

Oregon's Integrated Water Resources Strategy

**IWRS Open Houses & Public Discussion
June 2016**



Purpose of Tonight's Meeting

To Share with You:

- **What is Oregon's Integrated Water Resources Strategy?**
- **What has been accomplished thus far?**
- **Where is the state headed with the 2017 Strategy?**

To Hear from You:

- **How did drought affect this community?**
- **What do you think should be addressed in the next Strategy?**



Visit the Poster Gallery

Oregon's Integrated Water Resources Strategy

Goal 1: Improve our understanding of Oregon's Water Resources

Understand Water Resources Today

- Further understand limited water supplies & systems alternatives, surface water and groundwater
- Improve water quality & water quantity information
- Further understand our water management institutions

Understand the Coming Pressures That Affect Our Needs and Supplies

Population Growth, Climate Change, Infrastructure, Education & Outreach

Scan the QR code for more information

Statewide Long-Term Water Demand Forecast

Background

In 2016, the Oregon Water Resources Department partnered with MWH Global to update statewide water demand values for major water use sectors, which were first developed in 2008 as part of the Oregon Water Supply and Conservation Initiative.

Possible Trends for Oregon (2015 to 2050)

The 2015 demand forecast builds upon the 2008 initiative, which explored future scenarios and conditions, based on certain assumptions. The 2015 model, scenario, and assumptions include a both population and a longer, warmer growing season, leading to more demand from agriculture, and residential water uses by 2050. If future climate conditions were both warmer and drier, and projections, Oregon could be faced with a need for an additional 1.1 million acre-feet of water above 2008 levels per year. This represents 230,000 acre-feet for municipal and industrial uses and 1.1 agriculture uses.

Changes in Agricultural Demands (AG)

Changes in Municipal and Industrial Demands (MI)

Scan the QR code for more information

Securing Additional Instream Protections

Background

Instream Water Rights Act: In 1987, the state of Oregon passed the Instream Water Rights Act recognizing water instream as a beneficial use and authorizing state agencies to establish instream water rights. Currently, Oregon has over 900 state-agency held instream water rights. As of 2014, the Oregon Water Resources Department has processed more than 1,100 individual instream leases, instream transfers, and allocations of conserved water, restoring about 170 cubic feet per second of streamflow for fish and wildlife, recreation, and pollution abatement.

Two Rivers Designated as State Scenic Waterways

Oregon just recently designated two rivers as State Scenic Waterways. The Upper Deschutes River and the Umpqua River are two of the most scenic and ecologically important rivers in Oregon. The Oregon Water Resources Department is responsible for establishing flow requirements for designated waterways.

Recommended Action 11b

Plan-based planning provides an opportunity for communities to better understand local water resources and to coordinate efforts so that individuals and organizations are working towards a shared vision of their water future. Through a collaborative and integrated planning effort, communities will identify solutions to meet increasing and out-of-stream water needs, taking into account water quantity, quality and ecosystem needs.

Planning Guidelines

1. Build a collaborative and inclusive process
2. Gather information to understand current water resources and identify gaps in knowledge
3. Examine current and future water needs
4. Develop and prioritize strategic solutions to meet water needs
5. Create a local integrated water resources plan

Four Pilot Areas

In February 2016, four communities were awarded \$457,000 in grants to pilot place-based planning in partnership with the Water Resources Department and other state agencies. The pilot areas include the Willamette Basin, the Umpqua River Basin, the Lower John Day Sub-Basin and the Upper Grande Ronde Sub-Basin. The place-based planning program is in a pilot phase through 2019.

Expanded Outcomes

- Greater community involvement in water planning
- Better coordination between state and local partners
- Broadly supported local projects that can provide social, economic, and environmental benefits
- Improved local capacity to address a changing climate

Scan the QR code for more information

Collaborative Water Planning in Oregon

Water is important to all Oregonians. It is vital to community well-being, economic development and a healthy environment. Across Oregon, every place has its unique water challenges that, if left unaddressed, may increase in the future. Collaborative water planning can help Oregonians understand and meet current and future water needs for people, the economy, and the environment.

Place-Based Planning

Place-based planning provides an opportunity for communities to better understand local water resources and to coordinate efforts so that individuals and organizations are working towards a shared vision of their water future. Through a collaborative and integrated planning effort, communities will identify solutions to meet increasing and out-of-stream water needs, taking into account water quantity, quality and ecosystem needs.

Collaborative Water Planning

Basin studies are collaborative studies between local, state, and federal entities to evaluate water resources and demands, and identify strategies that help balance water supply with water demand in a changing climate. The Bureau of Reclamation's WaterSMART program includes four elements:

1. Projections of future needs and demands, including the impacts of climate change
2. An analysis of how water and cover operations and infrastructure will perform in a changing climate
3. Development of adaptation and mitigation strategies to meet water demands
4. A trade-off analysis of the adaptation and mitigation strategies identified

Upper Deschutes Basin Study

The Upper Deschutes Basin study is a \$1.3 million cooperative study funded by the Bureau of Reclamation and the Water Resources Department. The study involves over 35 basin partners who will collaboratively develop and evaluate options for addressing imbalances in water supply and demand for instream and out-of-stream uses. The study, which is expected to be complete in fall 2018, will provide a common understanding of the inter-connected effects of options that may move water between users and users.

Willamette Basin Feasibility Study

First initiated in 2006, the Willamette Basin Feasibility Study is a cooperative study between the Water Resources Department and the US Army Corps of Engineers. Study partners signed a new, cost-share agreement in August 2013 to determine if operational changes in the allocation of stream water would better serve present and future resource needs in the Basin. A tentative schedule of work will be completed in fall 2017.

Given those who live, work and play in a watershed a greater voice in their water future.

