

Overview of OWRD Management Activities

**Dealing with Water Supply Issues in Oregon
Considering New Uses and Managing Existing Uses**

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Water key ingredient in growth recipe

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Increasing need will be reflected

in consumers' bills

By Jim Witty

The Bulletin

More than any other commodity, water fueled the development of Central Oregon.

Racing clear and cold from the Cascades through the heart of the Deschutes Basin or burbling up from underground, H₂O turned the desert green and allowed farmers to settle a region.

Water still holds the key to

There will be a price tag for water consumers will spring ...

A diverse group of farmers, utility operators, municipalities, government agencies and environmentalists have come up with a strategy that could increase flows in the vulnerable middle stretch of the Deschutes — roughly from Bend to Lake Billy Chinook — by as much as 100 percent during drought years and help protect trout

“More than a other commodity, water Fueled the development of Central Oregon.”



Water flow: Bend Assistant City Manager

“Water, always the essential ingredient in the recipe for development, has become even more precious.”

stream. Dean Guernsey / The Bulletin

“Water still holds the key to growth.”

No water = No growth

Public Water

Oregon's water resources are managed by the Oregon Water Resources Department.



“All the surface and ground water of the state...”

Self Regulation



“Whiskey’s for Drinkin’ – Water’s for Fightin’

- *Mark Twain*

Introduction to Water Law

“Public water”

