

# Columbia Basin Project

RECLAMATION

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*Managing Water in the West*

## **Odessa Subarea Special Study Columbia Basin Project**

**Columbia River Water Resources Program PAG  
June 6, 2007  
Yakima, WA**



U.S. Department of the Interior  
Bureau of Reclamation

# Study Purpose

- **Continue phased development of the Columbia Basin Project as authorized**
- **Replace groundwater pumping in the Study area with a more reliable surface water supply from the Columbia Basin Project**



# Potential Alternative Solution Study (PASS)

- **Process to develop, evaluate, and rank alternatives**
- **Two team activities**
  - **Objectives Team**
    - Represented stakeholder interests in Study area
    - Developed seven objectives used to rank alternatives
  - **Technical Team**
    - Comprised of technical experts from Reclamation, Ecology, and irrigation districts
    - Developed and evaluated alternatives

# PASS Recommendations

- **Four Water Delivery Alternatives**

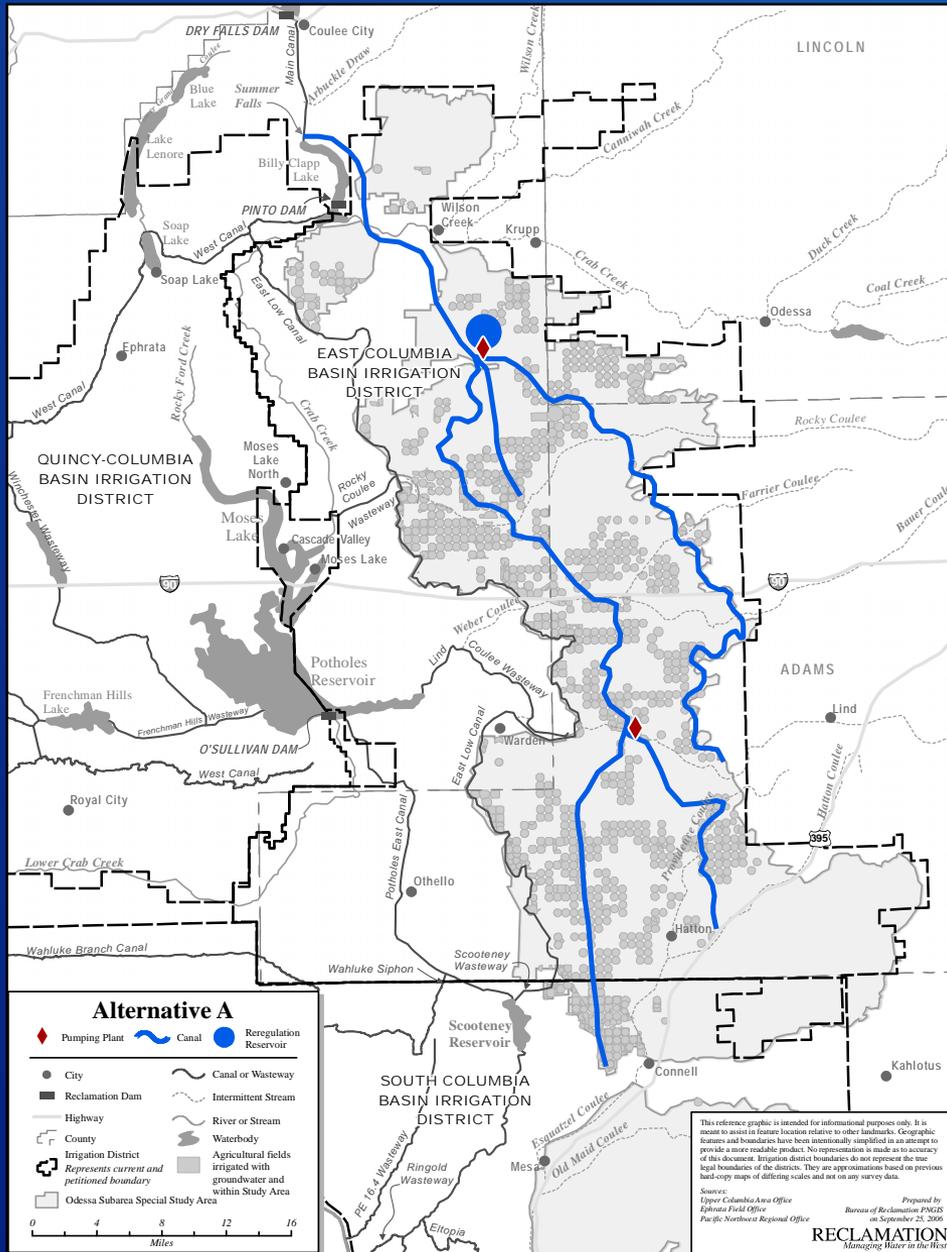
**Infrastructure to convey surface water to groundwater irrigated lands in Study area**

