



Groundwater Management Measure 37 & Oregon's Groundwater

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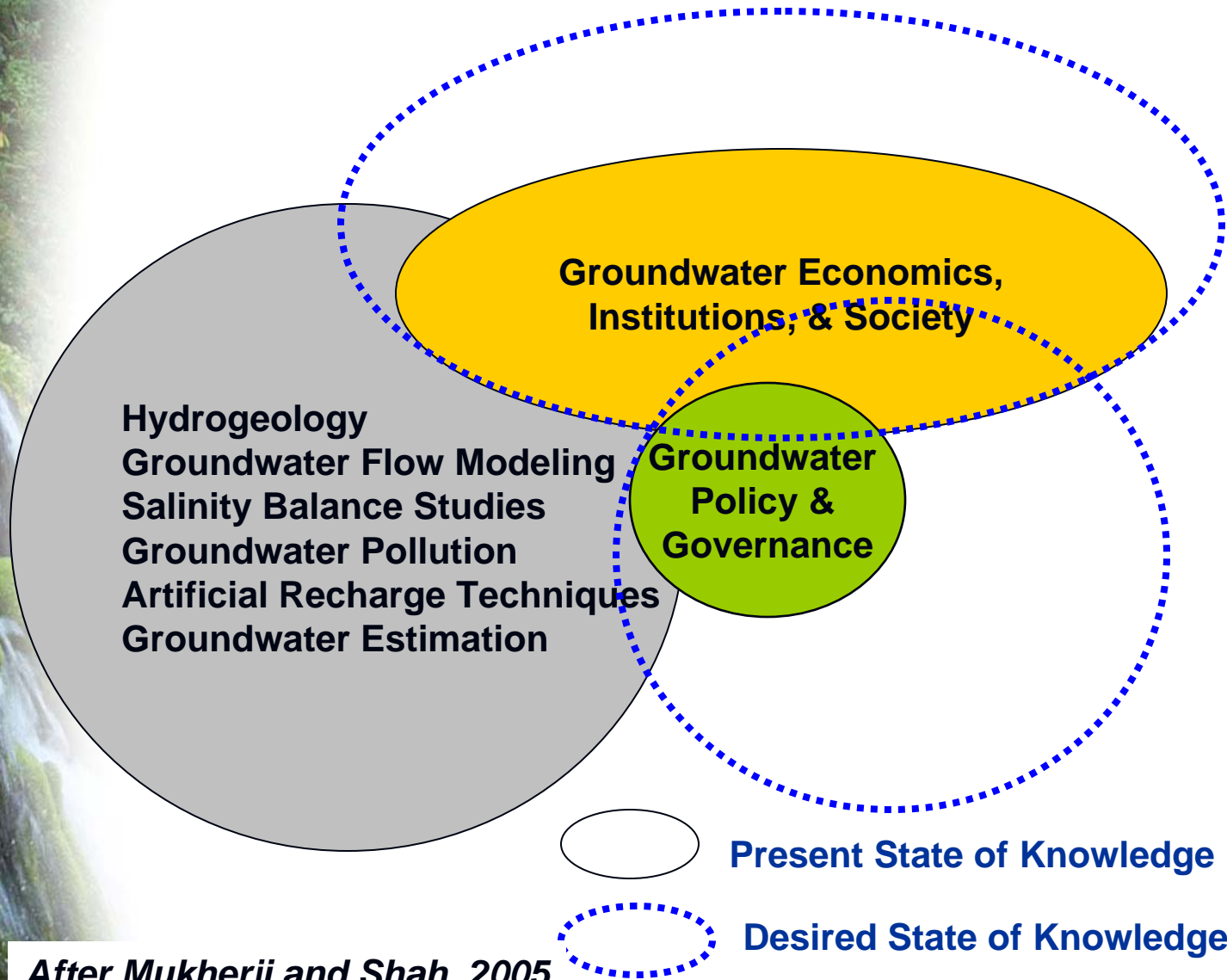
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Talk Organization