all surface and ground
water of the state

Doctrine of prior
appropriation

adjudications sort out
pre-1909 water rights

1909 water code

four basic provisions

The water rights system

applications, permits,
certificates



*a system for allocating
and using water*

Regional Offices

Water distribution and regulation

Well inspections

Ground water studies

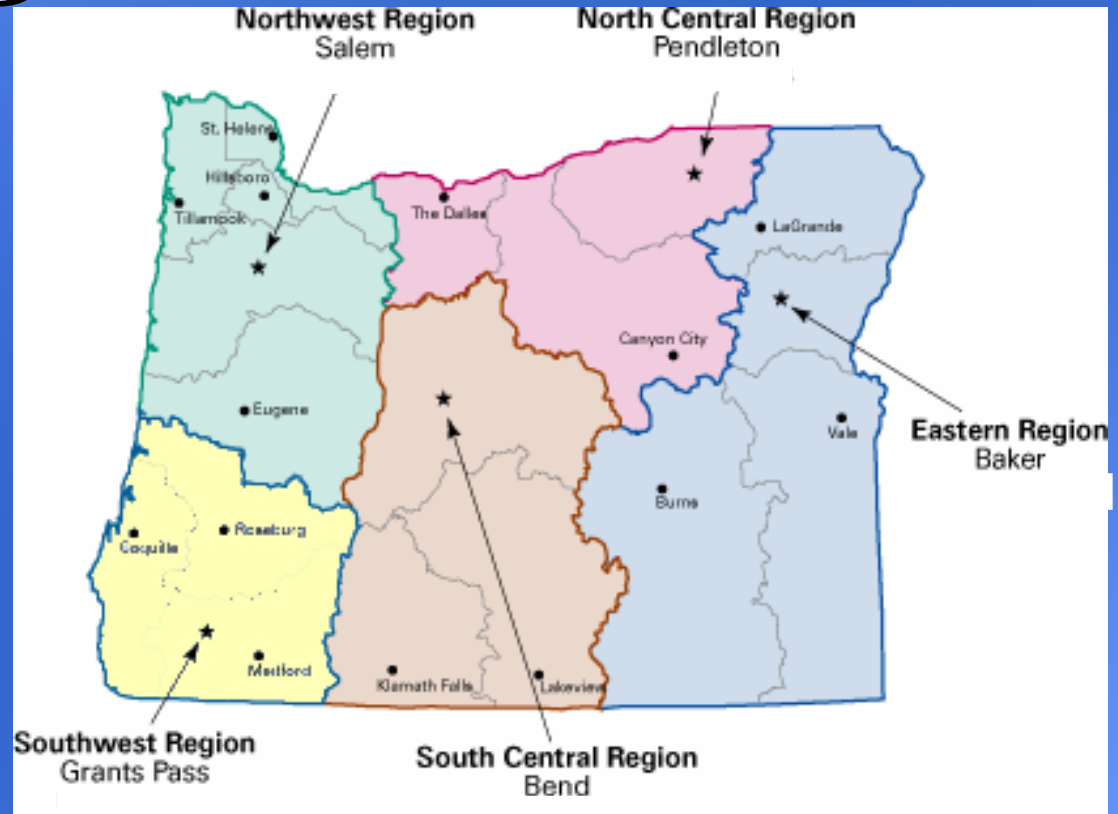
Streamflow measurement

Outreach and information

Dam safety inspections

Water right transfers

Technical assistance



five regions, twenty districts

Historic Yearly Regulation

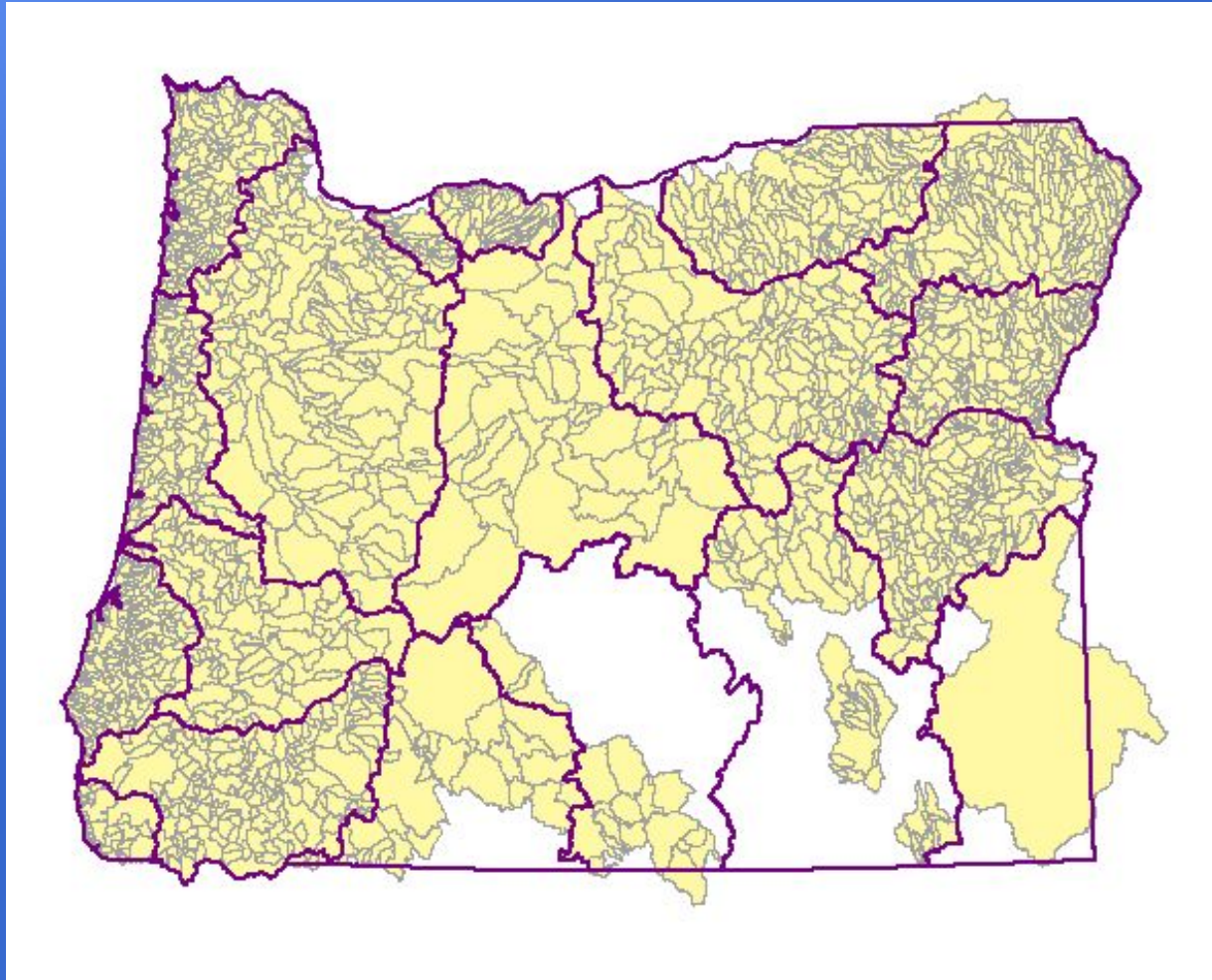


- ▷ Evans Creek – 1896 priority
- ▷ Neil Creek – 1854 priority
- ▷ Little Butte Creek – 1860 priority
- ▷ Little Applegate River – 1857 priority
- ▷ Miscellaneous Complaints
- ▷ Instream

