Oregon
Kate Brown, Governor

Water Resources Department
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Development of the 2017 Integrated Water Resources Strategy: Policy Advisory Group (PAG) Meeting #1

Oregon Water Resources Department, Room 124
(North Mall Office Building)
725 Summer St., NE, Salem, OR 97304

Draft Agenda
Wednesday, March 30, 2016
10:00 am to 3:00 pm

(9:45) Danish and Coffee Available for PAG members and staff — Room 124 (across from coffee cart)

I. (10:00) Welcome and Introductions — Bob Baumgartner, Water Resources Commissioner
Tom Byler, Water Resources Department Director,
Alyssa Mucken, Integrated Water Resources Coordinator &
IWRS Project Team: Danette Faucera, ODFW
Margaret Matter, ODA
Karen Tarnow, ODEQ

II. (10:15) Agenda Review — Brenda Bateman, Facilitator

III. (10:30) Introductions — All
PAG members please say a bit about yourselves; aspirations for this process

IV. (11:00) Roles, Responsibilities, and Decision-Making
Group discussion

(11:30 Lunch available for PAG members & IWRS staff; working lunch) — Room 124

V. (12:00) Review of Oregon's 2012 Integrated Water Resources Strategy, 2012-17 Implementation Workplan, and 2017 IWRS Development — IWRS Project Team
Project team presentation and group discussion

(1:30) Break

VI. (1:45) Drought Resiliency – 2015 Impacts and Research Underway
Staff Presentation and group discussion

- Governor's 2015 Executive Order (EO 15-09) — Lauri Aunan, Office of Governor Brown
- 2016 State of Oregon Drought Annex — Alyssa Mucken, OWRD
- Drought Task Force Updates (HB 4113) — Tom Byler, OWRD
- Oregon Climate Change Research Institute — Kathie Dello, OCCRI
- Research underway to understand impacts of 2015 drought

Preliminary group discussion of drought resiliency.

VII. (2:45) Public Comment — Project Team

VIII. (3:00) Meeting Recap and Feedback — Facilitator
Next Meetings: June 8, September 14, November 30, same location

IX. Adjourn

Meeting Objectives:
- Introducing Policy Advisory Group members
- Establishing a shared understanding of the statutory background, roles and responsibilities, process, and timeline of IWRS development
- Examining progress thus far on implementation of the IWRS 2012
- Beginning discussions of drought resiliency in Oregon

Questions about travel reimbursements, parking, or food? Contact:
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2017 Integrated Water Resources Strategy Update
Policy Advisory Group
Proposed Decision-Making Process and Meeting Protocols

Proposed Decision-Making Process

A. The Policy Advisory Group agrees that consensus has a high value and that the Group should strive to achieve it. When possible, decisions on Policy Advisory Group recommendations will be made by consensus of all present participating members. Consensus means the willingness to go along with recommendations, either in active support of it or in not opposing it.

B. The commitment to work for consensus means that members will participate in the give and take of the process in a way that seeks to understand the interests of all and will work together to find solutions workable for all.

C. If no consensus is reached on an issue, the meeting notes will so note without attributing comments to specific members. The notes will describe the differing views, and note whether a majority held a particular position.

D. Agreements made on some of recommendations will be considered tentative until all of the recommendations are put together.

E. While consultation and information sharing with employers and affiliate organizations is welcome and valuable, individual Policy Advisory Group members function as citizen members and do not speak for nor formally represent their employers or membership associations.

F. The Project Team and facilitator will draft meeting notes that outline the issues discussed, the areas in which there is consensus, and any remaining issues on which consensus was not reached. Members will have the opportunity to review, make corrections, and then sign-off on meeting notes at the following meeting

G. The Oregon Water Resources Department will be responsible for writing the final Integrated Water Resources Strategy. The Water Resources Commission will be responsible for its adoption.

Proposed Meeting Protocol

A. All meetings of the Policy Advisory Group will be open to public attendance.

B. At the close of each meeting, the facilitator may allow time for public comment, taking into consideration the length of the agenda and the opportunity for Policy Advisory Group members to speak on all issues.

C. Members will treat each other with respect throughout the process. They will listen to each other to seek to understand each other's perspective, even if they disagree. One person will speak at a time. Members will participate fully in letting the group know their perspective on issues, their concerns, and their differing points of view. At the same time, members will respect time constraints and will share the speaking time with others.

D. All members act in good faith in all aspects of these discussions. This includes being honest and refraining from undertaking any actions that will undermine or threaten this process.

E. Members shall make every effort to bring all aspects of their concerns about these issues into this process to be addressed. Members shall refrain from generating controversy in the press and from publicly criticizing or misstating the positions taken by any other participants during the process.

F. All Policy Advisory Group members agree to maintain the respectful tone of the meetings outside the formal meetings, including all email correspondence. Any reporting to constituents, the media, or other parties will focus on issues and not individuals.
   a. Members are reminded that all e-mail messages should be considered public documents.
   b. E-mails meant for the entire group will be distributed via the Project Team.

G. All participation in this process is voluntary and may be withdrawn. However, members agree that before withdrawing they will discuss the reason for their withdrawal with the facilitator and the other members and will give the Project Team the opportunity to understand the reasons for withdrawal and to encourage continued participation, if appropriate.

Oregon

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MEMORANDUM

TO: Water Resources Commission

FROM: Alyssa Mucken, IWRS Program Coordinator

SUBJECT: Agenda Item A, March 12, 2015
Water Resources Commission Meeting

Integrated Water Resources Strategy Implementation Update

I. Introduction

During this agenda item, the Commission will hear updates regarding implementation of the Integrated Water Resources Strategy (IWRS). Staff from the project team agencies – Oregon Department of Environmental Quality (DEQ), Oregon Department of Fish and Wildlife (ODFW), and the Oregon Department of Agriculture (ODA) will join Department staff for this agenda item.

Staff will provide more in-depth information on IWRS implementation activities during a number of other agenda items including:

- Agenda Item B: Updates on the place-based planning guidelines (Action 9.A), the feasibility grant program (Action 13.C), and implementation of Senate Bill 839 (Action 10.E).

- Agenda Item C: Ongoing efforts to designate new scenic waterways (Action 11.B).

- Agenda Item D: Development of a strategy to guide the Department's surface water and groundwater monitoring programs (Action 1.B and Action 1.C).

II. Background

Oregon's 2012 Integrated Water Resources Strategy contains more than forty recommended actions that cover a broad range of water issues facing the state. The IWRS includes an extensive blueprint of actions to better understand and meet instream and out-of-stream water needs, including water quantity, water quality, and ecosystem needs, now and into the future.

The 2012-17 work plan describes a suite of actions and associated steps that are ongoing, actions that require legislative assistance, and actions that are planned for a later phase of implementation. Refer to Attachment 1 for a copy of the 2012-17 workplan.

III. Progress on Implementing Recommended Actions

The Department, with assistance from our partner agencies, has put together a document summarizing activities that occurred during the 2013-15 biennium to support implementation of the IWRS. Refer to Attachment 2 of the staff report. This summary report represents a snapshot of known activities occurring in support of the IWRS goals and recommended actions. As we learn more from other partners, the Department will update this summary and continue to report back to the Water Resources Commission.

Some implementation-related activities were already underway prior to adoption of the IWRS, either as part of ongoing efforts, or because they do not require additional funding or authorization from the Oregon Legislature. For example, agencies worked together in 2012 to update the state's water-related permitting guide using existing staff resources. In recent years, Department staff have provided a number of educational presentations to promote the Allocation of Conserved Water Program, directly supporting Recommended Action 10.A by improving awareness of water-use efficiency and conservation programs.

Several recommended actions required legislative assistance in order to be implemented. State natural resource agencies prepared budget proposals for consideration by the 2013 Legislature. More than a dozen recommended actions received some type of personnel or financial investment. Many of the investments have increased the technical or monitoring needs of natural resource agencies. These include:

- Action 1.A: Conducting cooperative groundwater studies in partnership with other agencies. Currently, the Department is partnering with the U.S. Geological Survey (USGS) and the Oregon Department of Geology and Mineral Industries to map and investigate groundwater conditions near The Dalles, Oregon. The Department is also working with the USGS to update the Deschutes Basin groundwater flow model.
- Action 1.B: Installing new surface water gaging stations and groundwater monitoring wells. These efforts are currently underway. Staff have been identifying partners, contractors, and suppliers, securing landowner access agreements, and establishing protocols for the protection of cultural resources during site installation.
- Action 1.B and 12.B: Expanding water quality monitoring across the state with a focus on groundwater, pesticides, and measuring the effectiveness of current practices and on-the-ground projects. The Department of Agriculture, Department of Forestry, and the Department of Environmental Quality are working closely on various monitoring-related activities.
- Action 2.B: Reinstating a coordinator for the Department's Water Use Reporting Program. After filling the position, the Department saw an increase in reporting compliance rates, from 17 percent in 2012-13 to 70 percent in 2013-14.
- Action 3.A and 11.B: Developing new instream protections. Resources were provided to the Department of Fish and Wildlife and the Water Resources Department to jointly work together on instream flow studies and processing of new instream water rights.
- Action 11.C: Expanding the state's aquatic invasive species prevention program. New boat inspection stations and personnel were added to prevent invasive species from entering Oregon's rivers and lakes.