- **Water Supply Options**

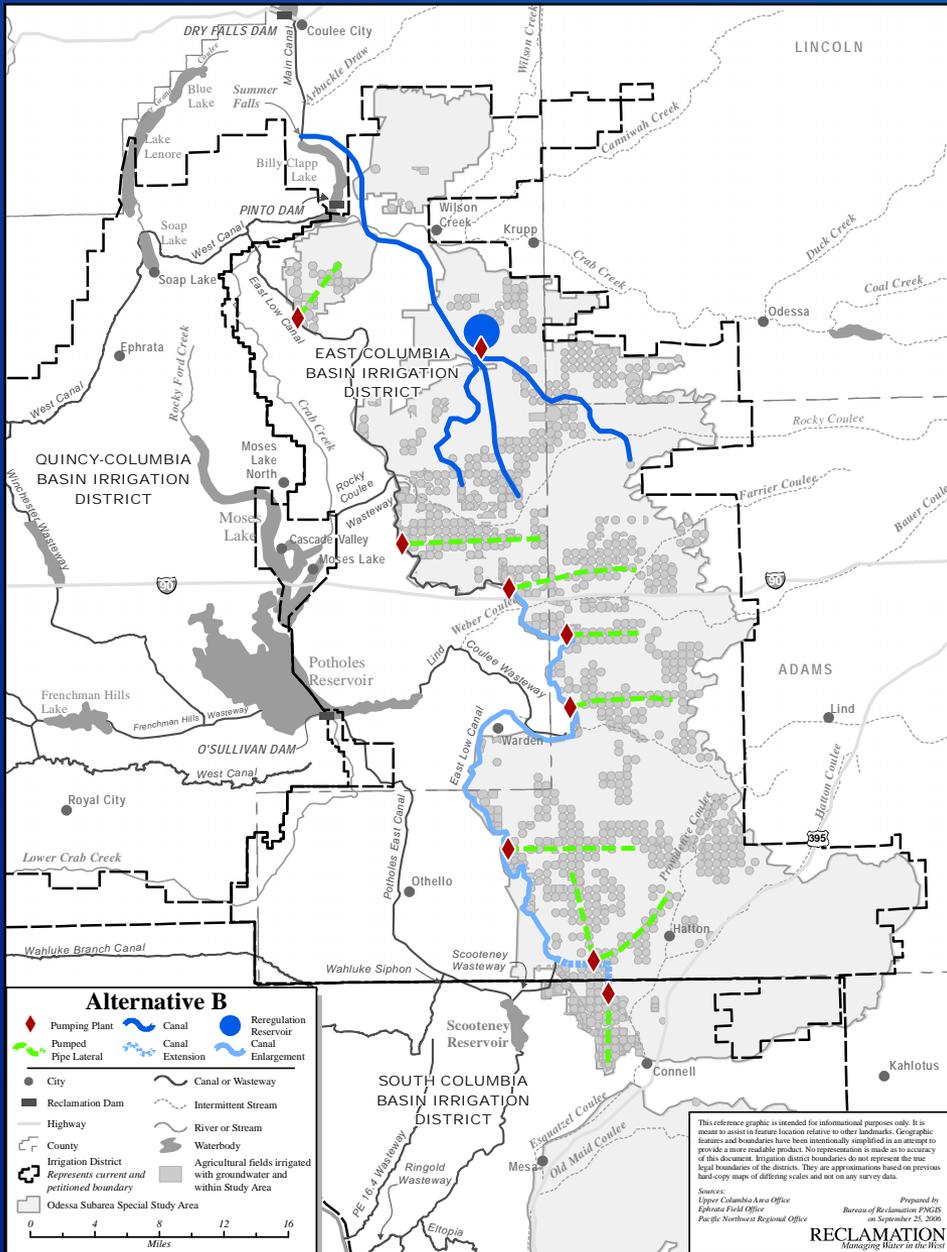
**Replacement surface water supply for current groundwater irrigation in Study area**

