

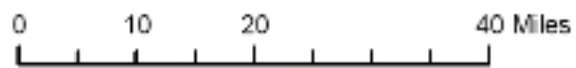
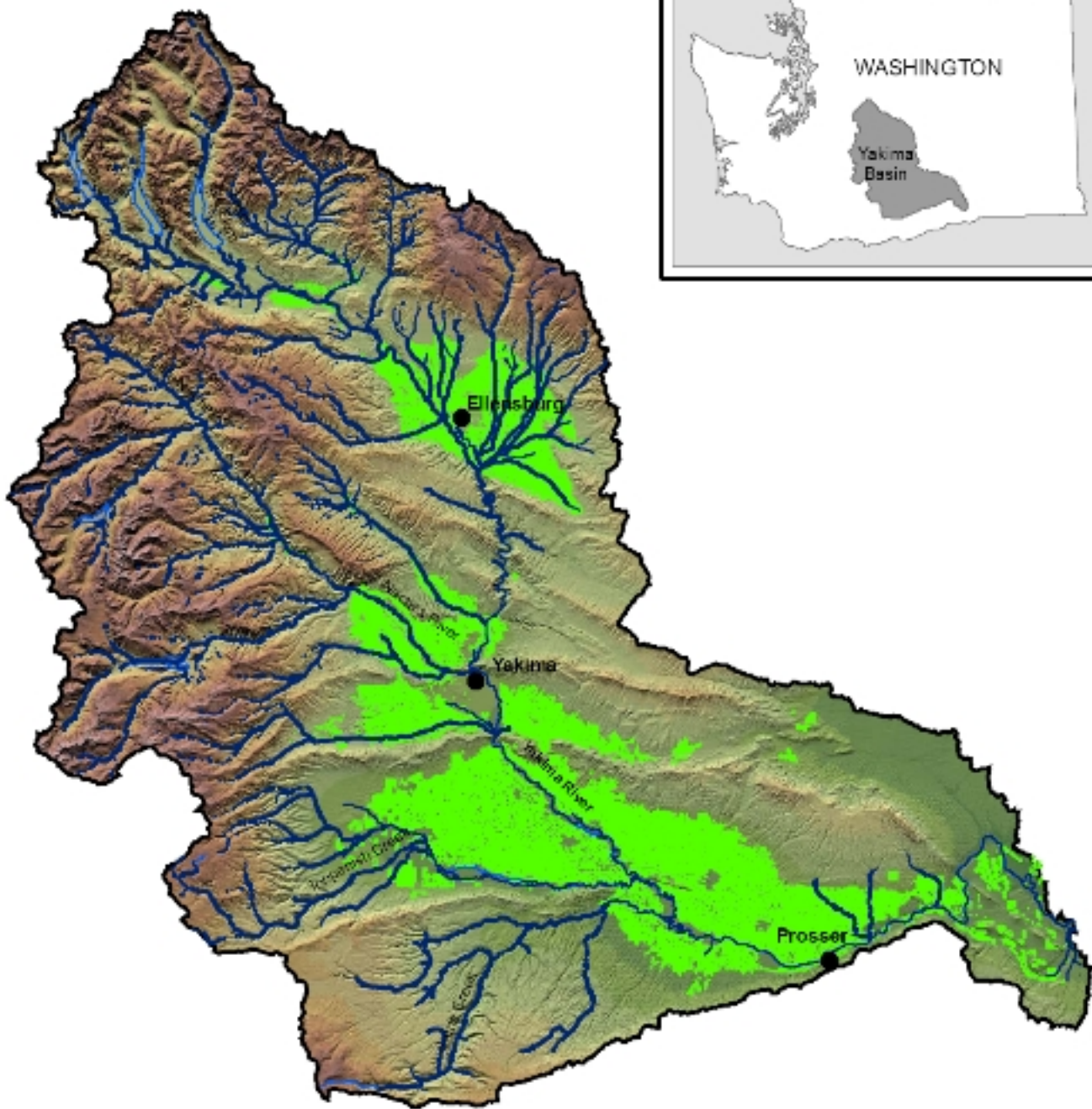


Where to from here?

