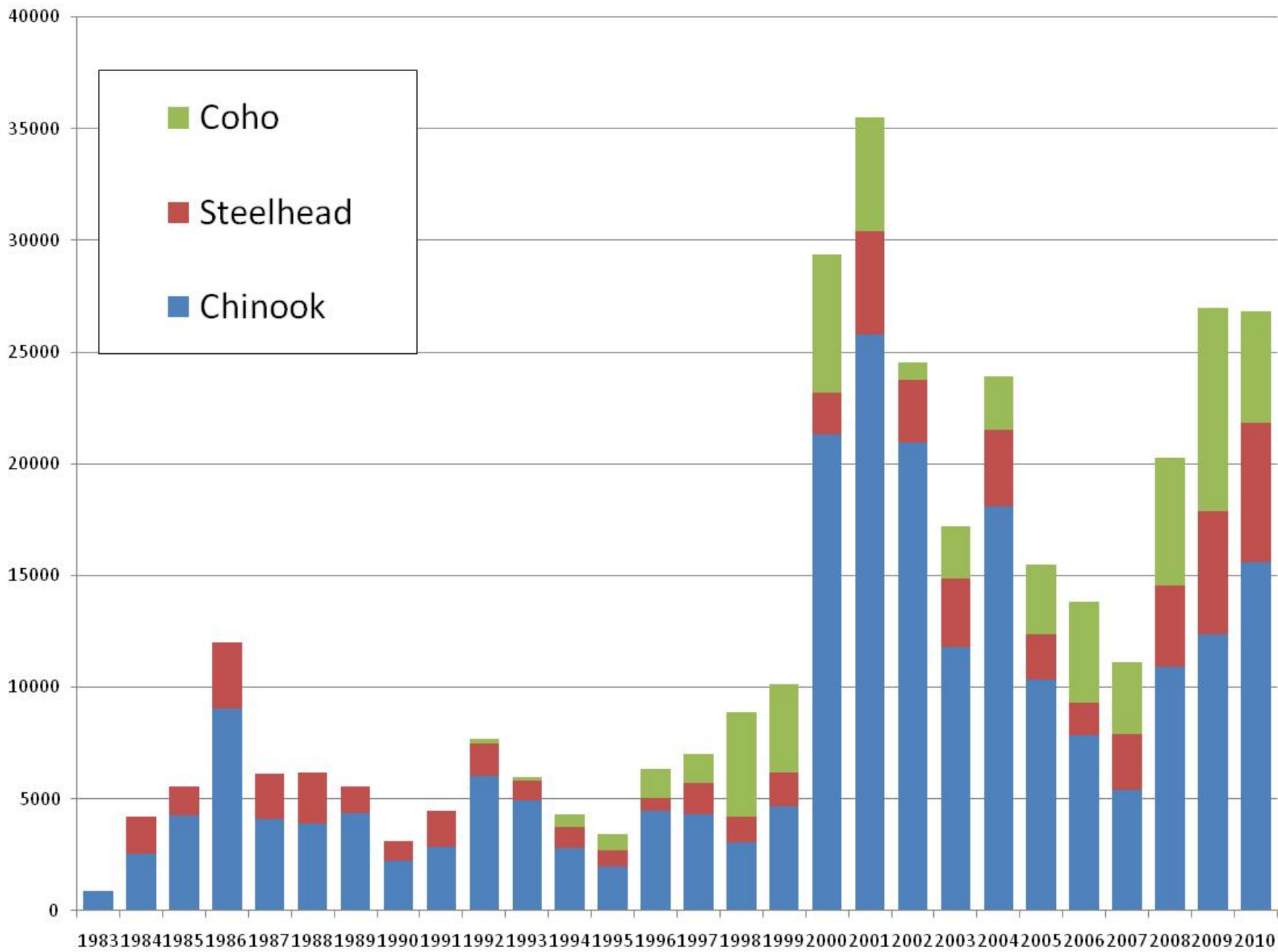


Yakima Steelhead Recovery

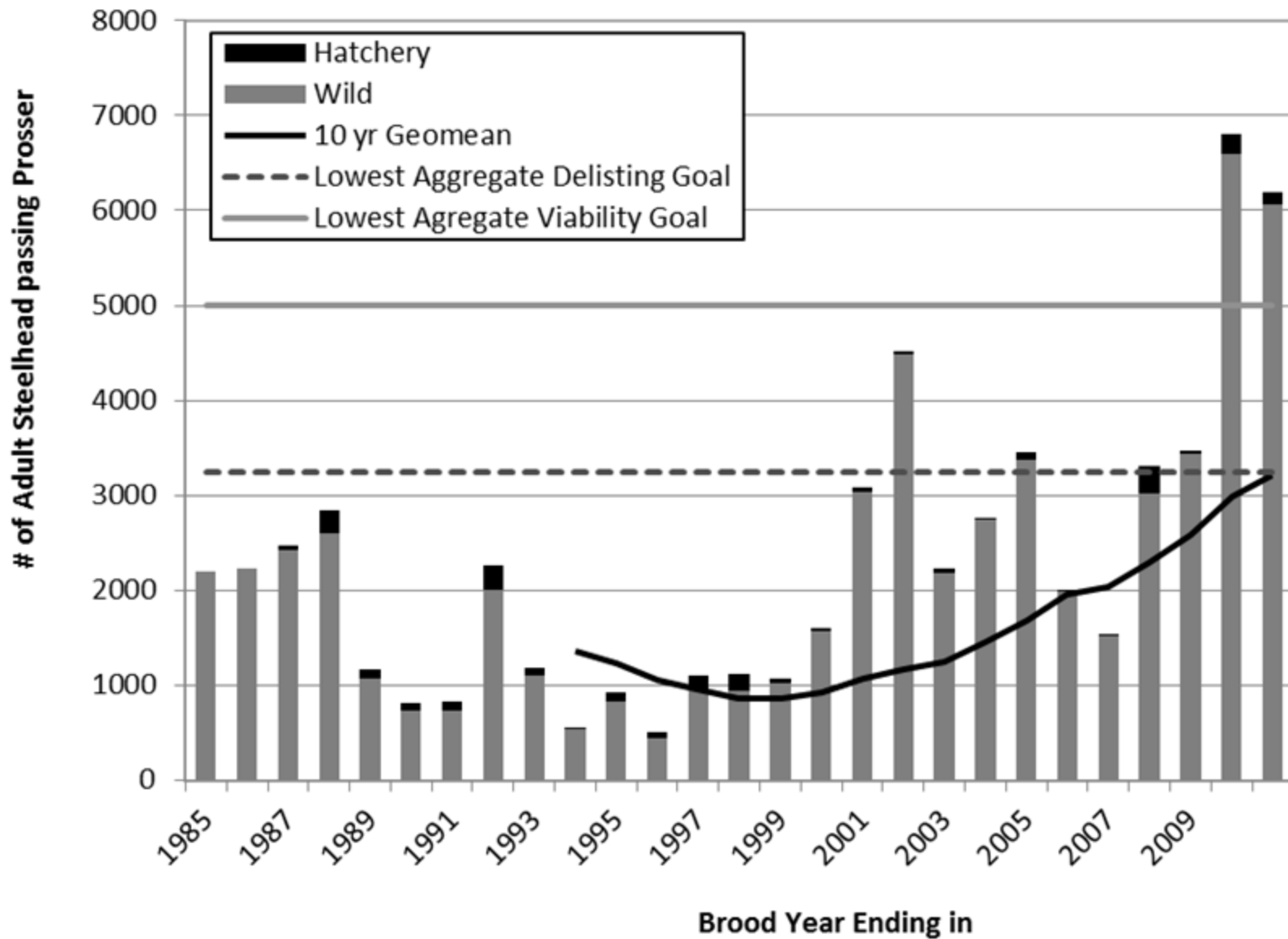
Mid-C Plan Implementation



