



# Oregon

Theodore R. Kulongoski, Governor

## Water Resources Department

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## MEMORANDUM

**TO:** Water Resources Commission

**FROM:** Phillip C. Ward, Director

**SUBJECT:** Agenda Item G, June 1, 2007  
Water Resources Commission Meeting

### **Eola Hills Ground Water, Polk County, Oregon**

#### **I. Issue Statement**

Classified uses in the Eola Hills Ground Water Limited Area are restricted to uses of water for irrigation and rural fire protection, both of which operate under renewable five-year permits, and uses exempt from permitting. Well owners in the Eola Hills Ground Water Limited Area have requested the Water Resources Commission eliminate exempt use as a classified use (Attachment 1).

#### **II. Background**

The Eola Hills Ground Water Limited Area (GWLA) is one of 10 areas adopted in 1992 which restricts uses from the Columbia River Basalt Group aquifers in the Willamette Basin. The designated areas are restrictively classified because of documented water-level declines, or because of a combination of concerns that include potential for declines as expressed by similar geologic conditions, reports of well interference, reports of wells going dry, and noted deepenings of wells in the area. The Eola Hills GWLA is the latter case (Attachment 2).

The adopted restrictions in the basalt aquifers generally limit uses to exempt uses, such as domestic use, irrigation of ½ acre of lawn and noncommercial garden, and limited commercial and industrial uses. The Eola Hills GWLA allows five-year permits for rural fire protection and for drip or equally efficient irrigation, provided the Director finds the proposed use and amount do not pose a threat to the ground water resource or to existing permit holders.

Residential development comprises the majority of exempt uses. Although the Department provides water supply information to the county when requested, this activity is largely approved at the county level without Department oversight since these uses are exempt from the water right application and review process.

### **III. Discussion**

On April 20, 2007, the Department received a request to revise OAR 690-502-0200 to further restrict ground water development in the Eola Hills GWLA through elimination of the exempt use category. The request speaks to declining resources, both ground water and hydraulically-connected surface water. The request notes that scientific data are required to further restrict ground water use and requests a moratorium on well drilling until sufficient scientific data can be obtained to support the request. Included with the request are 11 anonymous testimonials describing ground water and surface water observations in the Eola Hills area.

Wells developed in the Eola Hills GWLA encounter several aquifer types, such as alluvial gravel, Columbia River Basalt Group lavas, and marine sedimentary rock aquifers (claystone and sandstone), depending upon where and how deep one drills. The ground water use restrictions in the limited area apply only to water contained within the Columbia River Basalt Group aquifers. The request does not specify which aquifers should be further restricted.

Pursuant to ORS 537.780(2)(a), adoption of rules that restrict ground water use must be based on substantial evidence in the record to justify the imposition of restriction (Attachment 3). The request does not provide data to substantiate the need for the restriction.

Approximately 60 wells in the limited area have data consisting of two or more water levels. A quarter of these consist of only two data points and those are taken at different seasons of the year. These data are not useful for trend analysis. Twenty-two of the 60 wells are developed in the Columbia River Basalt Group aquifers and have multiple data for analysis. The remaining 23 wells are developed in alluvial gravel or marine bedrock.

The available data do not meet a standard of substantial evidence of a declining resource in any of the three aquifer types. A few individual wells show signs of decline, most of which are indistinguishable of the climate signal. A plot of precipitation measured at Salem displays a precipitation peak around 1998 and a general decreasing precipitation trend since. Several of the ground water hydrographs match this trend.

The testimonials included in the request describe water supply problems, either multiple wells being drilled to access a sufficient quantity of water or well productivity declining over time. These by themselves do not constitute a decline in the resource. Multiple wells are frequently necessary in low-yield environments and well yields naturally decay over time. Although reported decreasing surface water flows may relate to a combination of ground water interference and overall reduced recharge, the data are not available for a scientific assessment.

There continues to be a valid concern for water supply in the Eola Hills GWLA. It is an upland of basalt with limited opportunity for recharge, is prone to overdraft, and is underlain by low-yield bedrock. However, as described above, it is the staff's view that the available information is not sufficient for the Commission to restrict development at this time.

To collect the information necessary to address concerns, the Department recommends considering a declaration of a Serious Water Management Problem Area, through which the Commission can require the installation of measuring devices and submittal of data from water right holders (Attachment 4). ORS 540.435 provides the authority to declare a Serious Water Management Problem Area based upon ground water declines, unresolved user disputes, or frequent water user shortages. A hearing must be conducted to determine whether a serious management problem exists and affected persons must be afforded the opportunity to provide alternate methods or devices to provide the necessary information. The Commission may also require additional data, such as ground water levels, from exempt users through the authority under ORS 537.545(2) (Attachment 5). While these approaches may not be satisfactory to the requestors looking for immediate cessation of drilling activity, they can provide the data necessary to evaluate the need for additional administrative restrictions.