Habitat Work, Fish Response &
Future Needs in the Yakima Basin

Alex Conley

Yakima Basin Fish & Wildlife Recovery Board



What we've done

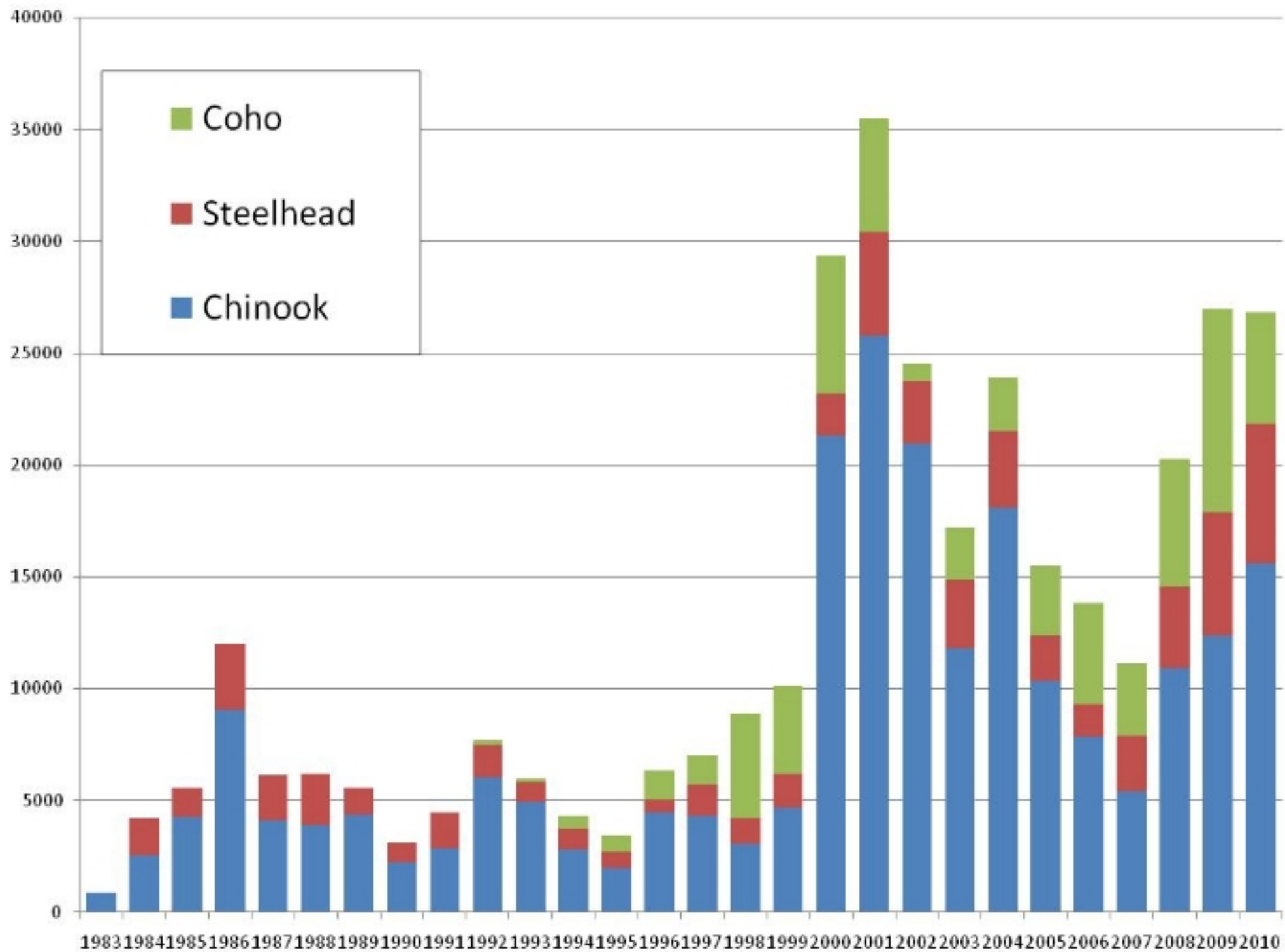
Changes since 1980

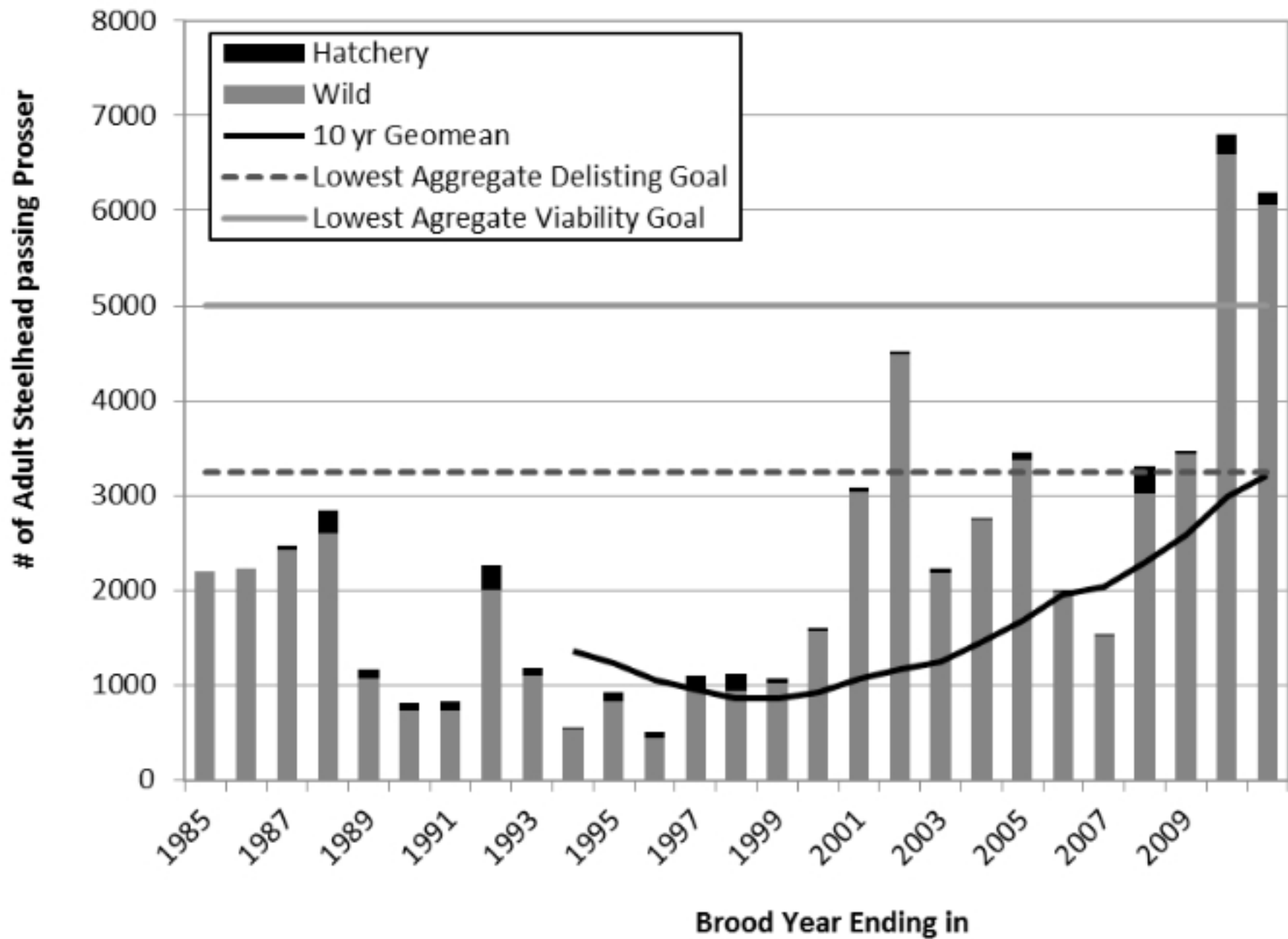
- Major investments in passage & screening
- Changes in Yakima River management
- Changes in hatchery practices
- Changes in land use (forestry, grazing)
- Improved water quality
