Institute for Water and Watersheds

Oregon's Fresh Water Resources Landscape – A Brief Overview

Central Oregon Water Roundtable
Bend – 25 September 2008

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Institute for Water & Watersheds

Oregon State University

water.oregonstate.edu

"In the West, when you touch water, you touch everything." -- Wayne N. Aspinall

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Presentation Organization

- Oregon's Critical Water Issues
- Oregon Water Status Report
- Water Planning
- Concluding Remarks

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Oregon's Critical Water Issues

- **Integrating water quality & quantity ("…*and never the twain shall meet")***
- **Effects of climate change (hydrologic changes, invasive species, storage, power generation, environmental flows, etc.)**
- **Growth and "Growing Away From Infrastructure"**
- **Aging infrastructure**
- **Columbia River Treaty renegotiation**
- **Environmental flows and aquatic ecosystem/watershed health and restoration**

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Oregon's Critical Water Issues

- Energy-water nexus
- Community management, conflict
- Integrating land use planning and water planning
- "Soft path" approaches (markets, trading, etc.)
- Regulatory environment (ASR & AR, reuse, markets, etc.)
- Conservation, reuse, recycling, demand management
- *Resource inventory – protect what you have (water exports from PNW?)*

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Oregon Water Status Report - 1

- Government must deal with water quantity and water quality issues as growth is projected to increase by nearly 41% in Oregon by 2030 (*more if we see climate refugees)*

- Many stream systems in Oregon have been heavily modified to achieve various flood control, agricultural irrigation, navigation, hydropower, recreation, and M&I water supply benefits

- Oregon's water supply is generally fully-allocated and in places, over-allocated, during the low flow summer and fall months. Instream flow needs and flows do not always correspond.

- Relative dependence on groundwater in the Willamette Valley and Columbia Plateau region make quality and quantity of groundwater a special concern in these regions.

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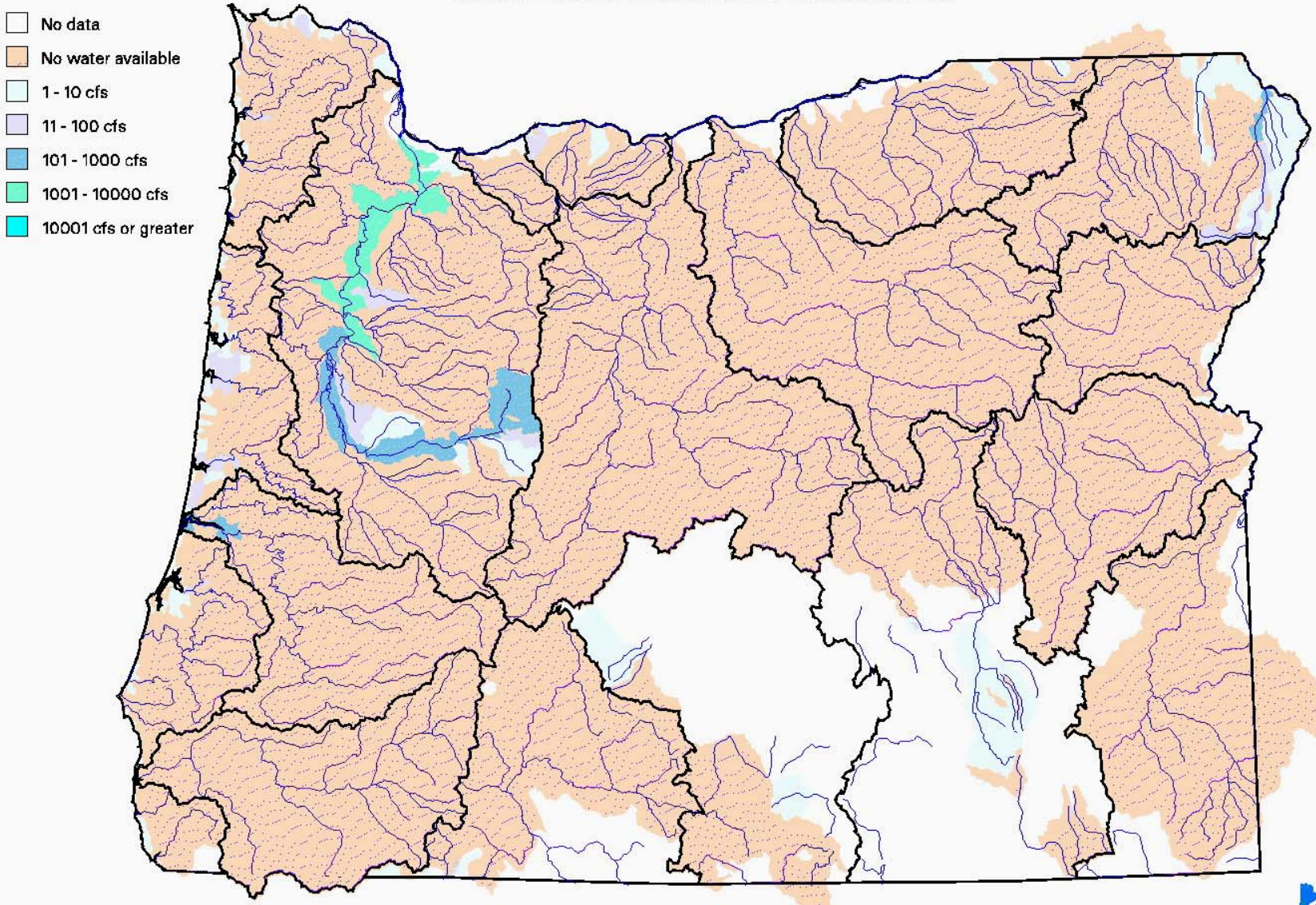
AUGUST AVAILABLE STREAMFLOW