#### **IV. Alternatives**

The Commission may consider the following alternatives:

1. Direct staff to further investigate the issues identified and report back at a future meeting.
2. Direct staff to begin the process for amending the Eola Hills GWLA in accordance with the request.
3. Direct staff to conduct a hearing to determine whether a Serious Water Management Problem Area exists in the Eola Hills GWLA.

#### **V. Recommendation**

The Director recommends that the Commission follow Alternative 3 and direct staff to conduct a hearing to determine whether a serious water management problem area exists in the Eola Hills GWLA.

Attachments:

- 1) Request on Eola Hills Ground Water Limited Area
- 2) OAR 690-502-0200 - Rules Identifying Eola Hills Ground Water Limited Area
- 3) ORS 537.780 - Commission Authority to Restrict Ground Water
- 4) ORS 540.435 - Statutes Governing Adoption of Serious Water Management Problem Area
- 5) ORS 537.545 - Statutes Governing Exempt Uses of Ground Water

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**690-502-0200**

**Chehalem Mountain, Eola Hills and South Salem Hills Ground Water Limited Areas**

(1) Groundwater in the basalt aquifers in the Chehalem Mountain, Eola Hills and South Salem Hills Groundwater Limited Areas is classified for exempt uses, irrigation and rural residential fire protection systems only. Permits may be issued, for a period not to exceed five years, for fire protection and for drip or equally efficient irrigation provided the Director finds the proposed use and amount do not pose a threat to the groundwater resource or existing permit holders. The amount of water used for irrigation shall be further limited to one acre-foot per acre per year. Permits may be extended for additional five-year periods if the Director finds that the groundwater resource can probably support the extended use. Applications may be rejected or permit or certificate extensions may be denied if the aquifer displays any of the adverse impacts defined in OAR chapter 690, division 008.

(2) The Chehalem Mountain Groundwater Limited Area is as described and shown in Exhibit 8. The Eola Hills Groundwater Limited Area is as described and shown in Exhibit 10. The South Salem Hills Groundwater Limited Area is as described and shown in Exhibit 11.

