

Columbia River Projects

Fish, Agriculture, and Water Resources

September 13, 2012

Presented by

Derek I. Sandison, Director

Office of Columbia River

Washington State Department of Ecology

Columbia River Basin Water Management (Development) Act - 2006

- **Ecology directed to aggressively pursue development of new water supplies for both instream and out-of-stream uses**
- **Significant investment in new storage and conservation**
 - **Capital: authorization for bonds of up to \$200 million**
 - **Operating: \$2.1 million and 15 FTEs**
- **2/3 of funds for study & construction of new storage & pump exchanges**
 - **1/3 of new storage for improving streamflows to benefit fish**
 - **2/3 of new storage for new out-of-stream uses**
- **1/3 of funds for all other water supply projects**
- **Legislative reporting on water supply and demand forecasts**

RCW 90.90 – Statutory Focus

- Find alternatives to groundwater for the Odessa subarea aquifer
- Develop water supply for pending water right applications
- Create uninterruptible supply of water for interruptible water right holders
- Meet new municipal, domestic, industrial and irrigation water needs in basin
- Provide water for instream needs



Office of Columbia River POLICY ADVISORY GROUP (PAG) Members

Dale Bambrick

NOAA Fisheries – U.S. Dept of Commerce

Stephanie Utter

Bureau of Reclamation

Lisa Pelly

Washington Rivers Conservancy

Brenda Bateman

Oregon Water Resources Dept

Tony Grover

NW Power & Conservation Council

Rudy Peone

Spokane Tribe

Dave Sauter

Klickitat County Commissioner

Matt Watkins

City of Pasco

Phil Rigdon

Yakama Nation

Gary Chandler

Association of WA Business

Mike Leita

Yakima County Commissioner

Mike Schwisow

Columbia Basin Development League

Kathleen Collins

Water Policy Alliance

Joe Lukas

Grant County PUD

Teresa Scott

WA State Dept of Fish & Wildlife

Jon Culp

WA State Conservation Commission

To be determined

WA Environmental Council

Craig Simpson

East Columbia Basin Irrigation District

Jim Fredericks

U.S. Army Corps of Engineers

Darryll Olsen

Columbia-Snake Rivers Irrigation Association

Rich Stevens

Grant County Commissioner

Michael Garrity

American Rivers

Rudy Plager

Adams County Commissioner

John Stuhlmiller

WA State Farm Bureau

Leo Stewart

The Conf Tribes of the Umatilla Indian
Reservation

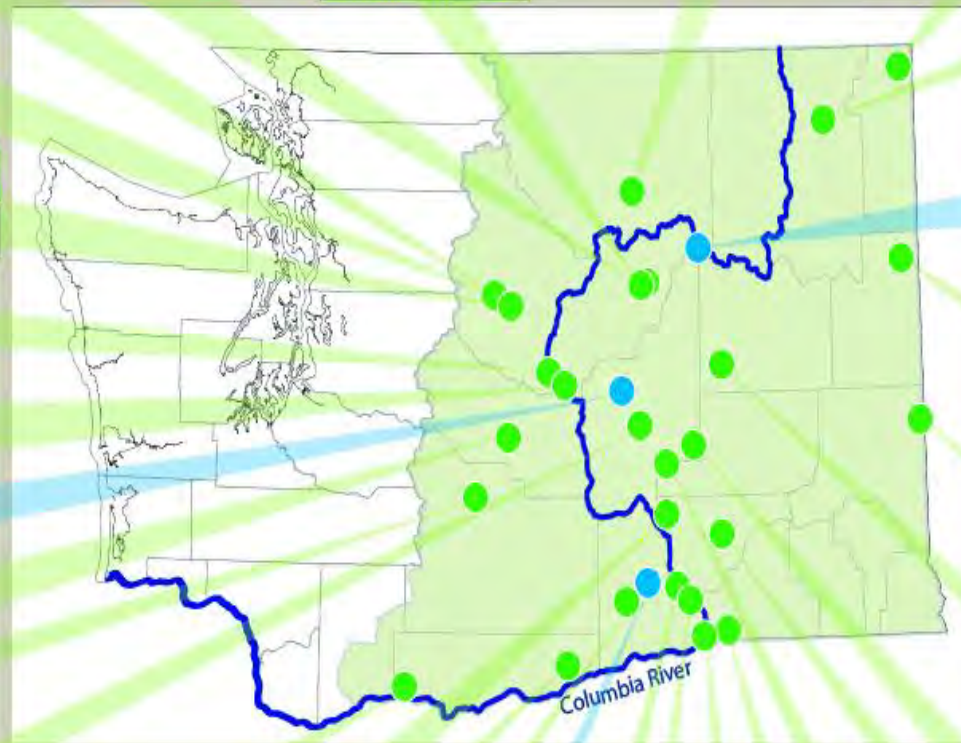
Gary Passmore

The Conf Tribes of the Colville Reservation

Rob Swedo

Bonneville Power Administration

OCR Funded Projects



Peshastin Pump Exchange Study
Ac-Ft of Water = TBD
Cost = \$200,000

Chelan PUD: Rock Island Off Channel Storage
Ac-Ft of Water = 85,300
Cost = \$125,000 (Pre-Appraisal)