Recommended Actions 5a, 9a, 9b, 10a, 10b, 10d

Accomplishments

Building Drought Resiliency

Drought in Oregon

Drought is a common and frequent occurrence in Oregon. The droughts of 1976-1977, 1992, 2001-2002, and 2015 were felt statewide. The drought of 2015 was especially challenging. By September, 25 counties were under a state drought declaration. This was particularly difficult for areas that had experienced drier conditions during the previous 10 years.

Record warm temperatures during 2015 contribute significantly to water supply shortages throughout the state. Warm temperatures led to a winter with record low or near-record low snowpack, contributing to dry soils and vegetation, as well as lower than normal streamflows and peak runoff occurring earlier in the year.

Documenting and reviewing the conditions, impacts, and responses to the drought is an important component of understanding and preparing for the potential implications of future drought events, especially as climate projections indicate that the Pacific Northwest will experience warmer and wetter winters and warmer summers.

Changes in Snowpack

With a predicted increase in regional mean temperature of 3.3 to 9.7 degrees Fahrenheit by the end of this century, Oregon can expect to see the percentage of precipitation that falls as rain, instead of snow, to increase significantly (Marek et al., 2014).

Scan the QR code for more information

Statewide Groundwater Quality Monitoring

Background

Groundwater contamination can come from many sources including failing septic systems, improper agricultural practices, improper hazardous waste storage or disposal, abandoned wells and other factors. Protecting groundwater is essential because mitigating contamination is extremely costly, and can pose a threat to human health. Over 700,000 rural Oregonians are almost completely dependent on groundwater.

Monitoring Data Helps Focus

The Oregon Legislature provided funding to the Oregon Department of Environmental Quality in 2013 to develop a statewide groundwater quality monitoring program. Prior to this investment, most was only conducted in Oregon's three Groundwater Quality Management Areas, located northeast Malheur County, the Lower Umatilla Basin and the Southern Willamette Valley (as shown on the map). With this funding, DEQ will implement a number of activities through its groundwater monitoring program:

- Monitor groundwater for contaminants of concern, including nitrate and pesticides
- Assess two geographic regions per year for ten years
- Determine areas of the state that are especially vulnerable to groundwater contamination
- Determine status of ambient groundwater quality
- Identify emerging groundwater quality problems
- Inform groundwater users of potential risks from contamination

Partnership Objectives

Oregon Pesticide Stewardship Partnerships (PSP), initiated in the early 2000s, use local expertise and water quality sampling results to encourage voluntary changes in pesticide use and management practices, as well as to reduce the environmental and human health risks of pesticides.

Current Partnerships in Action

Currently there are nine partnerships located in seven sub-basins across the state. The watersheds include agricultural, urban, rural, and forested areas. The most recent partnership started in the Malheur Basin in 2015. An inter-agency state team coordinates these partnerships with local watershed partners.

PSP Model

Four steps outline the simple framework for a PSP partnership: (1) water and sediment samples collected at strategic locations, (2) information from the monitoring is communicated back to the community, (3) as a team, best management practices and technical assistance targets are identified and implemented, and (4) water samples are taken to monitor implementation effectiveness. This process is iterative for at least five years. In this way, the implementation is tailored by the needs of the community.

Monitoring

The Oregon Department of Environmental Quality (DEQ) and the Oregon Pesticide Stewardship Partnerships (PSP) are working to monitor for over 120 pesticides and organophosphates at 40 stream sampling locations across the state. In order to ensure the collection of quality and consistent data, DEQ provides each partner with a list of partners, assistance with sample collections, and data interpretation.

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Pesticide Stewardship Partnerships

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Oregon's Monitoring Strategy

Measuring Flows in Rivers and Streams

The Oregon Water Resources Department operates more than 250 stream gauges, of which 80 percent are near real-time. The entire network, shown on the map below, includes 845 additional gauges operated by cooperators, such as the U.S. Geological Survey (USGS). The Department includes cooperator gauges as part of its network and utilizes the data collected at those sites in day-to-day operations and scientific studies.

To carry out recommended actions of the Integrated Water Resources Strategy, the 2013 Oregon Legislature provided the Department with resources to install new gauges across the basin. Since then, approximately 20 new gauging stations have been installed across the state.

Conducting Groundwater Investigations

Conducting groundwater investigations is a priority for the state, which typically evaluates groundwater resources on the basin scale through a cooperative, cost-share science program with the U.S. Geological Survey. This allows the Water Resources Department to develop a broad understanding of the groundwater system and to assist state and local planning efforts.

The Department, in cooperation with the USGS, has completed basin studies in the Deschutes Basin, the sedimentary basins of the Willamette Basin, and the Upper Umatilla Basin over the past 20 years. A new system study was initiated in the Malheur Lake Basin in 2016. The State has also initiated additional basins for subsequent groundwater studies. These include the Umatilla and the Willa Watta sub-basin, and the Hood, Grand Ronde, and Powder Basins.

Expanding the Observation Well Network

The Water Resources Department currently has 376 water observation wells, 60 of which have continuous recorders installed that take water level measurements every 1-2 hours. This state network of wells monitors long-term and seasonal water level changes in principal aquifers. Additionally, the Department currently measures water levels in about 1,100 other wells across the state, some of which are project based wells.

The Department is actively installing new observation wells across the state. The 2013 Oregon Legislature provided funding for new monitoring sites, groundwater studies, and staff. In 2015, the Department installed 14 new monitoring wells. It focused with continuous recording.

