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MEMORANDUM

TO: Water Resources Commission

FROM: Tom Paul, Deputy Director

SUBJECT: Agenda Item L, February 23, 2007
Water Resources Commission Work Session

Deschutes Basin Ground Water Mitigation Program Annual Implementation and Evaluation Report

I. Issue Statement

This report provides the 2005 and 2006 annual evaluations of the Deschutes Ground Water Mitigation Rules, OAR Chapter 690, Division 505; and the Deschutes Basin Mitigation Bank and Mitigation Credit Rules, OAR Chapter 690, Division 521. *This is an informational report only; no Commission action is required.*

II. Background

On September 13, 2002, the Commission adopted the Deschutes Ground Water Mitigation Rules and the Deschutes Basin Mitigation Bank and Mitigation Credit Rules. These rules implement Senate Bill 1033 (1995 Oregon Laws), HB 2184 (2001 Oregon Laws) and most recently HB 3494 (2005 Oregon Laws). The rules provide for mitigation of impacts to scenic waterway flows and senior water rights while allowing additional appropriations of ground water in the Deschutes Ground Water Study Area (See Attachment 1).

The three objectives of the Deschutes Basin Mitigation Program are to:

- Maintain flows for Scenic Waterways and senior water rights, including instream water rights;
- Facilitate restoration of flows in the middle reach of the Deschutes River and related tributaries; and
- Sustain existing water uses and accommodate growth through new ground water development.

The Deschutes Ground Water Mitigation Rules provide two options for ground water users to provide mitigation – completion of an individual mitigation project or acquisition of mitigation credits awarded by the Department based on the completion of a mitigation project. One mitigation credit equals one acre-foot of mitigation water.

The Deschutes Basin Mitigation Bank and Mitigation Credit Rules provide for the establishment of a mitigation credit system and mitigation banks to help facilitate transactions among holders of mitigation credits and persons interested in acquiring mitigation credits.

III. Discussion

Under the Commission rules, the Department is required to annually report on and evaluate implementation of the Deschutes Ground Water Mitigation Rules. The purpose of the evaluation is to determine whether scenic waterway flows and instream water right flows in the Deschutes Basin continue to be met on at least an equivalent or more frequent basis as compared to long-term representative base period flows established by the Department. Annual evaluations are done in coordination with the Oregon Department of Fish and Wildlife (ODFW), Department of Environmental Quality (DEQ), Department of State Lands (DSL), and Oregon Parks and Recreation Department (OPRD) and considers new ground water appropriations, streamflow monitoring, and mitigation activity. The Department is also required to annually report on the implementation and management of mitigation credits generated and allocated through existing Mitigation Banks.

The mitigation program in the Deschutes Ground Water Study Area continues to expand. Since the last update to the Commission in January 2005, numerous mitigation projects have been evaluated and approved, new ground water permits have been issued, and staff has become adept at the evaluation of mitigation projects and ground water permit applications specific to the Deschutes River Basin.

A. New Ground Water Appropriations and Mitigation Activities

Ground Water Appropriation Activity

- Permits Issued: Since adoption of the mitigation rules in September 2002, a total of 45 ground water permits, with associated mitigation, have been issued. Ground water permits issued per year were 1 in 2003; 18 in 2004; 7 in 2005; and 19 in 2006. Attachment 2 provides a breakdown of these permits by year and zone of impact.

- Applications with Final Orders: By the end of 2006, 28 ground water permit applications have been processed to the Final Order stage. Permits will be issued when the required mitigation or any other required information (such as permit recording fees) is provided. These applicants have five years from the issuance of the Final Order to submit the required mitigation.

- Pending Applications: There are another 51 pending applications for ground water use in the Deschutes Ground Water Study Area. Seven of the applications that currently have Proposed Final Orders have been protested. Attachment 3 provides a general breakdown of the pending applications and their status by zone of impact for both 2005 and 2006.

- Incremental Development Plans: In 2005 the Department approved the first ground water permit with an incremental development plan. An additional three permits with incremental development plans were approved in 2006. By rule, a permit applied for by a municipal or quasi-municipal applicant may be approved allowing the water user to supply mitigation over a period of time, incrementally, as the water use is developed. Mitigation covering the first stage of development must be supplied before the permit is issued. Additional mitigation is then supplied in advance of each stage of development. Each permit holder must have an incremental development plan on file with the Department and may amend that plan with prior approval by the Department.

Mitigation Activity

- Mitigation for the 45 ground water permits issued by the Department is being provided through instream transfers and instream leases.
  - In the first two years of the program, most mitigation water was provided from instream leases via the Deschutes Water Exchange (DWE) Mitigation Bank. This has been shifting in the last two years.
  - In 2005, there were 26 permits that required, accounting for incremental development, 575 acre-feet (AF) of mitigation water. Most of the mitigation water (322 AF) was still provided by instream leases via the DWE Mitigation Bank. However, 253 AF of mitigation water was supplied by instream transfers.
  - In 2006, mitigation water (465 AF) for the 45 permits (880 AF of mitigation need – accounting for incremental development) was provided primarily by instream transfers. The remaining balance of mitigation water (415 AF) needed was supplied by instream leases.
  - As required, in each year that the program has been in place, the DWE Mitigation Bank held another matching quantity of mitigation water (credits) in reserve in the appropriate zones of impact for each acre-foot of mitigation water used provide by instream leases.

- In 2005, there were 22 active mitigation projects. Then in 2006, there were 50 active mitigation projects. This is a marked increase from the four reported by the Department in 2003 and the 15 in 2004.