- Increasing rate & scale of habitat projects
- Changes in the Columbia River

Increased Protections/Mitigation

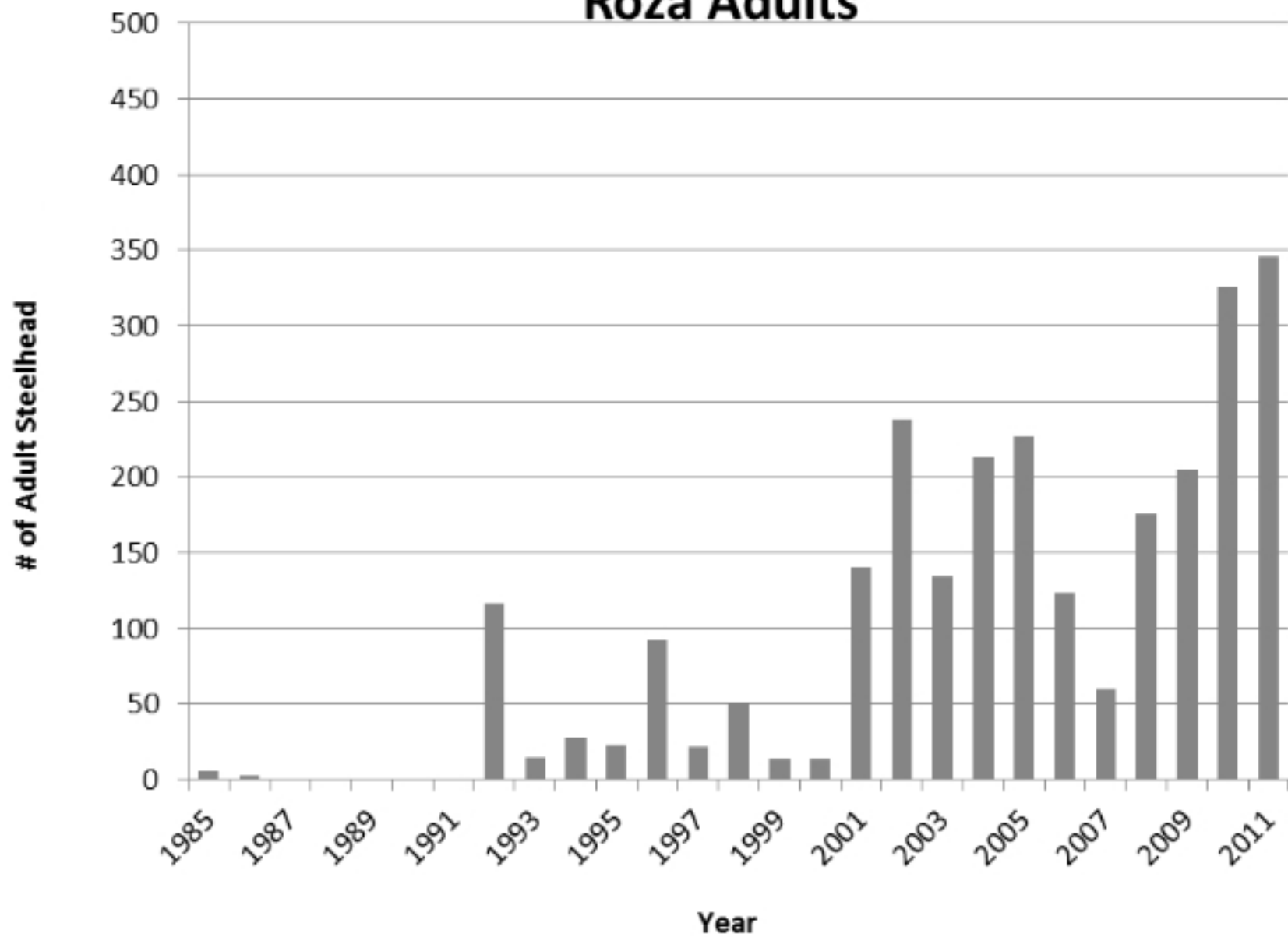
- Changed fishing regulations
- NOAA/USFWS ESA consultations
- WDFW, DOE & local permitting processes
- Changes to BOR Yakima Project Operations
- Changes in public & private forest lands regulations
- Incorporation of habitat goals into land use programs
- Including habitat goals in infrastructure projects