Water Availability in Oregon

A basis for allocations of water

Surface Water Availability Basins in Oregon



Surface Water Availability Calculation

Water Available =

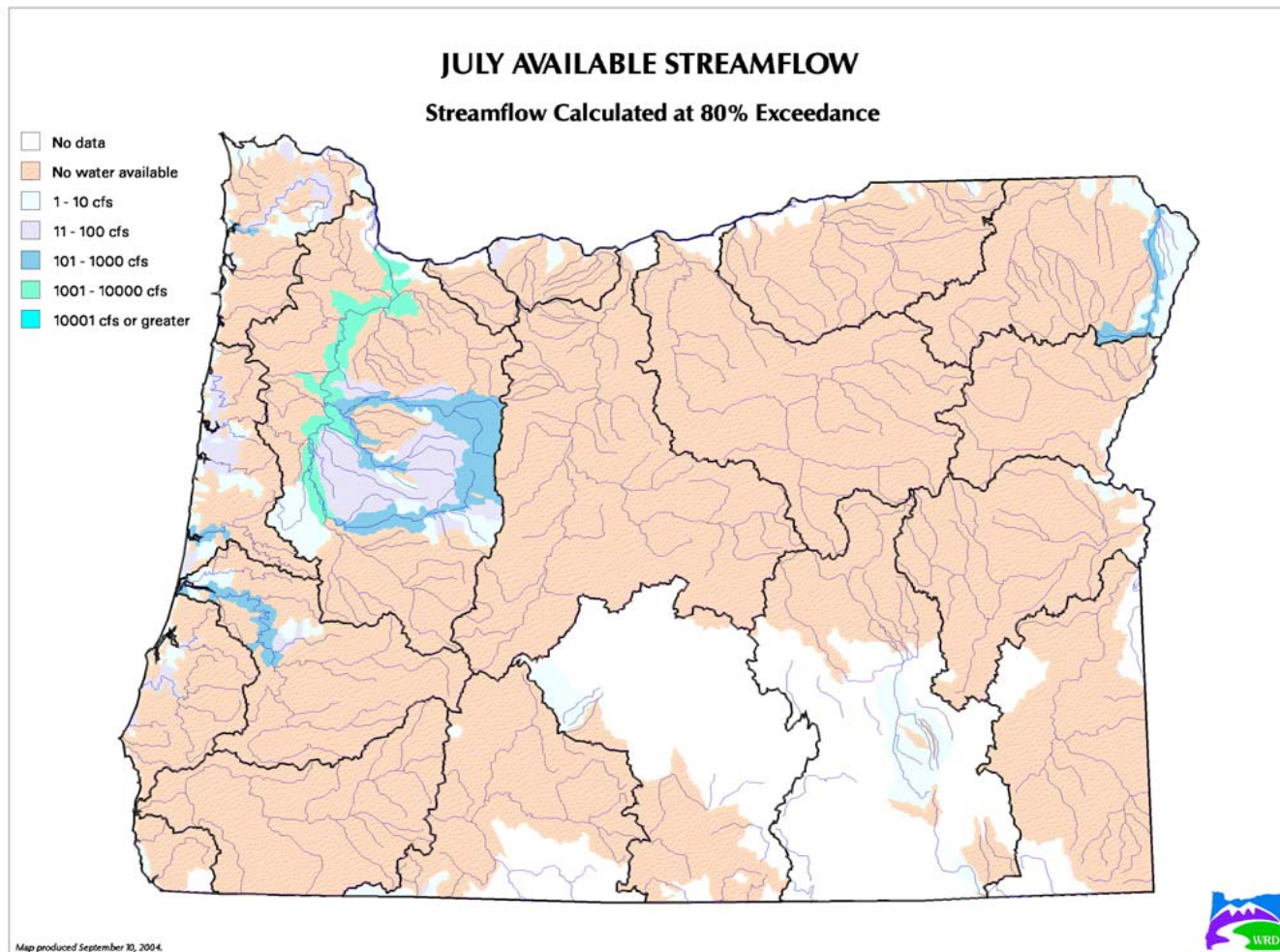