To further support the IWRS, the 2013 Legislature also provided pass-through funds to directly assist water users, stakeholders, and other interests with various measurement, planning, and implementation efforts. Specifically, the Legislature provided funding for:

- Action 2.B: Recapitalizing a cost-share fund for installing measurement devices at significant diversions to further implement the Commission's Strategic Measurement Plan. In 2013, 112 devices were installed or confirmed installed. This represents a significant improvement over 2012 (51 devices).
- Action 10.E: Establishing grants and loans for water resources projects.
- Action 13.C: Recapitalizing grants to support water conservation, storage, and re-use feasibility studies. Since its inception in 2008, 54 grants have been awarded, totaling more than $3.2 million.
- Action 5.B and 9.A: Completing a WaterSMART Basin Study in the Upper Deschutes River Basin where multiple partners are collaborating to define the issues and solutions for meeting agricultural, municipal, and instream needs, while also considering risks posed by climate change. Partners have formed various sub-groups, which meet on a frequent basis, and are currently developing an outline of tasks to guide the two-year study.
- Action 10.B: Completing the Willamette Basin Reservoir Study, a collaborative effort between the Department, U.S. Army Corps of Engineers, other agencies, and basin stakeholders to examine options for reallocating stored water from the Willamette Valley Project reservoirs.

Lastly, the IWRS recommends an investment in water resources management at the state level to improve communication between agencies and support core functions of the agency, including permitting and other regulatory responsibilities. During the 2013-15 biennium, the Department expanded its field presence, adding a watermaster in Wallowa County and an assistant watermaster in Klamath County, helping to reduce the number of diversions that must be monitored for each field office and allowing for more effective management of the state's water resources.

The Department of Environmental Quality was able to add or restore several positions within its core water quality programs, including the wastewater permitting program, total maximum daily load (TMDL) program, and the onsite septic system program. Three new integrated water resources specialists were also hired to work directly on IWRS implementation in cooperation other agencies and local partners.

The Oregon Department of Agriculture also received resources to hire a water resources specialist, a much needed and newly funded position within the agency.

IV. Ongoing Agency-to-Agency Communications

Project team agencies continue to communicate on various water-related activities. Several years ago, project partners established an Agency Advisory Group (AAG) comprised of 18 natural resource and economic development state agencies to assist with development of the IWRS. The AAG continues to meet, generally on a quarterly basis, to share updates,

coordinate efforts, discuss budget proposals, and share progress that agencies have made toward implementation of the IWRS.

The Department uses these meetings as a platform to feature state agency initiatives or projects currently underway. Last summer, the Oregon Department of State Lands presented information regarding its efforts to develop a function-based stream mitigation framework for Oregon, a joint project that includes the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, and the Willamette Partnership. In a subsequent meeting, staff from the Department of Agriculture's Natural Resources Program provided an overview of Oregon's Pesticide Stewardship Partnership Program, an innovative approach for reducing toxics in Oregon's streams and a key implementation component of Recommended Action 12.B. These presentations and interactions have been invaluable for improving our collective understanding of agency programs, providing a unique opportunity for posing and answering questions, and opening doors to further inter-agency efforts.

The Federal Liaison Group has continued to meet as well, but on a less frequent basis. This group is comprised of ten federal partners, with responsibility for water quality, wetlands, species recovery and protection, agriculture, forestry, drinking water infrastructure, and various funding programs.

V. Partner Agency Updates

The Department has invited members of the IWRS Project Team to highlight efforts that support several actions in the Integrated Water Resources Strategy. The Department of Environmental Quality will update the Commission on efforts to expand the state's groundwater quality monitoring program, and discuss recent examples of improved coordination and communication with the Department and other agencies on various processes. The Department of Fish and Wildlife will provide information on the state's aquatic invasive species prevention program. ODFW will also update the Commission on the status of agency efforts to secure additional instream protections. The Department of Agriculture will also be joining us to discuss some of the latest techniques and potential challenges for estimating future agricultural water demands and recent efforts to expand water quality monitoring across the state.

VI. Preparing for 2015-17 and the Next Iteration of the IWRS

The state continues to implement steps outlined in the 2012-17 IWRS work plan. To prepare for the next iteration of the IWRS, due in 2017, project partners will undertake a variety of activities. The agencies have proposed additional budget packages to support continued implementation efforts, many of which have been included in the Governor's Recommended Budget.

The Department is planning to update its statewide water needs assessment and forecasting tools, looking 50 years into the future. The Department will create new maps to demonstrate our understanding of the status of our groundwater supplies, surface water availability, drought conditions, and water use throughout the state. Staff will continue to develop and document methodologies for monitoring surface water and groundwater resources, and further develop methods establishing new scenic waterways. In addition, a major focus will

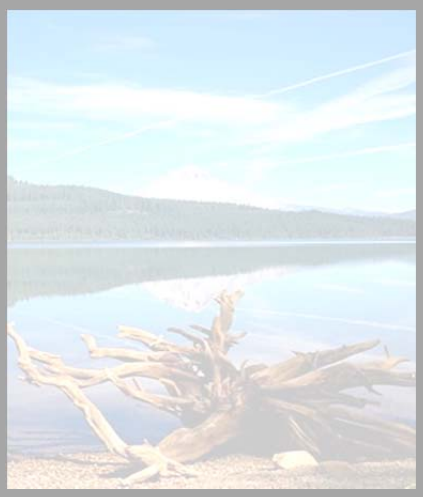
be to pilot place-based planning, a voluntary tool for meeting future instream and out-of-stream water needs using the framework of the IWRS.

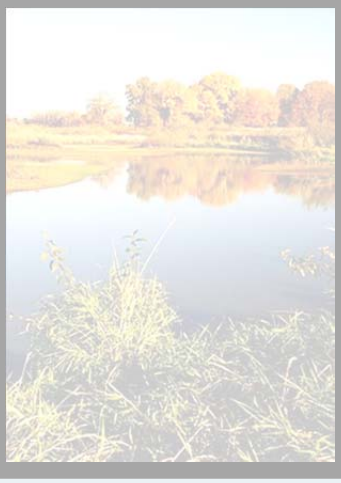
To prepare for the 2017 IWRS, the Project Team will launch a new Policy Advisory Group to play an advisory role to the four project agencies and their directors. This group will review and comment on implementation activities, and will provide guidance on recommended actions to include in the next phase of the IWRS (2017-22).

The Department is ultimately responsible for reviewing and updating the Integrated Water Resources Strategy every five years. The Water Resources Commission will be responsible for adopting the next iteration of the IWRS. Similar to the 2012 IWRS, partner boards and commissions will be asked to provide input and to endorse the 2017 version.

Alyssa Mucken
503-986-011

Attachment 1: 2012-17 IWRS Workplan
Attachment 2: Oregon's IWRS: Progress Update Summary

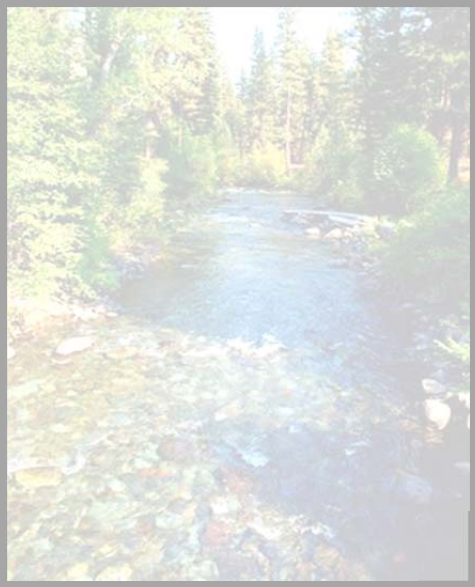




OREGON'S

INTEGRATED WATER RESOURCES STRATEGY

2012-2017 DRAFT WORKPLAN



AUGUST 2012

State of Oregon
Oregon Water Resources Department
725 Summer Street NE, Suite A
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www.wrd.state.or.us
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August 2012

Draft 2012-2017 IWRS Workplan

Cover Photos: Bob Wood, OWRD; Kyle Gorman, OWRD; Gary Halvorson, Oregon State Archives; and Rick Swart, ODFW

Draft IWRS Workplan (2012-17)

This document is a supplement to Oregon's Integrated Water Resources Strategy (IWRS).

The next steps described here are based on the Recommended Actions in the 2012 IWRS, and identify lead agencies, as well as funding, and staffing levels necessary during the two next biennia to begin implementation. The next steps described here are heavily focused on the role of state agencies. Not only do opportunities exists for participation from other public and private sector partners—in terms of research, administration, and funding—there is also a leadership role for these partners as well. Much of that detail is not included in this document; however, it will reside in individual agency and organizational workplans and budgets.

The next steps described below are grouped into three categories: (1) steps already underway during 2011-13 biennium with no further requests for funding beyond current levels; (2) steps requiring Legislative assistance with policy and/or funding during the 2013-15 biennium; and (3), steps deferred until the 2015-17 biennium due to staffing or timing constraints. Next steps listed under each biennium are listed in numerical order, according to the numbered Recommended Action noted in the IWRS.

During the 2013-2015 biennium, the IWRS calls for Legislative assistance in three primary areas. These include the following:

Data Collection and Coordination. The IWRS calls for a significant investment in groundwater and surface water data, both quantity and quality. As one example, the State needs a more robust network of stream gages and observation wells in place to track the health of Oregon's water in each basin—to monitor groundwater levels, streamflows, water quality, and forest and watershed health. As another example, a statewide groundwater quality monitoring program does not exist today. Oregon needs to establish and maintain a statewide program, particularly related to nitrates, a known groundwater quality problem throughout Oregon. In a third example, increasing capacity for water use measurement and reporting would greatly improve management of Oregon's water resources. Trained personnel who are able to collect data, provide quality control, and process and share the results are a critical part of Oregon's data needs.

Water Management and Development Tools. The IWRS also calls for increased support for water management and development tools such as built storage, natural storage, water conservation and re-use, water right transfers, and instream protections. The Strategy also calls for the development of new tools, such as a water supply development program, to strengthen the State's role as a direct partner in water supply.