Has it worked?

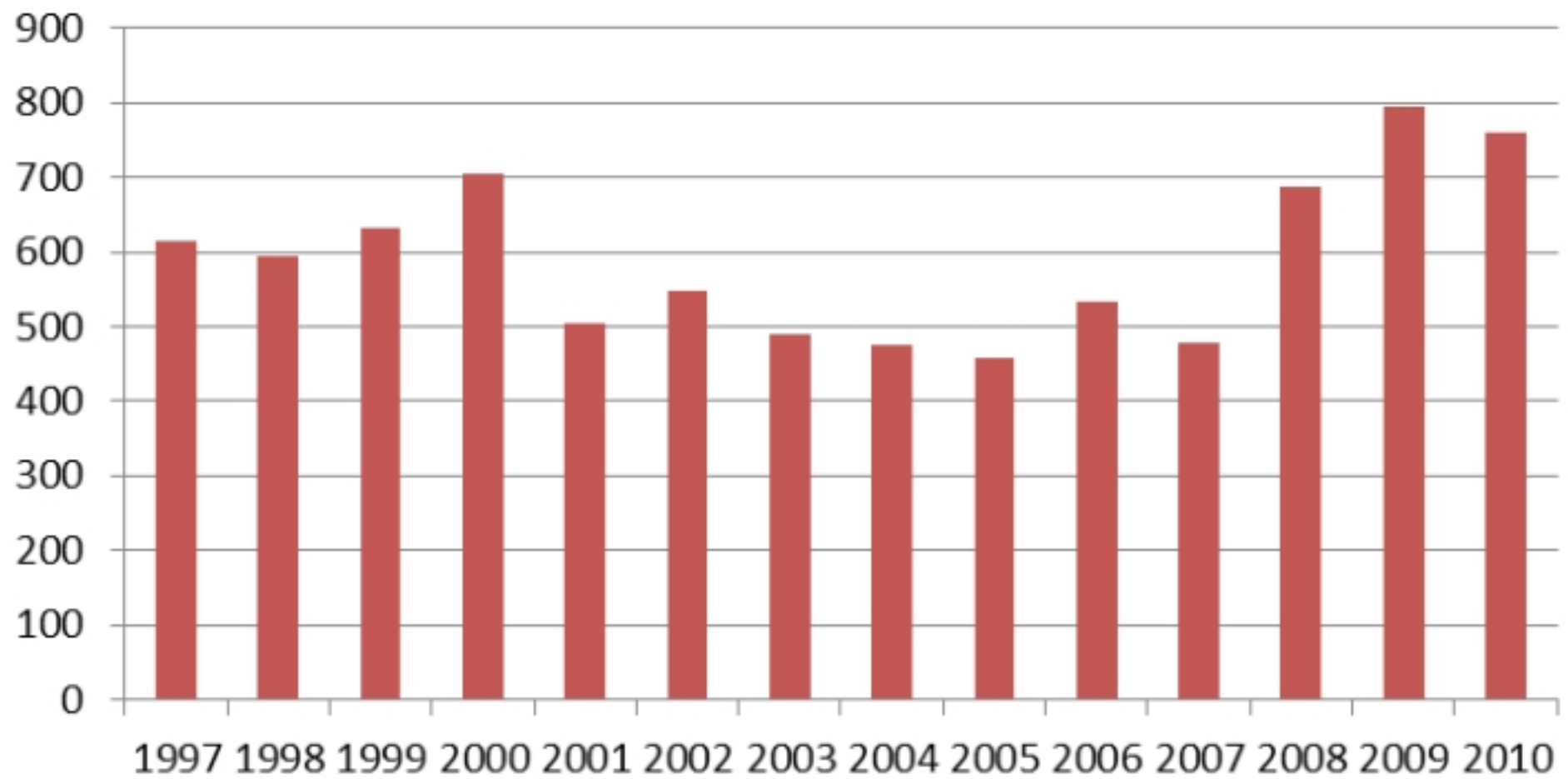




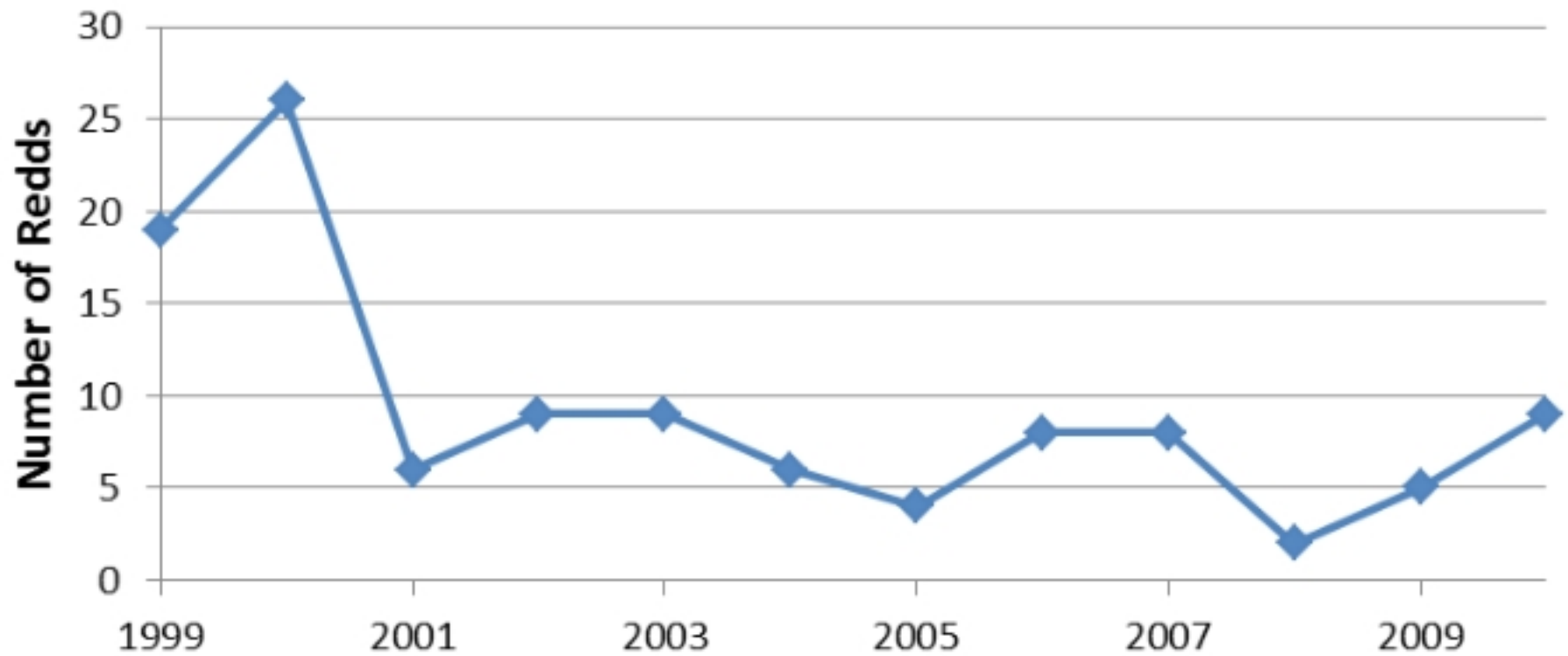
Roza Adults



Aggregate Bull Trout Redd Count



Crow Creek Bull Trout Population: Annual Redd Count 1999-2010



After 30 yrs, what did we get?

- Prevented likely extirpations
- Reestablished coho
- Quadrupled overall run sizes
- Increased fishing opportunities
- Protected and enhanced aquatic & terrestrial ecosystems
- Didn't destroy the local economy....

What do we have to work with now?

- Funding for habitat restoration
- Human capacity to do the work

Directed Funding for Habitat

The Big Three:

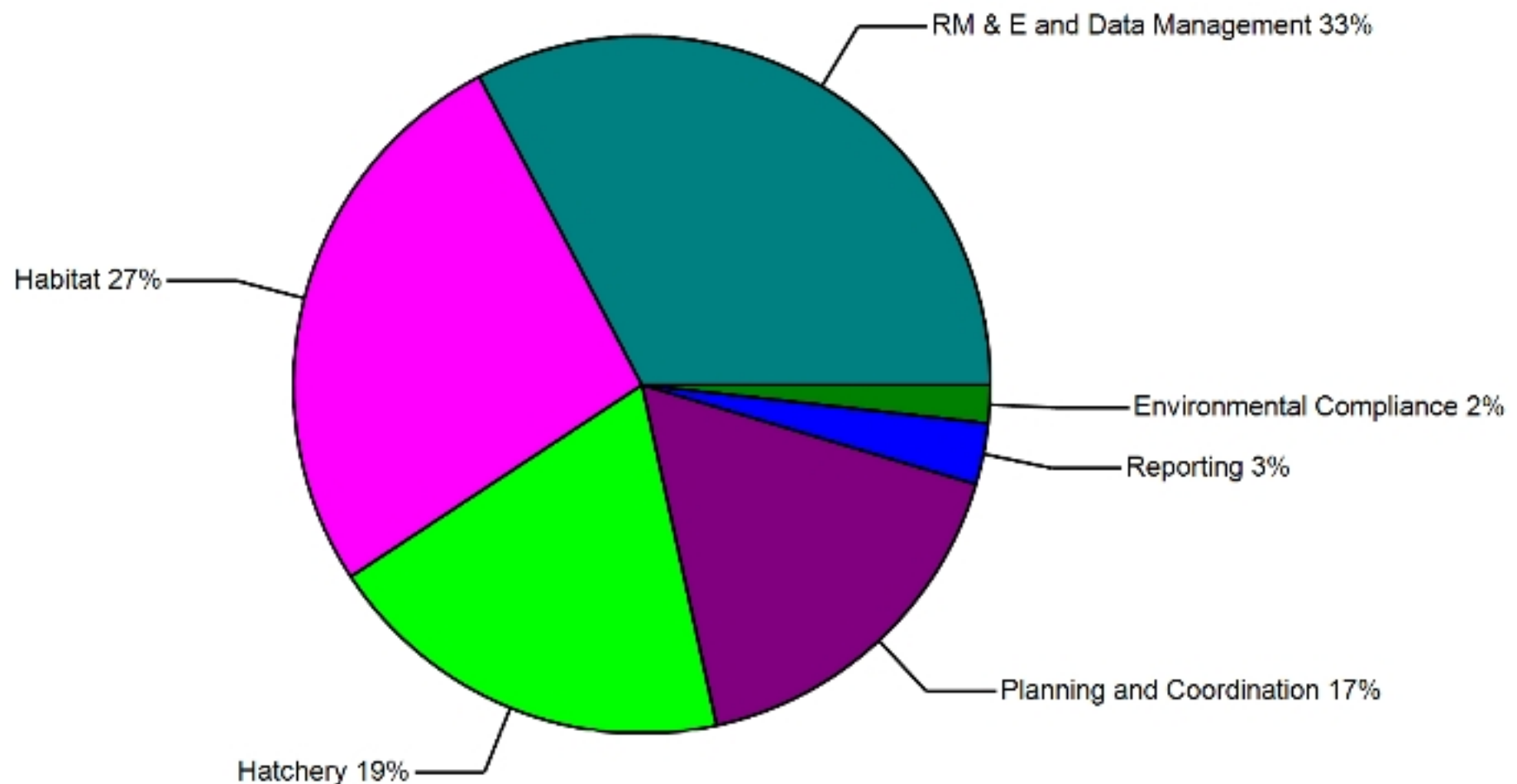
- BPA Fish & Wildlife Program
- Reclamation's YRBWEP Program
- SRFB (NOAA PCSRF & State)

Additional Sources:

- USFWS, National Fish & Wildlife Foundation, Private Foundations, USDA, and many more