Streamflow calculated at 80% exceedance



Map produced january 17, 2003.

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The Times They Are A-Changin'

"When I was in graduate school 30 years ago, the question in our hydrology class was, 'How much water can we take out of the stream?' Now, it's 'How much water should we leave in the stream?' " -- **Dr. Robert Hirsch, former Associate Director for Water, USGS, 2007**

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Oregon Water Status Report - 2

- Hydroelectric power produces about 42% of Oregon's electricity, which fundamentally impacts aquatic ecosystems (among other uses)
- Agricultural irrigation accounts for half of the water withdrawn on the west side of the Cascades, and 90% on the east side
- Desire for community management of water resources is becoming more prevalent
- Water reuse, conservation, recycling, and aquifer storage and recovery and artificial recharge (ASR & AR) are attracting more attention as water management tools. ASR: storage, supplementing environmental flows
- Columbia River Treaty renegotiation – current treaty (1964) deals only with flood control and hydropower

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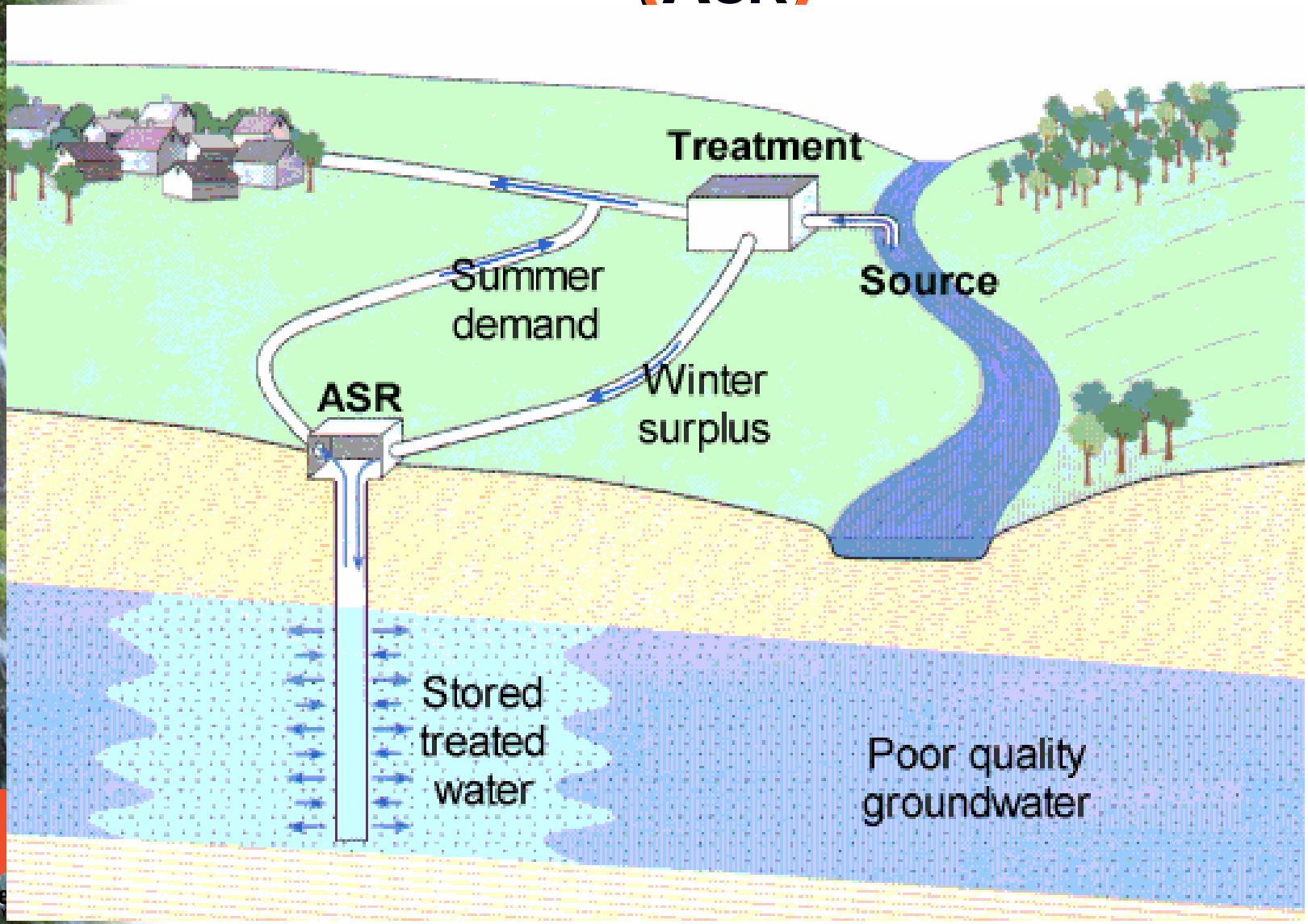
Aquifer Storage & Recovery (ASR)



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Other Activities

- Governor's Headwaters-2-Ocean (H-2-O) Initiative
- Water Roundtables – listening sessions around the state
- Oregon Business Plan

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Concluding Remarks–Wish List 1

- Oregon needs to perform a comprehensive assessment of its water resources – use, supply, quality, needs
- Develop a statewide water resources strategy that addresses water supply, use & quality, growth, climate change, conservation/reuse, and the environment
- Better integrate water planning and land use planning, water quality and water quantity/use
- Must be prepared to make tough decisions, compromises, seek consensus, and involve stakeholders
- Promote ‘soft path’ approaches

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Concluding Remarks–Wish List 2

- Encourage community governance, water planning, and regional partnerships
- Agency coordination
- Research support – Oregon's universities have water expertise
- Don't forget demand management or groundwater
- Examine regulatory environment (ASR, reuse, conservation, etc.)
- Energy-water nexus important
- Investigate feasibility of Columbia Basin Compact

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Subscribe to The Oregon Water List:

lists.oregonstate.edu/mailman/listinfo/oregon-water-list

Read the WaterWired blog:

aquadoc.typepad.com/waterwired

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Questions?

"You are piling up a heritage of conflict and litigation over water rights for there is not sufficient water to supply the land ." – John Wesley Powell, 1893

(photo courtesy: duckboy.com)

Discussing Water Rights, A Western Pastime

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