Funding State and Local Capacity. The IWRS recommends stabilized funding for the State's natural resource agencies with management responsibilities for water quantity, water quality, and ecosystems. The Strategy also advocates for funding to benefit local communities—to participate in place-based planning; to finance water and wastewater infrastructure; to improve fish passage, screening, and other ecological restoration efforts; and to develop water resources projects in partnership with the State.

This is a draft document, subject to change as the Governor's Office and Oregon Legislature make resources available for these efforts.

A number of acronyms are used throughout this document:

DCBS – Dept. of Consumer and Business Services
DEQ – Dept. of Environmental Quality
DOE – Dept. of Energy
DOGAMI – Dept. of Geology & Mineral Industries
DSL – Dept. of State Lands
GF – General Fund
IFA – Infrastructure Finance Authority
INR – OSU Institute for Natural Resources
OCCRI – OR Climate Change Research Institute
ODA – Oregon Dept. of Agriculture
ODE – Oregon Department of Education
ODF – Oregon Dept. of Forestry
ODFW – Oregon Dept. of Fish & Wildlife
OF – Other Fund
OHA – Oregon Health Authority
OSMB – Oregon State Marine Board
OWEB – Oregon Watershed Enhancement Board
OWRD – Oregon Water Resources Department
USGS – US Geological Survey

Implementing the second edition of the Integrated Water Resources Strategy will involve maturing into the programs initially laid out in 2012, as well as initiating work on Recommended Actions not funded in the first five years.

It will also involve addressing critical issues that emerge after the adoption of the initial rendition of Oregon's Integrated Water Resources Strategy.

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DRAFT WORKPLAN

2011-13 Steps Already Underway

Steps already underway during the 2011-13 biennium include a combination of long-running programs and newer efforts. These programs plan to continue forward into the next biennia without requesting additional budget resources, beyond current levels. Nor do they require new legislative authorities. Efforts expended in these areas do not come without a price; they represent a level of effort not spent in other program areas.

Step	Contributing Recommended Actions	Staff Required per 2 yrs	Total Cost Estimates per 2 yrs	Lead Agency(ies)	Requires Legislative Concept?
• Update Oregon's Inter-Agency Permitting Guide. In Oregon, protecting natural resources means a variety of local, state, and federal permits are required for residential, industrial, commercial, and public works projects in or near water and wetlands. The primary goals of these requirements are to avoid, reduce, or compensate for impacts to the state's natural resources. The State has developed a permitting resource for developers, planners, and economic development officers. The guide needs to be updated with new contact information, web links, and requirements.	2D	Intern	0	DSL, state & federal ptnrs	No
• Groundwater Dependent Ecosystems. Some of this work is already underway; the Nature Conservancy, working with the U.S. Forest Service, has been working on a series of methods and protocols for inventorying and monitoring groundwater-dependent ecosystems.	3B	Existing	Existing	Public & Private Partners	No
• Take Advantage of Existing Infrastructure to Develop Hydroelectric Power. Oregon has an expedited review process for new hydroelectric projects at existing infrastructure. A workgroup, formed after the 2011 Legislative Session, is developing options to identify and pay for fish protections that are absent from existing infrastructure.	4B	Existing Workgroup	0	ODFW, WRD	No
• Water Conservation and Efficiency. Revise informational materials supporting the agricultural and municipal Water Management and Conservation Plan programs and Allocation of Conserved Water program, to help make the business case to water users and to provide clearer guidance about how to participate in these programs. Improve partnerships with energy efficiency programs.	4C, 10A	Intern	0	WRD, DOE ODA,OWEB	No

Step	Contributing Recommended Actions	Staff Required per 2 yrs	Total Cost Estimates per 2 yrs	Lead Agency(ies)	Requires Legislative Concept?
• Down-scale Climate Change Models to the Basin Level, characterizing potential local changes in surface water and groundwater resources, as well as the effects of climate change on instream and out-of-stream demands and their associated water rights. Use peer-reviewed results to inform Oregon's water resource management decisions.	5A	Existing	Existing	OCCRI WRD	No
• Continue investment in the development and upgrade of water and wastewater infrastructure. The IFA makes resources available to finance water and wastewater systems through Community Development Block Grants, the Water Fund, and the Safe Drinking Water Revolving Loan Fund.	7A	Existing	Existing	IFA, DEQ, OHA	No
• Continue to develop and provide water-related education and outreach through K-12 education, water industry vocational and professional training, community workshops, and identification of research needs.	8a-8d	Existing	Existing	ODE, ODA, OHA, WRD	No
• Continue to develop protocols that allow the State and its customers to reach their environmental goals, using non-traditional means, specifically by developing protocols for translating water quality projects into credits and protocols for translating streamflow restoration into credits.	10D	Existing	Existing	DEQ, WRD	No
• Continue to invest in the improvement of watershed health, resiliency, and capacity for natural storage. These efforts focus on improving conditions in riparian areas, wetlands, floodplains and forests.	11A	Existing	Existing	OWEB, ODA, ODF, DSL, ODFW	No
• Continue efforts to prevent and eradicate invasive species. Current efforts are guided by the Oregon Conservation Strategy led by ODFW, the Oregon Invasive Species Council, the Insect Pest Prevention Program and Weed Control Program at ODA, and the ballast water management program led by DEQ. Some of this work is funded with fees on motorized and non-motorized boats.	11C	Existing	Existing	ODFW, DEQ, ODA, OSMB	No
• Continue to ensure the safety of Oregon's drinking water. Current efforts focus on the protection of drinking water sources, including to some degree monitoring public drinking water for contaminants of emerging concern. Another area of focus is to encourage more water providers to join the Oregon Water/Wastewater Agency Response Network.	12A	Existing	Existing	OHA	No

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Step	Contributing Recommended Actions	Staff Required per 2 yrs	Total Cost Estimates per 2 yrs	Lead Agency(ies)	Requires Legislative Concept?
• Continue to reduce the use of and exposure to toxics and other pollutants. State agencies already have robust programs in place, and plan to continue implementation related to DEQ's Toxics Reduction Strategy, chemical purchasing practices, pesticide management and stewardship, brownfields rehabilitation, blue-green algae, and monitoring and outreach.					
	12B	Existing	Existing	IFA, OHA, DEQ, ODA, ODF	No
• Continue to implement water quality pollution control plans. During the coming biennia, the greatest focus will continue to be on development and implementation of TMDLs for water bodies that do not meet water quality standards. Agencies will continue to address nonpoint sources of pollution across all land uses, increasing monitoring where possible.					
	12C	Existing	Existing	DEQ, ODA, ODF	No

2013-15 New Steps Requiring Legislative Assistance

The authorizing legislation for Oregon's Integrated Water Resources Strategy (ORS 536.220) invites state agencies with responsibilities for developing the Strategy to identify legislative amendments and budget recommendations as part of their work product. Below are a number of such legislative and budget requests, specifically for the 2013-15 biennium. These are designed to make forward progress toward understanding and meeting Oregon's water needs. They are also designed to serve as a foundation for requests scheduled to come forward in the 2015-17 biennium.

Step	Contributing Recommended Actions	Staff Required per 2 yrs	Total Cost Estimates per 2 yrs	Lead Agency(ies)	Requires Legislative Concept?
• Groundwater Basin Investigations. These investigations characterize the relationship between surface water and groundwater, determining characteristics of groundwater (location, volume, quality, etc.). A typical groundwater basin investigation takes five to six years to complete; the State has conducted three so far in partnership with the USGS. It has prioritized five additional basins for subsequent groundwater studies. Additional components could include identifying the location and use of exempt use wells; identifying the location of underground injection control systems (UICs), and evaluating Critical Groundwater Areas (CGWA). Data from CGWAs need to be updated to reflect groundwater level trends, with comparisons to precipitation, recharge, and water use data. These analyses provide the foundation for "allocation orders" issued to water users in those areas each year. An evaluation of one CGWA takes one year to complete.	1A	Existing	$500K GF	WRD	No
• Water Resources Data Collection. Improve data collection and processing to capture and share basic water resources data. A recent stream gage evaluation has identified another 70 locations where additional stream gages would aid in water management; 30 of these are high priority. Similarly, an addition of 40 dedicated monitoring wells, owned and operated by the State, would aid in groundwater management in key locations. Trained personnel would collect, quality control, and process these data. This request also includes the establishment of a groundwater monitoring program at the Department of Environmental Quality. This would involve personnel and monitoring equipment. Finally, this request includes continued funding for the Dept. of Agriculture's Ag Water Quality Monitoring Program, previously paid out of Pacific Coast Salmon Recovery Funds.	1B	7-WRD 3-DEQ Ext.-ODA 2-ODF	$2,250K GF $962K GF $965K GF $735K GF	WRD, DEQ, ODA ODF	No