BPA Fish & Wildlife Program

- Average of \$15 million/yr in recent years

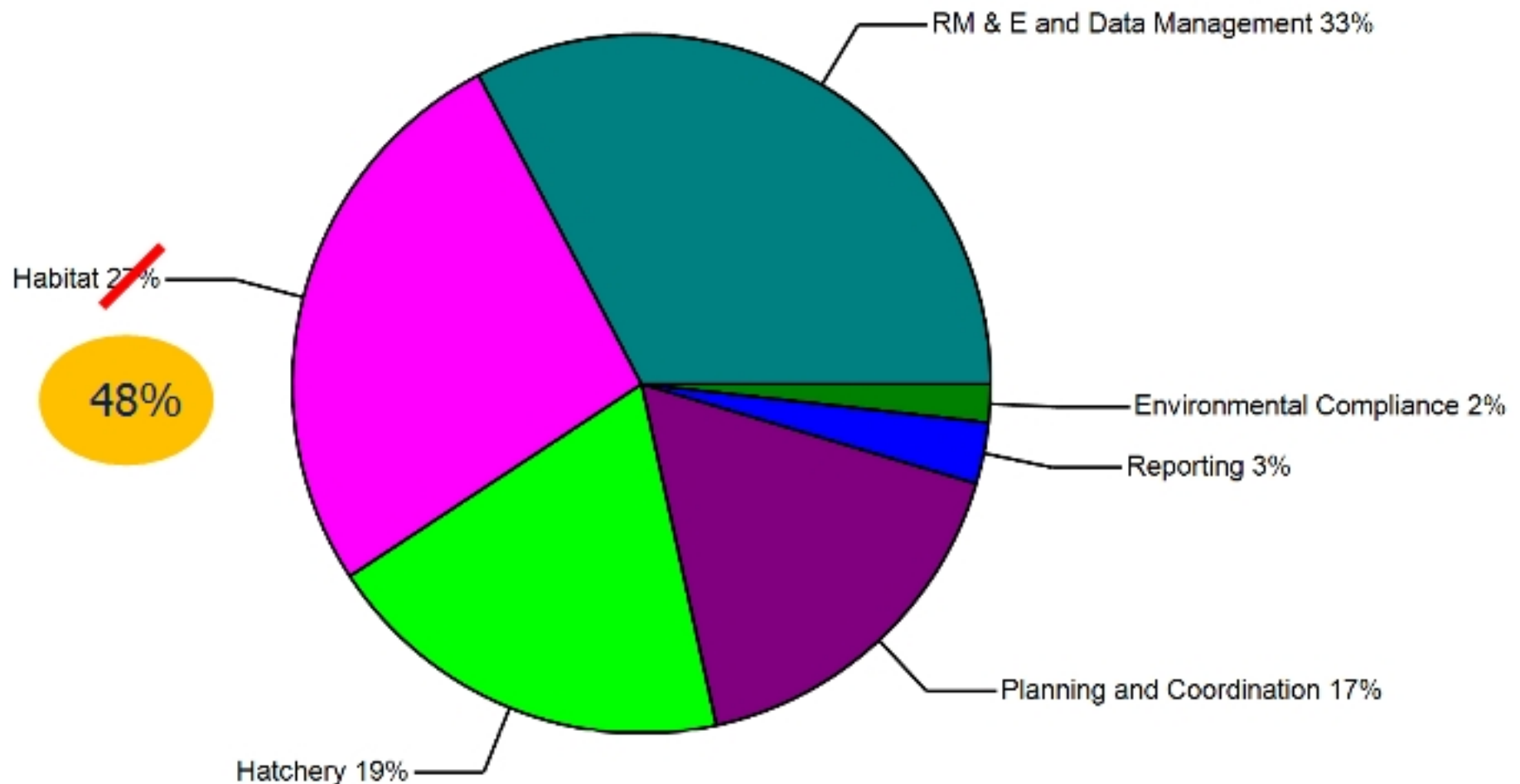


Habitat Funding Summary

<u>Program</u>	<u>Amount</u>
BPA (Habitat only)	\$ 4,000,000
YRBWEP	\$ 2,000,000
SRFB	\$ 1,500,000
Other (at 30% of total)	\$ 2,250,000
ANNUAL TOTAL	\$ 10,250,000

Total Habitat \$ vs other BPA

- Total of \$21 million/yr in recent years



Compare \$10 million to:

New West Valley High School	38 million
10 new wind turbines	29 million
1.5 miles of I-90 improvement	40 million
Yakima County Road Dept annual budget	33 million
Powerhouse Bridge across Naches	7 million
\$/irrigated acre in the basin	16
Acres of apple orchard for \$10 million gross	800
\$/fish (at 20,000 total return)	\$500

People & Projects

Organization	FTE's	Projects/yr	Organization	FTE's	Projects/yr
Conservation Districts			Federal Agencies		
Benton	1.75	1	USFWS	2	
North Yakima	3	2	BOR	5	3
Kittitas	4	3	USFS	2	2
			NOAA	1	
Non-Profits			State		
Mid-Columbia Fisheries Enhancement Group	1.5	3	DOE	1	
Kittitas Conservation Trust	1	3	WDFW	2	1
Water Trusts	2	3			
Cascade Land Conservancy	1	1			
Cowiche Canyon Conservancy	0.5		Local Governments		
			Yakima County	3	2
Yakama Nation			YBFWRB	3	
YKFP Habitat	3	3	City of Yakima	2	1
YN Wetlands	4	3	City of Ellensburg	1	
YN Watersheds	4	3			
Other YN	2				
			TOTALS	49.75	34

What we've got...

- \$10 million/yr to work with
- Total of ~50 FTEs to manage habitat work
- Spread over ~22 organizations
- Completing 25-35 projects/year
- Average of 1.5 FTEs and \$300,000/project
- At \$60k/each, FTEs = 30% of habitat total

What we're using it for...

- Protection of Existing Habitats
- Restoration of Key Habitats:
 - Tributary passage
 - Tributary habitats
 - Mainstem floodplain function
 - Mainstem flow & passage conditions

What we count on others for

- Improvements in Out-of-Subbasin Survival
- Hatchery Supplementation of some run
- Ongoing regulatory protections

Fish Passage

Cowiche Creek



BEFORE: Irrigation dam blocks fish passage



AFTER: Rock weirs allow full fish passage

27 steelhead redds in 2011!

