

News from the Water Resources Department's Well Construction and Compliance Section

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*Celebrating 100 Years of the Oregon Water Code*



## Oregon Water Code Nears 100 Then and Now

In 1909, Oregon had reached its fiftieth anniversary of statehood. In those first fifty years, state and federal efforts to administer, appropriate, and distribute water in Oregon had proven woefully inadequate to meet the needs of a state anxious to realize its economic potential. State Engineer John Lewis and Attorney General Andrew Crawford said as much in their reports to Oregon's Governor in 1905 and Oregon's State Legislature in 1909.

As the Oregon Legislature viewed the rapid development of Wyoming, it concluded that investors preferred the certainties of the Wyoming water laws to the uncertainties of western states such as Oregon where public supervision of streams was lacking and knew the time had come for Oregon to act. In 1909, the Oregon Legislature passed Senate Bill 77, an Act providing for the right to regulate, distribute, and use water within the State of Oregon. Commonly referred to as the 1909 Oregon Water Code, the

Act was complemented by House Bill 192, which passed during the same Legislative Session and declared that "all water within the State from all sources of water belong to the public." With a few exceptions, farms, business owners, cities, and other users must obtain a state permit or water right to use water from any source, including streams, ground water, and lakes.

Like most states west of the Mississippi, Oregon uses the Doctrine of "Prior Appropriation," meaning the first person to obtain a water right on a stream is the last to be shut off in times of scarcity. This provides certainty to water users, by ensuring a source of water that will support economic investments.

Oregon water law has continued to evolve. For example, in 1955, the Legislative Assembly adopted the state Ground Water Act, regarding the management of ground water resources. Also in 1955, the authorization of basin planning shifted Oregon's focus to planning and management of water resources at the Administrative Basin level. The 1987 Instream Water Right Act has allowed Oregon to protect more water instream than any other western state. The Allocation of Conserved Water Program--revamped in 1993-- allows water users

to apply conserved water to new lands, new uses, and instream uses, based on negotiations with the Water Resources Department.

The original thinking behind the Oregon Water Code was quite sound. Although the Code has adapted over the years to meet society's changing needs, it remains as effective and functional a system today as it was when first established in 1909.

## Oregon Water Resources Commission Adopts New Rules

The Oregon Water Resources Commission adopted new administrative rules related to well construction at its November 20, 2008 meeting. The new rules modify and clarify the initial notice of water supply well construction (Start Card) for water supply and monitoring wells; ground water protection rule provisions related to alterations performed on water supply wells; rule provisions related to the abandonment of wells; rule provisions related to

information contained in the water supply well log; clarify the responsibility for work performed on existing water supply wells; address standards for material used in water supply well alterations; and, develop standards for the use of unhydrated bentonite for well abandonments. These rules were developed in conjunction with a Rules Advisory Committee (RAC) that included Water Supply Well Constructors, consultants, landowners, local government, and the Department. The RAC met through the spring and summer of 2008 to develop the rules. The Water Resources Commission's Ground Water Advisory Committee also provided input on the rules. The Department would like to thank everyone for their hard work and time commitment that made this possible. The new rules will be mailed out to all licensed well constructors as soon as they take effect in January 2009. Questions about the new rules should be directed to Juno Pandian at (503) 986-0852.

## Unvented Well Caps Pose a Safety Risk

Recently an unvented well cap like the one shown below blew high into the air when a Department Well Inspector was removing it.

Pressure had built up inside the well and was released when the cap was loosened. The Department is reminding well constructors to be sure to adequately vent wells when construction or alteration work is completed to avoid possible injury. Questions about these well caps should be directed to Kristopher Byrd at (503) 986-0851.



## Measuring Tubes

In May 2008, the Oregon Water Resources Commission adopted new administrative rules requiring well owners in the "Pete's Mountain Area" and the "Eola Hills Ground Water Limited Area" to install a dedicated measuring tube at the time of pump installation, pump repair or pump replacement. Several landowners have installed measuring tubes in their wells since the rules became effective. However, there have been incidences where there was not enough room for the measuring tube. One problem arose when a 4" inch submersible pump with a 2-1/2" inch drop pipe was installed in a well with 4" inch liner. The drop pipe couplers are 3-1/2" inches in diameter, which does not leave adequate space for the 3/4" measuring tube. If a landowner is planning to install a larger pump or larger drop pipe, it may be

necessary to install larger casing or liner pipe to accommodate the pump, drop pipe, measuring tube and wiring. Questions about dedicated measuring tubes should be directed to Kristopher Byrd at (503) 986-0851.

## Tagging Wells Before Property Ownership Changes

Tagging wells with a well identification (ID) number before property ownership changes is not only a good idea, it is required. The buyer or seller can make application for a well ID number either on-line or by mail. There is no charge for applying for and obtaining a well ID number. Individuals interested in getting a well ID number application form should go to the Department's web site at [http://www.wrd.state.or.us/OWRD/GW/well\\_id.shtml](http://www.wrd.state.or.us/OWRD/GW/well_id.shtml). Questions about the Well Identification Program should be directed to Codi Holmes at (503) 986-0854.

## Neighborhood Ground Water Network

The Neighborhood Ground Water Network is a one-year pilot program for the Eola Hills in Polk and Yamhill Counties to teach well owners how to take water

### Well Said Newsletter

Available on the web at [www.wrd.state.or.us/OWRD/GW/forms.shtml](http://www.wrd.state.or.us/OWRD/GW/forms.shtml).