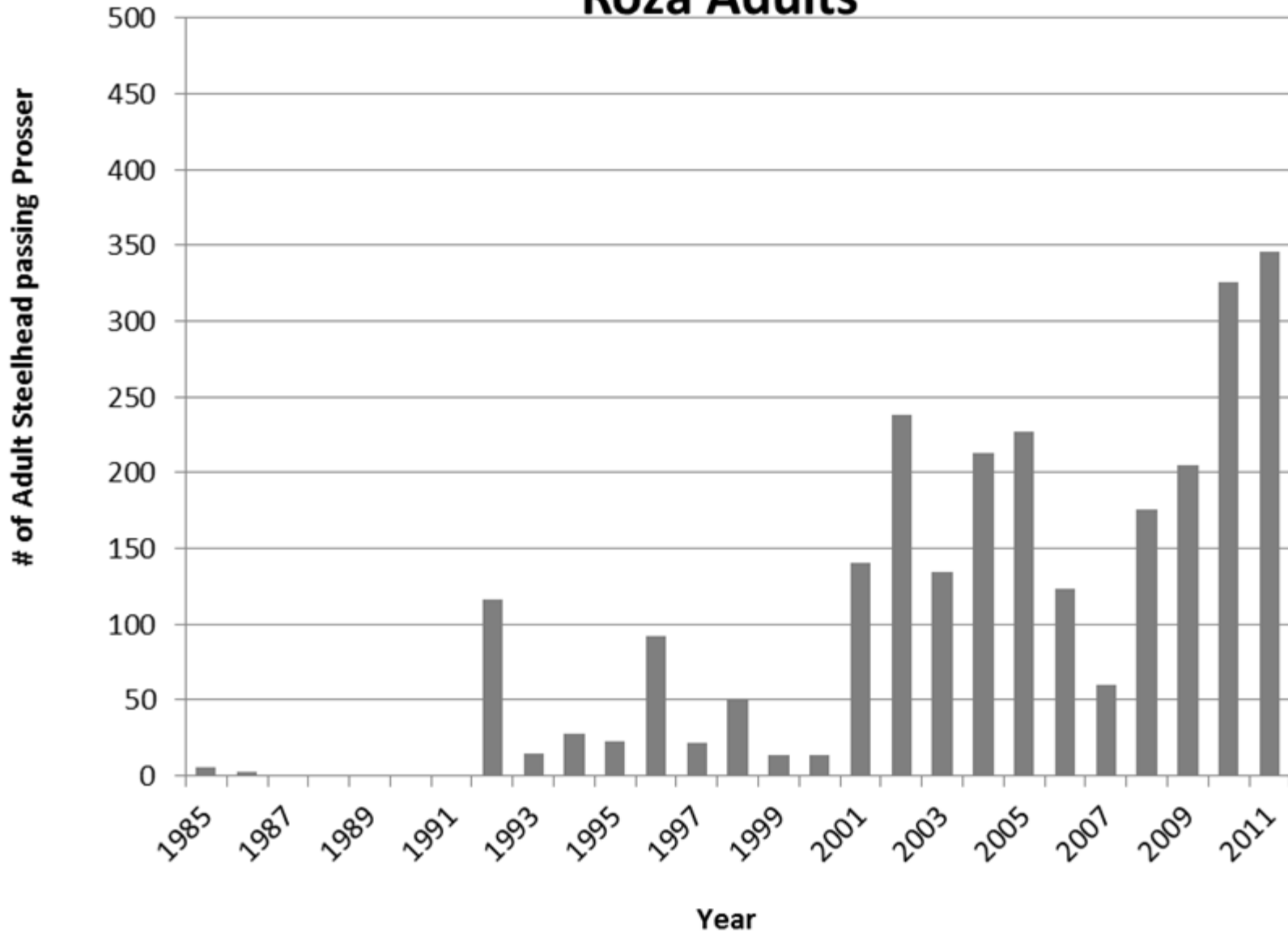




1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010



Roza Adults



VSP Monitoring

- YKFP is base for fish monitoring
- New Steelhead VSP Monitoring Plan
- New BPA Funding for Priorities Identified
- Increased coordination of monitoring
- Better population-level data to come!