# Alternative A

Construct an East High Canal system sized to serve current groundwater irrigated lands



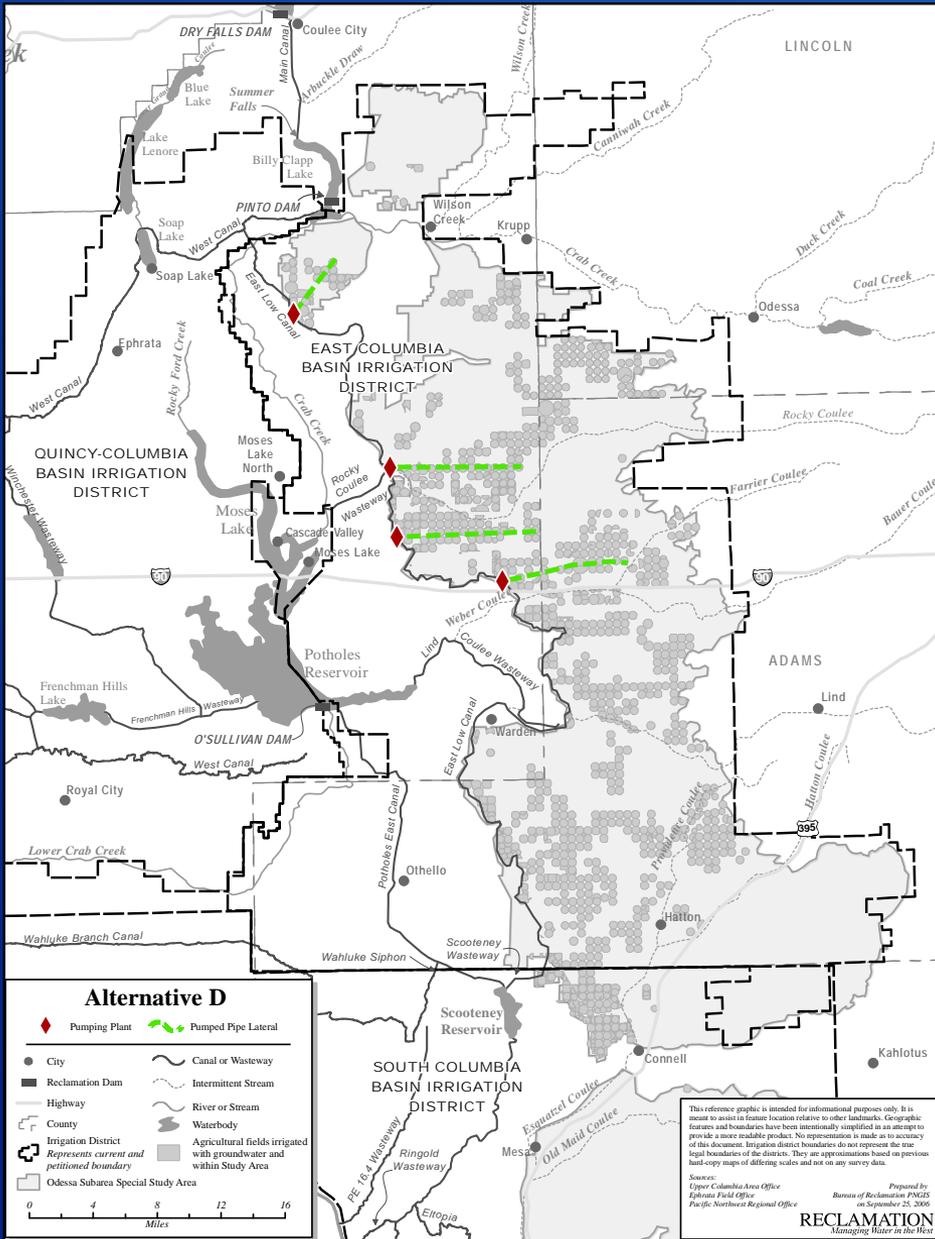
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# Alternative B