Foster CD: Moses Coulee Shallow Aquifer Recharge
Ac-Ft of Water = TBD
Cost = \$93,750 (Pre-Appraisal)
Cost = \$200,000 (Appraisal)

Goose Lake & 9 Mile Flat Water Storage (Cohoville Tribe)
Ac-Ft of Water = 4,750,000
Cost = \$600,000 (Pre-Appraisal)

Sullivan Lake Water Supply
Ac-Ft of Water = 14,000
Cost = \$14,000,000

Mill Creek Storage Study
Ac-Ft of Water = 2,000-11,000
Cost = \$125,000 (Pre-Appraisal)
Cost = \$425,000 (Appraisal)

Aquifer Storage & Recovery Exploration
Ac-Ft of Water = TBD (Regional)
Cost = \$1,750,000

Peshastin Irrigation District Piping
Ac-Ft of Water = 360
Cost = \$245,000

Lower Wenatchee In-Stream Flow Enhancement Project
Ac-Ft of Water = 1493
Cost = \$1,100,000

Chelan PUD Pump Storage Appraisal
Ac-Ft of Water = 50,000
Cost = \$165,000 (Pre-Appraisal & sites)
Cost = \$400,000 (Appraisal 2 sites)

Rocky Reach Pool Raise
Ac-Ft of Water = 28,000
Cost = \$900,000 (EIS)
Cost = \$50,000 (Pre-appraisal)

Lake Roosevelt Incremental Storage Releases
Ac-Ft of Water = 132,500
Cost = \$4,861,000 (+ \$5.6M, annually)
Econ. Value = \$3B (Muni/Industrial)
Jobs = 35,000 (Muni/Industrial)
Econ. Protected = \$1.18/yr (Odessa)
Jobs Protected = 784 (Odessa)
Econ. Protected = \$9.5M/yr (Drought)
Jobs Protected = 140 (Drought)

Columbia Basin Irrigation District Piping
Cost = \$30,000 (Study)
Ac-Ft of Water = 2,521 (2009)
Cost = \$1M (2009)
Jobs = 13 (2009)
Econ. Value = \$2M (2009)
Ac-Ft of Water = 2,929 (2010)
Cost = \$2M (2010)

Manashtash Piping
Ac-Ft of Water = 454
Cost = \$376,000

Spokane-Rathdrum Prairie ASR Study
Ac-Ft of Water = TBD
Cost = \$250,000 (Study)

WSU/WDFW Supply & Demand Report
Demand Forecasted = TBD
Cost = \$1,000,000 (Study)

Yakima River Water Enhancement
Ac-Ft of Water = 350,000
Cost = \$3,350,000 (Study)
* SBCA Funding

Potholes Supplemental Feed Route
Conveyance
Cost = \$15,147,748

White Salmon ASR
Ac-Ft of Water = 145
Cost = \$956,950

508.14 Rule Change
Ac-Ft of Water = TBD
Cost = TBD

Weber Siphon
Conveyance
Cost = \$800,000

Passive Rehydration (Lincoln County CD) Feasibility Study
Ac-Ft of Water = 300,000
Cost = \$925,000 (Study)

Conservation Commission Irrigation Efficiencies
Ac-Ft of Water = TBD (Regional)
Cost = \$2,000,000

- **Completed, Constructed Projects**
- **Active, Priority Development Projects**
- **Pending: Technical, Legal or Funding Issues**
- **On Hold**

*All projects funded from the Columbia River Water Supply Development Account unless otherwise noted.

Klickitat County (Horse Heaven Hills) Study
Ac-Ft of Water = 105,000
Cost = \$170,000 (Pre-Appraisal)
Cost = \$300,000 (Appraisal)

Kennewick ASR
Ac-Ft of Water = 318+
Cost = \$2,250,000

Walla Walla Pump Exchange
Ac-Ft of Water = 30,000
Cost = \$600,000 (EIS)
Cost = \$40M (Construction)

Odessa Subarea
Ac-Ft = 176,343 - 347,137
Cost = \$8,223,469 (Study)
Cost = \$841.6M - \$3.314B (Construction)

Conservation Commission Retiming Pilot
Ac-Ft of Water = TBD
Cost = \$1,000,000

Red Mountain AWA Pump Project
Ac-Ft of Water = 11,005
Cost = \$95,000 (Study)
Cost = \$10,000,000 (Construction)
Cost = \$500,000 (Mitigation)

Barker Ranch Canal Piping
Ac-Ft of Water = 6,436
Cost = \$5,600,000
Jobs = 71
Econ. Value = \$10,890,000

Franklin CD IWM Study
Ac-Ft of Water = TBD
Cost = \$78,000 (Study)

Boise Cascade ASR
Ac-Ft of Water = 1,657
Cost = \$6,000,000

SRB & Tribal Fisheries Project
Ac-Ft of Water = TBD (Regional)
Cost = \$1,000,000