DRAFT WORKPLAN

Step	Contributing Recommended Actions	Staff Required per 2 yrs	Total Cost Estimates per 2 yrs	Lead Agency(ies)	Requires Legislative Concept?
• Inter-Agency Data Coordination. Dedicate state agency staff to inter-agency data systems that coordinate with local, tribal, federal, and other public and private partners. This package builds upon the preceding basic data package, adding high level and information support system staff at key agencies to help with data coordination and access.	1C	1-WRD 2-DEQ 2-ODFW 1-ODA	$250K GF $300K GF $300K GF $250K GF	WRD, DEQ, ODFW, ODA	No
• Water Use Measurement and Reporting. Measurement and reporting facilitates the State's ability to manage water resources, particularly in basins with water shortage concerns or groundwater level declines. Oregon statutes and administrative rules require governmental entities to measure and report water use. Some private water users are also required to measure and report their use, in accordance with their water right permits. The Water Resource Department's requests re-instatement of its water-use reporting position, necessary to fulfill statutory responsibilities and technical assistance to water users. In addition, staff continue to implement the Water Resources Commission's Water Measurement Strategy (2000), requiring measurement devices on significant points of diversion in high priority watersheds. The cost to install weirs, flumes, meters, or other appropriate measurement devices can be significant. Cost share dollars for measurement devices are critical to this program's success. This concept re-capitalizes an already existing fund, called the "Measurement Cost Share Fund."	2B	1	$225K GF	WRD	No
• Rebuild Field Capacity – Watermaster Corps. Watermasters and assistant watermasters provide expertise in the field to protect Oregon's water resources and the rights to use this water. Local funding for assistant watermasters has declined from 37 positions in the 1990s to 14 partially funded positions today. High priority staff needs include two assistant watermasters in Klamath County to assist with post-adjudication water management, a watermaster in Wallowa County, and seasonal assistants to help each watermaster office with the installation of measurement devices. Phase in.	2B, 2C, 10A-E	2	$343K GF	WRD	No
• Update Water Right Records with Contact Information. Today, there are no statutory provisions that allow the name on a water right certificate to be changed, even if the original holder of the certificate has passed away or sold off interests. There are approximately 85,000 water rights in Oregon today. The State needs the ability to respond to holders of water rights who are asking to modify the names on these certificates, especially in light of recent court rulings, favoring the name written on a water right certificate over other factors. Such a change would facilitate other process efficiencies, such as communicating with water right holders, mapping water rights, updating the water right database, and improving compliance with measurement and reporting conditions. This would be a voluntary program, funded by fees.	2D	2	$430K OF	WRD	Yes

Step	Contributing Recommended Actions	Staff Required per 2 yrs	Total Cost Estimates per 2 yrs	Lead Agency(ies)	Requires Legislative Concept?
• Determination and Protection of Instream Flows. The Oregon Department of Fish and Wildlife, Department of Environmental Quality, and Parks and Recreation Department are authorized to apply for instream water rights for specific purposes, such as protection of fish habitat, water quality, and scenic waterways. Such applications require scientific analysis and modeling to determine the instream needs for base and elevated flows. ODFW requests three FTE to better calculate the need for both baseflow and elevated flows and to request additional water rights to protect these flows. WRD requests a hydrologist and water right permit writer to support these efforts.					
	3A, 11B	3-ODFW 2-WRD	$491K GF $368K GF	ODFW WRD	No
• Place-Based Planning. This package focuses on funding for one local community to participate in the development and testing of a template, designed to guide the development of place-based water strategies that roll up to the statewide IWRS. Interagency coordination on this and other topics takes place in subsequent workplan items entitled, "IWRS Coordination."					
	9a	0	$500K GF	WRD	No
• Implementation of the Umatilla Basin Aquifer Recovery Project, using aquifer recharge and aquifer storage and recovery techniques. At full build-out, this project could have capacity for 100,000 acre feet of water in the Umatilla Basin.					
	10B	Existing	$10M in bonds	WRD, DEQ, OHA	No
• Secure authority and funding for the state to establish a water supply development program. The establishment of a water supply development program would improve the Oregon's ability to assess, plan, stretch, and develop its water supplies, using a combination of tools. Such a program would necessarily work in tandem with a place-based planning approach, with state and local partners working together to determine needs, feasibility, funding, and implementation.					
	10A-E, 11A-D, 9A, 9C	4	$21M in bonds	WRD	Yes

DRAFT WORKPLAN

Step	Contributing Recommended Actions	Staff Required per 2 yrs	Total Cost Estimates per 2 yrs	Lead Agency(ies)	Requires Legislative Concept?
• IWRS Coordination. The goals, objectives, and recommended actions spelled out in the IWRS will be meaningless without dedicated funding. This package would fund the implementation of the state's 2012-17 IWRS and development of the state's 2017-22 IWRS, with the primary staff member housed at WRD, and additional staff at DEQ, ODFW, and ODA. Part of this coordination will be to develop and test a template for place-based planning, to help assess and meet water needs and to plan for the Oregon's water future. Voluntary, local efforts will "roll up" into and inform the statewide Integrated Water Resources Strategy. Using a template provided by the State to guide the process, communities will address the unique hydrology and water needs (instream and out-of-stream) locally, optimizing outcomes. The State, through the four key IWRS agencies, will develop and test a template under the IWRS for place-based planning and will seek further grant funding and other incentives to assist with local planning efforts. This approach is meant to empower communities to conduct place-based planning in consultation with the State. These efforts also include cross-agency implementation of existing ecological plans and recovery efforts (e.g., coordinate water quality-related restoration with Fish Recovery Plan habitat restoration). This coordination effort will enable agencies to convene key partners and stakeholders as part of the place-based planning efforts described above, to pool resources, and to achieve multiple goals simultaneously.	13A, 9A-B, all of 10, 11, 12	3-4	$750K GF	WRD, DEQ, ODFW, ODA	No
• Secure stable funding for water resources management at the state level. Oregon's core scientific, field-based, and planning responsibilities related to water are underfunded and have been for years. Shore up General Fund base where possible, and develop additional sources of funding to mitigate the loss of General Fund to the state's key water-related agencies. Agency staff and commissions continue to work with the Governor's office and Legislature to analyze and finalize options for Legislative consideration in 2013.	13B	--	Self-funding	WRD	Yes
• Capitalize the SB 1069 (2008) feasibility study grant fund. These funds provide SB 1069 grants to help evaluate the feasibility of water conservation, storage, and reuse projects. In 2008, the Water Resources Department awarded approximately $1.3 million in feasibility study grants to 21 Oregon communities, plus funds for the Umatilla Basin Aquifer Recovery Project. In 2011, the Oregon Legislature provided another $1.2 million for this grant program, which funded feasibility studies in more than 20 Oregon communities.	13C	0.5	$1.2M in bonds	WRD	No

2015-17 Steps Requiring No Legislative Assistance

A number of Recommended Actions will require supervision of interns, temporary or volunteer staff. Neither supervisors nor existing staff members are currently available to undertake these projects. Agencies may be better positioned in 2015-17 to begin these efforts.

Step	Contributing Recommended Actions	Staff Required per 2 yrs	Total Cost Estimates per 2 yrs	Lead Agency(ies)	Requires Legislative Concept?
• Mapping Agency Responsibilities. Document Oregon's major water-related institutions and their involvement in water management at the local, state, federal, and tribal levels. This will strengthen the public's understanding of institutional linkages, and will help improve day-to-day collaboration, decision-making, and data coordination.	1C	TBD	0	WRD	No
• Energy Analysis. The development of renewable power systems brings with it as-yet-unquantified demands for water. An analysis of water demands for water-intensive energy development projects and policies in each energy sector is needed.	4A	TBD	0	DOE, WRD	No
• Update State Agency Coordination Plans. These Plans ensure that rules and programs affecting land use are compatible with acknowledged city and county comprehensive plans. Changes to state rules and programs, and to comprehensive plans, may lead to incompatibilities that are detrimental to state, local, and private interests. Keeping coordination programs up-to-date will help ensure state and local permitting actions can be completed efficiently.	6A, 6B	TBD	0	DLCD	No

DRAFT WORKPLAN

2015-17 Steps Requiring Legislative Assistance

Next steps in this section are dependent upon actions mentioned on previous pages. This represents a staged approach to implementation.

Step	Contributing Recommended Actions	Staff Required per 2 yrs	Total Cost Estimates per 2 yrs	Lead Agency(ies)	Requires Legislative Concept?
• Update Oregon's Long-Term Water Demand Forecast. Regular updates include identifying water-use trends in economic development, agriculture, urban-rural population growth/shift, per capita demands, and anticipated effects of conservation and efficiency improvements. This action will benefit from information coming in from water-use measurement and reporting programs mentioned earlier (Recommended Action #2B).	2A	TBD	TBD	WRD	No
• Determine Pre-1909 Water Right Claims. These include completing unadjudicated areas of the state, as well as settling federal reserved claims and tribal claims, and establishing priorities for that work. Adjudication in the Klamath Basin, which began in 1975, is scheduled for completion by the end of the 2011-13 biennium (Rec. Action #2C).	2C	TBD	TBD	WRD	No
• Climate Change Adaptation. These efforts depend on the results of downscaling / modeling of local effects in Recommended Action #5A. Use peer-reviewed results to inform Oregon's water resource management decisions. Communicate information and resulting options to local water users.	5B	TBD	TBD	WRD	No
• Low Impact Development. There is a need for strong administrative support and direction to incorporate LID practices into codes or to encourage developers to try such projects. Local planning departments need technical resources and assistance to help familiarize themselves with low impact techniques, and to allow such projects to move through the local government approval process. Information gathered on LID policies in cities and counties across the state, would help encourage more effective use of these practices. Oregon communities should consider updating local development codes, where appropriate, and improving local capacity, both technically and legally, to review and permit green infrastructure designs.	6C	TBD	TBD	DCBS, DEQ	No
• Improve Oregon's Dam Safety Program. Additional assistance from a hydraulic engineer and a geotechnical engineer will provide the technical expertise Oregon needs to help dam owners better prepare for seismic and extreme precipitation events, particularly for high hazard dams.	7A	TBD	TBD	WRD	No
• Regional Infrastructure. Policy and funding discussions around regional infrastructure may be bolstered by the place-based planning efforts (9a) undertaken in 2013-15.	7B	TBD	TBD	WRD	No

A Roadmap to the Implementation of Oregon's 2012 Integrated Water Resources Strategy

(Updated February 1, 2015)

This document contains all of the Recommended Actions from Oregon's 2012 Integrated Water Resources Strategy. This document reflects an initial assessment of the progress made toward implementation of the Strategy. Most of the narrative below focuses on state agency efforts. It is important to note that implementation of the Integrated Water Resources Strategy cannot be done by state agencies alone. Many of the recommended actions will be carried out by a variety of partners. As we learn more from our sister agencies, stakeholders, and other public and private organizations, the Water Resources Department will add additional details and discussion to the descriptions included below.