Recommended Actions 1b, 1c

Accomplishments



The Charge to Develop the Strategy

Oregon's House Bill 3369 (2009)

- Directed WRD to lead efforts to “understand and meet” Oregon’s water needs” →
- Partnered with water quality, fish & wildlife, agriculture, other agencies, tribes, stakeholders, & public
- Account for coming pressures

7th OREGON LEGISLATIVE ASSEMBLY-2009 Regular Session

Enrolled
House Bill 3369

Sponsored by Representatives JENSON, J SMITH; Representatives BOONE, CANNON, CLEM, D EDWARDS, SCHAUFLER, G SMITH, WITT; Senator MORRISSETTI

**instream and out-of-stream
...quality, quantity & ecosystem needs
...today and in the future**

repealing ORS 541.755; appropriating money; and declaring an emergency.
Whereas the western United States is projected to experience substantial population growth this century, including an additional one million people in Oregon before 2030; and
Whereas climate change is expected to alter the timing and form of precipitation in Oregon; and
Whereas surface water is almost completely allocated across Oregon during summer months, ground water levels have declined precipitously in several areas and the hydrological connection between surface water and ground water levels is significant; and
Whereas Oregon needs to develop an integrated statewide water management plan to address existing and likely future in-stream and out-of-stream demands on Oregon's water supplies; and
Whereas having coordinated plans and programs to address in-stream and out-of-stream water needs will make Oregon a more likely recipient of federal investments and give Oregon stronger standing in interstate water disputes; and
Whereas water is a valuable economic commodity; and
Whereas water development projects can be designed to simultaneously benefit commercial development, the natural environment and the fiscal responsibilities of the state; and
Whereas it is the policy of the Water Resources Department to directly address Oregon's water supply needs and to restore and protect stream flows and watersheds; and
Whereas it is desirable that the Water Resources Department and the Water Resources Commission have greater authority to issue loans and grants to public and private bodies, Indian tribes and others for the purpose of developing projects that will ensure the availability of a sufficient and sustainable water supply to meet Oregon's current and future water needs; and
Whereas loan and grant moneys for developing projects that ensure a sufficient and sustainable water supply must be administered in a prudent and fiscally sound manner and used expeditiously; and
Whereas water development projects that deliver mutual benefits for water users, the environment and the fiscal condition of this state should be funded or financed with public dollars; and
Whereas all water within Oregon belongs to the public pursuant to law; now, therefore,
Be It Enacted by the People of the State of Oregon:

ADDING



The Process Taken

Phase 1 (2009): Setting the Stage

Workplan, issue papers, key principles, public involvement, public mailing list, 3 advisory groups

Phase 2 (2010): Identifying Water Needs

11 open houses, 1 survey, stakeholder workshops & briefings

Phase 3 (2011): Developing Recommended Actions

Progress report, bulletins, public comment, 2011 discussion draft

Phase 4 (2012): Producing Oregon's First IWRS

More public comment, boards/commissions, final draft June 2012

Phase 5 (2012 – current): Implementation and Evaluation

Adoption August 2012, foundation for budget and policy packages in 2013 & 2015 Legislatures, support & momentum



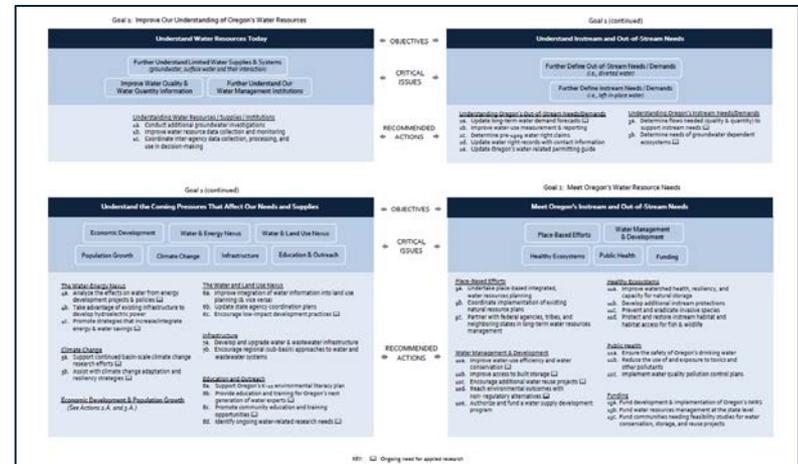
Goals & Objectives

GOALS:

- Improve our understanding of Oregon's water resources
- Meet Oregon's water resources needs

OBJECTIVES:

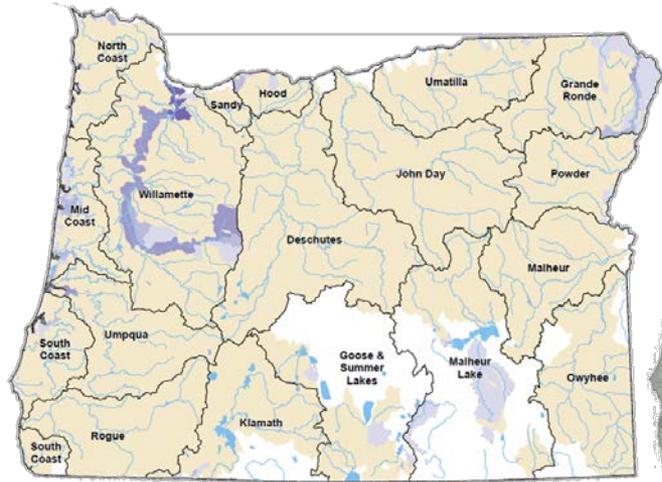
- Understand water resources today
- Understand instream and out-of-stream needs
- Understand the coming pressures that affect our needs & supplies
- Meet Oregon's instream and out-of-stream needs



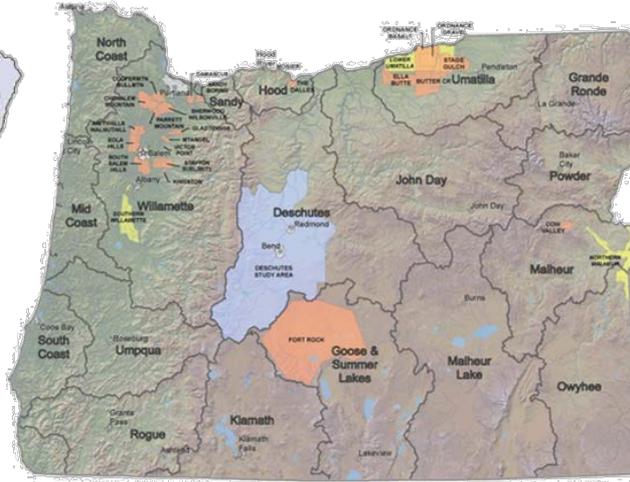


Critical Issues – a sample...