Develop northern portion of East High Canal system, and enlarge and partially extend East Low Canal





# Alternative D

Construct distribution facilities to serve lands north of I-90 from existing East Low Canal

# Estimated Water Supply Needs

Alternative	Groundwater Acreage Supplied		Estimated Water Supply Needed (acre-feet)
	Acres	Percent of Total	
<b>Alternative A</b> Construct East High Canal system sized to serve current groundwater irrigated lands	121,000	100	520,000
<b>Alternative B</b> Develop northern portion of East High Canal system, and enlarge and partially extend East Low Canal	121,000	100	470,000
<b>Alternative C</b> Enlarge and partially extend East Low Canal	73,000	60	260,000
<b>Alternative D</b> Construct distribution facilities to serve lands north of I-90 from East Low Canal	48,000	40	160,000

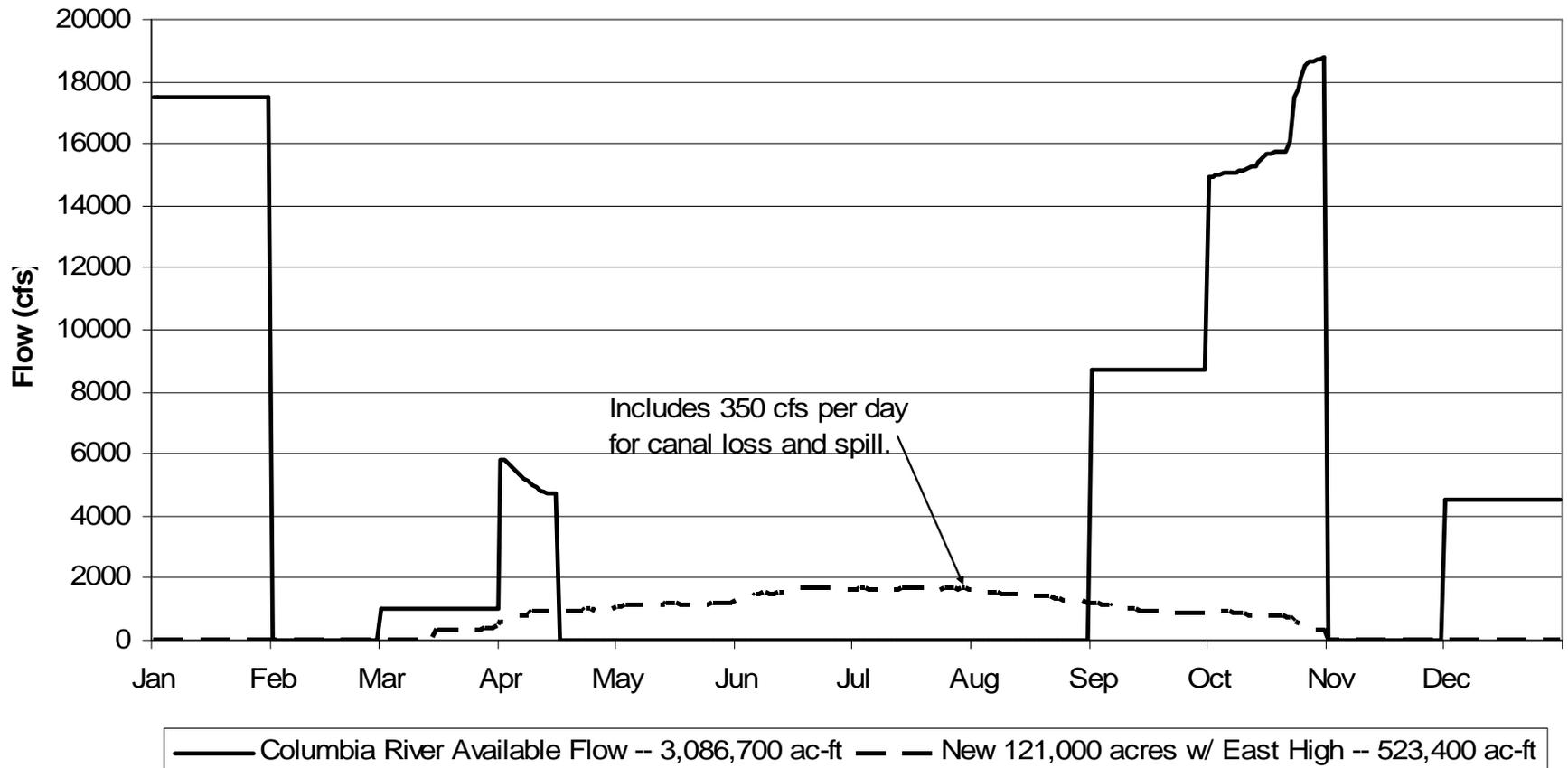
# Columbia River Water Availability

- **NOAA Fisheries Columbia River flow objectives for ESA listed fish established since 1995**