Water Development Progress - 2012

Developed



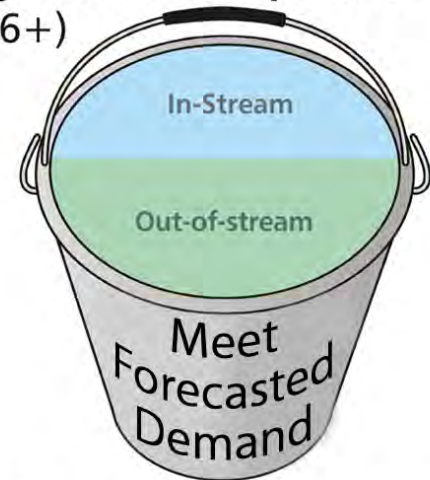
- > Barker Ranch: 6,436 ac-ft
- > Columbia Basin Irrigation District Piping: 5,450 ac-ft
- > Donations: 6,066 ac-ft
- > Lake Roosevelt: 132,500 ac-ft
- > Potholes Supplemental Feed Route (conveyance)
- > Pine Creek Acquisition: 900 ac-ft
- > Weber Siphon (conveyance)

Near Term Development (2011-2015)



- > Boise Cascade ASR: 1,657 ac-ft
- > Columbia Basin I.D.: 5,337 ac-ft
- > Conservation Commission I.E.: TBD
- > 508.14 Rule Change: TBD
- > Kennewick ASR: 318+ ac-ft
- > Lower Wenatchee: 1,493 ac-ft
- > Manashtash: 454 ac-ft
- > Odessa Subarea: 164,000 ac-ft
- > Peshastin I.D.: Piping: 360 ac-ft
- > Red Mountain: 20,423 ac-ft
- > White Salmon ASR: 145 ac-ft
- > SRB & Tribal Fisheries: TBD
- > Sullivan Lake: 14,000 ac-ft

Long Term Development (2016+)