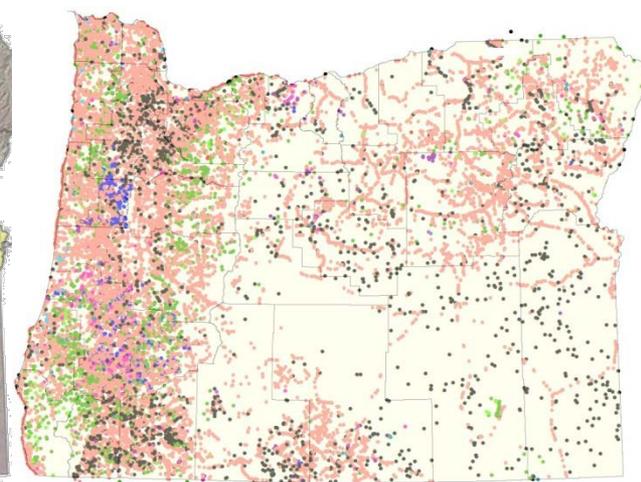
Surface Water



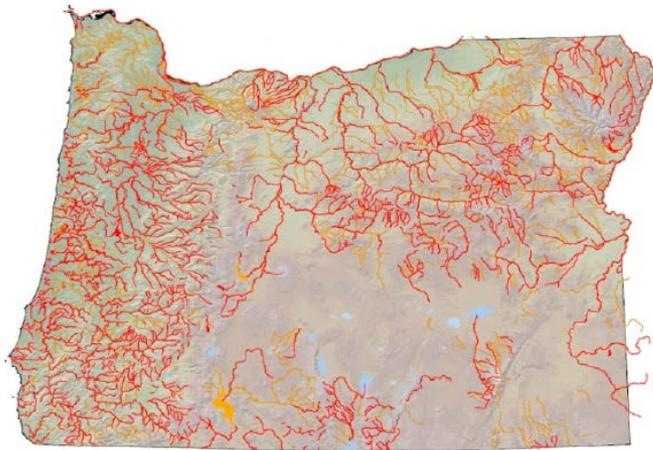
Groundwater



Habitat



Water Quality



Public Health



Invasive Species





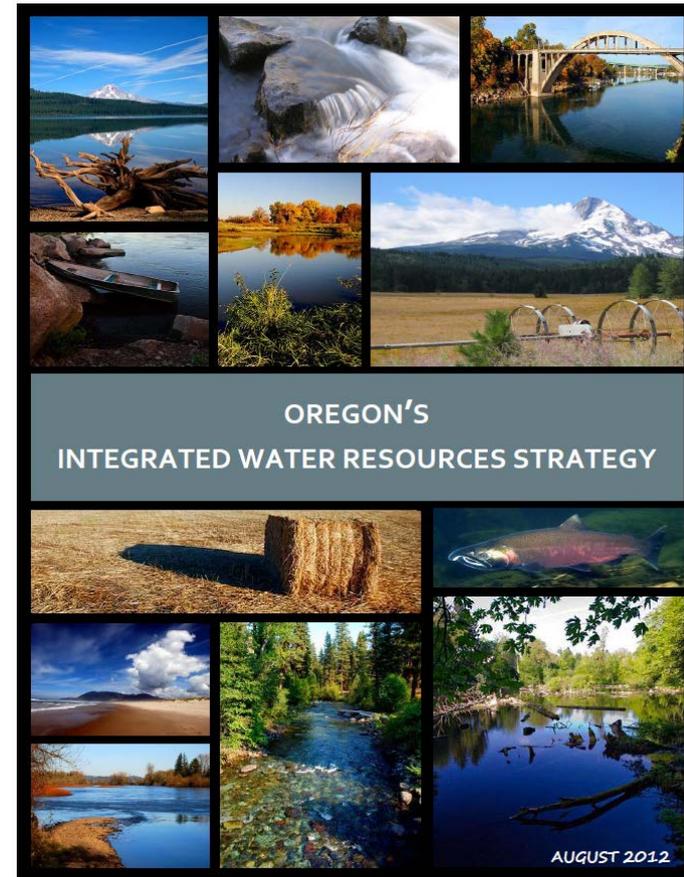
Recommended Actions

- **More than 40 recommended actions**
- **Actions are meant to be implemented by public and private sectors**
- **Not all actions require funding**
- **Developed a workplan to guide implementation priorities for 2012-2017**



Developing the Next Strategy

- **2017 IWRS update will be surgical, a comprehensive revision will occur in 2022**
- **Must address drought and a changing climate**
- **Project partners will report on progress made since 2012**
- **A new workplan will be developed for 2017-2022**
- **The Water Resources Commission will notify other boards/commissions prior to adoption**
- **2017 IWRS must be adopted by the Water Resources Commission**



*Progress to Date – Agency Efforts
2012-2016*



2012-2017 Workplan Focus Areas

2015 Demand Forecast

Water Use Reporting

New Gaging Stations

\$\$ Instream Flow Studies

Cooperative Groundwater Studies

\$\$ for Measurement Devices

Hydrogeologists

Hydrologists

Water Related Permitting Guide

New Monitoring Wells

Monitoring Strategy

Pesticide Stewardship Partnerships

Willamette Basin Study

Invasive Species

New Watermasters (Klamath & Enterprise)