- **Modeled analysis used to determine when and how much water available in excess of flow objectives**
- **In dry years, no water available for diversion April through August**
- **Water available for diversion September, October, December, and January, even in dry years**
- **No water available for diversion July and August in any year**

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# Columbia River Flow Available to Pump into Banks Lake above Current Operation vs New 121,000 acre demand from East High Canal

Columbia River Median from BPA's Hyd-Sim Model Results, 1936-1945  
New EH Diversion Median from CBIP-RW Model Results, 1996-2005



# Water Supply Options

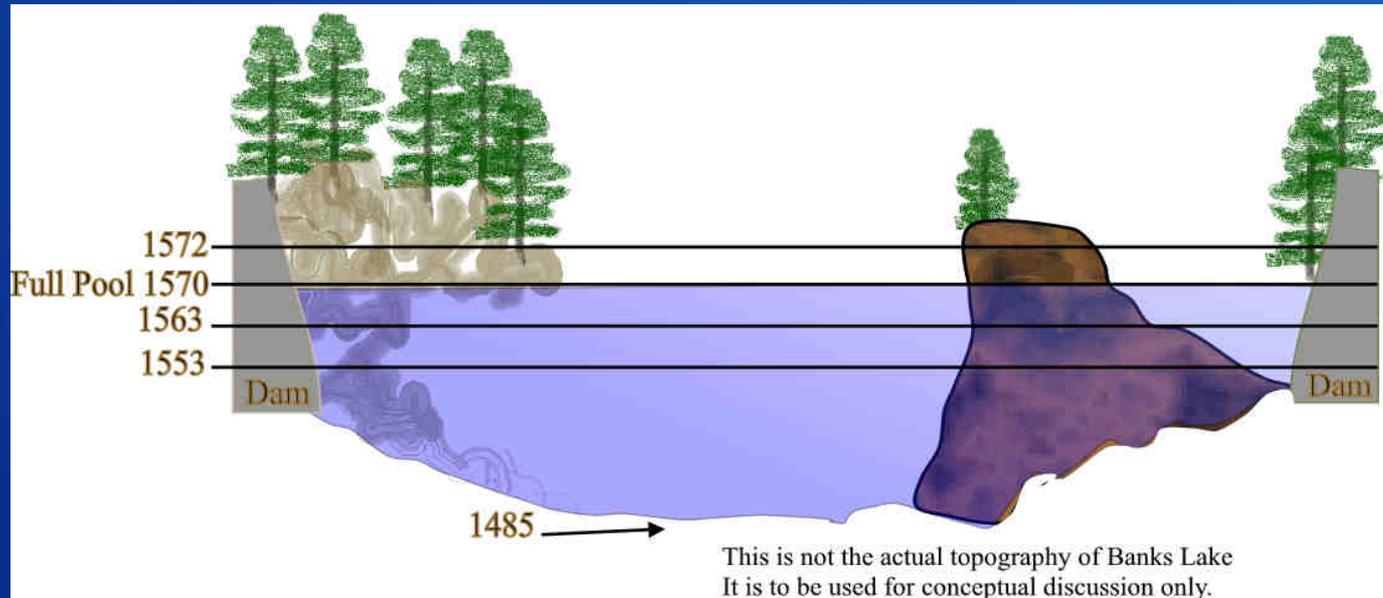
- **Rely on existing Columbia Basin Project reservoirs and/or adjust current operations**
  - **Banks Lake**
    - Draw down
    - Raise operational level
  - **Potholes Reservoir**
    - Reoperation
- **Construct new storage facilities**
  - **Dry Coulee**
  - **Rocky Coulee**
  - **Lind Coulee**
  - **Lower Crab Creek**