Natural Stream flow – Expected Demands

Where:

natural stream flow = 80% exceedance natural stream flow

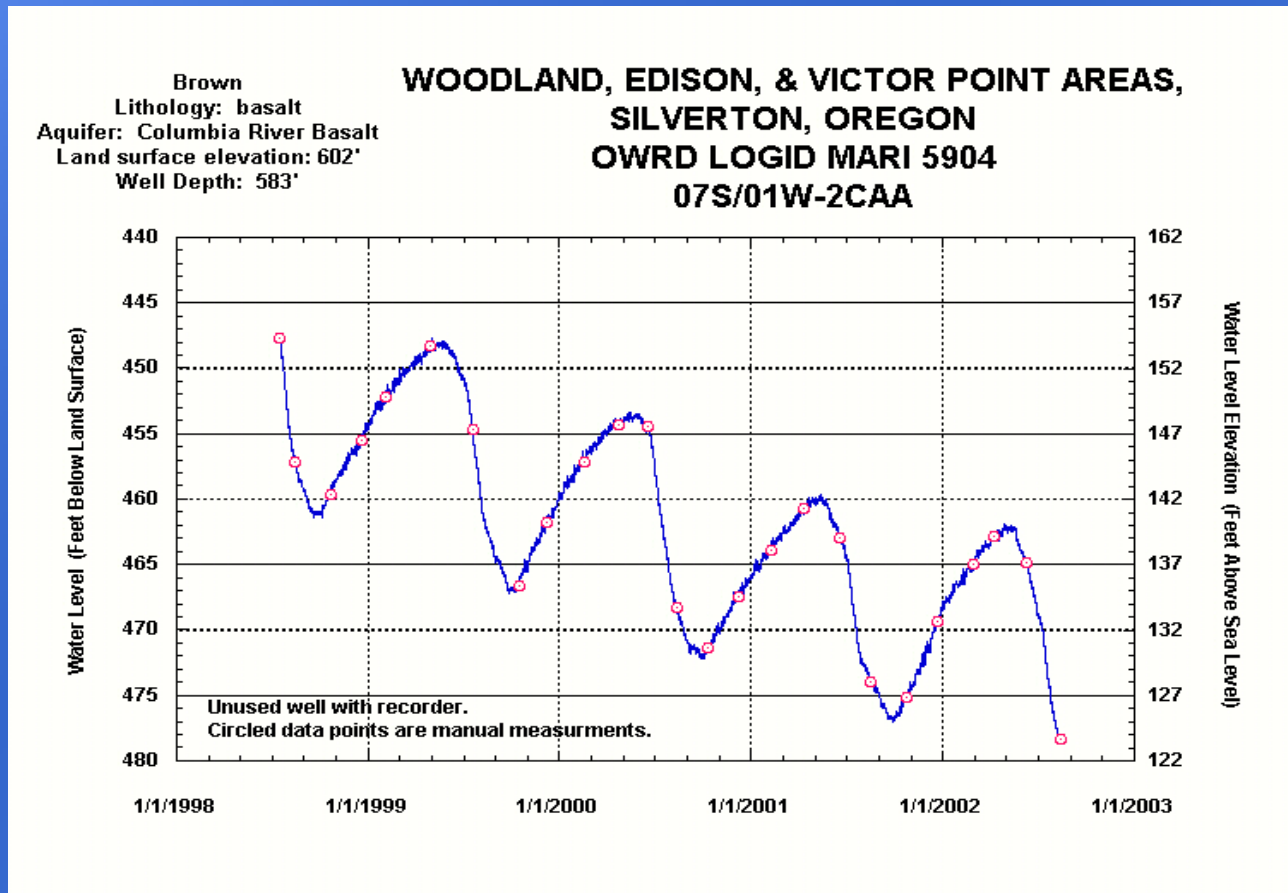
expected demands = consumptive use + in-stream water rights