- ◆ The Changing Nexus Between Groundwater Science and Policy
- ◆ Disconnect Between Water and Land Use Law
- ◆ Overview of Geology and Hydrology of Willamette River Basin
- ◆ Recognition of Groundwater Problems
- ◆ Measure 37 Claims in Willamette River Basin
- ◆ “Exempt” versus Estimated Use



The Knowledge Development Challenge in Groundwater Resources



Post Measure 37 Has Focused Primarily on Land Use



Before Measure 37

Zone change applications for rural residential acreage by counties within a Groundwater Restricted Area designed to comply with Statewide Planning Goal 5 (Conservation of Natural Resources)

After Measure 37

Statewide Planning Goal 5 (Conservation of Natural Resources) does not apply. Measure 37 basically invalidates a Groundwater Restricted Area development inventory by counties.

The Existing Situation

**Amity Hills
added in 2003**

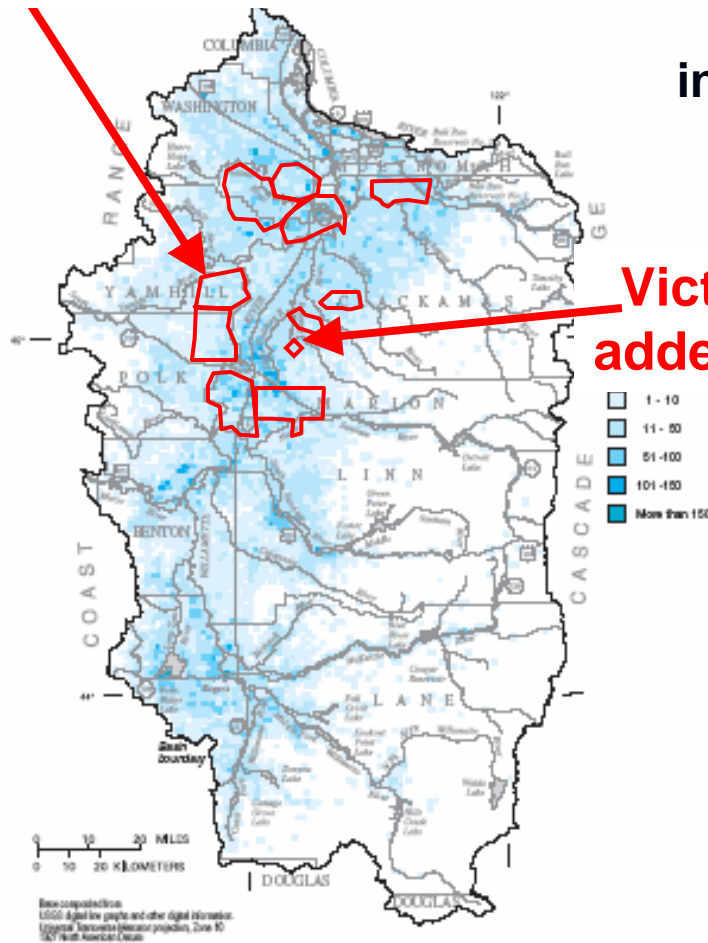
US Geological Survey and Oregon Water Resources Department (OWRD) estimate 100,000 wells in Willamette River Basin at present with additional 3,000 to 4,000 installed annually

