

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

December 1, 2013

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*Completed* ..... 6

*Next Steps* ..... 6

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*Completed* ..... 6

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## *December 1, 2013 Status Update*

This document provides an update for work completed during the month of November 2013 on the Hood River Water Planning Group's (HRWPG) efforts 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**

1. December 4 meeting will include a presentation from Taylor on ModSim results and from Jon and Jennifer on groundwater results.

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

### **COMPLETED**

1. Completed scenario modeling.
2. Presented modeling results to the groundwater subgroup.

### **NEXT STEPS**

1. Continue working on documentation.

## **DHSVM (TAYLOR DIXON, BOB LOUNSBURY)**

### **COMPLETED**

1. Collaborated with UW to generate simulated historical natural flows from UW.
2. Investigated need for bias corrections of simulated historical natural flows using stream gauge data and USGS regional regression statistics for ungauged reaches. Applied conservative adjustments along headwaters of East Fork and Middle Fork.
3. Collaborated with UW to generate simulated future natural flows using adjusted forcings for all five climate characterization scenarios.
4. Evaluated simulated future natural flows for all climate scenarios, and selected three that provided the largest range of annual and seasonal flow changes.
5. Applied simulated natural flows for historical (i.e. baseline) and future conditions in regulated MODSIM model to ensure modeled diversions and reservoir operations are appropriately accounted for.

### **NEXT STEPS**

1. Initial technical memo is being drafted, continue working on documentation.

## **CLIMATE CHANGE ANALYSIS (JON ROCHA, TAYLOR DIXON)**

### **COMPLETED**

1. Complete.

### **NEXT STEPS**

1. Continue working on documentation.

## **WATER RESOURCE MODELING (TAYLOR DIXON, TONI TURNER)**

### **COMPLETED**

1. Implemented suggested changes to regulated MODSIM model structure per requests of irrigation district managers.

2. Completed model runs for baseline conditions (i.e. simulated historical), and ran comparisons to observed historical conditions.
3. Performed preliminary model runs using simulated future natural flows for each selected climate change scenario, and ran initial comparisons to baseline results.
4. Developed list of metrics by which to analyze all model results by.

**NEXT STEPS**

1. Prepare results for baseline and future scenario runs according to agreed upon metrics.
2. Implement water resource alternatives and prepare results.
3. Continue working on documentation.

**REPORT WRITING (ALL)**

**COMPLETED**

1. Drafted some additional language in the main report.
2. Initiated drafting of the technical memo for the climate change document.

**NEXT STEPS**

1. Continue working on documentation.

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

**COMPLETED**

1. Task completed.

**NEXT STEPS**

1. Results from Water Storage Assessment will be used in the water resource modeling effort.

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

**COMPLETED**

**NEXT STEPS**

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

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**COMPLETED**

**NEXT STEPS**

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

**COMPLETED**

**NEXT STEPS**

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

**COMPLETED**

**NEXT STEPS**

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

**COMPLETED**

**NEXT STEPS**

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

**COMPLETED**

**NEXT STEPS**