

## ODESSA SUBAREA SPECIAL STUDY Columbia Basin Project

### STUDY UPDATE September 2006

*This Study Update reports progress on the Odessa Subarea Special Study since the last Study Update, issued in April 2006.*

#### STUDY BACKGROUND

The Bureau of Reclamation (Reclamation) is investigating continued phased development of the Columbia Basin Project (Project). The investigation, known as the Odessa Subarea Special Study (Study), will focus on Project development for the purpose of replacing groundwater currently used for irrigation in the Odessa Ground Water Management Subarea with surface water. This Study will not address full completion of the Columbia Basin Project, but does not preclude Reclamation from considering this in the future. Reclamation anticipates the Study will take five years, beginning in 2006, and will conclude with a planning report and the appropriate National Environmental Policy Act documents.

Congress has funded Reclamation to conduct this Study in response to the public's concern about effects associated with continued aquifer declines. The Washington Department of Ecology (Ecology) is a Study partner.

#### POTENTIAL ALTERNATIVE SOLUTIONS STUDY OVERVIEW

Reclamation conducted a Project Alternative Solutions Study (PASS) to identify engineering concepts, and develop and evaluate alternative solutions. This Study Update summarizes the PASS and resulting recommendations. More detailed information about the PASS is contained in a report entitled Initial Alternative Development and Evaluation. The report and other background information can be accessed on Reclamation's website ([www.usbr.gov/pn/](http://www.usbr.gov/pn/)) or by contacting the Study Manager. Contact information is provided at the end of this Study Update. The PASS involved the following general steps and team activities.

##### *1) Identify objectives.*

An Objectives Team, comprised of various stakeholders in the Study area including Federal and State agencies, local governments, Tribes, Project irrigation districts, groundwater irrigators, and others, met in February 2006 and identified the seven objectives listed below.

##### PASS Objectives

- Replace all or a portion of current groundwater withdrawals within the Columbia Basin Project area of the Odessa Ground Water Management Subarea with Project water.

- Maximize use of existing Columbia Basin Project infrastructure.
- Retain the possibility of full Columbia Basin Project development in the future.
- Address Endangered Species Act (ESA) issues, including the National Marine Fisheries Service’s Columbia River seasonal flow objectives for salmon and steelhead and potential impacts to shrub-steppe habitat.
- Provide environmental and recreational enhancements.
- Minimize potential delay in the study schedule.
- Be developed in phases based on funding expectations, physical and operational constraints, and rate of groundwater decline.

These objectives were used later in the PASS to rate or evaluate potential alternatives based on their ability to accomplish each of these objectives. Specifically: “How do the alternatives differ in the ability to...?”

**2) *Collect data and conduct analyses.***

A Support Team, comprised of technical experts from Reclamation and Ecology, compiled available data relevant to the PASS objectives and conducted analyses to assist later alternative development and evaluation.

**3) *Compile engineering concepts.***

Reclamation compiled a list of initial engineering concepts from public input received during the February 2006 public meeting, written correspondence from the public, and a review of previous related investigations. This list served as a starting point for alternative development.

**4) *Develop and evaluate alternatives.***

A Technical Team, comprised of experts from Reclamation, Ecology, and the Columbia Basin Project irrigation districts, reviewed the concepts and developed ten water delivery alternatives and several water supply options. The Technical Team then evaluated the ten alternatives using the objectives and available information. Four water delivery alternatives were recommended for further analysis. A list of possible water supply options was also developed.

**5) *Document evaluation and results.***

The Technical Team prepared a report that documents the PASS methodology, assumptions, and recommendations (see Initial Alternative Development and Evaluation report).

**KEY PASS ASSUMPTIONS**

The PASS Technical Team identified and developed numerous assumptions which guided alternative development and evaluation. Some key assumptions are summarized here.

*Groundwater Irrigated Acres in Study Area*

Reclamation can only deliver water to lands authorized to receive Columbia Basin Project water. This area does not encompass the entire Odessa Ground Water Management Subarea as defined by Ecology. About 170,000 acres within the Odessa Ground Water Management Subarea are presently being irrigated with ground water. About 121,000 of these acres are located in the area that is authorized or eligible to receive water from the Columbia Basin Project.

Availability of Columbia River Water

Additional Columbia River diversions beyond what is currently diverted for the Project will be required to replace groundwater pumping in the Study area. However, diversions will be restricted at times because of flow objectives for fish listed under the ESA and other requirements.

The National Marine Fisheries Service has identified seasonal flow objectives for the Columbia River downstream from Priest Rapids, McNary, and Bonneville Dams to facilitate downstream passage of juveniles, and to accommodate chum spawning and returning adult salmon and steelhead listed under the ESA. These flow objectives have been in place since 1995. The PASS assumed Columbia River water could not be diverted unless flows exceeded these flow objectives. In addition, the State has recently passed a law that no new Columbia River diversions can occur in July or August without a replacement water supply.