Refer to the following themes and pages for information on implementation:

Understanding Water Resources/Supplies/Institutions 2
Understanding Oregon's Out-of-Stream Needs/Demands 4
Understanding Oregon's Instream Needs/Demands 5
The Water-Energy Nexus 6
Climate Change 6
The Water and Land-Use Nexus 8
Infrastructure 8
Education and Outreach 9
Place-Based Efforts 10
Water Management & Development 11
Healthy Ecosystems 13
Public Health 15
Funding 18
IWRS Recommended Actions – Implementation at a Glance 20

Acronyms used throughout this document:

ODAS	Oregon Department of Administrative Services
ODEQ	Oregon Department of Environmental Quality
ODFW	Oregon Department of Fish and Wildlife
ODOJ	Oregon Department of Justice
ODSL	Oregon Department of State Lands
OHA-EPH	Oregon Health Authority's Environmental Public Health Division
OPRD	Oregon Parks and Recreation Department
OWEB	Oregon Watershed Enhancement Board
OWRD	Oregon Water Resources Department
U.S. BOR	U.S. Bureau of Reclamation
U.S. EPA	U.S. Environmental Protection Agency

Understanding Water Resources/Supplies/Institutions

1A. CONDUCT ADDITIONAL GROUNDWATER INVESTIGATIONS

☑ **Test water quality in private drinking water wells.**

The Oregon Health Authority has expanded its efforts to support water quality testing for private drinking water wells, under the Domestic Well Safety Program. The program provided grants to Benton and Jackson Counties, totaling $5,000 each, to support capacity building of domestic well safety outreach in 2015. Refer to Action 1.B. and 12.A. for additional discussion of efforts.

☑ **Maintain and install additional monitoring wells.**

The 2013 Legislature added $780,000, which included two groundwater scientists to provide additional capacity for collecting and analyzing groundwater data, and establishing new groundwater level monitoring wells. After identifying a pool of eligible drillers, securing landowner access agreements, and establishing protocols for the protection of cultural resources, the Department will soon begin to install these wells. Priority areas include the Umatilla Basin, near The Dalles, Harney Valley in the Malheur Basin, and the Deschutes/Metolius area.

☑ **Partner with USGS to conduct and cost-share additional groundwater investigations.**

The 2013 Legislature added $250,000 to the Department's base budget to conduct these studies. Currently, OWRD is partnering with the USGS and DOGAMI to map and investigate groundwater conditions near The Dalles. OWRD is also working with the USGS to update the Deschutes Basin groundwater flow model. Next areas of focus will be the Harney Valley in the Malheur Basin and the Umatilla Basin.

☑ **Assess groundwater administrative areas.**

Each year, the Department conducts a "synoptic," measuring groundwater levels in wells throughout critical groundwater areas in the Umatilla Basin, and communicating sustainable yield calculations to local water well owners.

☑ **Locate and document exempt use wells.**

Although OWRD established its program to locate and record new exempt use wells in 2009, it was not until 2013-14 that the Department created more user-friendly tools to help customers and drillers create map locations on-line. The Department's success rate collecting usable maps from customers rose from 20 percent of new exempt wells in 2013 to more than 70 percent by the end of 2014.

☐ Locate and document UICs.

1B. IMPROVE WATER RESOURCE DATA COLLECTION AND MONITORING

☑ **Update Oregon's stream gage network.**

The 2013 Legislature added $730,000 for new stream gages, two hydrologic technicians, and one information services position to the Department's base budget to provide additional capacity for collecting and analyzing surface water data, as well as installing and upgrading stream gages. After receiving bids from manufacturers, securing landowner access agreements, and establishing protocols for the protection of cultural resources, the Department has begun to install and upgrade the state's stream gage network. Priority areas are located throughout the state, and in particular, include the Klamath Basin to help implement the Klamath Basin Restoration Agreement and Upper Klamath Basin Comprehensive Agreement.

☑ **Implement an on-going state-wide groundwater quality monitoring program.**

In 2013, Oregon DEQ received funding from the Legislature to initiate a groundwater monitoring program beginning in 2015. ODEQ plans to evaluate two new areas of the state each year, with the goal of covering Oregon in 10 years. The objective is to identify areas of groundwater contamination and inform domestic well owners about potential risks, if present (in consultation with OHA), so that appropriate measures can be taken. Focus areas for 2015 include the Rogue

watershed and the North Clatsop Plain on the North Coast where real estate transaction data and other data sources indicate a risk of groundwater contamination. If contaminants are found at unsafe concentrations, ODEQ will work with stakeholders to decide if management actions are required.

☑ **Prioritize basins for data collection and monitoring.**

OWRD is currently developing a monitoring strategy, using input from staff and partners. This strategy will identify the types of programs and decisions that require streamflow and groundwater data, and will set forth a framework that helps identify and prioritize locations in which to site monitoring stations. This work updates and builds upon the 2011 stream gage analysis conducted by the Department. In Fall 2014, the Oregon Department of Forestry also initiated an update to its Monitoring Strategy, which was last updated in 2002. Several state agencies participate in an inter-agency monitoring team where recent discussions have focused on updating and coordinating monitoring plans and activities among agencies.

☑ **Evaluate habitat conditions and effectiveness of restoration efforts.**

The 2013 Legislature provided two positions to ODEQ to restart the collection of water quality and biological data to guide watershed restoration efforts under the Oregon Plan. Another three positions were authorized to focus on water quality monitoring for fish, wildlife, habitat, and natural resources industries.

☑ **Add remote and real-time capability to monitoring stations.**

OWRD will include real-time telemetry equipment on newly installed gaging stations. The Department will equip existing stations, when resources allow.

☑ **Establish dedicated monitoring wells.**

Refer to monitoring wells in 1.A. above.

1C. COORDINATE INTER-AGENCY DATA COLLECTION, PROCESSING, & USE IN DECISION-MAKING

☑ **Coordinate federal, state & local monitoring and data efforts.**

See monitoring strategy above. In addition, the Governor's 2015-17 Recommended Budget requests a monitoring coordinator for OWRD to help the Department, its staff, partners, and customers coordinate their monitoring efforts in both water quantity and water quality.

☑ **Improve and integrate data from partners.**

See above. In addition, OWRD, ODEQ, and OWEB staff members are working together to communicate more clearly to OWEB grant recipients the standards they must use in order to monitor and share water quantity and water quality information, as part of their project requirements.

☑ **Process backlogs.**

OWRD's Water Rights Services Division and Technical Services Division have been working closely to reduce the backlog in processing certificates, transfers, and permit applications. See 2013 one-pager . Technical services' groundwater and surface water sections have provisional data that must be quality assured before it can be finalized and published. Additional staff capacity provided by the 2013 Legislature is helping to improve data and water right processing timelines and reducing the backlog of pending applications.

☑ **Improve availability of information.**

During the past several years, OWRD has made more information and tools available on-line, including scanned documents, an on-line mapping feature, real-time and historic streamflow and lake-level statistics, and a virtual workspace for inter-agency workgroups and review groups. For example, during 2013-14, the Department updated its web-based mapping tool to work with Windows, Mac, and mobile devices, and it developed a Watermaster District dashboard, showing recent regulation measurements for the Klamath Basin.

☑ **Invest in scientific modeling tools.**

During 2014, OWRD reviewed and became familiar with RiverWare, a software modeling tool that helps decision-makers see the potential range of river restoration actions; the Department conducted this review to provide expert advice to the Confederated Tribes of the Umatilla Indian Reservation (CTUIR).

☑ **Map major water institutions, documenting their responsibilities, programs, and data.**

In 2014, OWRD published a document describing the various water-related programs of state and federal agencies. The document is available on the IWRS project website, under "Implementation Updates and Resources."

Understanding Oregon's Out-of-Stream Needs/Demands

2A. UPDATE LONG-TERM WATER DEMAND FORECASTS

☑ **Update the state's long-term water demand forecast.**

In 2013, the Legislature authorized a position at the Department of Agriculture to help determine agricultural needs and water availability for farmers and ranchers. In 2014, ODA began an evaluation of agricultural reservations described in some of the state's administrative basin programs. In addition, in February 2015, the Water Resources Department released a request for proposals (RFP) to update the state's long-term water demand forecast 50 years into the future. Last conducted in 2008, the forecast needs to incorporate new census data, industrial and agricultural development trends, changes in land-use, and changes in climate. The forecast is scheduled to be completed by year's end.

☑ **Quantify/model economic value of instream and out-of-stream water.**

The U.S. Army Corps of Engineers completed a pilot study with OWRD to develop cost models for purchasing municipal or industrial water stored in Willamette Valley Project reservoirs. The final report, completed June 2014, has been posted to OWRD's project website for Willamette Basin Reservoir Study.

☑ **Enhance the state's water use reporting system.**

During 2013-14, OWRD streamlined water use reporting tools for on-line reporting, and also developed new query and analysis tools to provide all of OWRD's current and historic water-use data to the public.

☐ Update crop water-use tables.

2B. IMPROVE WATER-USE MEASUREMENT & REPORTING

☑ **Reinstate a water-use reporting coordinator at OWRD.**

The 2013 Oregon Legislature funded one full-time water-use coordinator position, re-instating a position that collects data from and provides technical assistance to customers who are required to report their water use. After filling the position, the Department saw improvements in reporting rates, from receiving only 17 percent of required reports in 2012-13 to receiving 70 percent of required reports in 2013-14.