**Victor Point
added in 2001**

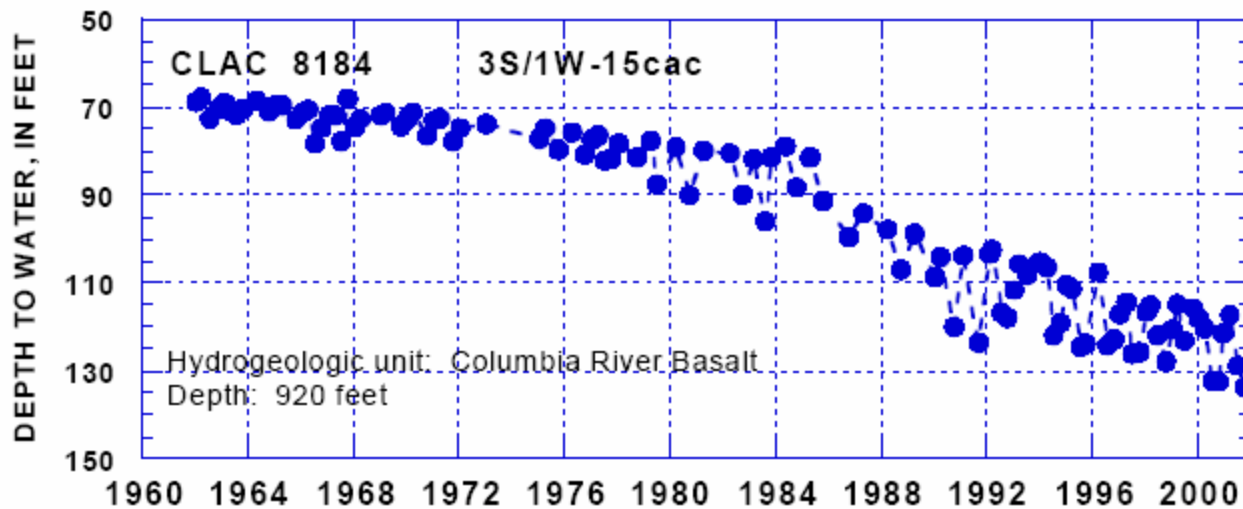
The bulk of the Groundwater Limited Areas designated in 1992.

Victor Point near Silverton added in 2001.

Amity Hills/Walnut Hill added in 2003.



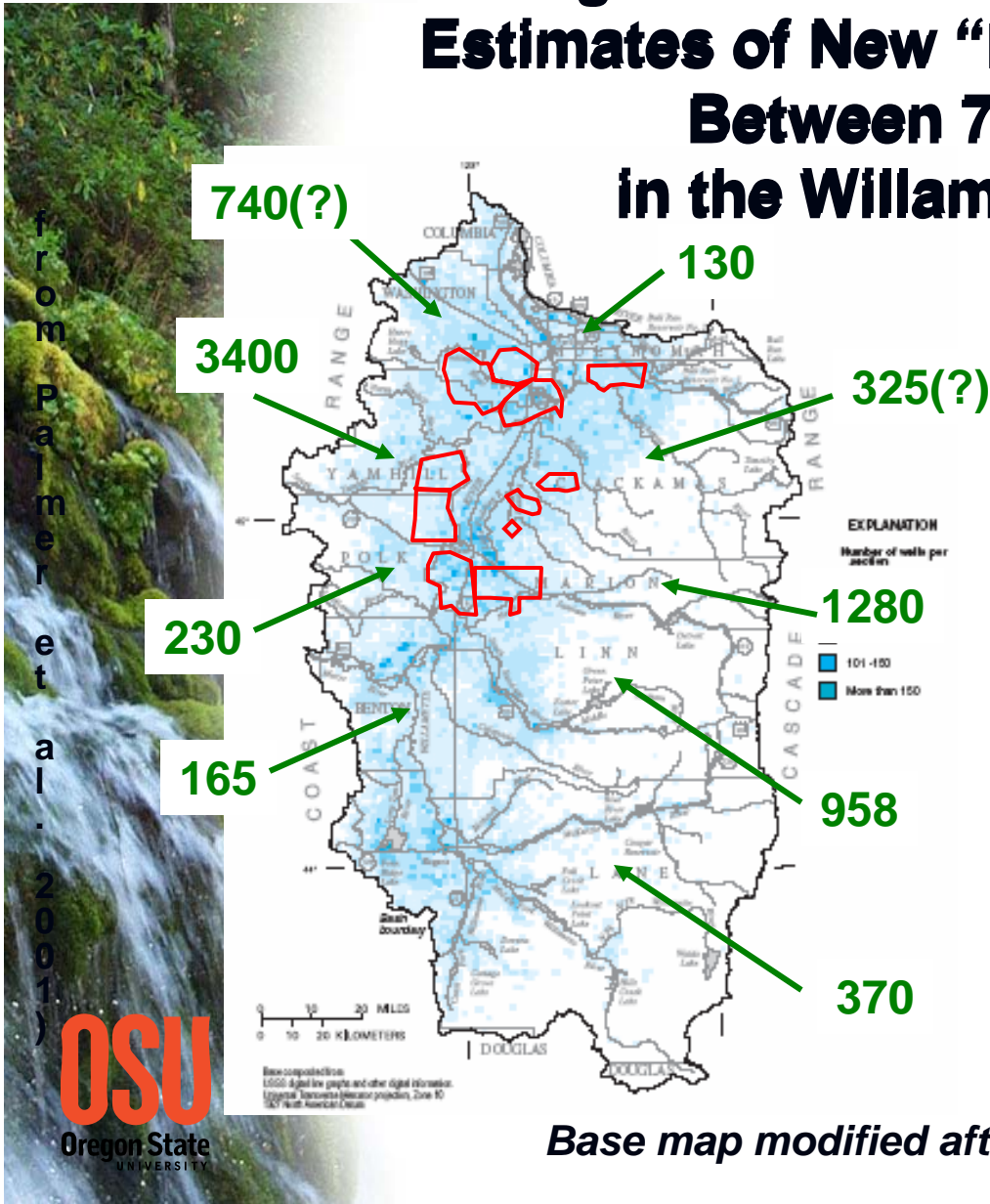
Groundwater Limited Areas Generally Based on Water Level Declines