Taneum Creek



45+ Adults
in 2010



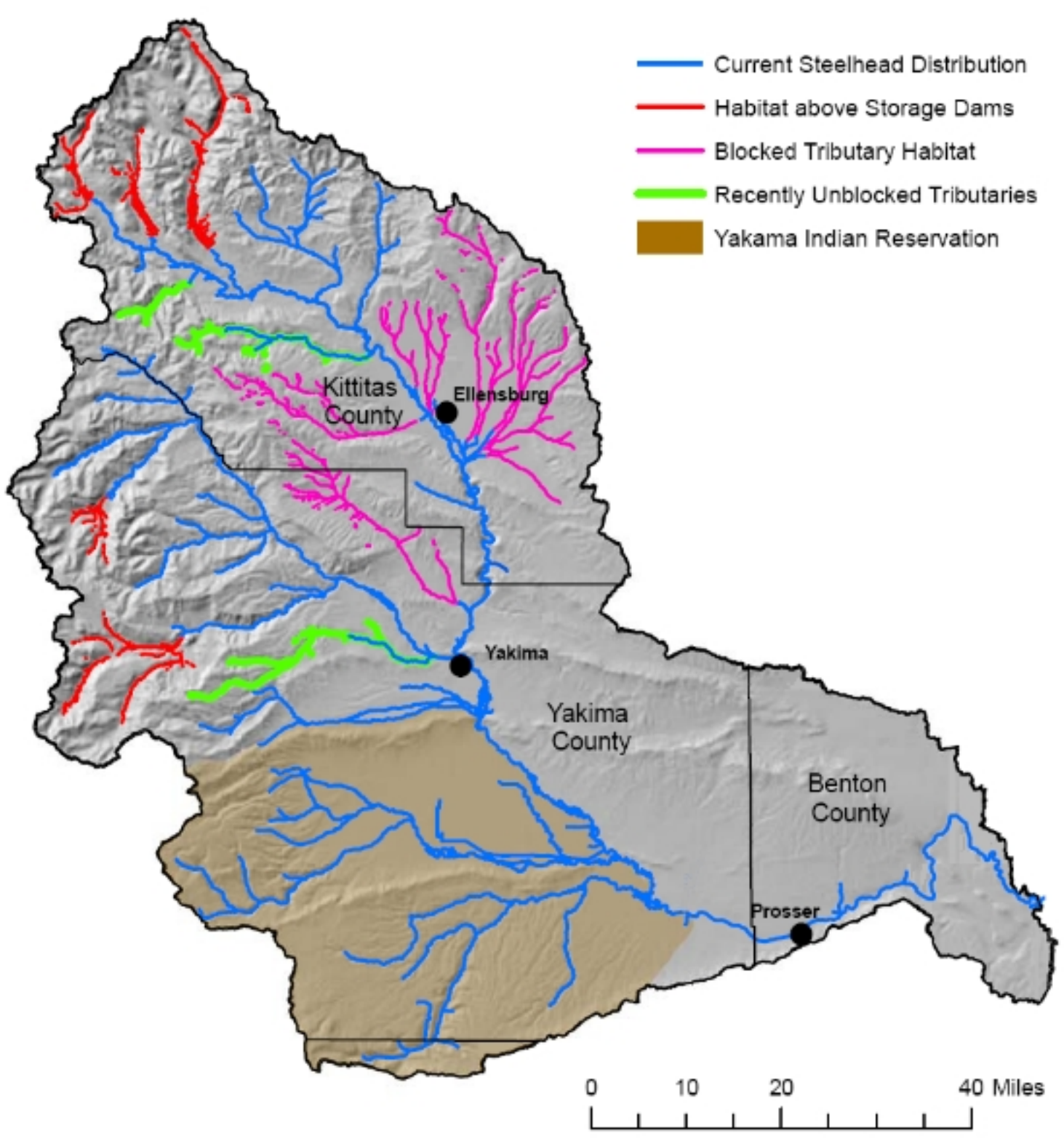
Where we are at on passage

Working on with Current Funding:

- Finishing work in Taneum & Cowiche
- Opening up Manastash Creek
- Reecer & Carrier Creeks
- Lower ends of Wilson/Naneum system
- Other secondary passage barriers
- Screening remaining tributary diversions

Need new resources to:

- Get passage into upper Wilson/Naneum
- Get passage at BOR storage dams
- Take on Wenas, if warranted...
- Revamp any mainstem screens?
- Improve lamprey passage?





Passage Presentations

- **Thurs 1:20 Carol Ready**
Yakima Tributary Access & Habitat Program
- **Thurs 2:40 Brian Saluskin**
Cle Elum Reintroduction/Passage
- **Thurs 3:40 Johnsen/Nelson/Nelle**
Monitoring Lamprey Passage

Tributary Habitat

Tributary Habitat Work

- Strong history of riparian/instream projects by Yakama Nation, Conservation Districts, RFEG, USFS & non-profits
- Sites dispersed throughout the basin
- Impacts generally cumulative, hard to track

Taneum Wood Placements



Swauk Floodplain Projects



Tributary Habitat Needs

- Need to avoid scattering efforts in lower priority areas
- Need to agree on priority areas and actions & quantify goals
- Need to focus on land use issues in lower reaches of specific tributaries

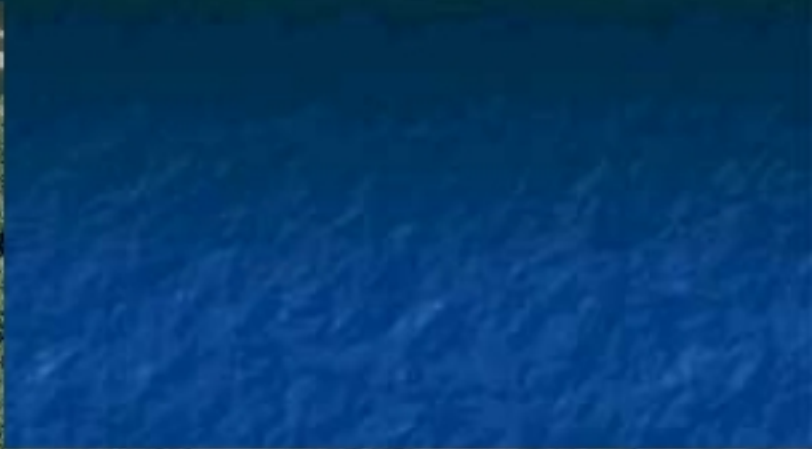
Tributary Habitat Presentations

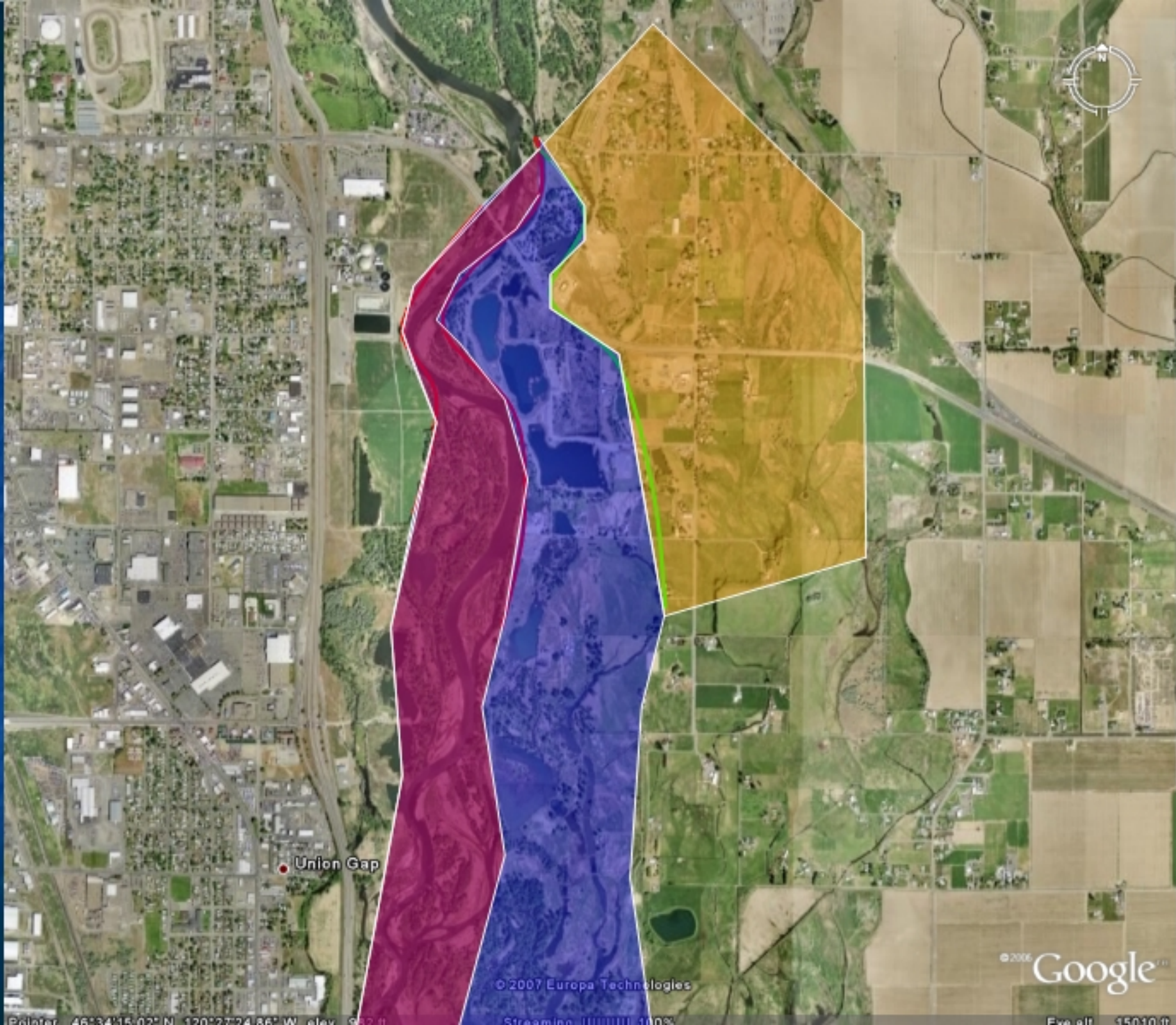
- **Thurs 2:00** **Tracy Hames**
Toppenish/Satus restoration
- **Thurs 4:20** **Jason McCormick**
Carving out fish flows in tight water markets
- **Thurs 1:00** **William Meyer & Scott Nicolai**
Beaver Reintroduction/LWD