Reclamation conducted an analysis using hydrologic model data to determine how much water might be available for diversion from the Columbia River at times that would not affect these ESA flow objectives. The analysis concluded that there is no water available for diversion during August of any year. In drier years, there is no water available for diversion during the months of April through August. However, even in drier years there is significant water available for diversion during September, October, December, and January. The results of this analysis became an important assumption in determining water availability and the water supply options described later.

**PASS RECOMMENDATIONS**

The PASS resulted in the recommendation of four water delivery alternatives and identification of several water supply options that are summarized below.

Water Delivery Alternatives

Alternatives A through D propose possible infrastructure to deliver surface water to lands presently irrigated with groundwater in the Study area.

Alternative A - Construction of an East High Canal system sized to serve the current groundwater irrigated lands.

Alternative B - Development of the northern portion of an East High Canal system and enlargement and partial extension of the East Low Canal south of Interstate 90.

Alternative C - Enlargement and partial extension of the East Low Canal south of Interstate 90.

Alternative D - Construction of distribution facilities to serve lands north of Interstate 90 from the existing East Low Canal.

Conceptual representations of each alternative are attached to this Study Update. The following table summarizes key information for each.

Alternative	Groundwater Acreage Supplied		Estimated Water Supply Needed (acre-feet)
	Acres	Percent of Total	
A	121,000	100	520,000
B	121,000	100	470,000
C	73,000	60	260,000
D	48,000	40	160,000

### Water Supply Options

The Technical Team developed a list of water supply options that could provide a replacement surface water supply to current groundwater irrigation in the Study area. These options, listed below, include relying on existing reservoirs within the Columbia Basin Project, adjusting current Project operations, and/or constructing new storage facilities:

- Drawdown or raise operational level of Banks Lake
- Reoperation of Lake Roosevelt
- Reoperation of Potholes Reservoir
- Canal system efficiency improvements
- Potential new storage at:
  - Dry Coulee
  - Rocky Coulee
  - Lind Coulee
  - Lower Crab Creek

The Initial Alternative Development and Evaluation report, referenced earlier, provides specific information about these options.

Reclamation concluded that, although technically feasible, further drawdown of Lake Roosevelt is not a viable option at this time because of a signed Agreement-in-Principle between the State of Washington (State) and the Confederated Tribes of the Colville Reservation (signed January 4, 2005, extended November 9, 2005). This Agreement-in-Principle outlines the basis for Tribal support of new drawdowns at Lake Roosevelt. This document also commits the State to not seek further drawdowns beyond those described in the agreement.

### **FUTURE ACTIVITIES**

Reclamation will conduct an appraisal-level analysis of water delivery Alternatives A through D and water supply options recommended in the PASS to determine engineering feasibility and to identify potential environmental, social, and cultural effects associated with each. The purpose of the appraisal-level analysis is to refine alternatives and determine if there are any major issues or constraints that indicate further study of an alternative or option is not warranted. The appraisal-level analysis is anticipated to take six months to one year to complete.

### **PUBLIC INFORMATION MEETING**

Reclamation will host an information meeting to review the PASS report recommendations, answer questions, and collect public feedback on October 11, 2006, in Moses Lake, Washington. The meeting will begin at 7 PM at the Big Bend Community College, Advanced Technologies Education Center, 7611 Bolling Street.