TMDL Development

Deschutes WaterSMART Study

Scenic Waterways

Grants for Feasibility Studies & Water Projects

Place-Based Planning

IWRS Coordination



Understanding Groundwater & Surface Water

Monitoring Groundwater and Surface Water Supplies

- 20 new stream gages have been installed, all near real-time
- 14 new monitoring wells installed, all equipped with continuous recorders
- Initiating new groundwater studies

Monitoring Groundwater Quality

- Funding and staff provided to expand monitoring to areas outside of existing groundwater management areas
- Mid-Rogue, North Coast, and the Walla-Walla Basin sampled in 2015-16

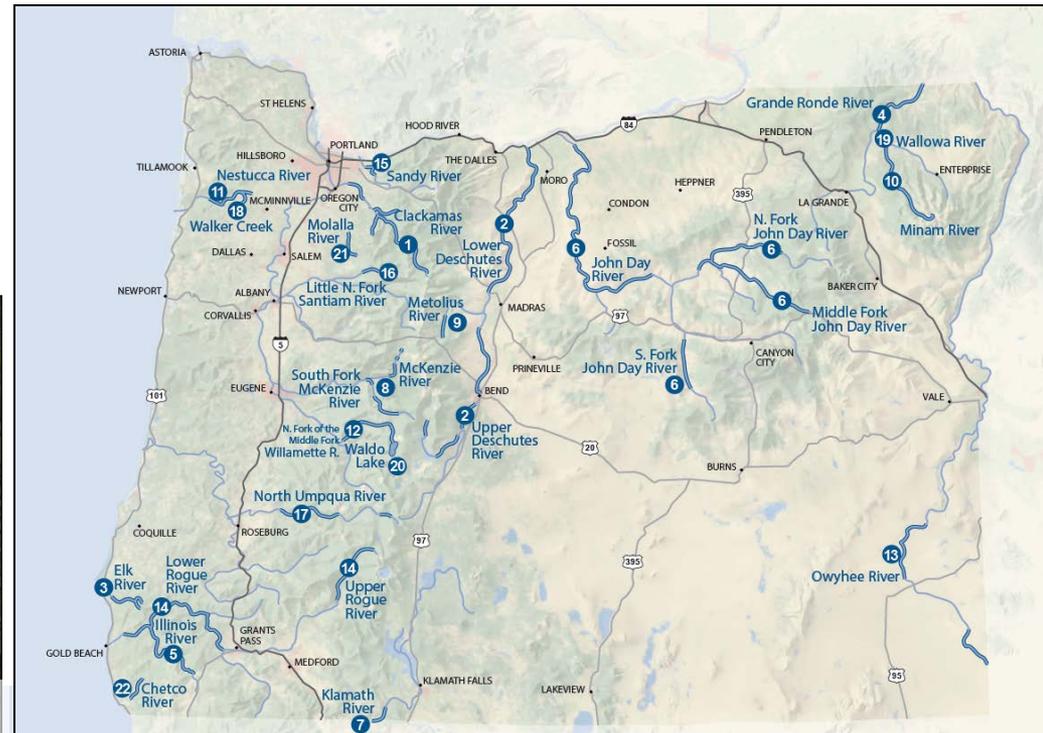




New Scenic Waterways

Designation of new Scenic Waterways

- 14-mile reach of the Chetco River, located in Curry County
- 14.2-mile reach of the Molalla River, located in Clackamas County
- Governor Brown approved these new reaches in January 2016





Collaborative Planning Efforts

- Recently initiated integrated water resources planning on a smaller scale – Mid-Coast, Lower John Day, Upper Grande Ronde, and Malheur Lake basins
- Goal is to develop place-based plans that roll up and inform the statewide Strategy
- Collaborative efforts are also occurring in the Upper Deschutes and Willamette River Basin





Providing Funds for Projects

Funding for Feasibility Studies & Project Development

- The state has recently launched a new Water Resources Development Program
- Includes grants and loans for a variety of water projects that result in economic, environmental, and social benefits
- In May 2016, the Water Resources Commission awarded \$1.2 million to complete 17 feasibility studies
- Another \$8.9 million awarded to the construction or implementation of 9 water projects