Water levels in wells tapping the basalt aquifers
have dropped over 60 feet in 40 years in Willamette River Basin.

Modified after OWRD and DLCD (2002)

**When Statewide Measure 37 Claims
Ranged Between 1,500 to 2,000 in 2005,
Estimates of New “Exempt” Wells Ranged
Between 7,500 to 10,000
in the Willamette River Basin**



For comparison, Deschutes Water Alliance (2006) estimated an additional 12,000 “exempt” wells by 2025 in Deschutes River Basin.

Obvious future potential groundwater problem areas include Yamhill, Washington, and Marion counties.



The “Exempt” Domestic Well in Oregon

- ◆ “Exempt” wells for domestic use are allowed to pump 15,000 gallons per day. 15,000 gallons per day equates to about 10 gallons per minute – every minute of every day.
- ◆ If predicted “exempt” wells in Willamette River Basin use 15,000 gpd, estimated withdrawals approach 150 million gallons per day (M gpd), or about twice the reported statewide domestic use of 76 M gpd by Bastasch (2006).
- ◆ If predicted “exempt” wells in Willamette River Basin use 1,000 gpd by as suggested by Deschutes Water Alliance (2006), estimated withdrawals approach 10 M gpd (15.5 cubic feet per second), or 13% increase in reported statewide domestic use of 76 M gpd by Bastasch (2006).



Groundwater Policy and Management Challenges

- ◆ Historically, domestic wells were “exempt” because the quantity of developed water appeared to be minor (*de minimis*) compared to the large quantities of water used for irrigation and other purposes.
- ◆ Water pumped by “exempt” domestic wells is no longer *de minimis*. Given the potential increased reliance on “exempt” wells over large areas in Oregon, should “exempt” wells be part of the water rights equation?
- ◆ What should be used as the water planning and policy metric for “exempt” domestic wells in intensively exploited groundwater basins – “exempt” use or estimated use?



References

Bastasch, R., 2006. *The Oregon Water Handbook*, Corvallis, OR: Oregon State University Press, 352 p.

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