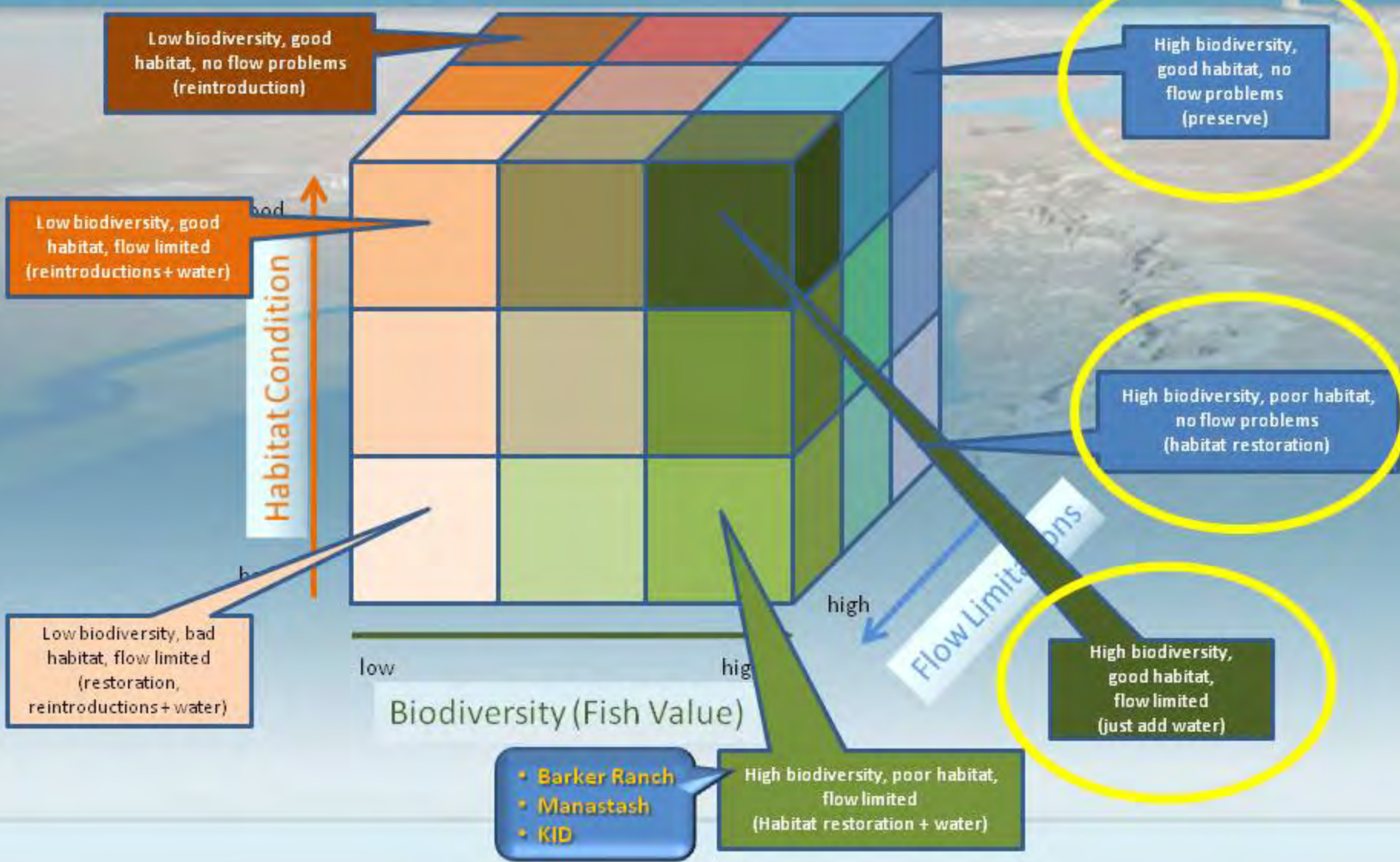


- > Aquifer Storage & Recovery Exploration: TBD
- > Chelan PUD Pump Storage: 50,000 ac-ft
- > Conservation Commission Retiming: TBD
- > Foster C.D. Moses Coulee S.A.R.: TBD
- > Goose Lake & 9 Mile Flat Storage: 4,750,000 ac-ft
- > Klickitat County Horse Heaven Hills: 105,000 ac-ft
- > Lincoln CD Passive Rehydration: 300,000 ac-ft
- > Mill Creek Storage: between 2000-11,000 ac ft
- > Peshastin Pump Exchange: TBD
- > Spokane-Rathdrum Prairie A.S.R.: TBD
- > Walla Walla Pump Exchange: 30,000 ac-ft
- > Yakima River Water Enhancement: 450,000 ac-ft

Columbia River Basin Long-Term Water Supply and Demand Forecast

Demand Type	Estimated Volume (ac-ft)	Source
2030 Irrigation Demand (new irrigation, Odessa replacement, Yakima Basin supply, and Columbia River interruptibles)	800,000 – 1.1 Million	WSU Integrated Model, Odessa EIS, Yakima EIS, and Ecology 2001 Drought Database
2030 New Municipal Demand (including municipally-supplied commercial and self-supplied domestic)	108,500	WSU Integrated Model
Unmet Tributary Instream Flows	500,000	Ecology Data, tributaries with adopted instream flows, 2001 drought year
2030 New Hydropower Demand	0	WSU Surveys and Planning Forecast Review

Where's the best bang for the salmon recovery buck?



Columbia River Partnership

- **December 2004**
Columbia River Initiative Memorandum of Understanding
- **February 2006**
State's Columbia River Water Resource Management Act

Memorandum of Understanding Concerning the State of Washington's Columbia River Initiative

PARTIES

This Memorandum of Understanding (MOU) is entered into between the State of Washington (State), acting through the state agencies which are signatories hereto; the Pacific Northwest Region of the U.S. Bureau of Reclamation (Reclamation); and the South Columbia Basin Irrigation District, the East Columbia Basin Irrigation District, and the Quincy-Columbia Basin Irrigation District (collectively, the Districts). The State, Reclamation, and the Districts are collectively referred to as the "parties" herein.

EFFECT

Section 1. This MOU is intended only to cooperate to advance the actions described in this legally binding contract or any right or benefit in equity by any party against another party. This MOU does not constitute an explicit or implied waiver of the jurisdiction of any federal or state court or procedures presently available to the parties. This MOU shall not be construed to constitute compliance or noncompliance of the parties.

Section 2. Nothing in this MOU shall (a) restrict or water rights for the Columbia Basin Project; (b) modify the rights and obligations of the Project repayment contracts; (c) affect the present operations of the Project; (d) impose Project as congressionally authorized; or (e) increase cost obligations and operation and maintenance contracts.

PURPOSE AND OBJECTIVES

Section 3. The parties will use their best efforts to secure economic and environmental benefits from the federal Project and along the mainstem of the Columbia River.

Section 4. Through the Columbia River Initiative, the mainstem of the Columbia River that will

CERTIFICATION OF ENROLLMENT

ENGROSSED SECOND SUBSTITUTE HOUSE BILL 2860

Chapter 6, Laws of 2006

59th Legislature
2006 Regular Session

COLUMBIA RIVER BASIN--WATER SUPPLY

EFFECTIVE DATE: 7/01/06

Passed by the House February 13, 2006
Yeas 94 Nays 4

FRANK CHAFF

Speaker of the House of Representatives

Passed by the Senate February 14, 2006
Yeas 48 Nays 0

BRAD OWEN

President of the Senate

Approved February 16, 2006.

CHRISTINE GREGOIRE

Governor of the State of Washington

CERTIFICATE

I, Richard Hafziger, Chief Clerk of the House of Representatives of the State of Washington, do hereby certify that the attached is ENGROSSED SECOND SUBSTITUTE HOUSE BILL 2860 as passed by the House of Representatives and the Senate on the dates hereon set forth.