Funding Awarded for Implementation of Projects

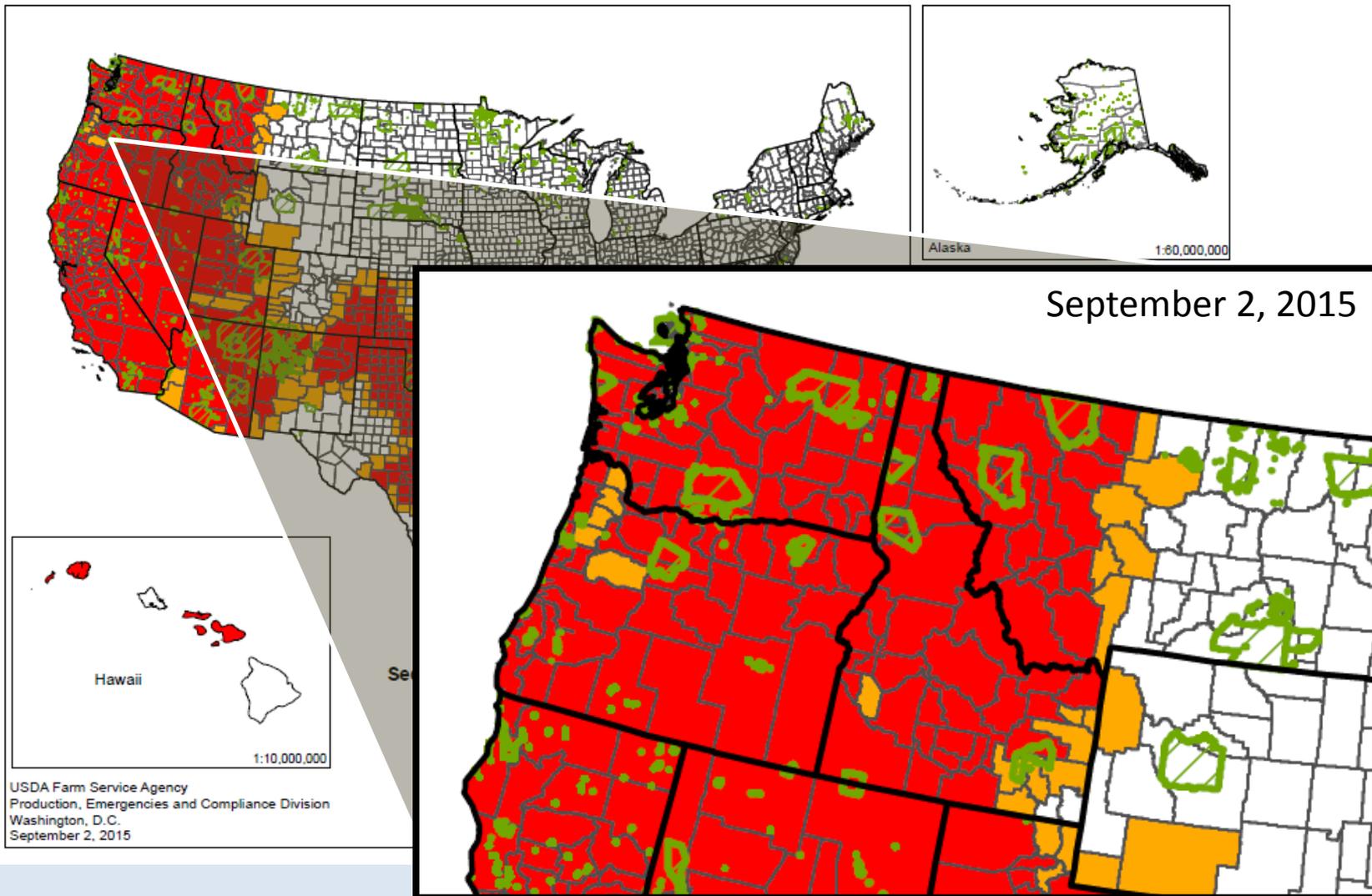
Project Name	Project Type	County	Funds Awarded
Tumalo Feed Canal Conservation Phase 5	Water Conservation	Deschutes	\$1,299,968
Highline Canal Pipeline	Water Conservation	Hood River	\$566,299
Kingsley Reservoir Expansion and Lowline Pipeline Project	Storage/Water Conservation	Hood River	\$3,000,000
Sun Creek Restoration and Irrigation Efficiency	Flow Restoration	Klamath	\$249,867
Klamath East Side Water Recycling Project	Drainage Water Reuse	Klamath	\$268,673
Willow Creek Piping Irrigation Laterals	Water Conservation	Malheur	\$500,355
Beaver Creek Dam Fish Passage and Flow Restoration	Municipal Water Supply	Union	\$600,000
Lostine River Conservation Project	Water Conservation	Wallowa	\$1,488,718
Mosier Deep Water Supply Well	New Groundwater Supply Development	Wasco	\$917,238
		Total	\$8,891,118

