

Bad Decade at Black Rock

Tom Ring, Hydrogeologist

Yakama Nation Water Resources

Yakima Basin Sci and Mgt Conf 2009



Just The Way It Happened

- Congress authorizes storage study
- USBR drops some alternatives
- USBR and WDOE do EIS
- Not No Action
- YRBWEP 2009

Outline of Talk

- Disclaimers - 15 minutes
- Talk - 4 minutes
- Questions - 1 minute

- The Obligatory Disclaimers
 - I am not the Yakama Nation. I work there.

 - I do not speak for the Tribe, I am staff

 - No Treaty Rights were killed or injured in the making of this talk (or defined, diminished, impaired, abrogated.....)

History of Storage Study

- **US Congress and Washington State funded Yakima Basin Water Storage Feasibility Study**
 - In 2003 Congress appropriated funding for Reclamation to study increasing water storage in the Yakima Basin with emphasis on Black Rock Reservoir.
 - YN wrote Congress in support of the study
 - State also appropriated funds (without “emphasis on Black Rock”)
 - Purposes to improve fishery, irrigation supply, municipal supply

Storage Study History (cont)

- Section 214 of the Act of February 20, 2003 (Public Law 108-7), states, *The Secretary of the Interior, acting through the **Bureau of Reclamation**, shall conduct a feasibility study of options for additional water storage in the Yakima River Basin, Washington, with **emphasis on the feasibility of storage of Columbia River water in the potential **Black Rock** reservoir and the benefit of additional storage to **endangered and threatened fish**, irrigated agriculture, and municipal water supply.***

Black Rock

Before the Storage Study

- “DNR” proposal
- Roza looked at direct pump in 1960’s
- Watershed Council looked in 1990’s
- Academics
- IOP recommended **study**

Why Storage?

- Additional supply to grow crops for people out of stream and grow fish for people instream
- Conservation mostly rearranges, not saves
 - Reach specific benefits
 - Not necessarily where needed, e.g. Kittitas V.
- YN (for whom I don't speak) supported Evans Bill, et al.

Water Management in the Yakima River Basin

- 3 Maf runoff
- 2 Maf irrigation water rights
- 1 Maf reservoir storage
- Seniors (pre-1905)
- Juniors aka proratables (May 10, 1905)
- YN
 - Time Immemorial – Quackenbush
 - Additional storage must improve this
 - 1855
 - 1905 Proratable
 - Additional storage would augment this

