

# ***HOOD RIVER BASIN STUDY STATUS UPDATE***

June 1, 2013

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## *Jun1, 2013 Status Update*

This document provides an update of the Hood River Water Planning Group’s (HRWPG) efforts from mid-January to March 1, 2013 associated with the Bureau of Reclamation’s (Reclamation) Hood River Basin Study and the Oregon Department of Water Resources (OWRD) Hood River Basin Surface Water Storage Feasibility Study. The objectives outlined in Reclamation’s Plan of Study for this effort are:

1. Define current and future basin water supply and demands, with consideration of potential climate change impacts;
2. Determine the potential impacts of climate change on the performance of current water delivery systems (e.g., infrastructure and operations);
3. Develop options to maintain viable water delivery systems for adequate water supplies in the future; and
4. Conduct an analysis and modeling scenarios of the options developed, summarize findings and make recommendations on preferred options.

The Hood River Basin Study is conducted with Reclamation and Hood River County (HRC) through in-kind services and the OWRD study was contracted to Herrera, Watershed Professionals Network (WPN), and Normandeau with coordination of the two studies by HRC. The studies have similar objectives and the key tasks from these studies overlap so Table 1 clarifies each task and the parties involved with completing each task. In the following sections, each task is briefly defined and the to-date progress associated with each task is described.

**Table 1. Key tasks associated with the Reclamation and OWRD studies and the responsible parties associated with each].**

| <b>Key Task</b>               | <b>Responsible Party</b>                |
|-------------------------------|---|
| Groundwater Modeling          | Reclamation with assistance by HRC      |
| Climate Change Analysis       | Reclamation and WPN                     |
| Water Storage Assessment      | Reclamation, WPN with assistance by HRC |
| In-stream Flow Assessment     | Normandeau                              |
| Water Needs Assessment        | Herrera/WPN                             |
| Water Conservation Assessment | Herrera/WPN                             |
| Water Resources Modeling      | Reclamation                             |

### **OVERALL CONSIDERATIONS**

No new updates.

## **GROUNDWATER MODELING (JENNIFER JOHNSON, JON ROCHA)**

1. A presentation showing groundwater modeling progress was given to the HRWPG on May 1. The presentation focused on the water budget formulation process and touched briefly on the steady state modeling progress.
2. Construction and calibration of the steady-state MODFLOW model is near completion and a document outlining the process and the underlying assumptions used in the model is being drafted for review. The document will be made available after final review by the USGS.
3. A presentation showing the nearly complete steady-state model was given to the groundwater subgroup on May 20. The presentation focused on the construction and calibration of the steady-state model. A conversation regarding the scenarios that will be simulated through the models was also initiated during this presentation.
4. Construction and calibration of the transient MODFLOW model is in progress. Regular meetings are being conducted with the USGS to ensure that the modeling assumptions and methodologies used in the process are in line with sound groundwater modeling practices.
5. Formulation of the scenarios to be simulated by the models are in progress.

## **CLIMATE CHANGE ANALYSIS (BOB LOUNSBURY, TONI TURNER)**

1. Reclamation received Linveh et al extended dataset from UW. The dataset covers the period 1915-2011. Reclamation configured DHSVM to use this extended dataset and along with WPN attempted model calibration, unsuccessfully.
2. WPN contacted UW and secured Ted Bohn to assist in DHSVM calibration. Reclamation provided some initial funding to support his work.
3. Ted Bohn has significantly improved the calibration, there were a wide range of issues with model parameters and input data that Ted quickly identified and corrected. He is currently focusing on calibrating to late summer flow.

## **WATER STORAGE ASSESSMENT (DOUG BENNETT AND ROGER WRIGHT)**

No new update.

## **RESERVOIR MODELING (TONI TURNER)**

1. Initiating unregulated model week of June 3 (to determine gains between specific nodes).
2. Once DHSVM model is calibrated and flows are corrected or “trained” to gages, will use inflows generated from DHSVM for input into MODSIM.
3. Waiting on finalized Needs Assessment to include values from that work into the water resources model.

## **IN-STREAM FLOW ASSESSMENT (NORMANDEAU)**

**COMPLETED**

**NEXT STEPS**

## **WATER NEEDS ASSESSMENT (HERRERA/WPN)**

**COMPLETED**

**NEXT STEPS**

## **INTERACTIVE MAP OF HOOD RIVER BASIN (GOOGLE EARTH OR ARC EXPLORER)**

## **WATER CONSERVATION ASSESSMENT (HERRERA/WPN)**

## **GROUNDWATER MONITORING PROGRAM (HRC/MATTIE)**

**COMPLETED**

**NEXT STEPS**

# **CROP AND IRRIGATION SYSTEM INVENTORY (HRC/MATTIE)**

**COMPLETED**

**NEXT STEPS**