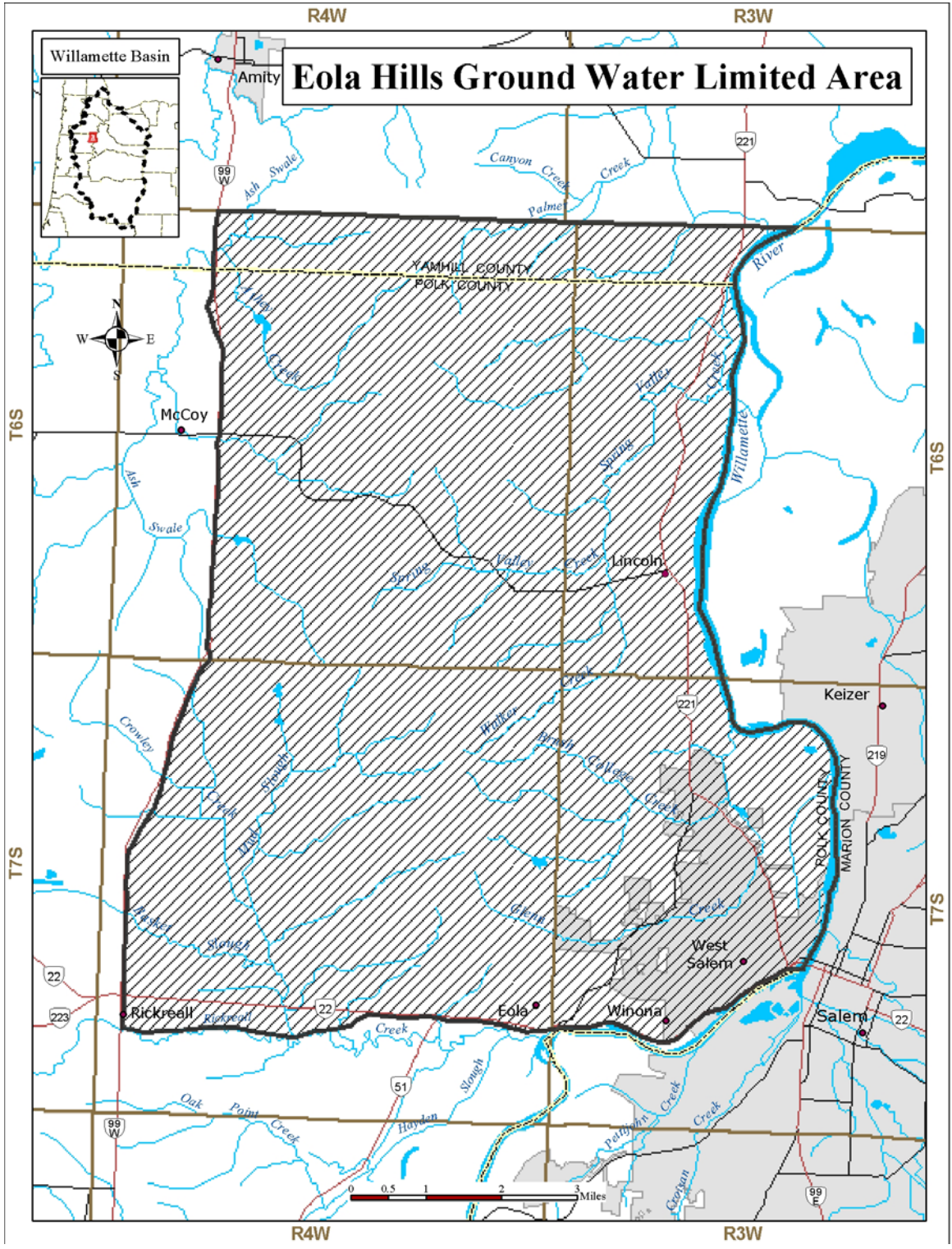
(3) Groundwater applications pending on October 4, 1991 shall be processed according to the classifications in effect on the date the application was filed. Permits may be issued for a period not to exceed five years and shall contain the Special Permit Conditions specified in OAR 690-502-0250. Permits may be extended for additional five-year periods if the Director finds that the groundwater resource can probably support the extended use. Applications submitted after October 4, 1991 shall be processed according to the requirements of these rules and classifications. Within two years of permit issuance, the applicant shall prepare a plan for the Water Resources Commission which shall indicate the steps for obtaining an alternate long-term water supply.

[ED. NOTE: Exhibits referenced are available from the agency.]

Stat. Auth.: ORS 536 & ORS 537

Stats. Implemented:

Hist.: WRD 3-2003, f. & cert. ef. 12-4-03, Renumbered from 690-502-0160



**537.780 Powers of Water Resources Commission; rules; limitations on authority.** (1) In the administration of ORS 537.505 to 537.795 and 537.992, the Water Resources Commission may:

(a) Require that all flowing wells be capped or equipped with valves so that the flow of ground water may be completely stopped when the ground water is not actually being applied to a beneficial use.

(b) Enforce:

(A) General standards for the construction and maintenance of wells and their casings, fittings, valves, pumps and back-siphoning prevention devices; and

(B) Special standards for the construction and maintenance of particular wells and their casings, fittings, valves and pumps.

(c)(A) Adopt by rule and enforce when necessary to protect the ground water resource, standards for the construction, maintenance, abandonment or use of any hole through which ground water may be contaminated; or

(B) Enter into an agreement with, or advise, other state agencies that are responsible for holes other than wells through which ground water may be contaminated in order to protect the ground water resource from contamination.

(d) Enforce uniform standards for the scientific measurement of water levels and of ground water flowing or withdrawn from wells.

(e) Enter upon any lands for the purpose of inspecting wells, including wells exempt under ORS 537.545, casings, fittings, valves, pipes, pumps, measuring devices and back-siphoning prevention devices.

(f) Prosecute actions and suits to enjoin violations of ORS 537.505 to 537.795 and 537.992, and appear and become a party to any action, suit or proceeding in any court or before any administrative body when it appears to the satisfaction of the commission that the determination of the action, suit or proceeding might be in conflict with the public policy expressed in ORS 537.525.

(g) Call upon and receive advice and assistance from the Environmental Quality Commission or any other public agency or any person, and enter into cooperative agreements with a public agency or person.

(h) Adopt and enforce rules necessary to carry out the provisions of ORS 537.505 to 537.795 and 537.992 including but not limited to rules governing:

(A) The form and content of registration statements, certificates of registration, applications for permits, permits, certificates of completion, ground water right certificates, notices, proofs, maps, drawings, logs and licenses;

(B) Procedure in hearings held by the commission; and

(C) The circumstances under which the helpers of persons operating well drilling machinery may be exempt from the requirement of direct supervision by a licensed water well constructor.

