

## **Basin Study Program Semi-Annual Basin Study Status Report**

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**Name of Study: Upper Deschutes River Basin Study**

**Study Manager: Mike Relf**

**Date: July 29, 2016**

### **1) What is the general status of the study?**

The Deschutes Basin Board of Control (DBBC) is the non-Federal cost-share partner for the Upper Deschutes Basin Study (Study) and is acting on behalf of, and as the fiscal agent for, the Basin Study Work Group (BSWG). Reclamation and BSWG completed the Plan of Study (POS) and Memorandum of Agreement (MOA) in May 5, 2015. Since that time, BSWG finalized contracting processes to assemble the non-Federal study team. Reclamation and BSWG study team members are underway on study tasks in accordance with a Project Management Plan (PMP). The study is scheduled for completion in the spring of 2018.

### **2) What stakeholder participation has taken place since last status report?**

For the period from January through June 2016, BSWG has held four Steering Committee meetings, each of which involved representatives participating on behalf of a wide range of interests including fisheries and environmental groups, irrigated agriculture, municipalities, recreation, government agencies, and others. Steering Committee meetings are open to the public and include a standing agenda item to receive public input or comments.

In addition, during this period BSWG representatives made 16 presentations about the Basin Study for a variety of interested organizations and agencies. Presentations were made for various interest groups, irrigation district boards, government entities, conferences, etc. The Communications Subcommittee established by Reclamation and BSWG are also working to coordinate Basin Study outreach with similar communication efforts associated with other water-related initiatives in the basin.

### **3) What tasks listed in the Plan of Study have been completed since last status report?**

Specific tasks completed during the January-June 2016 time frame are summarized below:

- BSWG held Steering Committee meetings on February 2, March 1, April 5, and June 7, 2016; Communications Subcommittee and Technical Working Group meetings were also held to address task-specific issues.
- The Basin Study website (<http://www.usbr.gov/pn/studies/deschutes/index.html>) has been maintained and updated with notes, documents, and links. Communications materials have been completed for use in Study outreach efforts, including a brochure, PowerPoint presentation, and related graphics.

- Climate projections have been selected for assessments of climate change in groundwater and surface water hydrologic modeling. Five CMIP5 climate change projection scenarios have been selected for two periods (2040s & 2060s).
- An interagency agreement was developed and executed to support work by the USGS on development and calibration of the GSFLOW model to be used in Study analyses for the Upper Deschutes. Reclamation staff has initiated work with the preliminary GSFLOW model provided by the USGS.
- Reclamation's RiverWare model has been updated re: water rights, diversions, etc. and is considered complete and ready for use in evaluating water management strategies.
- Work is underway on engineering assessments of water conservation opportunities. A consultant to BSWG completed a draft technical memorandum presenting results from a water conservation literature review. BSWG continues to coordinate closely with FCA, an entity that is completing relevant water conservation assessments in a separately-funded effort.
- A technical working group met in January for the ecological assessment of streamflow/habitat for the Upper Deschutes basin. A consultant to BSWG has collected and analyzed data to prepare a draft technical memorandum on habitat suitability criteria for Oregon spotted frog and redband trout.
- Under contract to BSWG, regression evaluations of streamflow/temperature relationships have been completed for the Middle Deschutes, Tumalo, and Whychus Creek areas.
- The Steering Committee confirmed an additional task to complete CE-QUAL temperature modeling specific to Prineville Reservoir in the Crooked River basin. BSWG developed and executed a contract with Portland State University to begin the analyses.
- BSWG and Reclamation worked on specific Crooked River tasks addressing: hydrologic forecasting approaches; potential additional SNOTEL sites; and options for improving measurement at key diversions.
- Consultants to BSWG have completed specific tasks relating to legal, policy, and economic factors affecting water management opportunities. Draft technical memoranda have been prepared for existing water demands and for legal and policy issues associated with storage and reservoir optimization. A water user survey was prepared and issued to assess willingness to pay/willingness to accept, aimed toward understanding opportunities within irrigation districts for temporary water markets.
- A technical working group met in January to confirm the scope for assessment of potential structural storage opportunities in the Upper Deschutes, Crooked, and Whychus basins. Reclamation completed an initial draft compilation of potential concepts for new storage opportunities, as well as a draft approach/criteria for qualitative evaluations. The working group met again in June to review concepts and plan next steps.
- BSWG and Reclamation coordinated with the Oregon Water Resources Department (OWRD) on the State's new Place-Based Planning program, which shares many objectives and elements with the Basin Study program. The Steering Committee determined to maintain close coordination with OWRD as the Basin

Study proceeds and to consider opportunities to work more closely with the State's program as the Basin Study wraps up.

- Reclamation's Study Manager provided the Reclamation study team with status updates and coordinated with team members on task assignments.
- Reclamation's Study Manager and the non-Federal Study Leads continued collaboration on implementation of the Study Project Management PMP.