RICHARD HAFZIGER

Chief Clerk

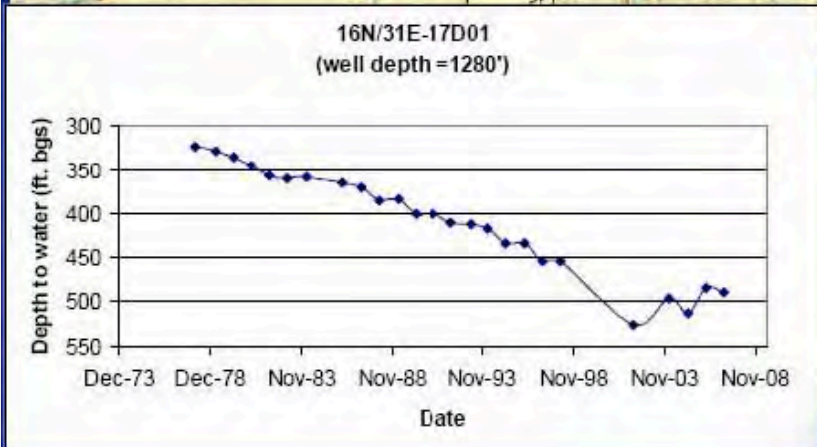
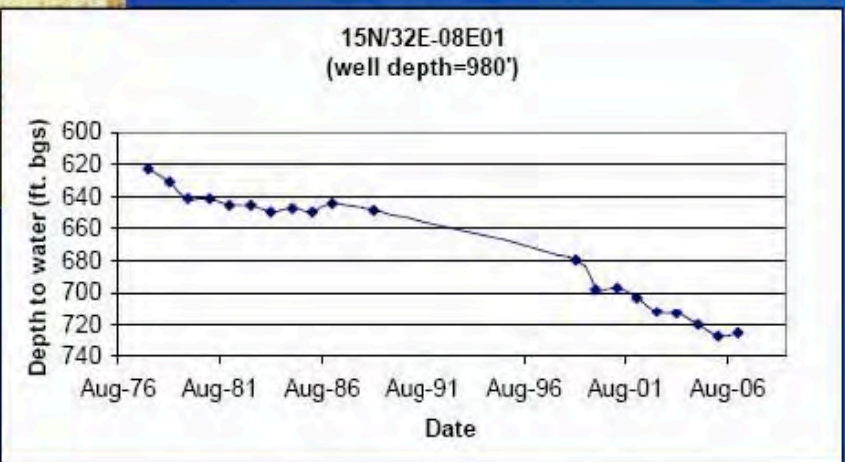
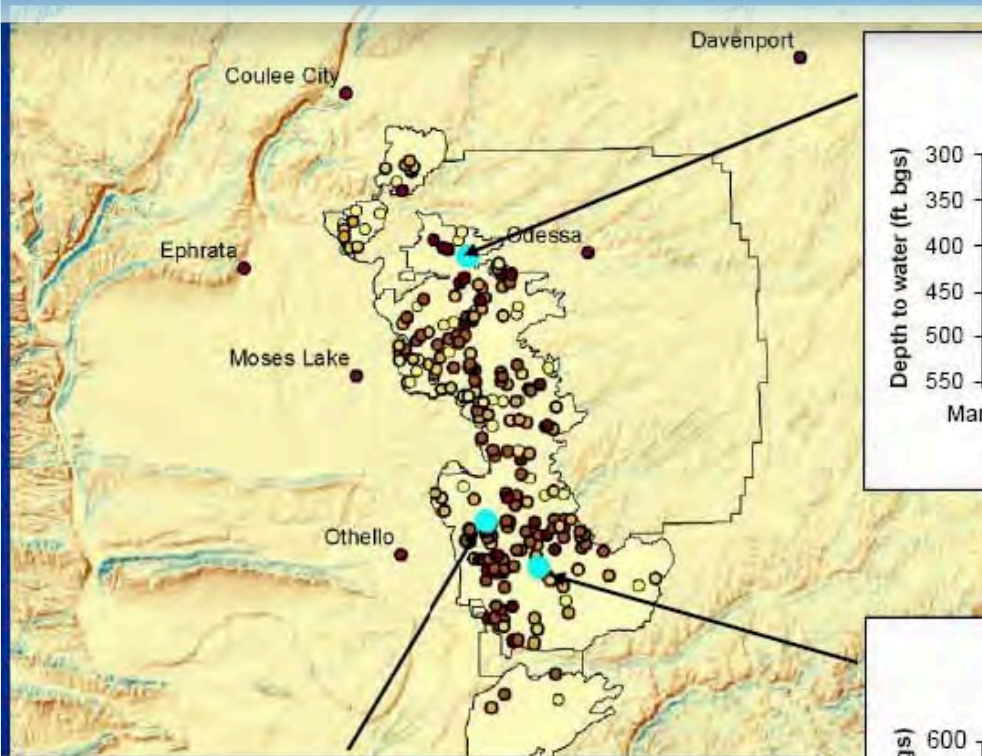
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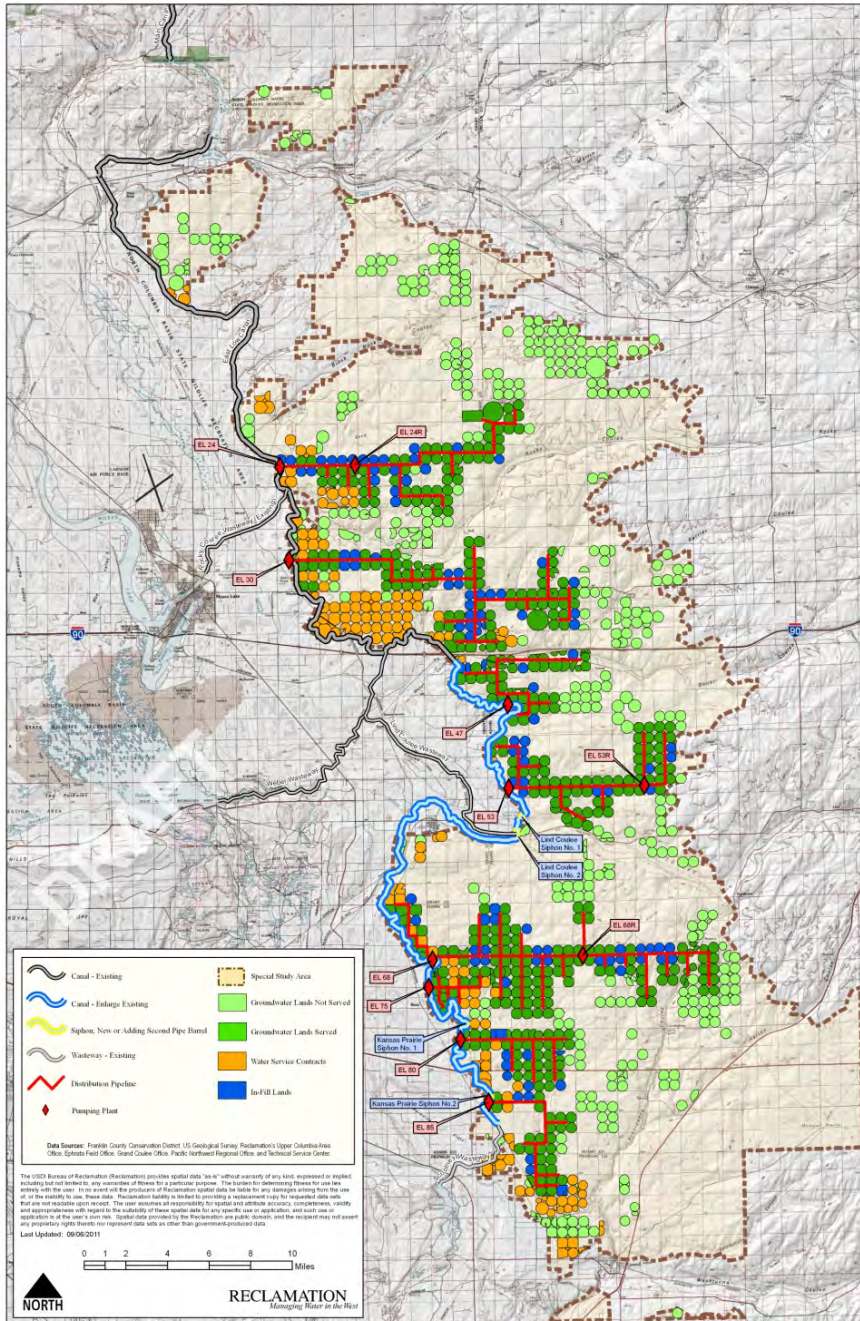
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Secretary of State