Changing hydrograph

Effects of storage and diversion

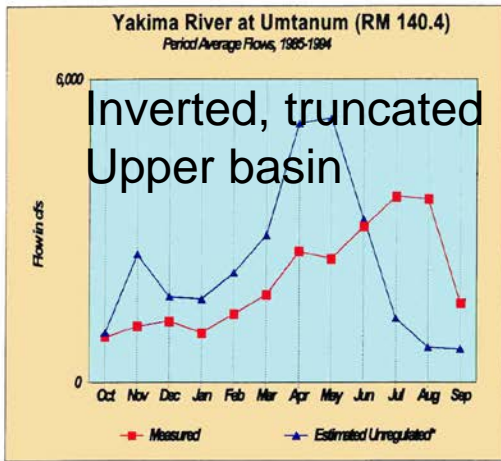


Figure III-1a

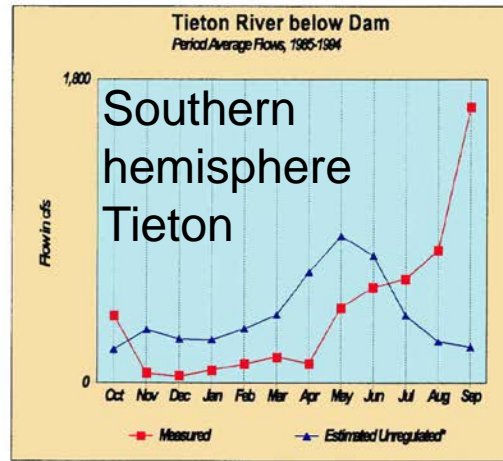


Figure III-1b

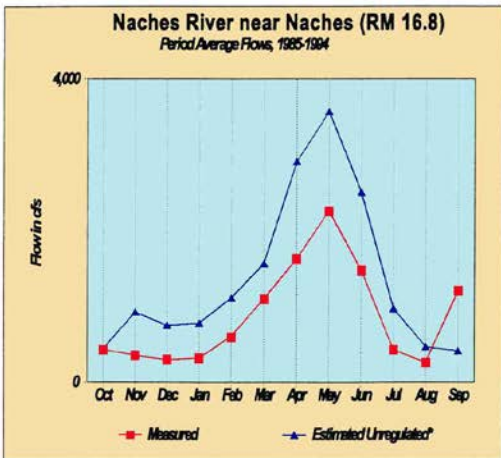


Figure III-1c

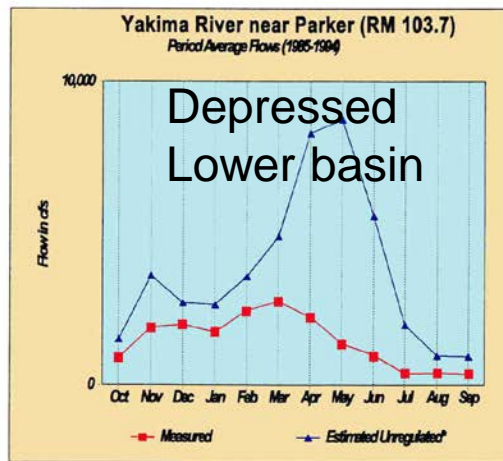


Figure III-1d



Figure III-1.—Conceptual comparison of measured flow and estimated unregulated flow (measured flow corrected for storage, estimated diversions, and estimated return flows).

Where Storage

Headwaters v. Lower Basin v. Columbia River Water

- Headwaters (e.g. Bumping)
 - Con: Can be non-normative (See upper Yak)
 - Pro: Gravity
 - Can make runoff less flashy (climate change)
- Mid-Lower Basin (e.g Wymer)
 - Pro: Release higher winter flows and recapture
 - Con: Pumping costs, hard to store peaks, lack of good sites below Naches confluence
- Columbia
 - Pro: Bigger to smaller
 - Con: Pumping, infrastructure costs

Bumping Gets Bumped

- Natural v. Normative
- Reclamation concluded that lower peaks and higher summer flows would be less natural, ergo less normative.
- Bumping dropped from consideration in EIS
- KK Pipeline DOA also

YN Staff Scoping Comments

It's Not Just About Storage

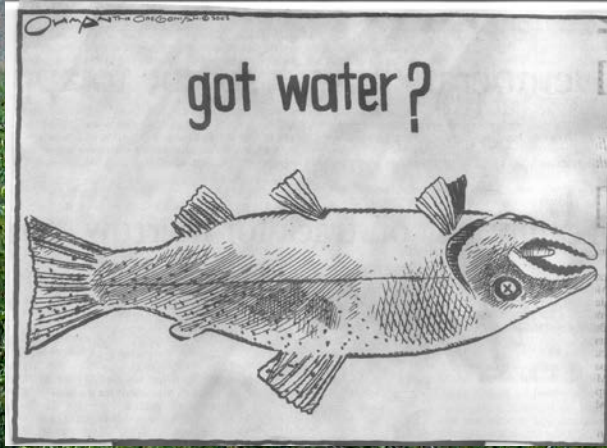
- **YN staff (et al.) wrote scoping comments suggesting broader range of alternatives**
- **Problems, Needs, Potential Solutions**
 - Fish passage at Reclamation dams
 - Tributary flow and passage
 - Yakima River headwaters storage analysis
 - Groundwater storage analysis
 - Conservation and market-based solutions

Fish Passage at Reclamation Storage Reservoirs

- All five Yakima Project storage dams completely blocked fish passage for salmon, steelhead, and bull trout.
- Four were built on natural lakes that hosted sockeye, which were extirpated in the basin
- Habitat above reservoirs is relatively intact, publicly owned, and has relatively cool temperatures and unregulated flow regime
- YN Goal: Restoration of passage to all historic habitat, reintroduction of sockeye, enhancement of Coho, spring Chinook, steelhead, and bull trout