#### **4) What are the planned tasks listed in the Plan of Study for the next reporting period?**

During the next reporting period of July through December 2016, work is scheduled for many of the technical Study tasks as indicated in Figure 1 below. More specifically, progress during that period is scheduled to include:

- Continued Steering Committee and technical working group meetings, Communications Subcommittee work on outreach, and collaboration on PMP implementation.
- Receipt of the calibrated Upper Deschutes GSFLOW model from the USGS, finalization of the Crooked River VIC model calibration, and selection of three specific climate change scenarios in one time period for water resources model simulations.
- Definition of the remaining scope of work to be completed under the water conservation task and initiation of associated work by the BSWG consultant.
- Completion of riparian habitat analyses and development of a draft technical memorandum for the Upper Deschutes Ecological Assessment.
- Completion of CE-QUAL temperature simulations for Prineville Reservoir and the Crooked River by Portland State University; determination of if/how Reclamation may complete additional CE-QUAL simulations, pending scope and budget approval by the Steering Committee
- Completion of technical memoranda for specific Crooked River topics (forecasting approaches, SNOTEL sites, and diversion measurement).
- Continued progress on legal, policy, and economic issues, including relevant technical memoranda.
- Definition of the approach for next steps in assessment of new storage opportunities, along with related progress. This is anticipated to include reconnaissance-level assessment of one or more storage concepts in the Upper Deschutes and Crooked River basins, as possible per available budgets.
- Initiation of water resource management scenario development.

#### **5) Is the study on schedule to be completed within two (*now three*) years of the signing of the Memorandum of Agreement? Have all of the tasks listed in the Plan of Study that were scheduled to be initiated by this point in time been initiated? Have all of the tasks listed in the Plan of Study that were scheduled to be completed by this point in time been completed?**

Work has been initiated in accordance with the schedule identified in the POS and is currently on track for tasks scheduled for the next reporting period. The schedule for

completion of groundwater and surface water hydrologic modeling will be adjusted to reflect ongoing development of GSFLOW and VIC tools. The overall study schedule anticipates completion of the Basin Study within three years following the May 2015 effective date of the MOA, per guidance in the current Directive and Standard.

**6) Are there any issues, concerns, or problems regarding this study?**

In order to establish representative baseline conditions and project potential future water management scenarios, the Basin Study will need to appropriately account for developments in ongoing processes in the basin. Such processes include work on the Habitat Conservation Plan and litigation related to the Oregon spotted frog.

As study tasks progress, it will be important to track and control scope and budgets for both Reclamation and BSWG tasks while maintaining the broad-based stakeholder engagement (re: environmental, agricultural, and municipal needs) that has been a foundation for the Basin Study.

**Financial Status Report**

BSWG/DBBC has provided the following information documenting all components of the non-Federal cost-share during the period from January through June 2016, including non-Federal cash disbursements or outlays specifically identifiable to the basin study and payments to sub-recipients and contractors:

<b>BSWG Costs paid to:</b>	<b>Amount</b>
Anderson Perry	\$30,897.78
Law Office of Eileen Eakins	\$320.00
Special District Insurance Services	\$967.00
Watershed Professionals Network	\$69,918.12
River Design Group	\$40,784.01
Upper Deschutes Watershed Council	\$10,000.00
Ecosystems Economics	\$33,609.35
GSI Water Solutions, Inc.	\$35,820.00
Deschutes River Conservancy	\$16,760.00
<b>TOTAL</b>	<b>\$239,076.26</b>

With consideration of non-Federal costs as reported in the prior status report (\$190,702), overall non-Federal costs for the Study through June 2016 total \$429,778.

Reclamation began incurring expenses against its \$750,000 cost-share budget following execution of the MOA on May 5, 2015. Reclamation expenditures through June 2016 total \$183,847, as summarized below.

<b>Reclamation Task</b>	<b>Budget</b>	<b>Total Spent</b>	<b>% Spent</b>	<b>% Complete</b>
Project Management/Meetings	\$110,000	\$44,255	40%	36%
Reporting/Communications	\$45,000	\$4,786	11%	10%
Climate Change/Hydrologic Modeling <ul style="list-style-type: none"> <li>• Climate Projections (\$20K)</li> <li>• Hydrology/Groundwater Modeling (\$55K)</li> <li>• Update &amp; Develop Water Resource Model (\$55K)</li> <li>• Model Scenarios (\$70K)</li> <li>• Addl. USGS Assistance (\$20K)</li> </ul>	\$220,000	\$110,548	50%	50%
Storage Evaluations	\$70,000	\$19,683	28%	25%
Water Quality	\$40,000	\$0	0%	<5%
Task Evaluations/Input <ul style="list-style-type: none"> <li>• Task Input/Review (\$65K)</li> <li>• Reservoir Optimization (\$25K)</li> <li>• Develop Scenarios (\$100K)</li> <li>• Technical Sufficiency Review (\$25K)</li> </ul>	\$215,000	\$4,575	2%	<5%
Scope Reserve	\$50,000	\$0	0%	--
<b>TOTALS</b>	<b>\$750,000</b>	<b>\$183,847</b>	<b>25%</b>	<b>25%</b>

**Figure 1: Projected Task Schedule, Upper Deschutes River Basin Study**