Key Uncertainties

- Interactions between anadromous and resident forms of *O. mykiss*
- Relationship between flow, temperature & migratory survival rates in mainstem Yakima
- Impact of managed flows on juvenile rearing
- Current/historic/potential role of mainstem Yakima/Naches for spawning

Steelhead Recovery Priorities

94 In-basin Actions Identified, focusing on:

- Improved passage in key tributaries
- Instream flows and habitat improvements in key tributaries
- Mainstem floodplain improvement in priority reaches
- Improved mainstem flow conditions

Tributary Passage



BEFORE: Irrigation dam blocks fish passage

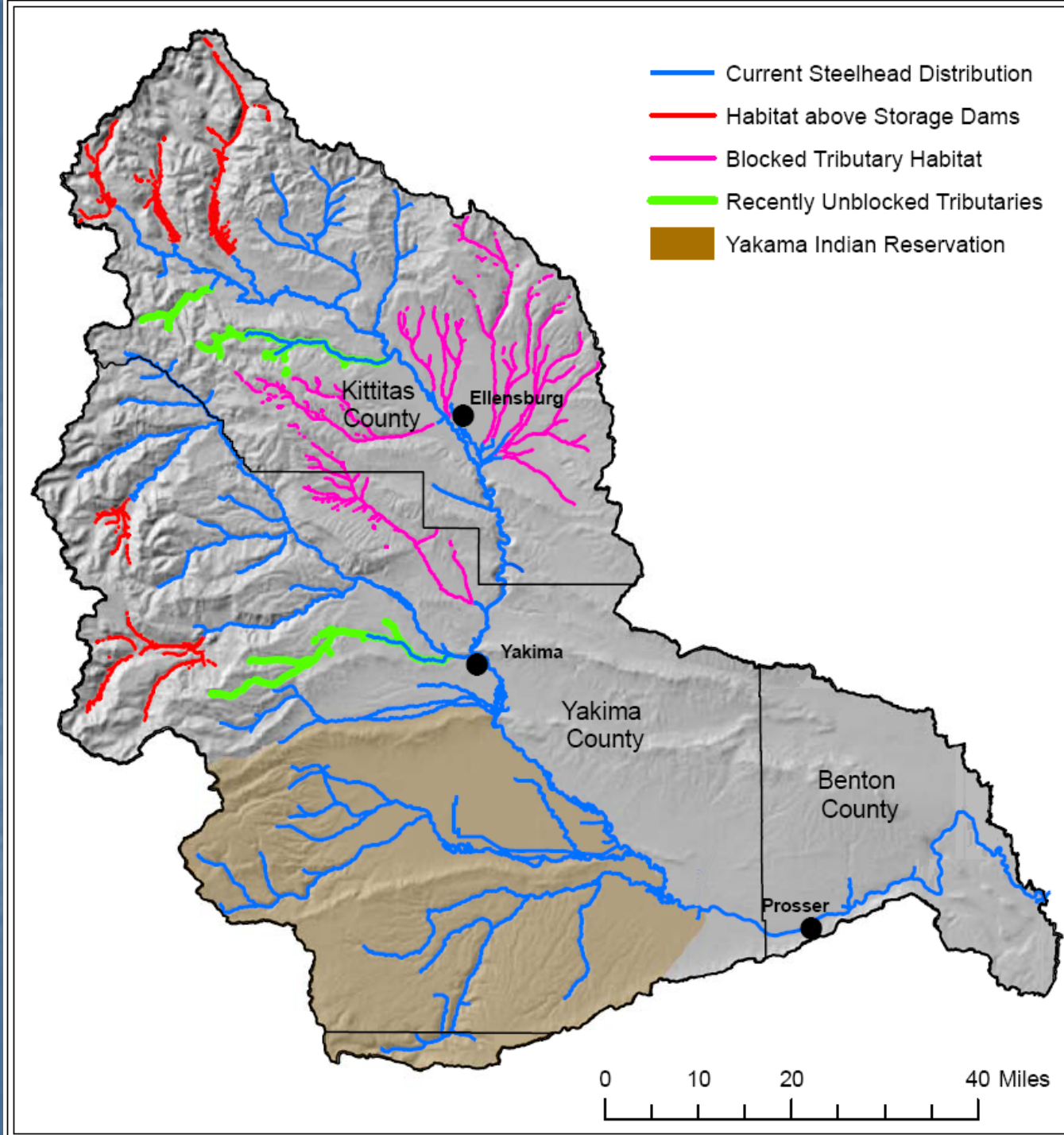


AFTER: Rock weirs allow full fish passage





Tributary Passage & Screening





Remove Remaining Barriers

- Provide passage at storage dams
- Finish ongoing work on Manastash, Taneum, and Reecer Creeks
- Develop program for Wilson/Naneum
- Continue to address other minor passage issues
- Wenas as a ?

Tributary Habitat Work

- Strong history of riparian/instream projects by Yakama Nation, Conservation Districts, RFEG, USFS & non-profits
- Need to focus on land use issues in lower reaches of specific tributaries
- Interest in accelerating LWD and nutrient enhancement in selected tributaries

