

Developing an Agricultural Water Efficiency Strategy for Oregon

Oregon Water Conference, May 2011



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Oregon Environmental Council Strategic Priorities

- Protect kids' health from toxic pollution
- Improve stewardship of Oregon's rivers
- Slow global warming
- Build a sustainable economy
- Strengthen support for effective environmental policy in the Oregon Legislature



Limited Water Availability

AUGUST AVAILABLE STREAMFLOW

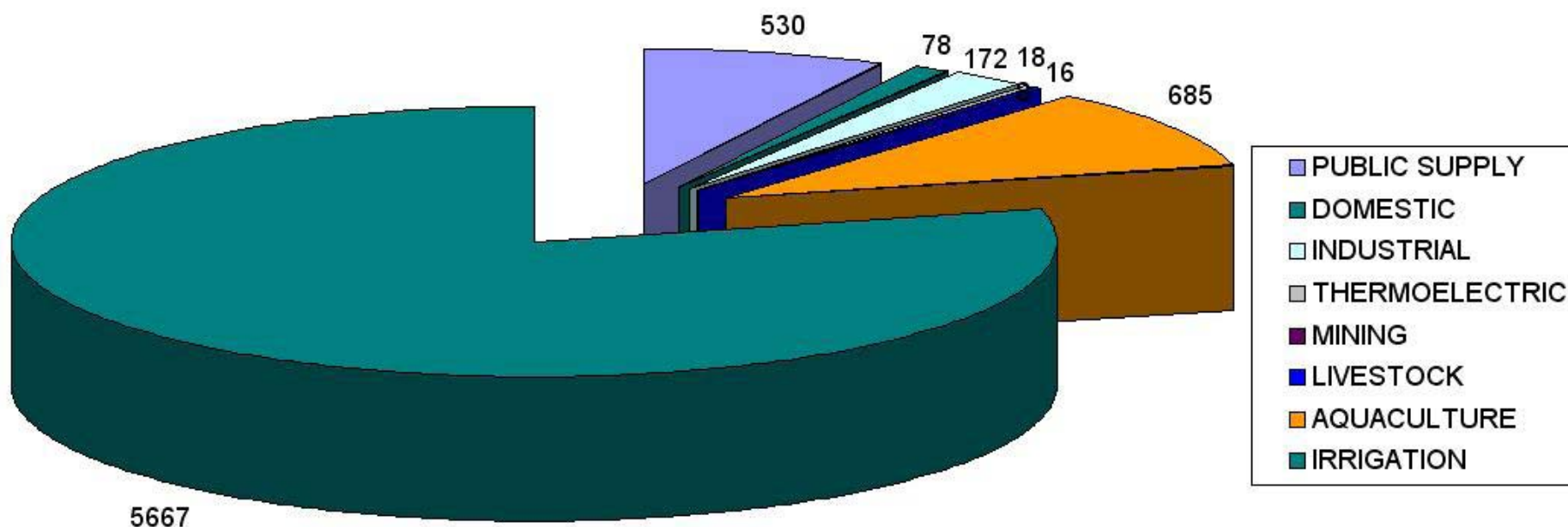
Streamflow Estimated at 80% Exceedance

-  No data
-  No water available
-  1 - 10 cfs
-  11 - 100 cfs
-  101 - 1000 cfs
-  1001 - 10000 cfs
-  10001 cfs or greater



Who Uses Water in Oregon?

TOTAL WITHDRAWALS BY CATEGORY (MGal/D)