(i) In accordance with applicable law regarding search and seizure, apply to any court of competent jurisdiction for a warrant to seize any well drilling machine used in violation of ORS 537.747 or 537.753.

(2) Notwithstanding any provision of subsection (1) of this section, in administering the provisions of ORS 537.505 to 537.795 and 537.992, the commission may not:

(a) Adopt any rule restricting ground water use in an area unless the rule is based on substantial evidence in the record of the Water Resources Department to justify the imposition of restrictions.

(b) Make any determination that a ground water use will impair, substantially interfere or unduly interfere with a surface water source unless the determination is based on substantial evidence. Such evidence may include reports or studies prepared with relation to the specific use or may be based on the application of generally accepted hydrogeological principles to the specific use.

(3) At least once every three years, the commission shall review any rule adopted under subsection (2) of this section that restricts ground water use in an area. The review process shall include public notice and an opportunity to comment on the rule. [1955 c.708 §32; 1981 c.416 §7; 1985 c.673 §73; 1989 c.833 §60; 1995 c.549 §2]

**540.435 Commission authority to order installation of totalizing measuring device and submission of annual water use report; hearing; effect of failure to comply with order.** (1) In addition to any other authority of the Water Resources Commission to order installation of a measuring device, if the commission finds accurate water use information necessary because of serious water management problems created by ground water decline, unresolved user disputes or frequent water shortages, the commission by rule may require a water right owner using any surface or ground water source within the state to install a totalizing measuring device and to submit annually a water use report.

(2) Before the commission implements any requirements under subsection (1) of this section the commission shall:

(a) Cause a hearing to be conducted in the affected area to determine whether a serious management problem exists; and

(b) Allow any affected person an opportunity to present alternative methods or devices that could be used to provide the information necessary to manage the water resource or to alleviate the water management problem.

(3) The watermaster may prohibit the diversion or use of water by anyone who has failed to comply with a commission rule or order requiring installation of measuring devices or submission of a water use report. [1987 c.649 §7]

**537.545 Exempt uses.** (1) No registration, certificate of registration, application for a permit, permit, certificate of completion or ground water right certificate under ORS 537.505 to 537.795 and 537.992 is required for the use of ground water for:

- (a) Stockwatering purposes;
- (b) Watering any lawn or noncommercial garden not exceeding one-half acre in area;
- (c) Watering the lawns, grounds and fields not exceeding 10 acres in area of schools located within a critical ground water area established pursuant to ORS 537.730 to 537.740;
- (d) Single or group domestic purposes in an amount not exceeding 15,000 gallons a day;
- (e) Down-hole heat exchange purposes;
- (f) Any single industrial or commercial purpose in an amount not exceeding 5,000 gallons a day; or
- (g) Land application, so long as the ground water:
  - (A) Has first been appropriated and used under a permit or certificate issued under ORS 537.625 or 537.630 for a water right issued for industrial purposes or a water right authorizing use of water for confined animal feeding purposes;
  - (B) Is reused for irrigation purposes and the period of irrigation is a period during which the reused water has never been discharged to the waters of the state; and
  - (C) Is applied pursuant to a permit issued by the Department of Environmental Quality or the State Department of Agriculture under either ORS 468B.050 to construct and operate a disposal system or ORS 468B.215 to operate a confined animal feeding operation.

(2) The use of ground water for a use exempt under subsection (1) of this section, to the extent that it is beneficial, constitutes a right to appropriate ground water equal to that established by a ground water right certificate issued under ORS 537.700. Except for the use of water under subsection (1)(g) of this section, the Water Resources Commission by rule may require any person or public agency using ground water for any such purpose to furnish information with regard to such ground water and the use thereof. For a use of water described in subsection (1)(g) of this section, the Department of Environmental Quality or the State Department of Agriculture shall provide to the Water Resources Department a copy of the permit issued under ORS 468B.050 or 468B.215 authorizing the land application of ground water for reuse. The permit shall provide the information regarding the place of use of such water and the nature of the beneficial reuse.

(3) If it is necessary for the Water Resources Department to regulate the use or distribution of ground water, including uses exempt under subsection (1) of this section, the department shall use as a priority date for the exempt uses the date indicated in the log for the well filed with the department under ORS 537.765 or other documentation provided by the well owner showing when water use began. [1955 c.708 §5; 1983 c.372 §1; 1983 c.698 §1; 1985 c.673 §48; 1989 c.99 §1; 1989 c.833 §57; 1997 c.244 §3; 2001 c.248 §12; 2003 c.594 §2]