



Oregon

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MEMORANDUM

TO: Water Resources Commission

FROM: Debbie Colbert, Field Services Division Administrator
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SUBJECT: Agenda Item D, September 10, 2009
Water Resources Commission Meeting

Stream Network Evaluation Progress Report

I. Issue Statement

The Water Resources Department has undertaken an evaluation of the State's stream gaging network. The evaluation consists of the following steps: 1) establish the goals of the OWRD stream gaging program, 2) determine appropriate metrics to evaluate these goals, 3) document the purpose of each gage (e.g., forecasting, management, etc) for both active and discontinued gages, 4) evaluate how information from these gages (including discontinued sites) meets the State's goals, and 5) identify data gaps, redundancies, and current high value gages in the network. The evaluation will determine if the gaging network is meeting current state needs and help describe an optimum network given staff and budget constraints. The evaluation also considers non-OWRD operated gages (e.g., United States Geological Survey, USGS) as well as monitoring alternatives to stream gaging.

II. Background

The stream gaging network in Oregon was last formally evaluated in 1970 by the USGS. Although several national gaging network evaluations have been performed since 1970 (all by the USGS), none have specifically focused on Oregon or on the State's specific interests. The objectives of the USGS stream gaging effort are often broader than the State's, and the management of water rights (a primary state objective) is not a consideration in the USGS gaging efforts. Since the 1970 USGS evaluation, several new water resource and management related issues in Oregon. For example, the recognition of instream flows as a beneficial use and the associated granting of instream water rights (including transfers and leases) is an additional consideration for water management. There are also new considerations such as the continued development of the groundwater resource, the potential to impact senior surface water right holders from this development (through groundwater/surface water interactions), and the potential climate change effects on the State's water supply. The gaging evaluation will ensure that State and its partners operate gages in locations critical to understanding and managing our water resources.

III. Progress

The goals of the OWRD gaging network have been established. These goals are to provide data necessary for:

1. Effective management and distribution of water.
2. Accurate regional hydrologic analysis.
3. Defining hydrologic systems.
4. Forecasting efforts.
5. Long-term trend analysis.
6. Other needs (legal obligations, etc).

Some of the criteria to be used in the evaluation of these goals have been established, while others are under development and internal peer review. All active OWRD and most active USGS gages have been inventoried as to their purpose of operation. In addition, many discontinued gages have also been inventoried.

Evaluation of the forecasting goal (item #4) has been completed with cooperation from related federal agencies such as U.S. Bureau of Reclamation, National Oceanic and Atmospheric Administration, National Weather Service, and U.S. Army Corps of Engineers. This part of the evaluation has been internally peer reviewed. This part of the assessment identified optional locations for three additional gaging stations.

The evaluation for water management (item #1) has been completed and a draft report written. This part of the evaluation complements the Department's strategic measurement plan in that it also examines how the Department monitors water in the context of the active stream gaging network. Numerous locations were identified for potential gaging and given a general priority ranking. Alternative stream gage locations were also examined. The report and analysis are currently undergoing internal peer review.

IV. Summary

The OWRD stream gage network evaluation is underway. Significant amounts of background data on the current and historic gage network configurations have been compiled. Gages that fulfill multiple purposes have been identified through this process. The assessment of the forecasting goal is complete, while the water management evaluation is under internal peer review. The criteria and evaluation for monitoring of long term trends (item #5) is slated for completion next.

V. Conclusion

This report is informational only. No Commission action is required.

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