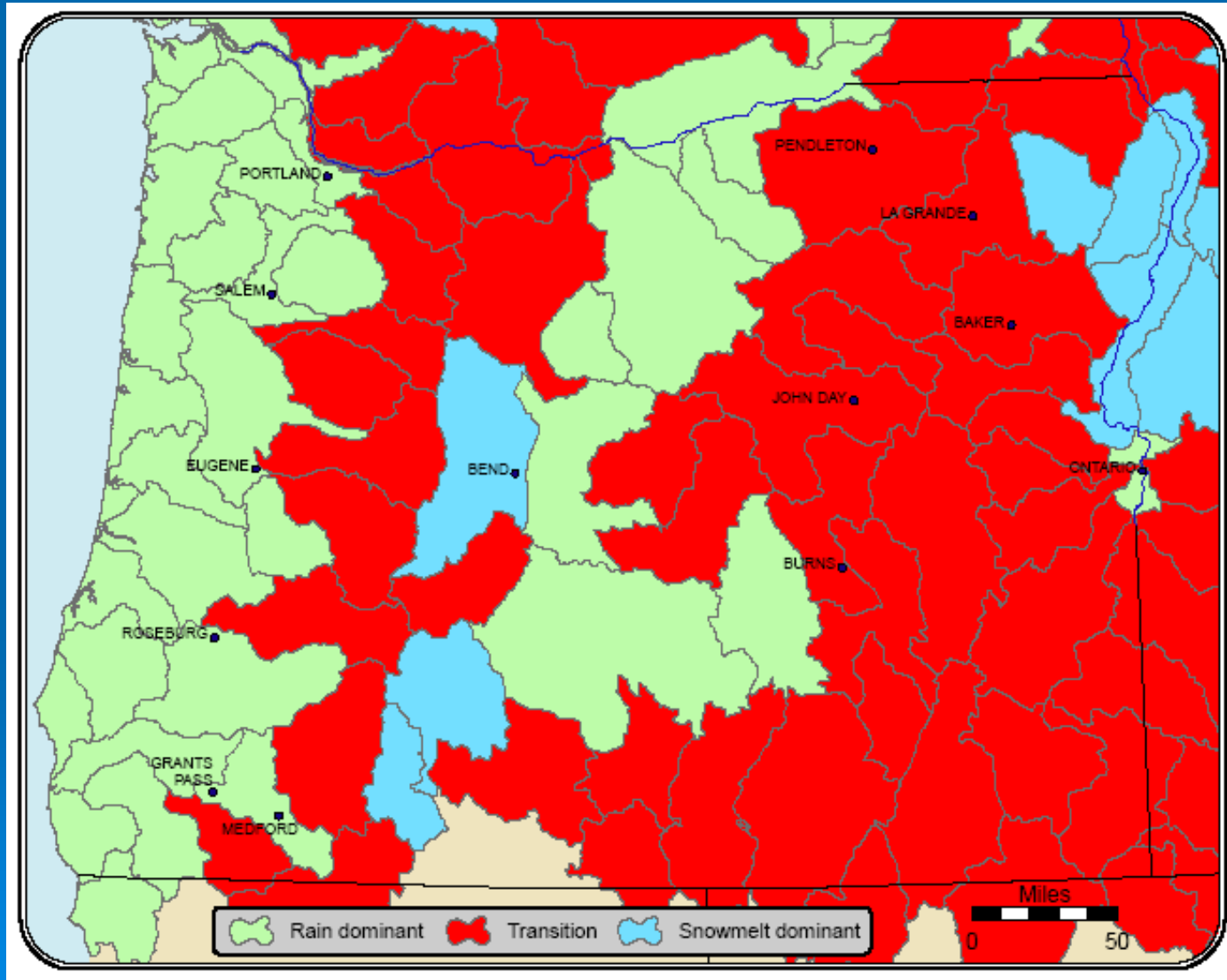
Agricultural irrigation uses about 80% of Oregon's water withdrawals.

(USGS 2005 Water Use Data Compilation)

Irrigation: Key to Oregon Agriculture

- Irrigation is used on about half of the state's crop land (1.7 million acres) by nearly 45 percent of Oregon growers.
- This irrigated ground produces 77% of the value of all crops harvested in Oregon.
- Agriculture and related economic activity accounts for over 12% of Oregon's economy

Climate Change & Water



Alan Hamlet, 2005

Making the Most of What We Have: Water Conservation

- Improves water quality
- Increases crop yield and quality
- Saves energy
- Creates jobs
- Cost-effective
- Restores stream flows