State of Washington

Odessa - Declining Trends in Groundwater Levels





Odessa - Final EIS Modified Partial Replacement Alternative (Preferred)

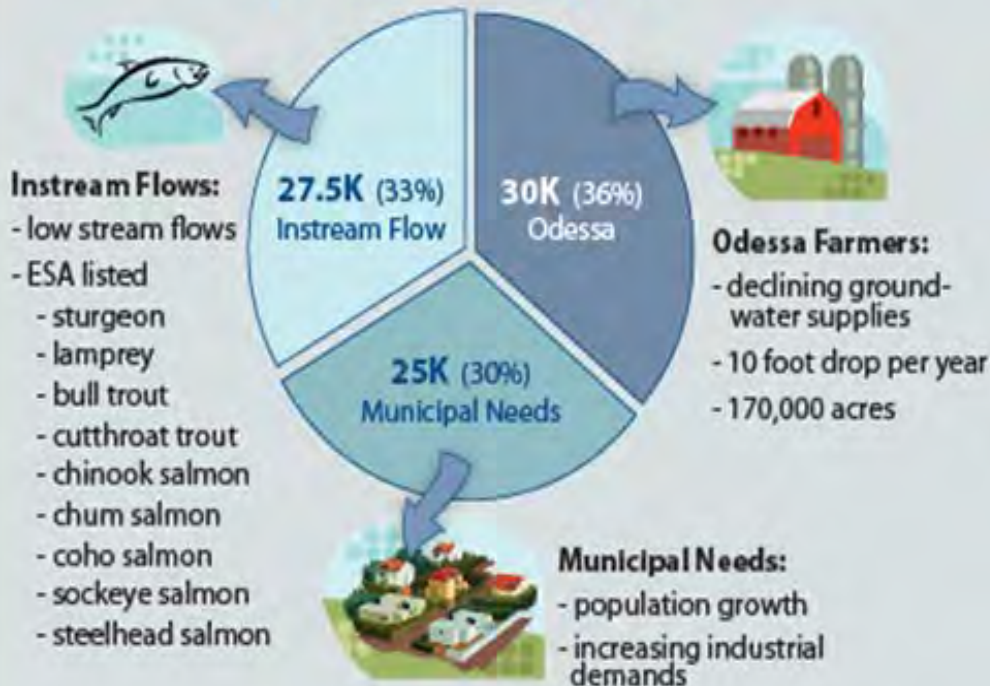
- Maximize use of existing infrastructure
- Provides replacement water both north and south of I-90
- Would allow phased construction