Emerging Issues



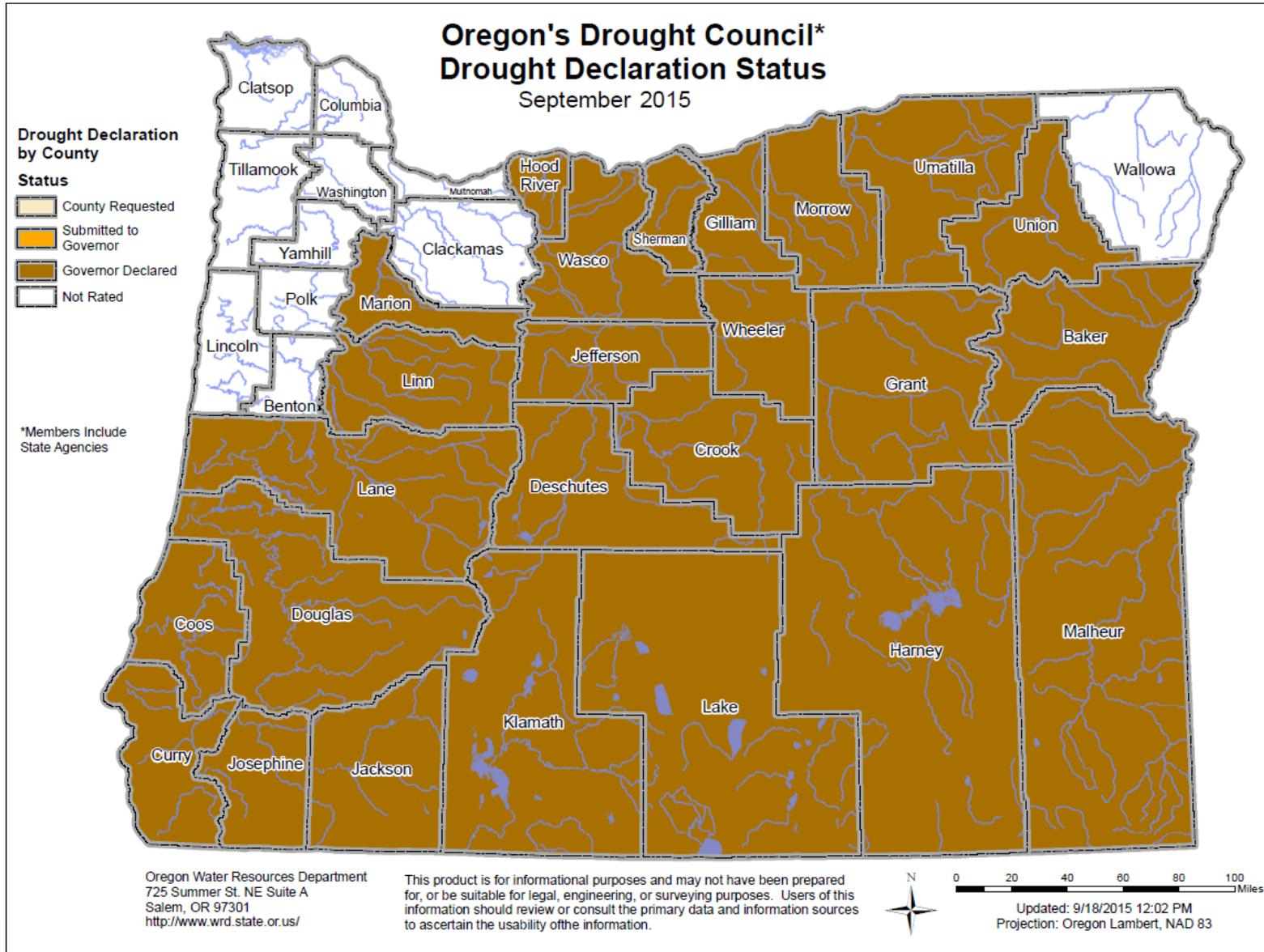
A look at Oregon's 2015 Drought

2015 Secretarial Drought Designations - All Drought





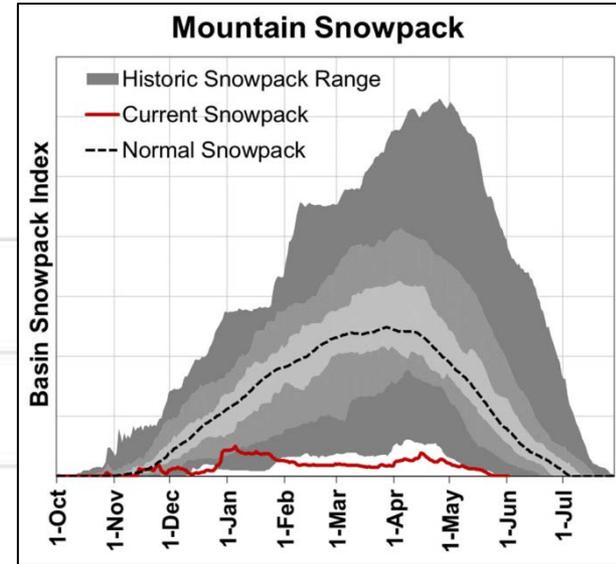
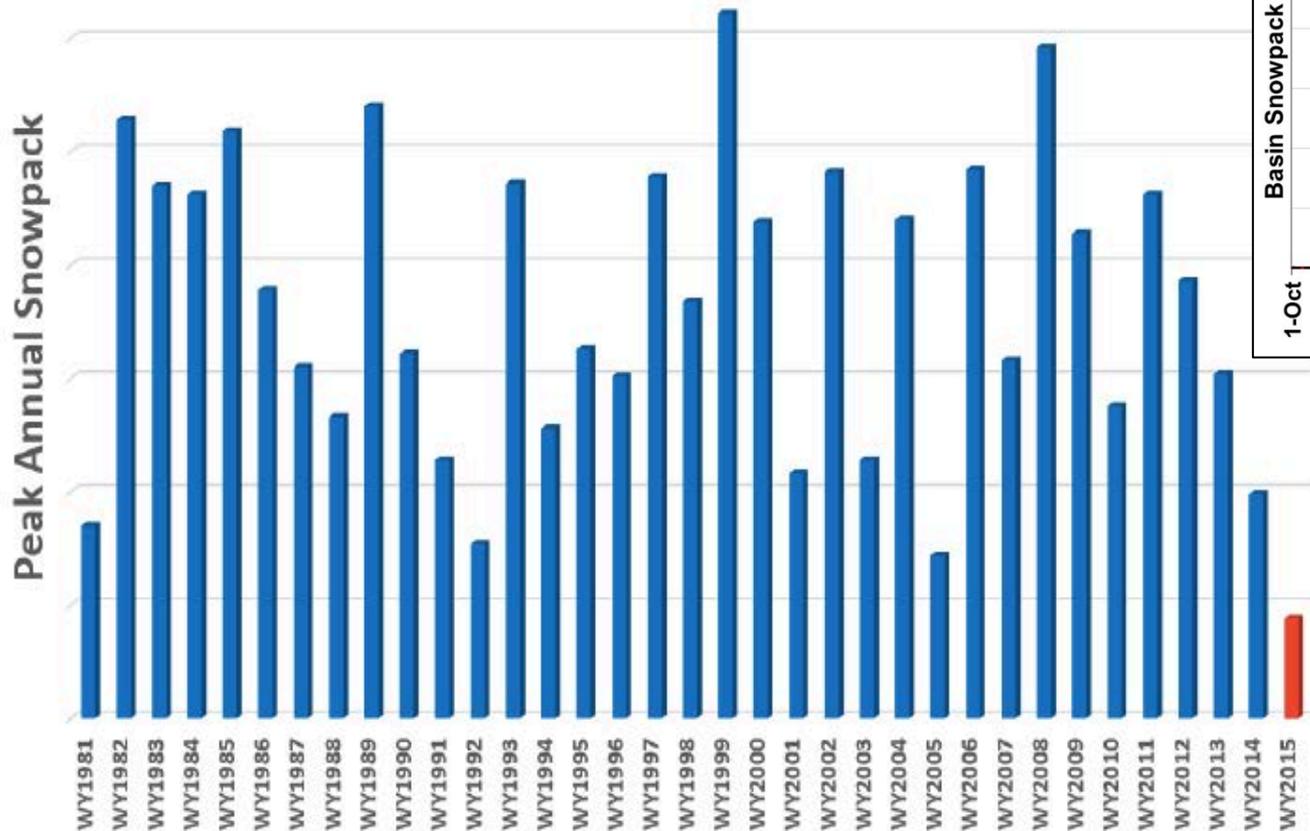
A look at Oregon's 2015 Drought