# Lake Roosevelt Draw Down

- Exercise 1938 Water Right
- Inconsistent with Agreement-in-Principle between State and Confederated Tribes of the Colville Reservation



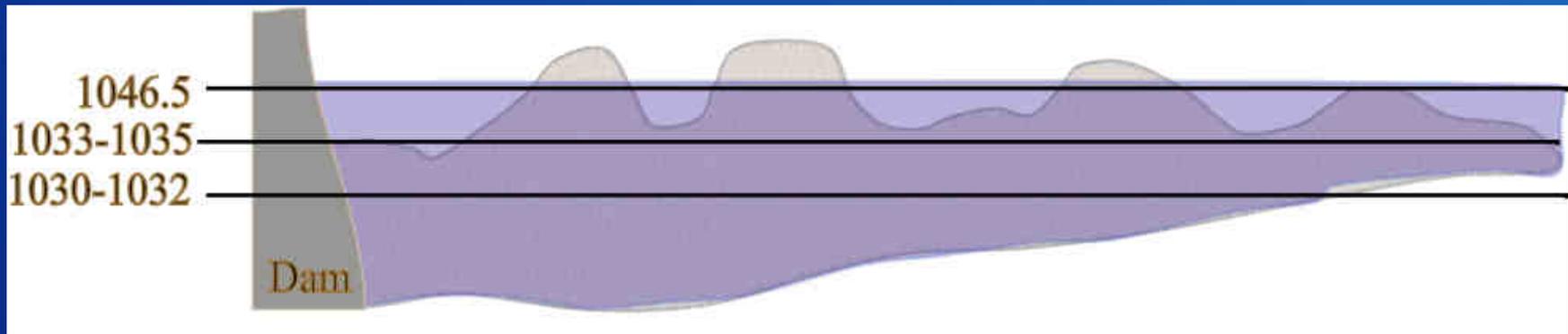
# Banks Lake



- Draw down to 1563'
- Draw down below 1563'
- Operational raise up to two feet (elevation 1572')