Cle Elum River Above Dam





Manastash Creek

(The only dry low area of the fan)

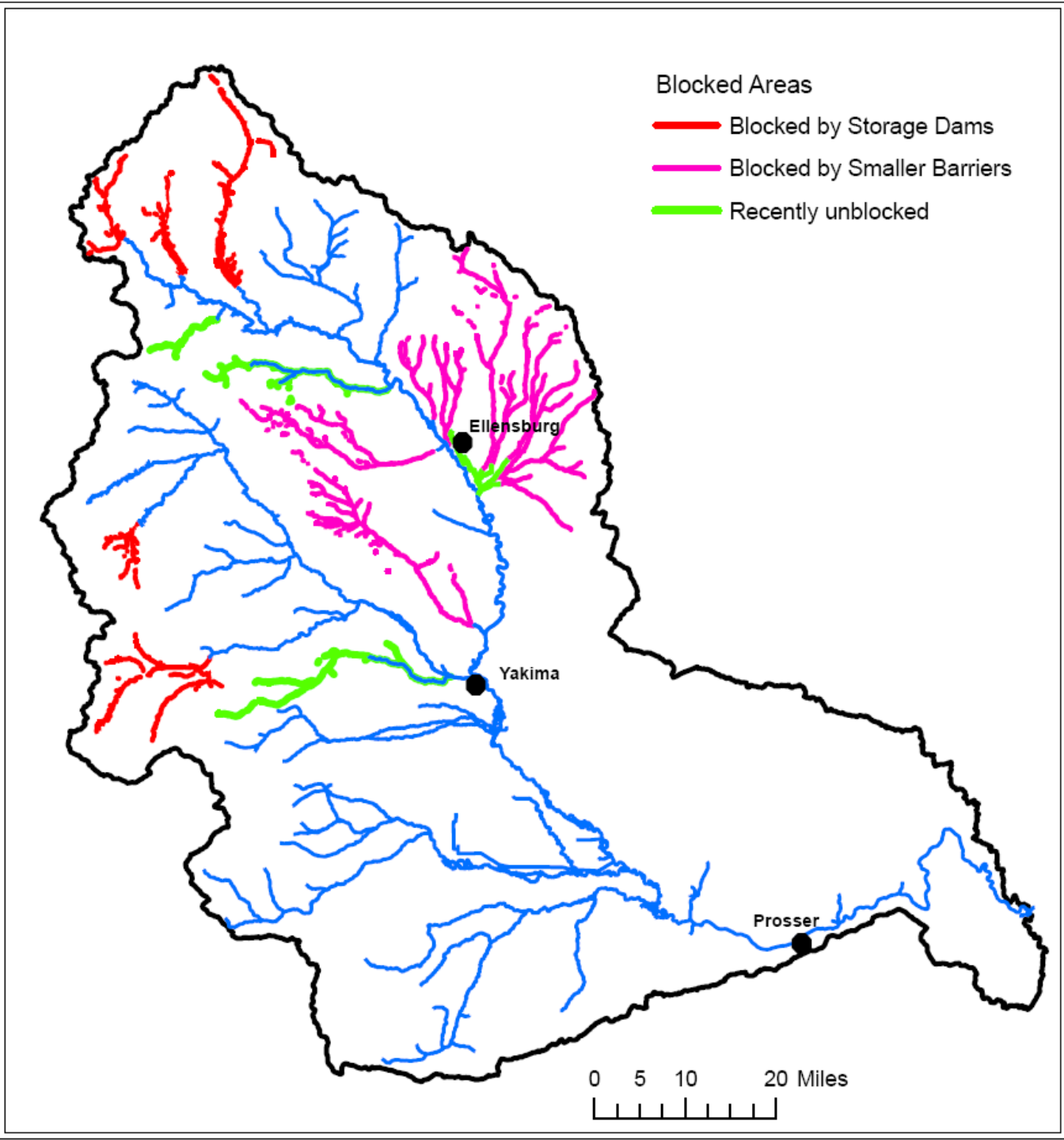
We can share what we got of yours,
cuz we done shared all of mine.
Grateful Dead - 1972