Mainstem Floodplains

- More past- and current- active floodplains than any other interior Columbia system
- Importance to specific species/life stages presumed high, but poorly understood
- Active efforts to protect & enhance floodplains underway





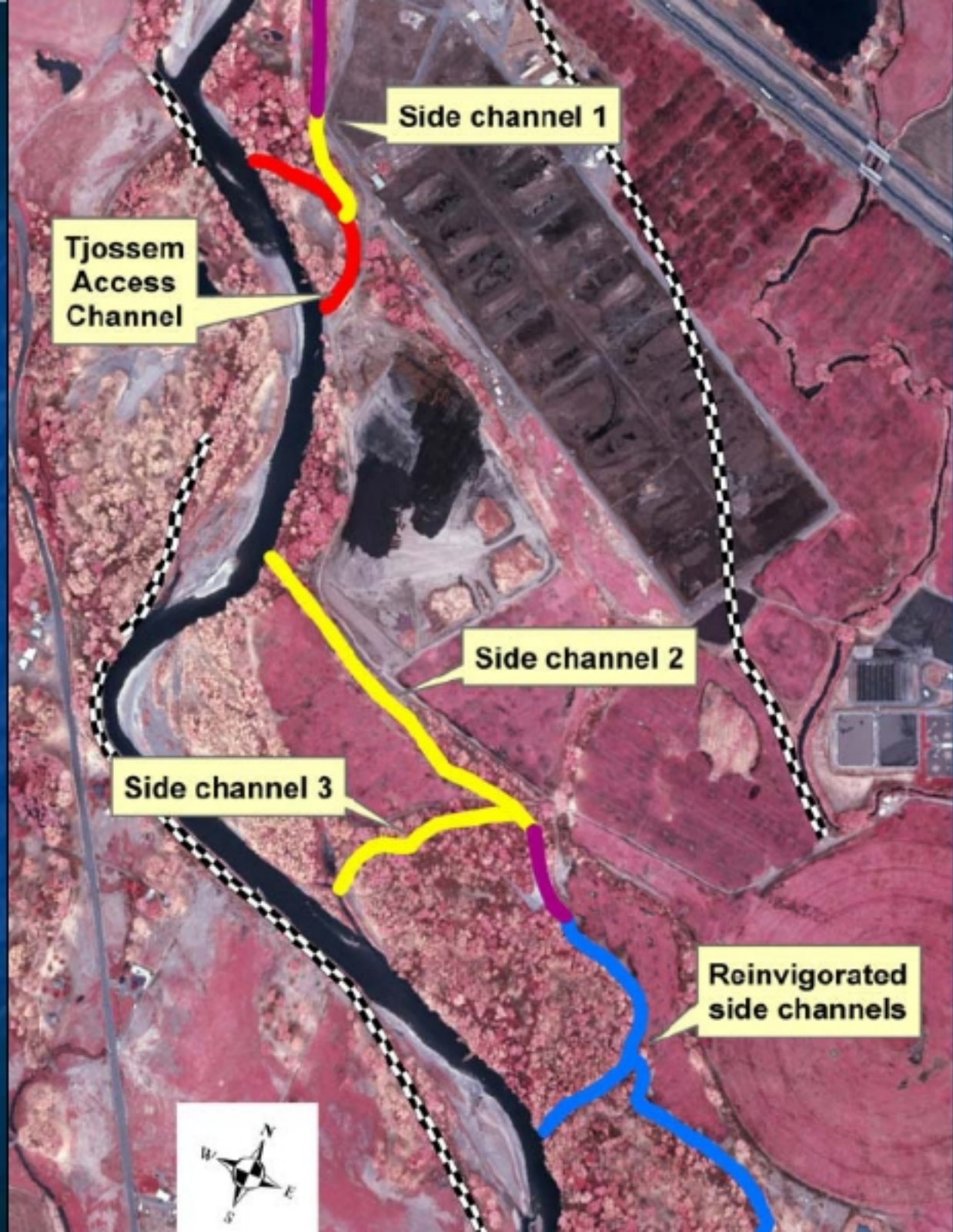


Union Gap



© 2006 Google

© 2007 Europa Technologies



Side channel 1

Tjossem
Access
Channel

Side channel 2

Side channel 3

Reinvigorated
side channels



Floodplain Needs

- Need significant influxes of new funding
(\$279 million over 20 yrs identified in Integrated Plan)
- Need to staffing and coordination to take on large, complex projects
- Need strong partnerships with local governments

Floodplain Presentations

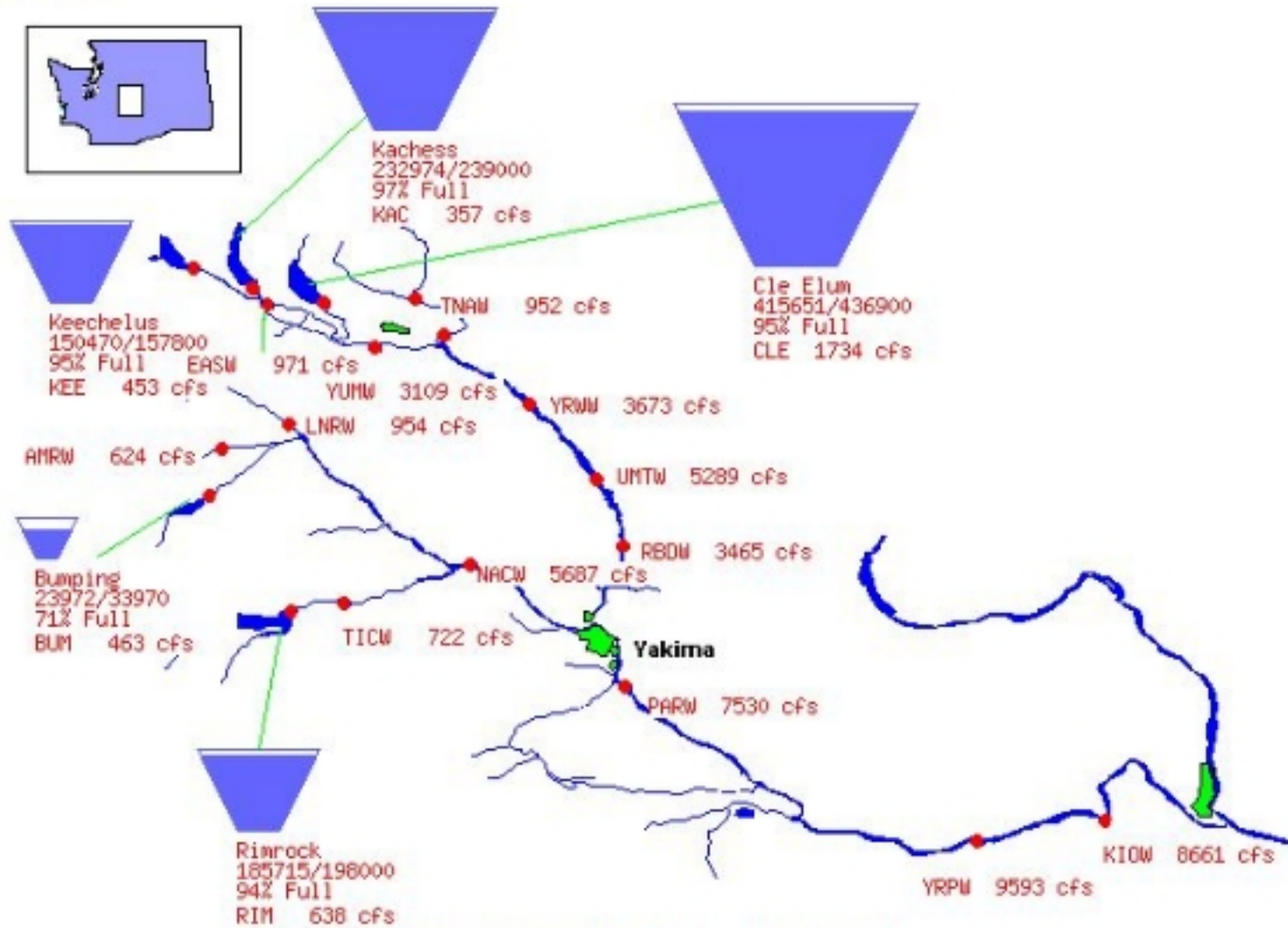
- **Weds 1:00** **Tom Ring**
Hydro-geomorphology of the Yakima Basin
- **Weds 1:40** **Jason Smith**
Lower Teanaway River Reach Assessment
- **Thurs 9:00** **Joel Freudenthal**
Yakima County Flood Control Zone District
- **Thurs 10:40** **Tom Elliot**
History of Wapato Reach
- **Thurs 1:00** **Scott Nicolai & Rebecca Wassell**
Reecer creek floodplain restoration