Record Low Snowpack

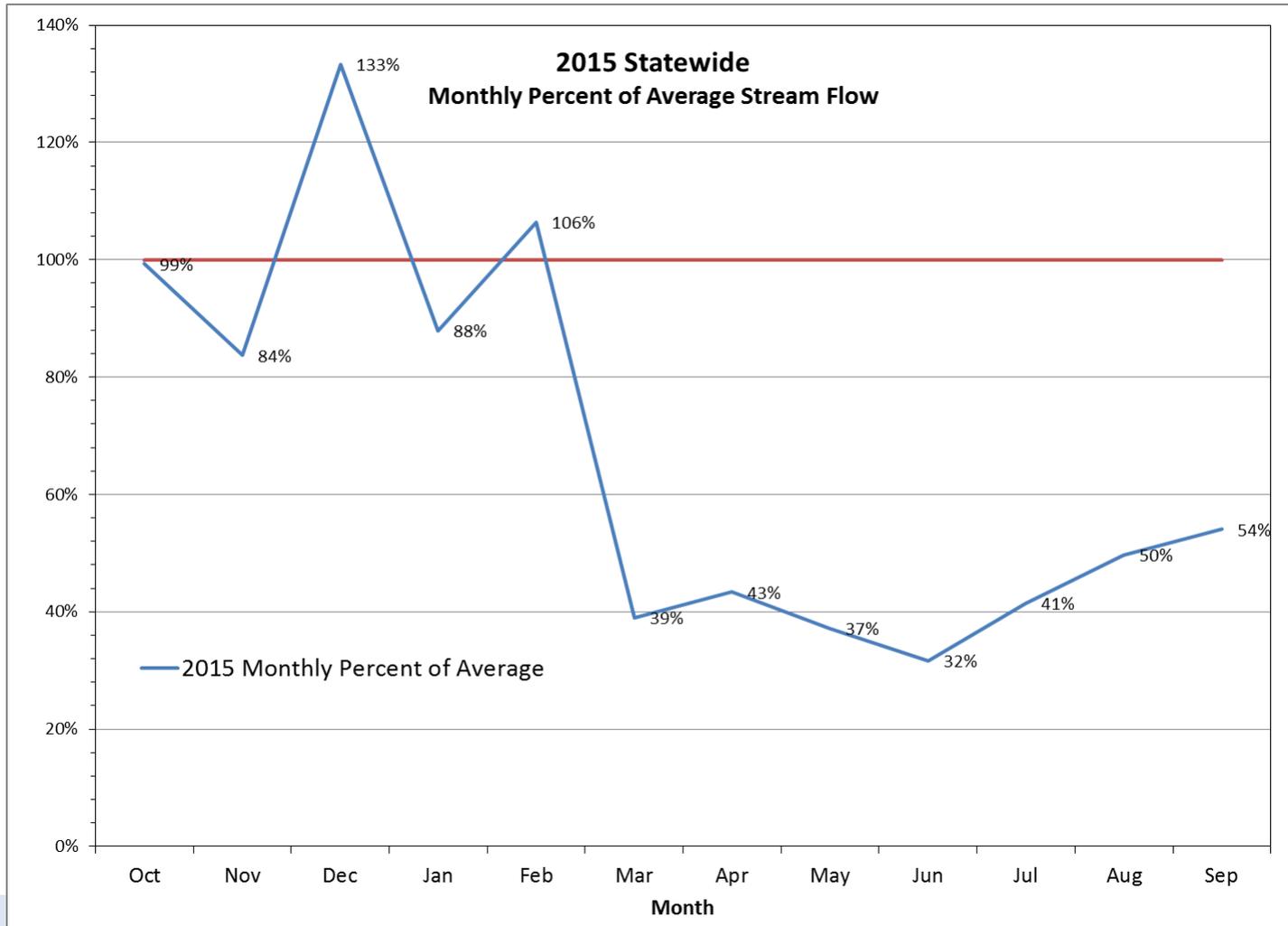
Peak Annual Snowpack (Water Years 1981 - 2015)





Streamflows Lowest on Record

- The snow drought affected streamflows statewide





Drought's Impact on Oregon Communities

- **Early snowmelt and runoff**
- **Reduced reservoir storage**
- **Earlier regulation of water rights, new for some areas**
- **Fisheries management (water temperatures, mortalities)**
- **Agriculture (reduced yields, cut in deliveries)**
- **Recreation/tourism**
- **Wildlife**
- **Very intense wildfire season**
- **Tree die offs**



Public Discussion



Discussion Questions

- **How has the recent drought affected you?**
- **In what ways did the drought affect your community?**
- **How did you respond to drought? Please share any successes or strategies.**
- **What actions should be pursued to better prepare for future droughts?**
- **What most concerns you about the future with regard to water?**
- **Any other thoughts or comments you would like to share with the IWRS Project Team?**



For More Information

Submit Comments Online thru July 15:

<http://bit.ly/iwrsdroughtcomments>

Water Resources Department's website:

http://www.oregon.gov/OWRD/pages/law/integrated_water_supply_strategy.aspx

IWRS Public Mailing List:

<http://listsmart.osl.state.or.us/mailman/listinfo/iwrs>

Send us an email:

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