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*Well Said* is a production of the Oregon Water Resources Department's Well Construction and Compliance Section and is designed to inform the drilling industry and the public about program activities and other items of interest. Questions or suggestions about this newsletter can be directed to Kristopher Byrd at (503)986-0851 or [Kristopher.R.BYRD@wrd.state.or.us](mailto:Kristopher.R.BYRD@wrd.state.or.us).

*“Serving the public by practicing and promoting responsible water management.”*

level measurements in their wells and educate them about ground water. This program is designed to improve their understanding about many issues related to groundwater including quantity, quality, well interference, well construction, and well maintenance. Program participants will have the option to submit their ground water level measurements to an online database that will be available to the public. This central database will assist with long-term evaluations of ground water supplies in Oregon. The information gathered will allow local jurisdictions, community members, businesses and others to make informed land-use decisions. Questions about the Neighborhood Ground Water Network should be directed to Abigail Brown at (503) 986-0838 or by e-mail at [brownal@ wrd.state.or.us](mailto:brownal@ wrd.state.or.us)

## A Handy Guide for Consumers

In order to educate property owners about wells, the Water Resources Department created the “Consumer’s Guide to Water Well Construction, Maintenance and Abandonment”. This handy booklet is a useful tool for landowners if they are considering having a new well drilled or work

done on their existing well. It also provides a diagram of a water well, an explanation of well reports, a table to estimate water needs, water right information, and common well terms. The consumer’s guide is available on the Department’s website at <http://www.wrd.state.or.us/OWRD/PUBS/wellconguide.shtml> or a printed copy is available at most Watermaster offices throughout the state. Questions about the consumer guides should be directed to Tracy Fox at (503) 986-0856.

## Abandoning Older Wells

In many parts of Oregon there are old water supply wells that were drilled, driven, or dug too close to septic tanks, septic drainfields, cisterns, underground sewer lines, underground storm drainage systems, or buried heating oil tanks. When these wells were constructed, standards were not what they are today. Some of these wells have now become conduits for contaminants to enter ground water that is used as a drinking water source. When the Department becomes aware of a well causing harm to ground water, we work with the landowner to bring the well into compliance by reconstruction or permanent abandonment. Please direct questions about old wells or setbacks

to Kristopher Byrd at (503) 986-0851.

## The Cascades Aquifer – Clearing The Air On All That Groundwater

(Op-Ed reprinted from the October 31, 2008 Oregonian)

By Douglas Woodcock, Manager, Ground Water Hydrology, Oregon Water Resources Department and Marshall Gannett, Hydrologist, U.S. Geological Survey Oregon Science Water Center.

The Oregonian’s recent article about ground water (Cascades Hide a Mother Lode of Water, October 20, 2008) was off the mark in its assertion that there is a vast, previously unrecognized and unused reservoir of ground water underlying the Oregon Cascade Range. In truth, ground water in the Cascade Range is well understood and, for the most part, already spoken for.

The large regional ground-water system in the Cascades, and its importance to stream flow in adjacent basins, has been known to scientists and water-resource managers for many decades. Hydrologists recognized over 80 years ago that ground water in

the young lava of the Cascade Range was responsible for the stable year-round flow of rivers in adjacent basins, including the Deschutes and Metolius Rivers, as well as critical tributaries of the Klamath and Willamette Rivers.

Further, the concept of a “secret stockpile” of water that “someone, someday may want to use” is not only incorrect, but troubling because it implies that ground water in the Cascade Range is not already being used. In reality, ground water from the Cascades supplies much of the flow to major streams on both sides of the range, and, consequently, is already being relied upon by communities, irrigators, and important aquatic ecosystems.

This is the same water people on both sides of the mountains have been working to manage for decades. For example, most Oregonians are familiar with the intense competition for water in the Klamath Basin. What is not as widely known is that much of the water flowing into Upper Klamath Lake originates as ground water from the Cascades. Additional use of ground water in the Cascade Range would diminish discharge to streams and exacerbate the water-supply problems that so many are working to resolve. In

this sense, ground water in the Cascade Range is already spoken for, since most streams adjacent to the mountains are already fully appropriated.

Nor is the Cascade Range ground-water system immune to drought. The article states that despite eight years of drought, the Cascade Range aquifer system “is still brimming.” In fact, ground-water storage in the Cascade Range and discharge of ground water to streams diminishes in response to drought. Ground-water levels in wells in the Cascades dropped as much as 20 feet during the most recent drought and have only partially recovered. Late season flow of ground-water fed streams adjacent to the range, such as the Metolius River, dropped as much as 30 percent during the last drought.

State and Federal water resource agencies already factor Cascade Range ground water in their management strategies. The U.S. Geological Survey and Oregon Water Resources Department have several past and ongoing projects that characterize ground-water flow in and adjacent to the Cascade Range, and have developed robust computer models to quantify its interactions with streams and lakes in the adjacent basins.

Additional study of the Cascade Range aquifer system is certainly warranted, but characterizing it as newly discovered and unused misleads the public into

thinking it is an untapped resource ripe for development without consequence to stream flows and existing water uses.



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This 2"-inch monitoring well had been broken and buried below land surface. This is what it looked like when it was ultimately located.



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This is a dewatering well that was installed too close to the excavation work. This well has since been abandoned.



A four year old boy was seriously injured in Eastern Oregon when he fell into this 12"-inch cased water well. The Department worked with the landowner to get the well permanently abandoned.



This corrugated pipe remediation well was at a contaminated site in the Portland area. The pipe was removed during the abandonment procedure.

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