Taneum Wood Placements



Swauk Floodplain Projects

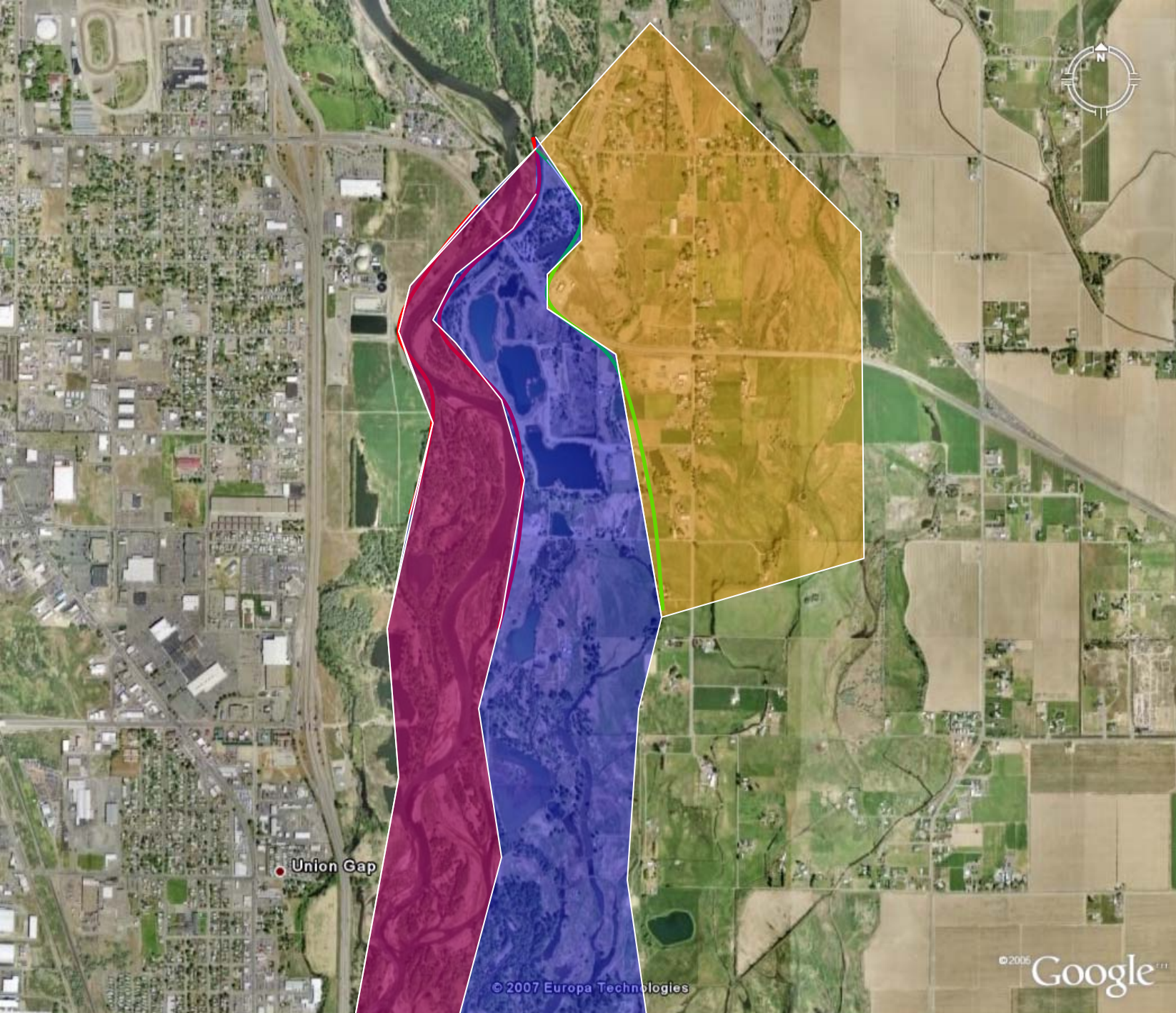


Mainstem Floodplains

- More past- and current- active floodplains than any other interior Columbia system
- Active efforts to protect & enhance floodplains underway
- Scale and complexity of work requires new capacity and funding