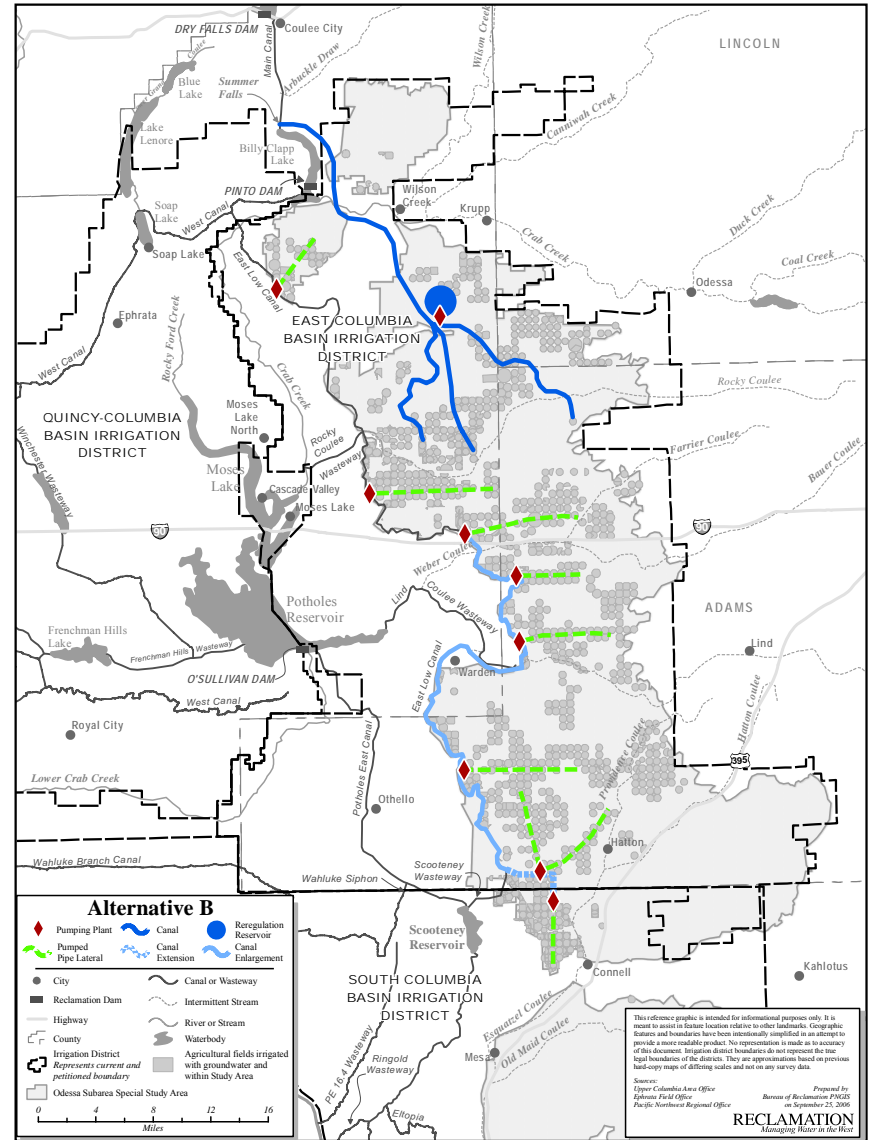
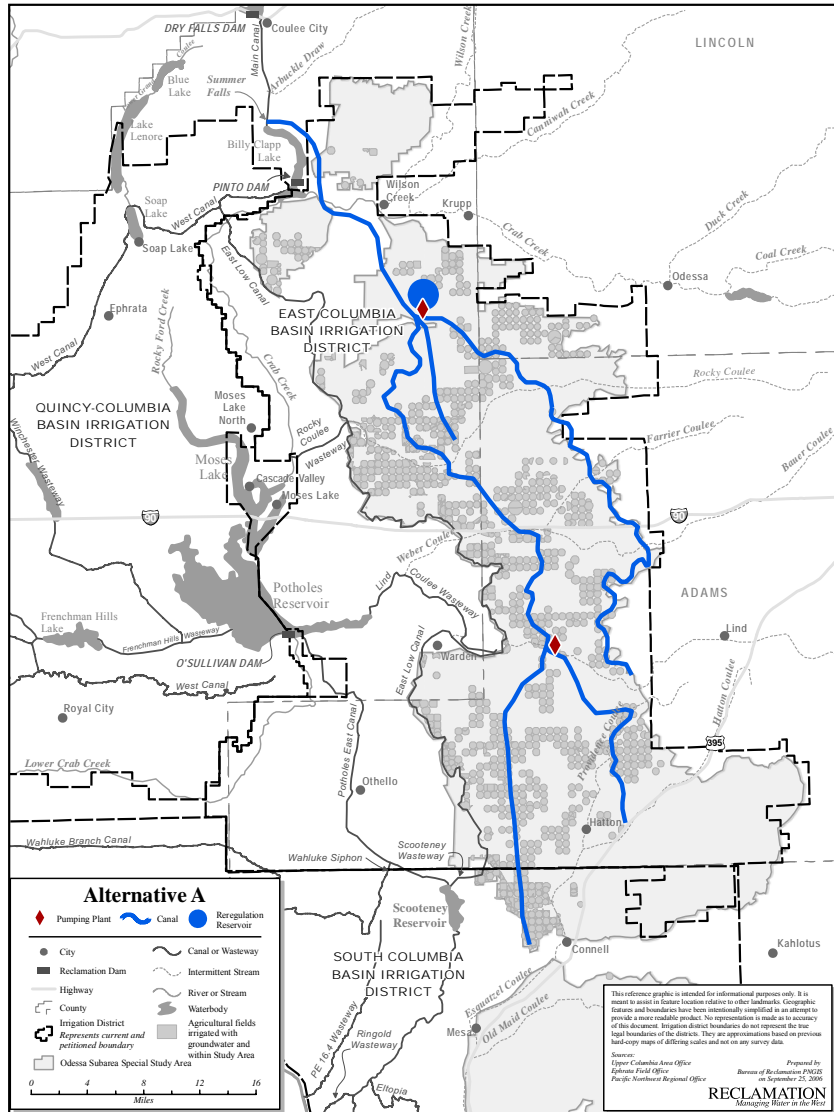
#### **For More Information**

We will continue to provide you updates about Study progress and the availability of reports and other documents. If you have any comments or questions, please contact Ellen Berggren, Study Manager.

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# CONCEPTUAL REPRESENTATIONS OF WATER DELIVERY ALTERNATIVES A THROUGH D.



# CONCEPTUAL REPRESENTATIONS OF WATER DELIVERY ALTERNATIVES A THROUGH D (continued).

