

**The Oregon Water Conference 2011: Evaluating and Managing Water Resources in a Climate of Uncertainty**

Oregon State University – CH2M Hill Alumni Center – Corvallis, Oregon

OR Section, American Water Resources Association and OR Section, American Institute of Hydrology

## **Hydrologic Monitoring Session**

**Jolyne Lea, Chair**

**Tuesday, May 24**

**3:30 PM – 5:00 PM**

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**Tracking Oregon's Water Resources: An Overview of Available Data  
and a Pitch for a United Network**

**Richard K. Marvin, Lloyd VanGordon**

**Oregon Water Resources Department-Salem, OR**

ABSTRACT

Numerous sources of water resource data for Oregon can be found if one knows where to look. Traditional providers such as the US Geological Survey (USGS), the Natural Resource Conservation Service (NRCS), and the Oregon Water Resources Department (OWRD) have made great strides in recent years to make historical and near real-time data readily available to the public through user-friendly webpage interfaces. But what about lesser known networks such as those run by counties, watershed councils, and university researchers? In this discussion, I plan to highlight lesser known resources around the state and to make the case that there's a need for a central clearinghouse, perhaps at one of the state universities, where one can go to learn about the various networks, view data-collection locations using an interactive map, and link to sites where datasets can be downloaded. If the data are not available on the web, then contact information can be provided for the entity that maintains a given network.

**Keywords:** Water data; Oregon web network

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**Wolf Creek Monitoring**

**Daniel Dammann**

**Bureau of Land Management-Roseburg District, Roseburg, OR**

**ABSTRACT**

The Wolf Creek Restoration and Monitoring project is a large-scale restoration project that treated over 10 miles of stream with 900 logs and 3700 boulders over a two year period. Wolf Creek is a tributary to the Umpqua River west of Roseburg, Oregon. This presentation, designed for those involved in watershed (in-stream) restoration activities and monitoring, describes the monitoring effort associated with this project and how working with multiple partners has resulted in a robust, multifaceted monitoring approach, which will examine the effectiveness of improving aquatic habitat through in-stream restoration techniques. We know these techniques work, but how do you measure success? How do you quantify the improvements we make through these efforts? Wolf Creek will attempt to provide some answers to these questions. A summary of the monitoring methods used and some preliminary monitoring results will be presented. Use of total station mapping of restoration reaches compared to control reaches will be highlighted. As well as the use of photo points, stream temperature data, and biological monitoring.

**Keywords:** Aquatic restoration; Monitoring; Effectiveness

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**Oregon Stream Gaging Network Evaluation:  
Meeting the Oregon Water Resources Department's Current and Future Data Needs**

**Jonathan L. La Marche**

**Oregon Water Resources Department, Bend, OR**

**ABSTRACT**

Oregon's stream gaging network was last evaluated in 1970 by the U.S. Geological Survey. Water management and scientific-related needs have changed significantly since 1970, including the recognition of instream water rights and implications of climate change on water resources. The Oregon Water Resources Department (OWRD) has recently undertaken an evaluation of the state's stream gaging network in order to meet OWRD current and future data needs.

The OWRD goals (or data needs) for the stream gaging network are broadly grouped into those associated with water management and those associated with scientific purposes. The water management goal for the gage network is to provide discharge data required for timely and effective distribution of water by the state, and to meet conjunctive use management needs. The scientific goals include providing discharge data for: 1) regional regression analysis; 2) defining hydrologic systems; 3) accurate forecasts; and 4) long term trend analysis.

The management component of the gaging evaluation is complete and is under internal peer review. A qualitative approach was used in the evaluation after quantitative methods proved difficult due to variability in regulatory settings across Oregon. Over 1,000 watersheds, storage facilities, diversions and stream reaches were examined in the management component of the gage network evaluation. The evaluation identified 225 locations needing stream gages to meet OWRD's water management goal. Currently there are active gages at 155 of these locations, leaving 70 sites where new gages are needed for surface water management. Of these locations, 31 were designated as high priority sites due to their regulatory, environmental, and logistical setting. These locations were predominately located in the south central and south eastern part of the state.

The stream gaging network is currently meeting today's conjunctive-use management needs. However, there are 26 identified sites that may need monitoring to meet future conjunctive-use needs, pending further study. Currently gages are in operation at 19 of these sites for other reasons.

**Keywords:** Stream gaging; Stream gaging network evaluation