..the portions of the valley within a mile or two of the main stream are evidently a great deal under water in the wet season

Lt. George B. McClellan
ca. 1850

Riaparian habitat in the upper Yakima basin

Flood plain access needed
I mean for the river

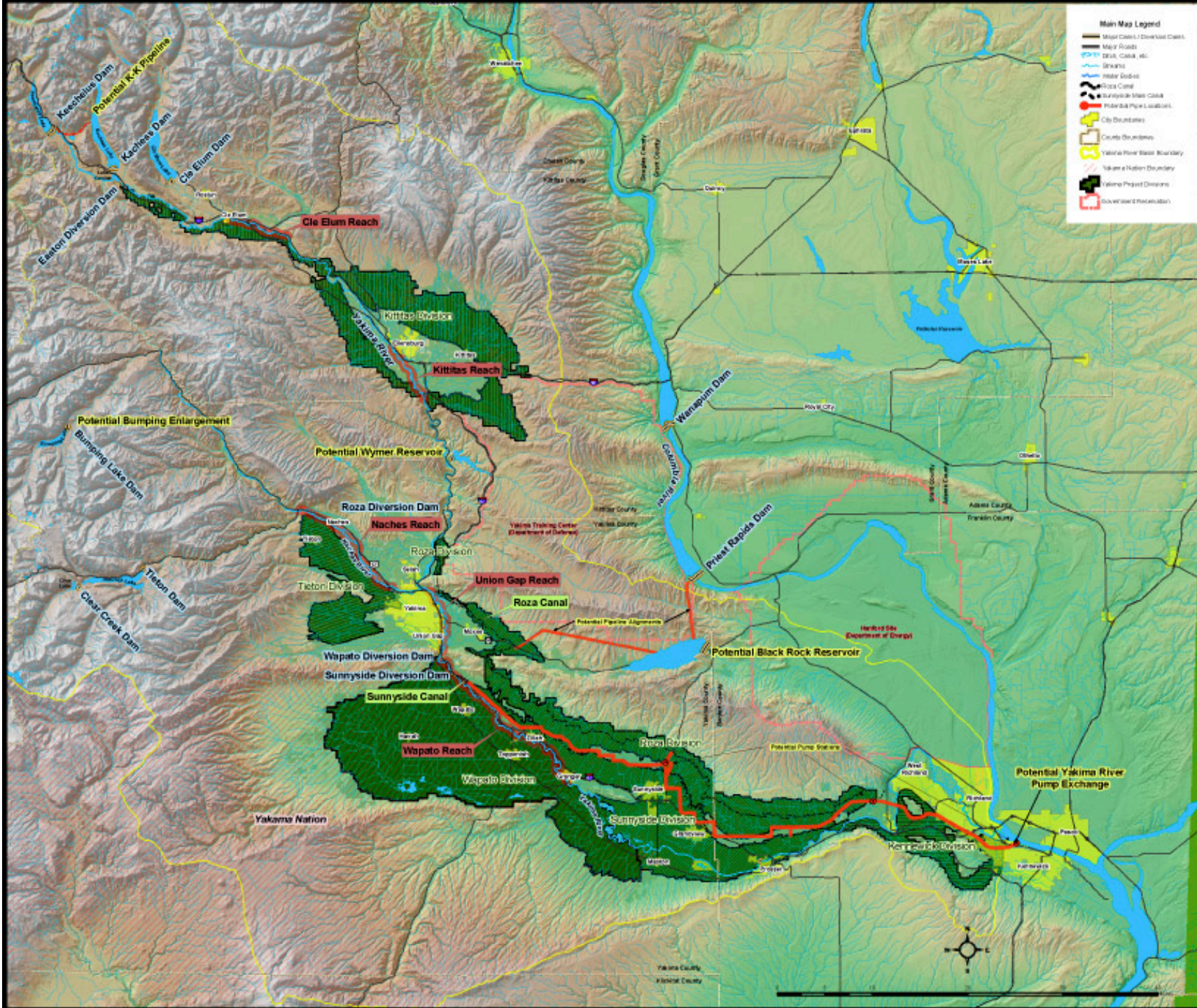


Reclamation EIS limited analysis to two main alternatives (Black Rock and Wymer)