Lake Roosevelt Storage Releases

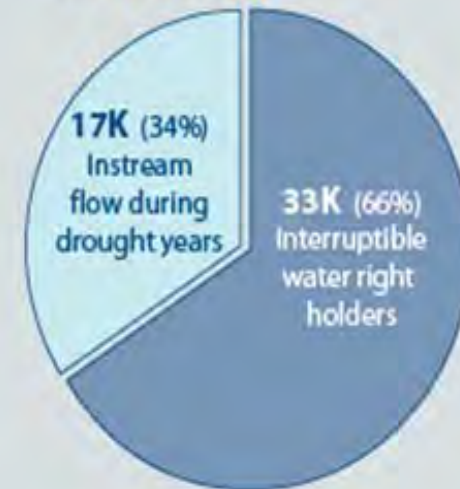
Lake Roosevelt Incremental Storage Releases

Operational change of 1 foot annually and 1.8 feet during drought

The Lake Roosevelt storage release would divert up to 82.5K ac-ft of water for:



In a drought year an additional 50K ac-ft of water for:



Sullivan Lake Reoperation

- **OCR agreement with Pend Oreille County PUD to convert former hydropower facility to water supply operation.**
- **Creates 14,000 acre-feet of additional supply in NE counties.**
 - **9,333 acre-feet for out-of-stream uses (at least 50% for municipals)**
 - **4,667 acre-feet for instream uses**



Aquifer Storage and Recovery Pilot Projects

- **Boise Cascade Wallula Plant industrial process water**
- **City of Kennewick municipal water supply**
- **City of White Salmon municipal water supply**
- **Large scale, basalt aquifer testing**

Yakima Basin Integrated Plan Elements

- **Water Supply**
 - Market driven reallocation of water
 - Enhanced conservation
 - Surface storage
 - Aquifer storage (passive and active recovery)
- **System operation modifications**
- **Watershed/fish habitat improvements**
- **Fish passage**



New Projects

- **Methow River Basin Improvements (diversion changes, reconnect tributaries, water acquisitions, etc.)**
- **Roaring Creek (Entiat River) pump exchange**
- **Wenatchee/Icicle/Peshastin Integrated Plan (suite of conservation, pump exchange, habitat and passage projects)**
- **Walla Wall River Flow Restoration Study (pump exchange, other options)**
- **Irrigation Efficiency Projects (multiple basins)**
- **Lower Columbia River Chum Salmon Habitat Project**

Changing Planning Environment

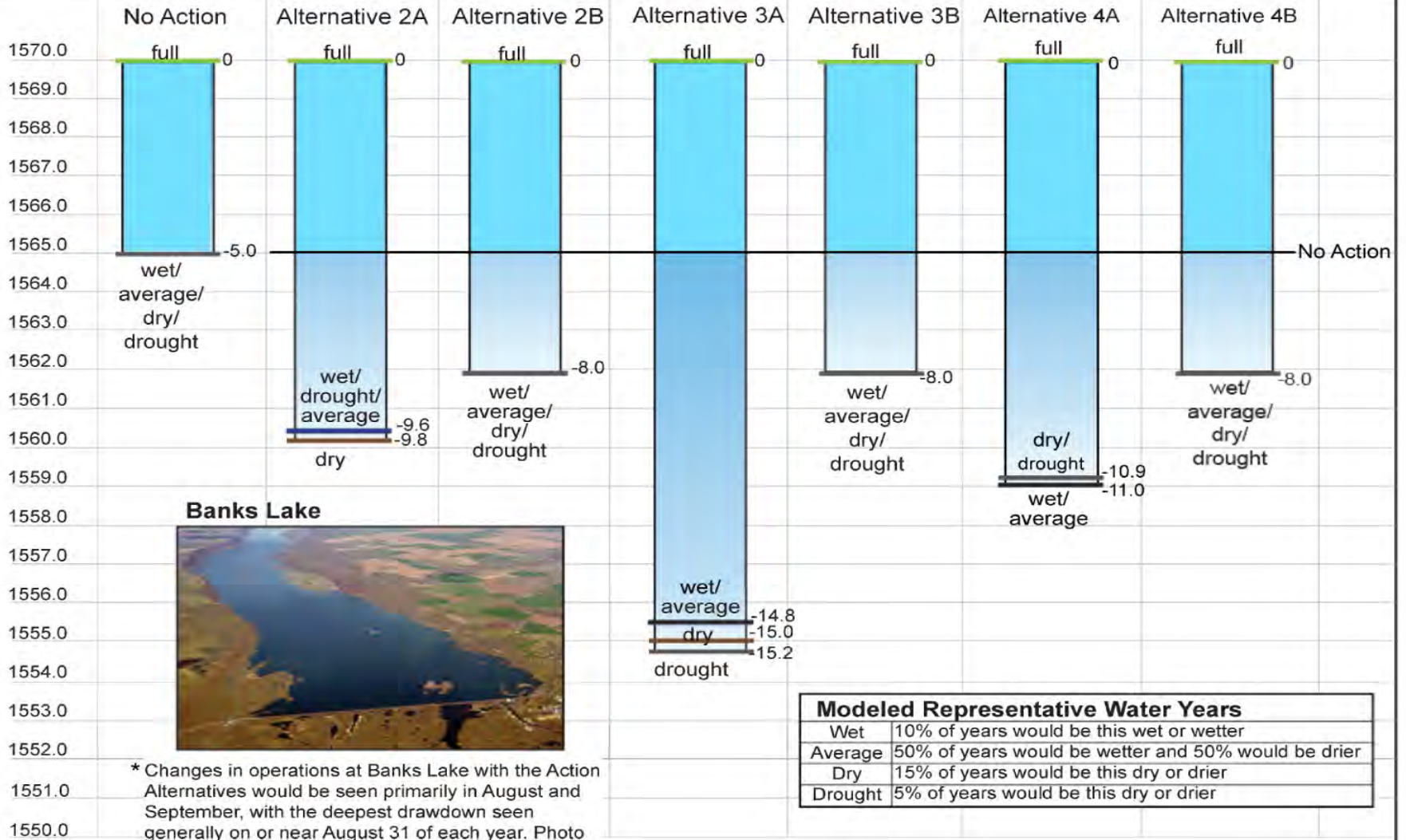
- **Climate Change**
 - **River Management Joint Operating Committee**
- **Federal Columbia River Power System Biological Opinion**
- **Regional Collaboration**
 - **Washington and Oregon**
 - **British Columbia**
 - **Canadian Columbia River Treaty SRT/STT**