- Of the mitigation projects active in 2006, 42 were instream leases (submitted by the DWE Mitigation Bank) and 8 were permanent instream transfers (submitted by other parties).
  - Active mitigation projects in 2006 resulted in 4069 AF of mitigation water (credits) available in various zones of impact and 39 cubic feet per second (CFS) (10,103 AF) of water protected instream.
  - Attachments 4 and 5 provide a summary of ground water permit and mitigation activity for 2005 and 2006 by zone of impact and demonstrate that more mitigation is in place than required in each of the zones of impact in which new ground water permits have been issued.

- The DWE Mitigation Bank submitted annual mitigation credit transaction reports to the Department for the 2005 and 2006 calendar years.
  - In 2005, the DWE Mitigation Bank completed 23 mitigation credit transactions with ground water permit holders and permit applicants.
  - In 2006, the DWE Mitigation Bank completed 31 mitigation credit transactions with ground water permit holders and permit applicants. In 2006, the DWE Mitigation Bank also acquired their first permanent mitigation credits (40.0) from another mitigation credit holder.
  - No issues of concern were identified by the Department for either reporting period. The next annual report from the DWE Mitigation Bank is due in January, 2008, and the next annual review of the mitigation bank charter will likely occur later this spring.

- In May 2006, the Commission approved a bank charter for Deschutes Irrigation LLC., managed by John Short. This mitigation bank only deals with permanent credits and had no transactions during 2006.

- The Department is in the process of evaluating an additional 6 mitigation projects. These projects include an aquifer recharge project in the Middle Deschutes River subbasin and 5 permanent instream transfers. The aquifer recharge project has been protested and the Department is working with the applicant to resolve the protest. Three of the instream transfers are mitigation projects proposed by individual ground water permit applicants. Two of these are presently on administrative hold while the applicant explores other water supply options. All other projects have been proposed to establish mitigation credits.

- There are 2 permits that have switched in full from temporary mitigation credits to permanent credits through the help of the DWE and private interests. One other permit has switched partially to permanent mitigation credits.

Allocation Cap

In addition to the annual review of the mitigation program, the Commission is required to review the mitigation program prior to January 1, 2008, or upon reaching 150 CFS of the 200 CFS cap on new appropriations. This review is scheduled for the November 2007 Commission meeting. As part of this review, the Commission will evaluate the program to determine whether the 200 CFS cap should be lifted or otherwise modified. At this time, 47 CFS has been appropriated under the cap (Attachment 6).

B. Mitigation and Streamflow Monitoring

Department staff has developed a draft streamflow monitoring plan for the Mitigation Program. This draft plan was shared with the Commission as part of the 2004 annual report on the Mitigation Program. The primary objective of the plan is to track whether scenic waterway

flows and instream water right flows continue to be met on at least an equivalent or more frequent basis as compared to the long-term representative base period flows as determined by the Department. The purpose is also to ensure that the balance between ground water use in each zone of impact and mitigation is being maintained. The draft plan identified three tools, which would be used to monitor streamflows, mitigation, and ground water use in the Deschutes Ground Water Study Area.

The first of these tools is a computer program (the Deschutes Mitigation Model) developed by the Department to numerically estimate (i.e., model) the effects of mitigation and groundwater allocation and to calculate changes in the frequency instream requirements are met as a result of these effects. The model is based on historic stream flow for water years 1966 to 1995. In the model, the effects of mitigation and groundwater allocation are estimated and the historic time series of stream flows is modified according to those effects. The percent of time the instream requirements are met is calculated for both the original and modified time series. Whether an in-stream requirement is met is determined on a daily basis (using *mean* daily flows as the basis for comparison) and is reported as the percent of days the instream requirements are met both monthly and annually.

The Deschutes Mitigation Model shows that current applications for mitigation activities and groundwater allocations, if permitted, will cause the percent of time the instream requirement is met in the lower river (below Pelton Dam) to decrease slightly in winter months and to increase slightly in summer months. On an annual basis, the model shows that because of these mitigation activities the instream requirements in the lower Deschutes River will be met slightly more often (about 0.5%) than in the past.

The second tool is a database to aid instream flow monitoring and to determine whether the objectives of the rules are being met. This database is currently under development. The database is intended to track, by zone of impact, new ground water use and mitigation activity including mitigation credit transactions. A working system for tracking ground water use and mitigation activity is currently in place and is the primary basis for information presented in this report.

The remaining tool is the monitoring of yearly streamflow gage records. These records may not be useful for short-term evaluation due to a multitude of variables, but will be valuable as the Department continues to track and monitor mitigation in the basin to identify trends over the long-term.

IV. Summary

The Department continues to implement the Deschutes Ground Water Mitigation Rules and Deschutes Basin Mitigation Bank and Mitigation Credit Rules. Ground water permit applications and mitigation projects are moving through the required processes. The program is producing positive benefits as more mitigation water has been approved and protected instream than required for the 45 ground water permits issued. The Deschutes Mitigation Model shows

that because of these mitigation activities the instream requirements in the lower Deschutes River will be met slightly more often than in the past. Active mitigation projects in the General, Middle Deschutes, Whychus Creek (formerly named Squaw Creek), Little Deschutes, and the Crooked River zones of impact (locations of new ground water permits) have resulted in a surplus of mitigation water (credits), including the reserve mitigation credit obligation for those permits using temporary mitigation credits.

V. Recommendation

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

Attachments:

1. Deschutes Ground Water Study Area Zones of Impact Map
2. Permits Issued by year and by Zone of Impact
3. Status of Pending Ground Water Applications for 2005 and 2006 – Part A and Part B
4. Summary of Mitigation Activity for 2005 and 2006
5. Mitigation Provided by Subbasin and Zone of Impact fro 2005 and 2006 – Part A and Part B
6. Allocation Cap Summary for 2005 and 2006

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