- Black Rock
 - A reservoir in Black Rock Valley east of Yakima that would be filled with water pumped from Columbia R.
 - Water would be delivered to Roza and Sunnyside ID's in lieu of Yakima River diversions, some of which would stay in the river for fishery purposes
 - Benefit to cost ratio for Black Rock low (.16)
 - Issues with geology, Hanford

Reclamation EIS limited analysis to two main alternatives (Black Rock and Wymer)

- Wymer
 - Reservoir on Lmuma Creek in Yakima Canyon
 - Water would be pumped from Yakima River
 - Some benefits for fish flows, not much for irrigation
 - Storage Study also looked at Wymer plus pump exchange from Yakima-Columbia confluence to increase irrigation benefits
 - Poor benefit cost ratio



Main Map Legend

- Major Canal / Diversion Canal
- Major Road
- Irrigation Canal, etc.
- Stream
- Water Bodies
- Cross Canal
- Sunnyside State Canal
- Potential Pipe Locations
- City Boundaries
- County Boundaries
- Yakima River Basin Boundary
- Yakima Nation Boundary
- Yakima Project Divisions
- Government Possession



No Action Alternative

- Required element of EIS
- This is the one Reclamation chose (sort of) because of
 - Poor benefit cost ratio
 - Lack of support from YN and irrigators
 - No state, federal interest in funding Black Rock
- Spare the ROD...
 - No Action on the No Action ROD

DEIS

- Joint Alternatives
- State Only Alternatives
 - Enhanced Conservation
 - Market Based Reallocation
 - Groundwater Storage
- Fisheries work group

The Seventy Percent Solution

- Reclamation criteria to evaluate alternatives
 - 70% supply for proratables during dry years
 - 82 kaf for Municipal supply
 - More natural flow regime for fish
- Not part of the congressional mandate
- Disadvantages of criteria
 - Roza goal e.g., 100 kaf of carry-over storage

For a Few Dollars More: Black Rock Geology

- Bad Rock at Black Rock
- Thrust Fault
- Mass wasting
- Seepage
- Hanford
- Geology not fatal flaw, just really expensive one

Pumping Costs:

The Gift that Keeps on Taking

- If they offer to build it for free, don't take it. The pumping costs will drive you broke
- If you build it (pump from Columbia), you won't be able to afford to turn it on, but you won't be able to afford not to turn it on because of standby power costs.
- ...none penciled out
- No crop...
- About ten fold increase in Yak Proj. O&M

A Fishful of Dollars

The Administrator of the Bonneville Power Administration consistent with the provisions of the Columbia River Basin Fish and Wildlife Program established pursuant to the Pacific Northwest Power Planning and Conservation Act (92 Stat.2697) shall provide for project power needed for delivery of water to the exchange participants. The **cost of pumping power shall be credited to fishery restoration** goals of the Columbia River Fish and Wildlife Program.

- From YBSA Draft Legislation



Confederated Tribes and Bands
of the Yakama Nation

Established by the
Treaty of June 9, 1855

March 31, 2008

Re: Joint Yakama Nation, Roza Irrigation District comments on Yakima Basin Storage Study

Dear Sirs,

The Yakama Nation and Roza Irrigation District appreciate the opportunity to submit this

Sincerely,

Ralph Sampson, Jr., Chairman
Yakama Tribal Council

Ric Valicoff, Chairman
Roza Irrigation District Board of Directors

YN on DEIS

It's Not Just About Storage

- Tribal Chairman sent letter with Roza ID Board Chairman recommending **package approach** as alternative to Black Rock
 - Incorporate passage at reservoirs
 - Passage in tribs
 - Reevaluate headwaters storage
 - Look for affordable options
 - Explicit YN Treaty Water

So why aren't we pouring concrete?