☑ **Fully implement the State's Water Measurement Strategy; offer cost-share dollars.**

The 2013 Legislature re-capitalized the state's cost-share fund with $100,000. Staff efforts, underway since 2000, have resulted in 819 measuring devices installed by end of calendar year 2013, which includes 112 devices installed or confirmed installed in 2013. This represents a significant improvement over 2012 (51 devices).

☑ **Employ remote-sensing.**

During 2013-15, OWRD participated with the U.S. Army Corps of Engineers and University of Idaho in a pilot program using LandSat/Metric technology, which measures and models evapotranspiration on the ground.

☐ Encourage businesses to conduct self-evaluations of water use.

2C. DETERMINE PRE-1909 WATER RIGHT CLAIMS

☑ **Complete un-adjudicated areas.**

> OWRD issued the Adjudicator's Findings of Fact and Final Order of Determination for the Klamath Basin on March 7, 2013. These documents are on-line. The Klamath County Circuit Court is now reviewing the Final Order of Determination. The Klamath County Circuit Court will issue a water rights decree affirming or modifying the Final Order of Determination. The Department can issue water right certificates in accordance with the decree once it is issued by the court.

☑ **Settle federal reserved claims, including tribal claims.**

> OWRD and the Governor's Office continue to negotiate tribal claims with the Confederated Tribes of the Umatilla Indian Reservation (CTUIR).

☐ Settle groundwater claims.

2D. UPDATE WATER RIGHT RECORDS WITH CONTACT INFORMATION

☐ Authorize OWRD to update names on water right certificates.

> A legislative concept was introduced during the 2013 Legislative Session to authorize such updates. The bill did not move out of committee.

☐ Update related water right database and GIS records.

> See above bullet.

☐ Rule-making should specify acceptable documentation.

> See above bullet.

2E. UPDATE OREGON'S WATER-RELATED PERMITTING GUIDE

☑ **Provide updated agency contacts, policies, and links.**

> Led by OWRD, the state's natural resource agencies updated Oregon's water-related permitting guide in 2012. Its purpose is to provide a comprehensive, yet simple reference for regulatory and non-regulatory programs that influence permitting of projects in wetlands and waterways.

☑ **Provide industry-specific information where possible.**

> Refer to Section 3 of the water-related permitting guide.

Understanding Oregon's Instream Needs/Demands

3A. DETERMINE FLOWS NEEDED (QUALITY & QUANTITY) TO SUPPORT INSTREAM NEEDS

☑ **Conduct base flow needs studies.**

> The 2013 Legislature authorized three biologists at ODFW to identify and prioritize basic and elevated streamflow needs for fish. The positions were not filled during the 2013-15 biennium, due to budgetary concerns. Though the positions were never filled, existing staff collected field data for the Physical Habitat Simulation (PHABSIM) model on 4 coastal streams in 2013-14, and the data is being prepared for fish habitat calculations using the SEFA software.

☑ **Develop elevated flow requirements.**

> See above. ODFW and OWRD partnered with task force members during 2013-14 to establish methods for determining "seasonally varying flows," when awarding funding to certain storage projects under SB 839 (2013). The resulting matrix and narrative from these task forces will inform rule-making activities scheduled for 2015.

☑ **Develop models/studies on economic value of instream and out-of-stream water.**

> See Recommended Action #2a.

3B. DETERMINE NEEDS OF GROUNDWATER DEPENDENT ECOSYSTEMS

☑ **Complete groundwater basin studies.**

> See Recommended Action #1a).

☐ Identify and characterize groundwater-dependent ecosystems statewide.

The Water-Energy Nexus

4A. ANALYZE THE EFFECTS ON WATER FROM ENERGY DEVELOPMENT PROJECTS & POLICIES

☑ **Analyze the water demands and water quality impacts of current and proposed water-intensive energy development projects (bio-energy, geothermal, solar, natural gas, and hydroelectric).**

> The U.S. Department of Energy released a report in July 2014 that examines the water and energy nexus and identifies challenges and opportunities. An executive summary and full report are available here.

4B. TAKE ADVANTAGE OF EXISTING INFRASTRUCTURE TO DEVELOP HYDROELECTRIC POWER

☑ **Utilize the state's expedited application process to develop hydroelectric projects at existing infrastructure.**

> In 2013, the Legislature passed Senate Bill 837, allowing in-conduit hydro developers a choice: install fish passage as required by ODFW or pay into a statewide fish passage account that will fund fish passage at ODFW-priority locations.

4C. PROMOTE STRATEGIES THAT INCREASE/INTEGRATE ENERGY & WATER SAVINGS

☑ **Encourage communities to look for and integrate ways to conserve both energy and water.**

> The Oregon Association of Clean Water Agencies has put together a funding resource guide for water and wastewater treatment plants in Oregon that are exploring energy efficiency or renewable energy projects.

☐ Move toward energy independence for publicly operated treatment works (wastewater treatment).

☐ Continue to implement and evaluate building codes that encourage water and energy efficiencies.

☐ Ensure that efficiency programs capture and publicly report both water and energy savings data.

☐ Partner with Oregon's 10-year Energy Action Plan to promote conservation strategies for water and energy.

Climate Change

5A. SUPPORT CONTINUED BASIN-SCALE CLIMATE CHANGE RESEARCH EFFORTS

☑ **Improve climate change projections at a basin scale.**

> The U.S. Bureau of Reclamation (BOR) administers a competitive cost-share program, known as WaterSMART, that supports collaborative water resources planning efforts across the west. BOR's program focuses on imbalances in water supplies and demands, and analyzes how climate change may impact water resources, future demands, and infrastructure in a given basin.
>
> In 2014, partners in the Hood River Basin completed a WaterSMART basin study Final reports and other technical documents are available online.

Also in 2014, stakeholders in the Upper Deschutes River Basin initiated a WaterSMART basin study. Several state agencies are participating in the planning process, including OWRD, ODEQ, and ODFW. In 2015, project partners will complete a plan of study to outline the various tasks needed for addressing the needs of agriculture, municipal, and instream flows. More information is available from the Deschutes River Conservancy's website.

☑ **Develop reliable projections of basin-scale hydrology, and their impacts on other systems.**

Under the West-Wide Climate Risk Assessments Program, the U.S. BOR conducted an analysis of the potential changes in crop irrigation demand in eight major river basins in the West and projections of evaporation for 12 reservoirs within those river basins when considering observed and projected impacts of climate change. The study evaluated irrigation water requirements for the second half of the 20th century and, as compared to projected demand for the second half of the 21st century, found that net irrigation water requirements in the West may be six percent higher. The final report, released in February 2015, is available online.

In July 2014, the U.S. BOR released new hydrologic projections for the contiguous United States. The hydrologic data was derived from new downscaled climate projections using the Coupled Model Inter-comparison Project Phase 5 (CMIP5) data from the World Climate Research Program that was made available by Reclamation and collaborators in May 2013. To develop the new hydrologic projections, the researchers translated 97 of those downscaled CMIP5 climate projections into fine resolution projections of hydrology. The new hydrology projections are available here.

5B. ASSIST WITH CLIMATE CHANGE ADAPTATION AND RESILIENCY STRATEGIES

☑ **Provide support to communities to incorporate climate change into their planning decisions.**

The Northwest Climate Assessment Report was coordinated by the Oregon Climate Change Research Institute and the Climate Impacts Group from the University of Washington. The report was completed as part of the National Climate Assessment released in early 2014.

In the summer and fall of 2014, several state and federal agencies participated in a pilot project to develop a framework that communities in the north coast region can use to adapt to climate change risks. The pilot effort was led by Oregon DLCD and Oregon Sea Grant. Visit the project blog for more information.

The Willamette Water 2100 project, initiated in 2010 is exploring how climate change, population growth, and economic growth will change the availability and the use of water in the Willamette River Basin on a decadal to centennial timescale. Several state agencies have been actively participating as part of the Learning Action Network and more recently, as part of an advisory group exploring various scenario alternatives. Project researchers have hosted several informational webinars and workshops in 2013 and 2014.

In 2014, OHA completed the Oregon Climate and Health Profile Report that outlines the different health risks that may increase as our climate changes and describes the populations who are most vulnerable to these risks. Oregon's Climate & Health Program is funded through the Climate-Ready States and Cities Initiative at the Center for Disease Control and Prevention. As part of this initiative, each state is developing profile reports that will help to facilitate an evidence-based approach to climate change adaptation in public health.

☑ **Look for more efficient ways to conserve, store, and reuse water in anticipation of climate change.**

Refer to Recommendations 10A, 10B, 10C, 10E.

☑ **Invest and make improvements in surface water and groundwater monitoring.**

Refer to Recommendation 1B.

- ☑ **Invest in real-time forecasting of water deliveries, basin yield, streamflow, flood and drought frequency projections.**

  > OWRD continues to equip its existing stream gages with real-time telemetry equipment. Newly installed gaging stations planned for 2015 will also include real-time monitoring capabilities.

- ☑ **Use the U.S. Environmental Protection Agency's Climate Ready Water Utilities Program.**

  > The US EPA is hosting training workshops in the Summer of 2015 on the Climate Resilience Evaluation and Awareness (CREAT) Tool for drinking water, wastewater, and stormwater utility operators. This tool helps water utilities conduct utility-level adaptation strategies for implementation to bolster climate readiness and resilience.

- ☐ Increase ecosystem resiliency to climate change
- ☐ Ensure continued water and wastewater services in a changing climate.
- ☐ Analyze how instream and out-of-stream water rights will fare with hydrologic changes.
- ☐ Analyze how water rights will fare with changing crop needs.