Washington Canadian Treaty Position

Support river management/operations that provide for:

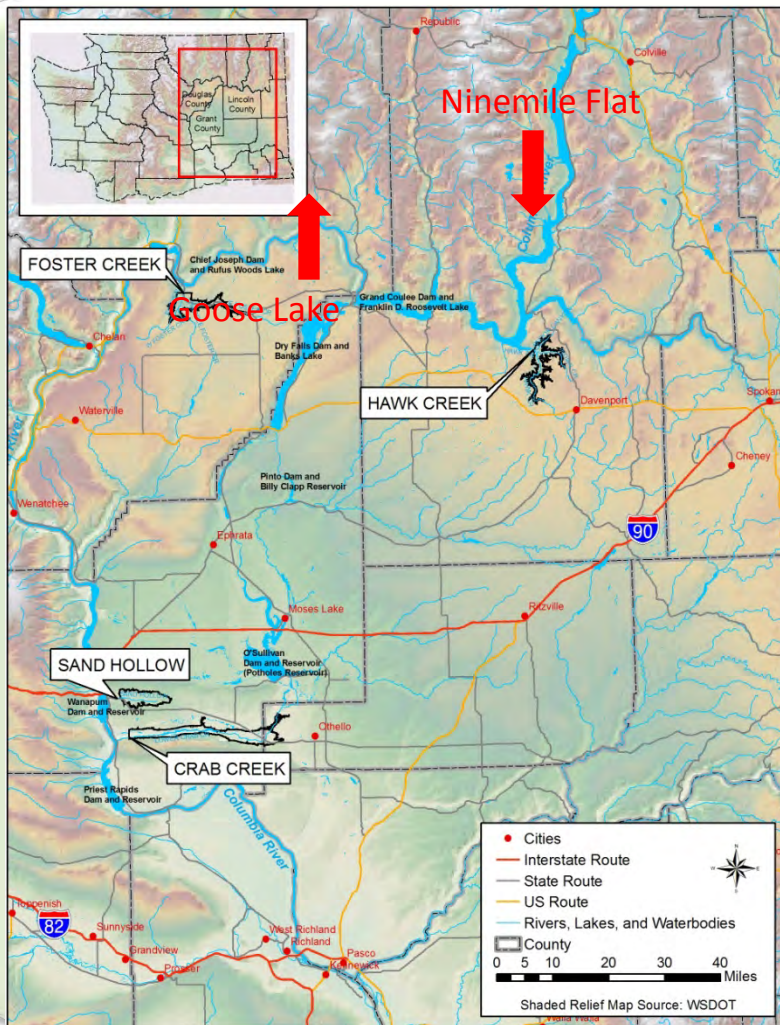
- Water for spring outmigration**
- Stable flows for protection of Hanford Reach Chinook**
- Dry year strategy balance spring outmigration, summer outmigration and fall adult returns**
- Water for July/August/September low flow period**
- Flexibility in meeting future water supply needs driven by growth and climate change**

Questions?



* Changes in operations at Banks Lake with the Action Alternatives would be seen primarily in August and September, with the deepest drawdown seen generally on or near August 31 of each year. Photo is not representative of drawdown conditions.

Mainstem Off-Channel Storage Study Appraisal Evaluation



Two sites at request of
Colville Tribe:

- Ninemile Flat
- Goose Lake