One explanation from YHR (4-27-08)

- “We sense that compromise has been elusive largely because of **dysfunctional tribal government** in the past. That must change with the tribe's new generation of leaders. If the **tribe** questions the science of the interbasin transfer proposal, then it **should document concerns and join in the planning** phase of the search for answers.”

17.4 billion
to bailout
approved

Story/Page 3A



YAKIMA HERALD REPUBLIC

Saturday,
December 20,
2008



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Sunday 24

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Bureau of Reclamation advises against building the proposed \$7.7 billion Black Rock reservoir

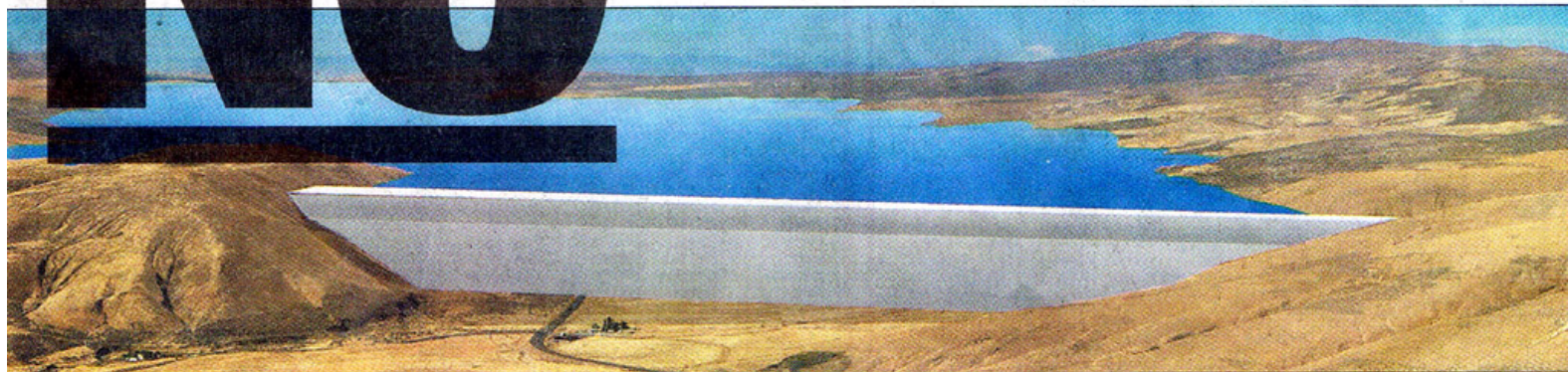
NO



Yakima Herald-Republic

This artist rendering of the proposed Black Rock reservoir looks well at the intersection of Highways 24 and 241. The reservoir is in the foreground.

Submitted



WA DOE is Finishing Supplemental EIS on alternative proposal

- Result of YN and others work to shift course of Storage Study to alternatives to Black Rock
 - New proposal evaluates a package of measures including
 - Passage at existing storage reservoirs
 - Removal of fish barriers on tributaries
 - Evaluation of storage opportunities for Naches Arm water
 - Habitat enhancement on mainstem and tributaries
 - Several modifications to existing storage and diversion facilities
 - YN staff sent scoping comments encouraging this approach
 - State proceeding separately from US
 - Divorce, still good friends, joint custody

Back to the Future

The Bambrick YRBWEP Work Group



IN REPLY REFER TO:
CCA-1100
PRJ-3.00

United States Department of the Interior

BUREAU OF RECLAMATION

Columbia-Cascades Area Office

1917 Marsh Road

Yakima, Washington 98901-2058

APR 27 2009



Mr. Dale Bambrick
National Oceanic and Atmospheric Administration - Fisheries
304 South Water Street, 201
Ellensburg, WA 98926

Subject: Yakima River Basin Water Enhancement Project (YRBWEP) 2009 Work Group
Formation and Invitation to Participate

Dear Mr. Bambrick:

Next month the Washington State Department of Ecology (Ecology) expects to complete its State Environmental Policy Act (SEPA) integrated water resources needs and options analysis for the water shortage problems of the Yakima basin. With conclusion of this analysis there will be over 30 years of study of the water resource needs of the basin and potential solutions to meeting those needs.