The Water and Land-Use Nexus

6A. IMPROVE INTEGRATION OF WATER INFORMATION INTO LAND-USE PLANNING (& VICE VERSA)

- ☐ Develop and share information regarding the location, quantity, and quality of water resources.
- ☐ Protect water sources in the course of land use decisions.

6B. UPDATE STATE AGENCY COORDINATION PLANS

- ☐ Update State Agency Coordination Programs in coordination with DLCD.

6C. ENCOURAGE LOW-IMPACT DEVELOPMENT PRACTICES

- ☐ Compile and provide online information on low impact development policies.
- ☐ Update local development codes, improving local capacity to review and permit green infrastructure designs.

Infrastructure

7A. DEVELOP AND UPGRADE WATER & WASTEWATER INFRASTRUCTURE

- ☑ **Improve dam safety; retrofit for seismic issues.**

  > OWRD's dam safety program has a schedule of inspections that ensures dams are regularly checked against public safety standards and hazard classifications. In 2014-15, the Department developed an updated set of dam safety rules to make sure that design and operation standards are clear and useful for dam owners and their consultants.

- ☑ **Develop emergency action plans for high hazard dams.**

  > In Oregon, money from FEMA grants is used to help dam owners create Emergency Action Plans (EAP) for existing dams. An EAP helps identify situations where a dam failure might occur, and spells out actions that could save the dam and hasten evacuations. Rules in Oregon require EAPs for all <u>new</u> high hazard rated dams, to be completed at owners' expense. Approximately 75 percent of <u>all</u> state-regulated high hazard dams have, or are in the process of developing, EAPs.

- ☑ **Properly abandon infrastructure at the end of its useful life.**

  > The Department's Well Construction Program staff have participated in a number of well abandonments during 2014. Improperly abandoned or neglected wells are a health and safety

threat to Oregon's citizens and groundwater supplies. In order to lessen the burden and the cost to property owners with dug wells, the Department allows dug well owners to abandon their own wells under the direct supervision of Department staff. In addition to supervising the abandonment work, Department staff assist owners with the associated paperwork. In 2014, there were approximately 900 wells abandoned statewide. These abandonments include wells constructed by licensed well constructors and property owners under the direct supervision of Department staff. During 2015, OWRD plans to decommission a number outdated measurement structures, such as stilling wells and cableways, that are no longer in use by Department staff.

☑ **Use an "asset management" approach to identify and plan for rehabilitation, upgrade or replacement of infrastructure.**

The 2013 Legislature authorized and funded program (SB 839) that would, in part, provide funding for the rehabilitation of infrastructure. The Governor's Recommended Budget (2015-17) requests an additional $17.25 M in lottery bonds and $30M in General Obligation Bonds for this program.

☑ **Ensure that basic maintenance needs continue to be eligible for grant and loan funding.**

The Governor's Office has submitted a legislative concept for 2015, authorizing the Infrastructure Finance Authority and Water Resources Department to partner with communities, to evaluate, provide guidance, and prepare levees for the national flood program.

☑ **Advocate for continued infrastructure funding.**

See "asset management" approach, above. In addition, the 2013 Legislature passed House Joint Memorial 7, urging the U.S. Congress to increase investment in the Drinking Water State Revolving Fund and Clean Water State Revolving Fund.

☐ Encourage communities to consider natural infrastructure in lieu of, or as a complement to, built infrastructure.

7B. ENCOURAGE REGIONAL (SUB-BASIN) APPROACHES TO WATER & WASTEWATER SYSTEMS

☑ **Provides incentives, funding, and technical assistance.**

SB 839 (2013) gives funding preference to communities who have developed project proposals as part of a coordinated basin approach. The IWRS Draft Place-Based Planning Guidelines (2015) provide additional encouragement and guidance to communities seeking to take this approach.

Education and Outreach

8A SUPPORT OREGON'S K-12 ENVIRONMENTAL LITERACY PLAN

☑ **Natural resource agencies, community organizations & others should engage in education for environmental literacy.**

The Children's Clean Water Festival is an annual event for 4th and 5th grade students in the Portland-Metro region. The Festival reinforces science concepts through water-focused classroom presentations, exhibits, and stage shows. The 22nd annual event will held in March 2015. Several local, state, and federal partners volunteer time and resources to support the event, including ODEQ, OWRD, USGS, and OHA's Drinking Water Services. A number of drinking water providers in the region also contribute financial and in-kind support.

☐ Support funding for implementation.

8B. PROVIDE EDUCATION & TRAINING FOR OREGON'S NEXT GENERATION OF WATER EXPERTS

☑ **Continue funding support for water-related trade programs at Oregon community colleges.**

Lane Community College continues to offer a water conservation technician program that prepares students to design, implement and evaluate water conservation programs. Linn-Benton

Community College continues to offer a two-year Associate of Applied Science degree in Water, Environment and Technology, as well as four Short-Term certificates in Public Works, Wastewater Technology, Drinking Water, and Advanced Water Technology. Clackamas Community College's Water & Environmental Technology program continues to provide career technical classes combined with field experience, distribution, drinking water treatment, wastewater collection and wastewater treatment.

- ☐ Conduct a survey of water organizations in Oregon.
- ☐ Determine whether educational programs in Oregon are equipped to meet the coming demand for water professionals.
- ☐ Offer internships, fellowships, and job shadow programs to expose students to careers in water.

8C. PROMOTE COMMUNITY EDUCATION AND TRAINING OPPORTUNITIES

- ☑ **Promote technical training for public and private partners.**

  OWRD provides technical training to partners and stakeholders through public presentations, American Water Works Association and American Water Resources Association webinars, and continuing education credit opportunities online and at certified water rights examiners (CWRE), dam safety, and Oregon Groundwater Association conferences.

- ☑ **Promote access to water-related recreational opportunities through the use of the Water Trails Program.**

  Oregon Parks and Recreation Department has nine designated water trails for the public's use. The most recent water trail was completed in August 2012 for the upper and middle Rogue River between Lost Creek Dam and Grave Creek. In October 2014, Oregon Department of State Lands signed a formal agreement with Willamette Riverkeeper to encourage improvements and combat invasive species on state land along the Willamette Water Trail.

- ☐ Continue to promote education and outreach through actions required in local Water Management & Conservation Plans.

8D. IDENTIFY ONGOING WATER-RELATED RESEARCH NEEDS

- ☑ **Continue to identify ongoing research needs at the local and state level.**

  The Department works with Oregon State University, University of Oregon, and other institutions with water law, water policy, and water sciences programs at both the undergraduate and graduate programs. Research project currently underway are focused on basin approaches to water management, climate change adaptation, and drought preparation.

- ☑ **Partner with public and private researchers.**

  See above.

Place-Based Efforts

9A. UNDERTAKE PLACE-BASED INTEGRATED, WATER RESOURCES PLANNING

- ☑ **Develop a template for place-based integrated water resources strategies.**

  In February 2015, the Water Resources Department and Commission released a draft set of Place-Based Planning Guidelines for Oregonians to use, as they develop plans to meet instream and out-of-stream water needs into the future.

- ☑ **Provide technical assistance & other incentives to communities undertaking place-based IWRS.**

  The Governor's legislative proposals and Recommended Budget for 2015-17 contains a request for $750K in grants, two place-based planning staff, and one regional solutions coordinator to help communities develop place-based integrated water resources plans.

☑ **Compile relevant & readily-available water-related information to support place-based IWRS.**

> Appendices in the draft Place-Based Planning Guidelines contain links to already-available data sets residing at Oregon's natural resources agencies. Several of these links contain reports or data organized by hydrologic basin.

9B. COORDINATE IMPLEMENTATION OF EXISTING NATURAL RESOURCE PLANS

☑ **Dedicate resources for state and local implementation.**

> See Recommendation 9A above.

☐ Coordinate and reconcile existing ecological planning and restoration efforts.

9C. PARTNER WITH FEDERAL AGENCIES, TRIBES, AND NEIGHBORING STATES IN LONG-TERM WATER RESOURCES MANAGEMENT

☑ **Protect Oregon's interests in shared surface water and groundwater basins.**

> Oregon has conducted negotiations to protect and develop water supplies, convening a Columbia River – Umatilla Solutions Taskforce, an Upper Klamath Basin Settlement Agreement, and Klamath Basin Restoration Agreement. These efforts involved multiple stakeholders, disciplines, and states. The Governor's Office has proposed several legislative concepts to consider during the 2015 Legislative Session to help implement the two Klamath agreements mentioned here.

☑ **Partner to improve access to additional stored water.**

> A number of communities are considering rehabilitating their dams and reservoirs in order to improve storage capacity. There are funds available through the state for both the feasibility study and the implementation of such projects.

Water Management & Development

10A. IMPROVE WATER-USE EFFICIENCY AND WATER CONSERVATION

☑ **Expand outreach and participation in the State's water-use efficiency and conservation programs.**

> The Allocation of Conserved Water program has overhauled its forms and materials, in order to make the program more understandable and user-friendly. Staff members have given presentations and tutorials in several venues during 2013-14. OWRD's conservation section is currently updating a guidebook for development of municipal water management and conservation plans. The updated version will be available in Spring 2015.

☐ Conduct a state-wide water conservation potential assessment.

☐ Establish and maintain an online water-use efficiency and conservation clearinghouse.

☐ Prioritize agricultural water-use efficiency.

10B. IMPROVE ACCESS TO BUILT STORAGE

☑ **Develop additional below-ground storage sites.**

> The Department has staff dedicated to Aquifer Storage and Recovery /Artificial Recharge development, helping customers with limited license and permit applications. OWRD has funding available for feasibility study and implementation of these projects.