Fully Appropriated System



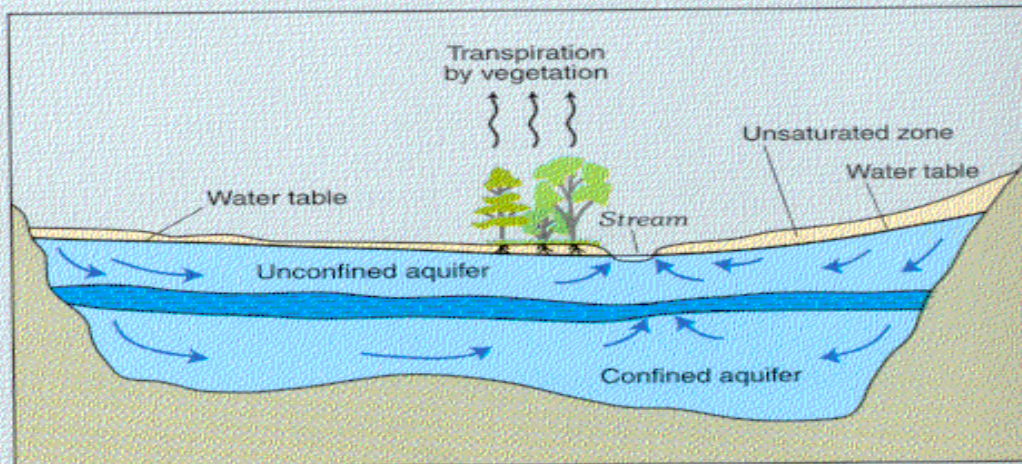
Ground Water Availability

Is it over appropriated?







Conjunctive Management

1) Confinement and Hydraulic Connection



EXPLANATION

-  High hydraulic-conductivity aquifer
-  Low hydraulic-conductivity confining unit
-  Very low hydraulic-conductivity bedrock
-  Direction of ground-water flow

Ground Water Management Options

- Withdrawal of Unappropriated Water
- Classification of Waters
- Serious Water Management Problem Area
- Regulation for Substantial Interference
- Critical Ground Water Area

Management Objectives

- Protect Existing Uses
- Restore Diminished Flows
- Provide For New Water Supply

Oregon Supply Issues

Future Options

- ✓ Storage – structural and non structural
- ✓ Conservation
- ✓ Water Banks
- ✓ Public Information
- ✓ Expand knowledge of ground water
- ✓ Expand knowledge of surface water/ground water connection
- ✓ Improve forecasting and other management techniques
- ✓ Continue looking for cooperative effort opportunities

Legislative Proposal - 2007

- Future Water Needs
- Conservation Opportunities
- Surface Water Storage Projects
- Ground Water Storage Potential
- Basin Yield Estimates
- Match Funding for local water supply planning