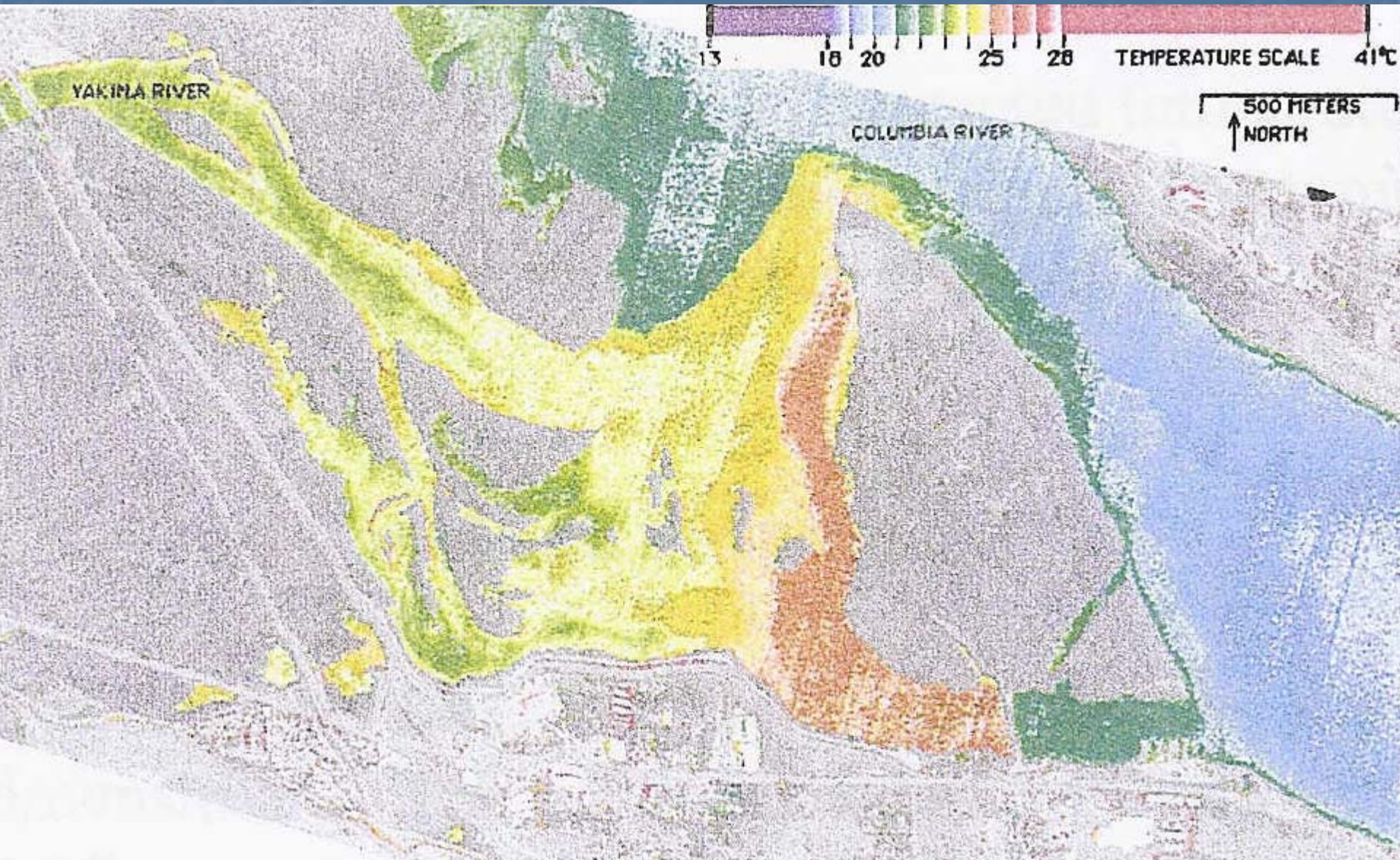


Union Gap

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The Yakima Delta?

