



# Oregon

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## Water Resources Department

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### MEMORANDUM

**TO:** Water Resources Commission

**FROM:** Dave Jarrett  
Acting Administrator Field Services Division

**SUBJECT:** Agenda Item G, July 28, 2005  
Water Resources Commission

### Water Measurement – Significant Diversions

#### I. Introduction

In 2000, Department staff were tasked with inventorying and assessing certain diversions statewide. That work was focused in areas designated as high priority for flow restoration and fishery needs. Diversions in those areas greater than a certain size or with a permit condition requiring measurement were considered as “significant points of diversions” and were included in this effort. At the April 2005 Commission meeting, the Department reported its progress on the significant point of diversion inventory and field assessments. With the inventory and assessment largely complete, this staff report provides the Department’s approach for moving forward on this project.

#### II. Background

In 2000 the Commission considered the issue of water measurement at two separate meetings. Staff followed up with staff reports recommending a strategy for improving water measurement statewide. In 2000, the WRC endorsed a strategy for statewide water measurement. The history and progress made to date on the full water measurement strategy are provided in the attached April 2003 (Attachment 1) and April 2005 (Attachment 2) staff reports.

The Commission’s water measurement strategy included a program to inventory and complete field assessments of significant points of diversions. To that end, the Department completed a statewide inventory of significant surface water diversions. Significant water diversions were characterized as:

1. Surface water diversions that are required by the Department to measure through a water right condition; or
2. Surface water diversions without a measurement condition that are:
  - a. Greater than 5 cfs; or
  - b. Greater than 10% of the lowest monthly 50% exceedance flow as defined in the water availability model, and greater than 0.25 cfs.

A central concept of the Commission's water measurement strategy was to focus limited staff on the largest diversions and diversions with the most impact on streams. Consistent with this concept, Department staff focused inventory and assessment work in high priority streamflow restoration watersheds identified by Oregon Department of Fish and Wildlife (ODFW) and Department staff.

The Commission's goal was to complete the inventory and assessment by April 2005. The initial inventory work was completed in 2001. To date, 2425 significant diversions have been identified in 293 high priority watersheds. As the assessment proceeds, the number of diversions is decreasing. The original total listed in previous reports (2567) was estimated on individual water rights. As water rights are linked to diversion points, multiple rights can share a single diversion, so the number of significant diversions is reduced. The latest estimate of significant diversion is approximately 2200 to 2300. According to water right records, 543 of these significant diversions are required by conditions in the water right to have a measuring device installed.

Field staff have completed about 65% of the field visits and data entry and continue to work on these tasks. Over 45% of the significant diversions are located in the Southwest Region. As a result, that region did not complete the field work by the April 2005 target. As we move forward in the rest of the state, the Southwest will continue to focus on completing the field assessments which may take up to an additional year.

### **III. Discussion**

#### ***Categories of Significant Diversions***

There are several categories of significant diversions to address as we move forward with the Commission's water measurement strategy: 1) significant diversions with a permit condition requiring water use measurement; 2) significant diversions with a headgate/measuring device required by the Commission for water use regulation; and 3) significant diversions without any measuring device condition or requirement.

The Department has two separate standards for measuring devices that can apply to significant diversions. If the device is required by a condition of the water right, then the standard is proof to the satisfaction of the Director. That standard has been met by various devices historically and continues to be evaluated for each water right. In most cases the measuring device is required to satisfy a public interest concern and not necessarily for regulation. Once proof is made, the measuring device requirement remains a condition of the water right.

The second standard for measuring devices would include those required by the Commission for the purpose of regulation. This authority is based on ORS 540.310 and provides a tool for requiring devices beyond what might be included in a water right. Watermasters have relied on this authority for decades for the installation of headgates, controlling devices, and measuring devices when needed for water use regulation.

An inter-divisional team within the Department is working on an internal guidance document describing what qualifies as a water measurement device. That group will work at bringing the two standards into closer agreement, reducing uncertainty among staff and water users.

In addition to the 543 significant diversions in the inventory with a permit condition requiring measurement, staff estimate that another 230 have a headgate/measuring device requirement based on ORS 540.310. The majority of the significant diversions, about 1500, do not have a measuring device condition or requirement.

### ***Approaches for Increased Measurement at Significant Diversions***

The Field Services Division was tasked with identifying strategies and next steps for the increasing measurement at significant points of diversion. As we enter the next phase of this effort, we are sensitive to water user concerns. Water measuring devices can be costly to install and maintain. Water users may also be apprehensive about these devices and often perceive them as a slippery slope to user fees or cancellation of water rights.

### **Significant Diversions with a Permit Condition**

From initial data, it appears that 50% of the diversions conditioned to require a measuring device were out of compliance. The initial data may overestimate that number since field staff may not have counted certain measuring devices that meet the proof to the satisfaction of the Director standard. Because of this discrepancy, staff will review water right files, field notes and revisit sites, if necessary, to confirm that a measuring device that meets the standard is in place. Watermasters will then send letters to the non-complying permit holders describing their obligation to measure water use and guidance on what device is necessary to comply with the permit condition. Examples include a power meter dedicated to a single pumped diversion point; a fixed orifice restricting flow to legal limits for diversions less than 5 gallons per minute; or a staff gage in a reservoir.

After the letters are sent, field staff will work watershed by watershed to bring these significant diversions into compliance. Proceeding one watershed at a time allows staff to focus on a small area and treat users consistently. We can further refine our efforts by focusing on the larger diversions within each watershed, or those that divert more than 0.25 cfs or store at least 9.2 acre-feet of water. Based on current estimates of significant diversions out of compliance with measuring device conditions, it will take up to two years to achieve compliance. Compliance can occur voluntarily or through formal enforcement action. During this process we must recognize timing issues for working in streams and compliance with permit requirements for other agencies such as Department of State Lands.

### Significant Diversions without a Permit Condition

There are over 1700 significant diversions in high priority areas without a permit condition to measure. About 1500 of those diversions have not been issued a headgate/measuring device notice by the Department. For those 1500 diversions, field staff will work with water users to increase measurement on a watershed by watershed basis, prioritizing watersheds by the number and size of diversions.

Initial efforts in each watershed will focus on public outreach and education. Staff will work with watershed councils, soil and water conservation districts, Oregon Farm Bureau, Oregon Department of Fish and Wildlife, Oregon Watershed Enhancement Board, and others to perform outreach to water users so they understand the benefits of water measurement and to identify cost-share funds to offset the cost of measuring devices. Depending on size and sophistication, water measuring devices can cost up to tens of thousands of dollars. Since funding for this effort has not been identified, it is difficult to estimate the number of measuring devices that can be added through education and voluntary efforts.

If other efforts fail to achieve installation of measuring devices, the Department may issue notices under ORS 540.310 requiring those devices. The law provides that the owner of a ditch or canal shall construct and maintain, when required by the Commission, suitable measuring at such points along the ditch as may be necessary. The Department may apply this authority to any diversion point or point of appropriation.

### **IV. Summary**

The Department continues to move toward the measurement goals previously identified in the Commission's strategy. With the exception of the Southwest Region, most site visits and data entry have been completed. Based on input from the Field Services Division, the Department has developed strategies that would increase measurement at significant diversions in high priority watersheds.

### **V. Recommendation**

This report is informational. While no action is required, Commission comments would be appreciated.

### **Attachments:**

1. Agenda Item II, April 17, 2003 Staff Report
2. Agenda Item L, April 15, 2005 Staff Report