Research & Recommendations

Goal: Programmatic and policy
recommendations for the IWRS and
beyond

Topics: Conservation & Efficiency in water
delivery and irrigation

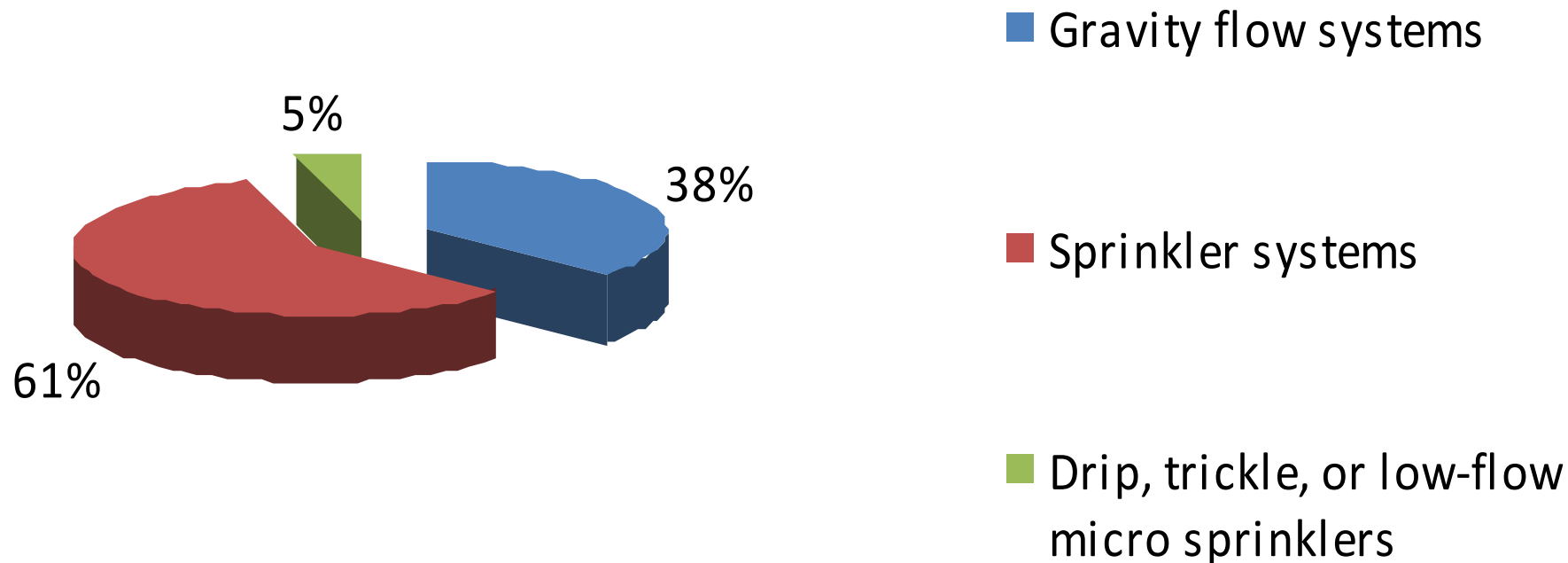
- Interviews
- Tours
- Background research

Delivery System Improvements

46% of total OR
irrigated acres
get their water
from off-farm
surface sources
(USDA)



Percent of Oregon acres irrigated by each method (2008)



Typical Irrigation Efficiencies

System Type	Efficiency (%)
Wild flood	25-40
Border or furrow flood (gated pipe)	60-80
Big gun sprinklers	50-70
Hand line or wheel line lateral sprinklers	60-75
High pressure center pivot sprinklers	65-80
Fixed solid set sprinklers	70-85
Low pressure (drop tube) center pivot or linear move sprinklers	75-90
Micro-sprinklers or drip irrigation	85-95

Irrigation Scheduling Methods Used in Oregon (2008)

Condition of crop	80%
Feel of Soil	35%
Personal calendar schedule	19%
Scheduled by water delivery organization	12%
When neighbors begin to irrigate	6%
Soil or plant moisture sensing device	8%
Commercial or government scheduling service	6%
Daily crop evapotranspiration (ET) reports	7%
Computer simulation models	1%

The Energy – Water Nexus



- Saving water saves energy (usually)
- In-conduit hydro helps pay for district piping projects

Protecting Conserved Water Instream

Where does conserved water go?

Conserved Water Program: Protect at least 25% of conserved water instream and spread the rest to new uses

As of 2010, the program has protected 130 cfs instream (much less than instream leases or transfers)

Recommendations

Education & Incentives:

- Expand outreach about Conserved Water program
- Coordinate energy and water savings incentives (e.g., Energy Trust, Save Water – Save Energy)
- Include outreach to small farmers

Recommendations

Planning:

- Basin plans that include conservation targets
- Agricultural Water Management & Conservation Plans



Recommendations

Removing Barriers:

- Clarify definition of “ready, willing and able”



Recommendations

Funding:

- Water rights maintenance fee
- Program equivalent to Energy Trust of Oregon?

Next Steps

- Release our report this summer
- Continue participating in IWRS PAG
- Year Two: Flesh out recommendations and work toward implementation

For More Info

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