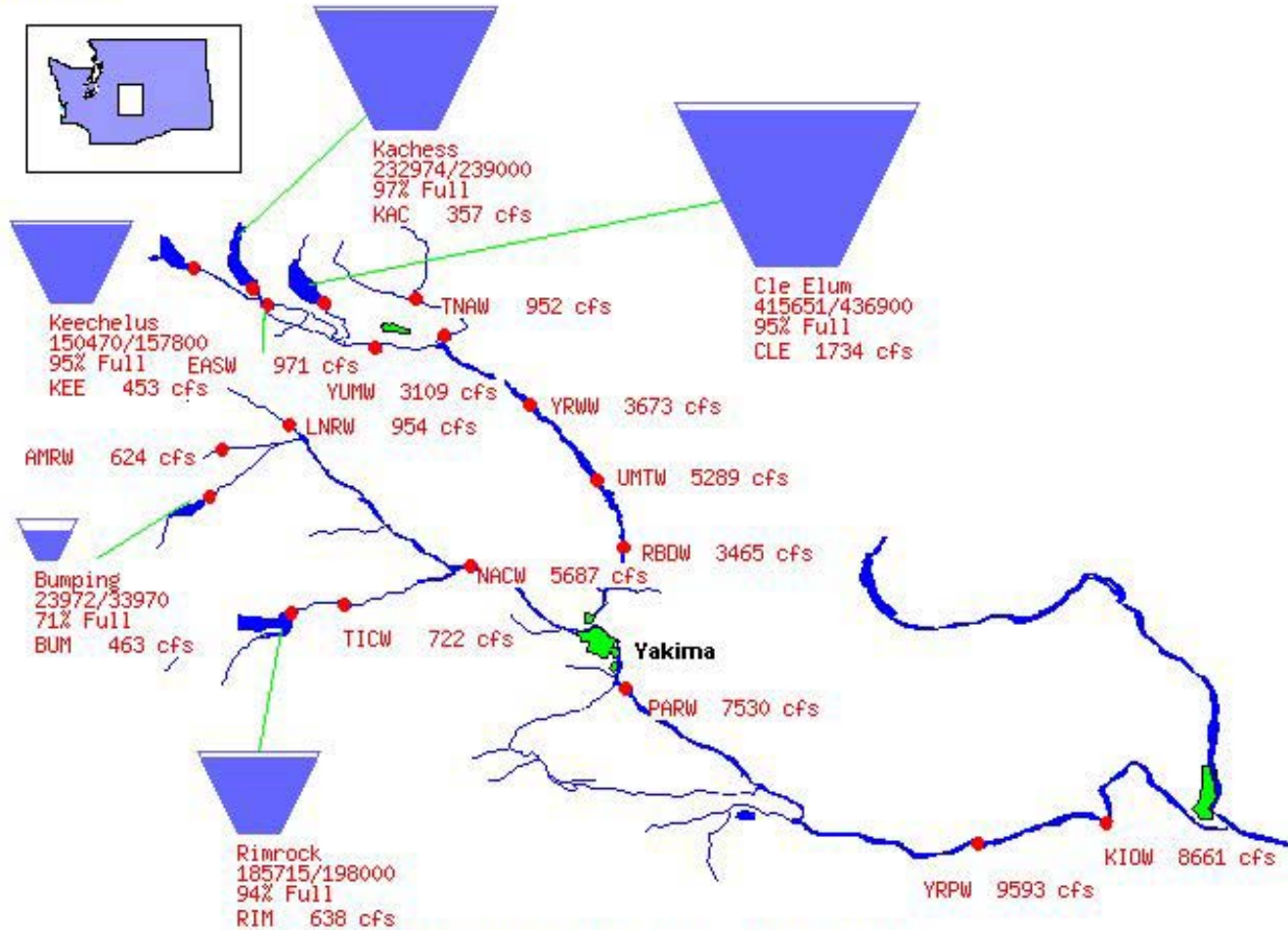


Improve Mainstem Flows

- Increase ability to manage mainstem flows for fisheries
- Quantify, prioritize & implement flows for:
 - Smolt outmigration
 - Upstream passage of adults
 - Juvenile rearing in key reaches
- Address physical impacts of bypasses, etc

Bureau of Reclamation, Pacific Northwest Region Major Storage Reservoirs in the Yakima River Basin

06/02/2011



PROVISIONAL DATA - SUBJECT TO CHANGE!

Average daily streamflows indicated in cubic feet per second.
 Reservoir levels current as of midnight on date indicated.
 Click on gaging stations (red dots) for streamflow hydrographs.
[Graph of Total System Storage](#)



Addressing mainstem issues via:

- SOAC and other Existing Mechanisms
- BOR Yakima Operations BIOP
- The Integrated Plan Proposal
 - New and Expanded Reservoirs
 - Fish Passage at all Dams
 - Significant conservation and habitat programs
 - Water marketing & conservation
 - Aquifer recharge

Hatchery Interactions?

- No hatchery steelhead production
- Hatchery strays <5% of run
- Kelt Reconditioning



In-basin Harvest issues?

- Cessation of recreational steelhead fishery in Yakima in 1990s
- Limitations on other fisheries to protect steelhead in 2000s
- Cessation of trout stocking in streams

NEEDS

Enhancing Existing Capacity

- Increased funding for accelerated implementation of existing programs
- Enhancing capacity of diverse local organizations to plan and implement complex projects
- Linking funding to tributary and reach-level action plans

Expanding Floodplain Programs

- Need to coordinate complex acquisition and restoration proposals at a reach level
- Need for technical support for complex designs/assessments
- Need for significant funding
- High risk of missed opportunities
- Development of future scenarios for floodplains with local policy makers

Address Mainstem Flow Issues

- Need for NOAA and BOR to negotiate a workable Biop for Yakima Project Operations
- Need research and monitoring to better understand what flow improvements would most benefit steelhead and other species
- Support for long-term efforts to address water supply issues in the Yakima Basin