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
- Use of YRBWEP conserved water
- BOR Yakima Operations BIOP
- The Integrated Plan Proposal
 - New and Expanded Reservoirs
 - Water marketing & conservation
 - Aquifer recharge

Mainstem Needs

- Need for NOAA, USFWS and BOR to negotiate a workable Biop for Yakima Project Operations
- Need to better understand cumulative impacts of existing facilities
- Need research and monitoring to better understand what flow improvements would most benefit fish
- Support for long-term efforts to address water supply issues in the Yakima Basin

Mainstem Flow Presentations

- **Thurs 2:40** **David Smith**
Demo of fish movement modeling

- **Weds 4:30** **Walt Larrick**
BOR Roza Dam Evaluation

WHAT WE WANT

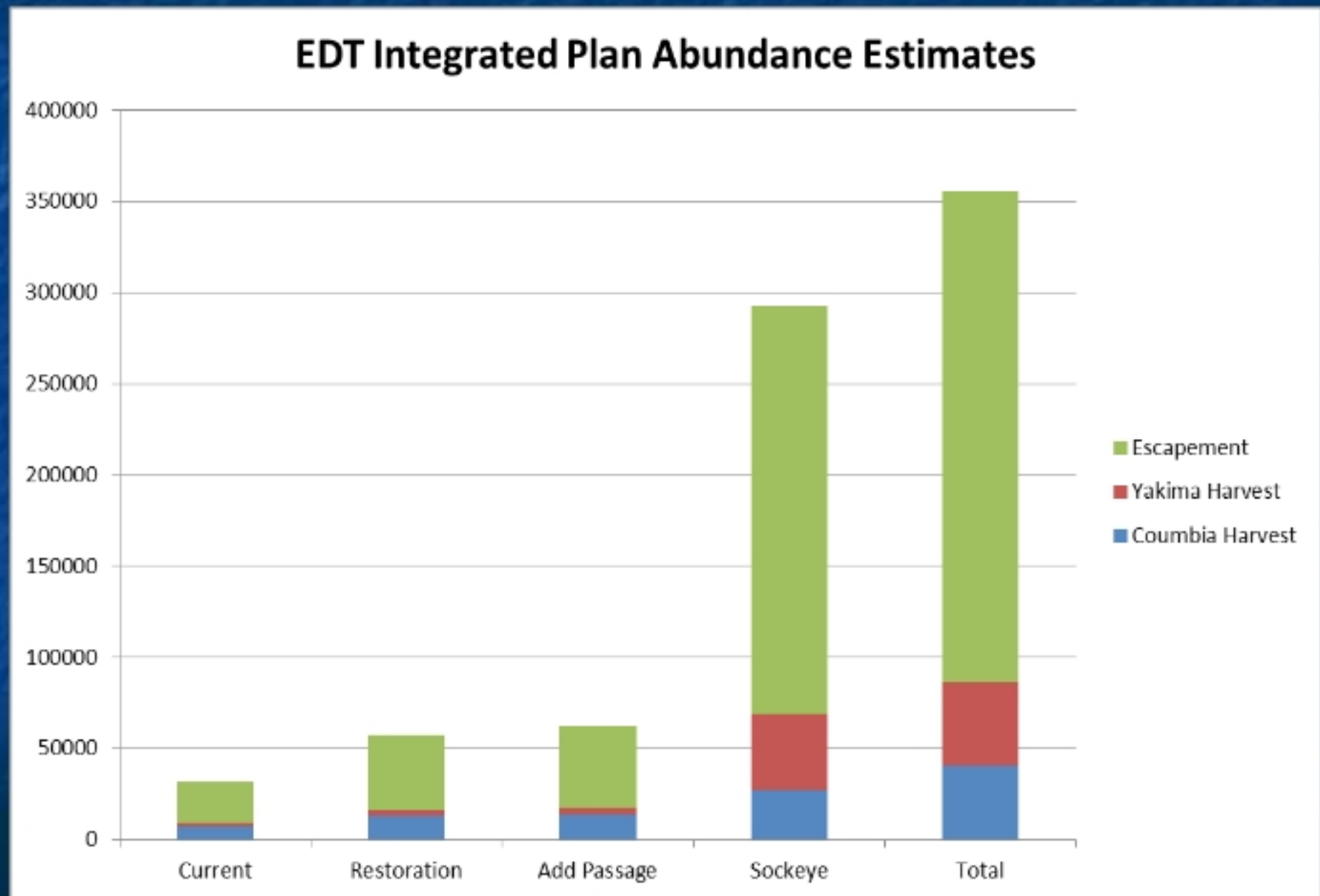
The Yakima Basin Intergrated Plan asks for:

- Fish Passage at all reservoirs
321 million total
- New Floodplain Restoration Program
289 million over 20 yrs
- Enhanced funding for tributary projects
180 million over 20 yrs

That adds up!

- \$890 million total
- \$469 million to supplement existing floodplain & tributary habitat work
- \$23.5 million/yr new funds, tripling our current funding

WHAT WE MIGHT GET...



You don't always get what you want...

- Work together to define what we need
- Set priorities & goals to best use what we've got
- Build capacity and find efficiencies
- Find partnerships & broad funding base

Reality-based Reasoning

- Goal for a bad day- keep what we've got, even as climate changes and area develops
- Goal for a good day- invest to double runs and see what sockeye can do
- Keep our eyes on the mid-sized challenges
- Cross our fingers improved smolt survival or other pleasant surprises get us more than a doubling

Habitat RME?

- More of the science presentations looking at habitat fish relationships than past
- Clear need for better knowledge to best use limited resources to best avail
- Time to make a shared research agenda!