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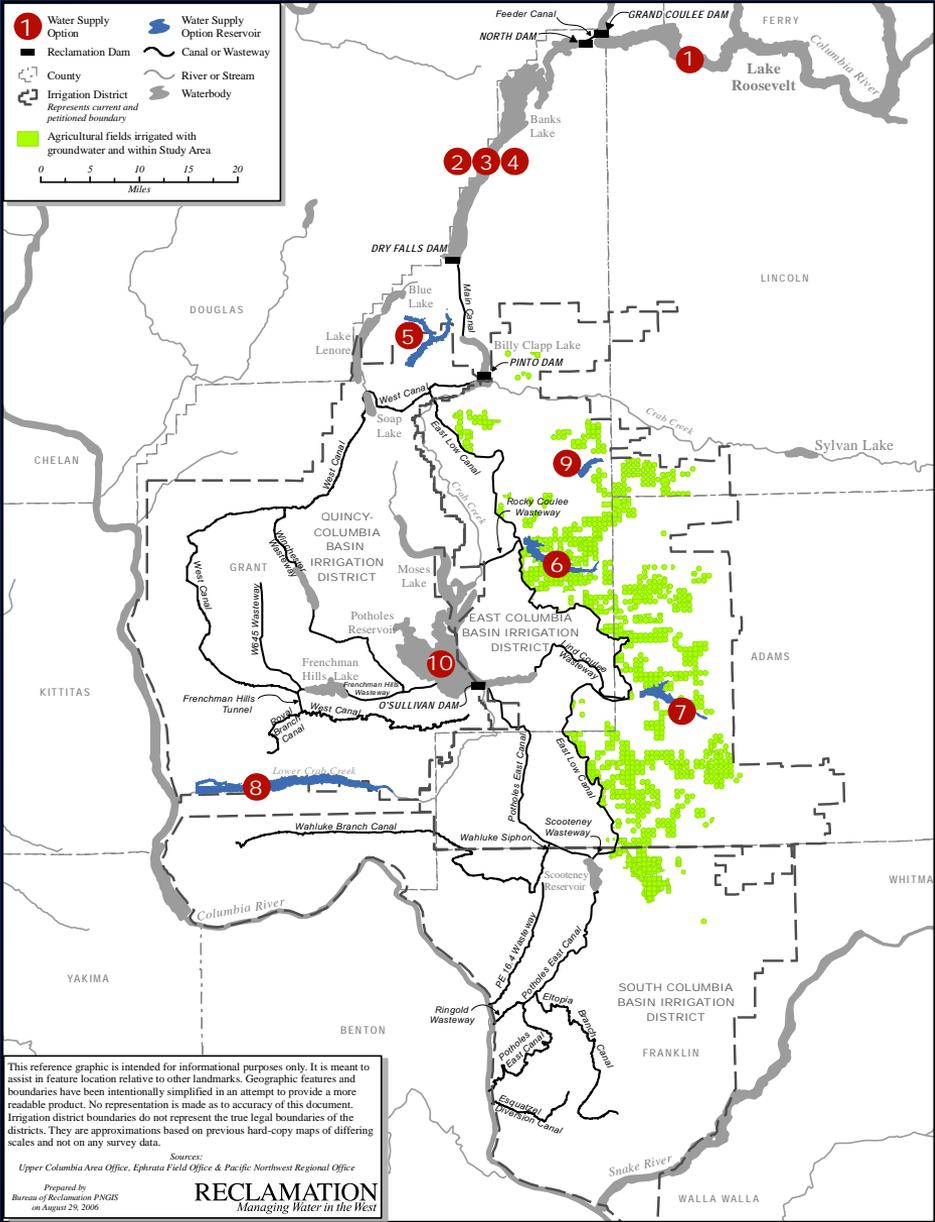
# Potholes Reservoir Reoperation



- Shift portion of spring feed to fall season when Columbia River water available in excess of ESA fish objectives
- Would raise winter operating level about 3 feet, requiring evacuation route

# New Water Storage Sites

- Dry Creek Coulee (5)
- Rocky Coulee (6)
- Lind Coulee (7)
- Lower Crab Creek (8)



# Estimated Groundwater Acreage By Water Supply Option

WATER SUPPLY OPTION		GROUNDWATER ACREAGE SUPPLIED	
		Acres	Percent
Banks Lake	<i>Draw down to 1563'</i>	Up to 39,000	32
	<i>Draw down below 1563'</i>	Up to 121,000	100
	<i>Operational raise of 2'</i>	Up to 16,000	13
Potholes Reservoir Reoperation		Up to 16,000	13
Dry Coulee Reservoir		Up to 121,000	100
Rocky Coulee Reservoir		Up to 42,000	35
Lind Coulee Reservoir		Up to 25,000	21
Lower Crab Creek Reservoir		Up to 121,000	100

# Next Steps

- 1) Appraisal-level analysis in process
- 2) Feasibility-level analysis
- 3) Environmental and regulatory compliance activities