☑ **Re-allocate water in federal reservoir systems that have not undertaken formal allocation processes in Oregon.**

> The state of Oregon has been actively involved in legislation and/or efforts designed to allocate / contract for water in the Willamette River Basin reservoirs and Prineville Reservoir. The Department recently completed a small-scale project that re-allocated stored water to municipal and industrials uses in the Coast Fork Willamette River Basin. The 2013 Legislature provided $1.5

> million to launch a large-scale basin investigation to fully allocate stored water in the Willamette Project reservoirs to a full suite of beneficial uses - instream and out-of-stream.

☑ **Develop additional above-ground, off-channel storage sites where needed.**

> A series of sub-group and task force meetings during 2013-15 resulted in recommended methods to determine seasonally varying flows. This information will be necessary, if above-ground storage project owners seek state funding (SB 839) for implementation.

☑ **Evaluate the status of storage infrastructure.**

> The Department proposed a budget package in 2015, for the state to conduct in-depth evaluations of dams, taking into account new seismic standards and infrastructure conditions. The budget proposal did not move forward.

☑ **Authorize & fund the State to invest in & purchase water from stored water facilities.**

> The Department and Governor submitted a legislative concept during 2013 to allow the state to invest in and purchase water from stored water facilities. The bill did not move through committee.

10C. ENCOURAGE ADDITIONAL WATER REUSE PROJECTS

☐ Conduct a statewide assessment of the potential for additional water reuse.

☐ Ensure that Oregon has the right policies and regulations in place to facilitate water reuse.

☐ Provide incentives for increased water reuse.

10D. REACH ENVIRONMENTAL OUTCOMES WITH NON-REGULATORY ALTERNATIVES

☑ **Develop protocols for translating water quality projects into credits.**

> ODEQ is developing new rules for water quality trading. ODEQ will propose these rules to the Oregon Environmental Commission, seeking approval at the commission's December 2015 meeting, after receiving feedback and input from three policy forums, as well as a public comment period. If adopted, these rules will strengthen the underpinnings of ODEQ's water quality trading program and provide clarity and regulatory certainty for both stakeholders and ODEQ staff.

☑ **Complete stream functional assessment.**

> Oregon DSL is currently working with the U.S. EPA, the U.S. Army Corps of Engineers, and the Willamette Partnership to develop an function-based aquatic mitigation framework for Oregon.

☐ Assist in the research and development of non-regulatory tools to meet environmental outcomes.

☐ Develop protocols for translating streamflow restoration into credits and accounting strategies.

10E. AUTHORIZE AND FUND A WATER SUPPLY DEVELOPMENT PROGRAM

☑ **Identify opportunities for the State to serve as a partner in water supply development projects.**

> The 2013 Legislature authorized and provided funding (2 staff + $10.2 million in grants lottery Bonds + $10 million in loans from General Obligation Bonds) for OWRD to help fund water supply projects. The Governor's 2015-17 Recommended Budget requests four additional staff and funds for this purpose ($17.25M in grants and loans from Lottery Bonds + $30 million in loans from General Obligation Bonds).

☐ Authorize the Water Resources Department to invest in projects, to purchase and/or contract for water supplies.

> The Department and Governor submitted a legislative concept during 2013 to allow the state to invest in and purchase water from stored water facilities. The bill did not move through committee.

☐ Authorize bonds to finance these investments.

> See bullet 1 above.

Healthy Ecosystems

11A. IMPROVE WATERSHED HEALTH, RESILIENCY, AND CAPACITY FOR NATURAL STORAGE

☑ **Improve riparian conditions.**

The 2013 Legislature provided resources to the Department of Forestry (ODF) for Integrated Effectiveness Monitoring for the Watershed Research Cooperative and Riparian Function and Stream Temperature (RipStream) Project. This integrated effectiveness monitoring effort, led by ODF, is supported by many other state and federal agencies and stakeholders. ODF is using the results of the RipStream project to conduct an analysis of its stream protection rules relating to protecting and maintaining stream temperature. Additional analyses are planned for evaluating large wood recruitment, riparian stand characteristics, and riparian function. Stream protection rule analysis and Board of Forestry action to implement any resulting changes in best management practices is planned to be completed in 2015.

In 2013, the Oregon Watershed Enhancement Board (OWEB) adopted a Long-Term Investment Strategy that guides its investments of Lottery, federal and salmon plate funding. All of OWEB's investments in ecological outcomes also help build communities and support the local economy. The Investment Strategy addresses operational capacity needs, open competitive grants, focus investment partnerships, and effectiveness monitoring. View OWEB's fact sheet for more information.

Beginning with the 2015-2017 biennium, the OWEB Board will establish Focused Investment Priorities that have clear significance to the state. In 2014, OWEB built a strategic action plan template for watershed councils interested in the focused investments program. OWEB continues to support watershed restoration activities under the Oregon Plan for Salmon and Watersheds. In 2013-2014, OWEB invested more than $77 million and leveraged over $52 million in matching funds to support activities related to restoration of watersheds in Oregon. View OWEB's Oregon Plan biennial report here.

☑ **Maintain forested areas.**

Refer to Bullet 1.

☑ **Preserve wetlands.**

In 2012, the Oregon Department of State Lands (DSL) completed the Oregon Wetland Monitoring and Assessment Strategy, available online. In May 2013, DSL updated its removal fill guide, which addresses existing laws and rules governing removal-fill activities in Oregon, and provides practical tips for complying with state regulations.

☐ Restore floodplain functions.

11B. DEVELOP ADDITIONAL INSTREAM PROTECTIONS

☑ **Establish additional instream water rights where needed to protect flows.**

The 2013 Legislature authorized three additional staff members at ODFW to identify and analyze stream reaches for instream flow protections, although the positions were not filled due to budgetary issues. Two additional positions at OWRD were filled to help establish additional instream water rights to support instream needs. There are approximately 450 stream reaches in the state that have flow recommendations described in ODFW's Basin Investigation Reports but do not have instream water rights. ODFW has prepared a prioritized list of stream reaches for which it will apply for instream water rights based on number of listed species, active basin recovery plans, and level of existing downstream flow protection. ODFW will begin filing applications based on this priority list in the coming months. In addition, there are at least 1,500 sites that do not have an instream water right or an existing recommendation from a basin investigation report. As collection and processing of new data will be time-consuming, ODFW has set priorities for new

studies beginning in the 2015-17 biennium. ODFW expects to complete 8 to 25 sites per year, depending on staffing. In addition, ODFW and OWRD are actively seeking resolution of protested instream water right applications across the state.

☑ **Designate scenic waterways where needed to protect recreation, fish, and wildlife uses.**

During 2013, the Governor directed the Oregon Parks and Recreation Department to identify and propose three streams per biennium for scenic waterway designations. OPRD has begun conversations with Oregon agencies, communities, and stakeholders and OWRD has proposed a method for determining the streamflows necessary to protect such waterways.

☐ Expand the use of voluntary programs to restore streamflow.

☐ Expand the geographic range of flow restoration efforts.

11C. PREVENT AND ERADICATE INVASIVE SPECIES

☑ **Support the Oregon Conservation Strategy's six state-wide actions to prevent new introductions, and decrease the scale and spread of infestations.**

ODFW currently has 3 permanent and 12 seasonal employees funded from the revenue generated from the Aquatic Invasive Species Prevention Permit. ODFW staff inspect watercraft entering Oregon for quagga and zebra mussels and other aquatic invasive species.

During the 2014 recreation season, the aquatic invasive species prevention program operated five boat inspection stations on Oregon highways leading into the state and performed 11,490 boat inspections, resulting in the decontamination of 210 boats that had some type of aquatic invasive species present, including 17 for quagga and zebra mussels. For more information, refer the 2014 Annual Report by ODFW and the Oregon State Marine Board.

☑ **Implement and enforce ballast water management regulations.**

Senate Bill 116 (2013) re-established Oregon's Task Force on shipping-related transport of aquatic invasive species. The charge of the task force was to study and report on ways to further combat the introduction of non-indigenous aquatic species from commercial shipping related pathways into the state. The task force submitted a final report to the 2015 Legislature.

11D. PROTECT AND RESTORE INSTREAM HABITAT AND HABITAT ACCESS FOR FISH & WILDLIFE

☑ **Remove fish passage barriers and support fish screening efforts by implementing actions in Oregon's Conservation Strategy.**

ODFW continues to coordinate with federal, state, local, and private stakeholders to implement Oregon's Fish Passage Policy and to advocate for fish passage at high priority locations. ODFW is also working with several partners on fish passage initiatives to improve efficacy and on-the-ground projects for native fish and their habitats: fish passage banking alternatives, net benefit analysis tool, completion of a pilot culvert repair programmatic agreement with ODOT, development of incentives to voluntarily restore fish passage, updating a memorandum of understanding with ODF on fish passage on industrial timber lands, and new tide gate design criteria in estuarine ecosystems. ODFW also provides cost share funds, tax incentives, and technical assistance to encourage water users to voluntarily install fish-friendly screens at their water diversions. During this biennium, 80 fish screen projects were completed. The Priority Unscreened Diversion Inventory was updated in December 2014.

OWEB continues to provide funding for fish passage improvement projects. In 2012-2013, OWEB funds helped improve 216 stream crossings, providing 237 miles of newly accessible habitat for migratory species. Additionally, 8 push up dams were retired during this time period.

The 2006 Oregon Conservation Strategy is currently being reviewed and updated by ODFW. The Strategy provides information on at-risk species and habitats, identifies key issues affecting them, and recommends actions.

☐ Build upon existing ecological planning and restoration efforts.

Public Health

12A. ENSURE THE SAFETY OF OREGON'S DRINKING WATER

☑ **Assist public water suppliers; support small public water systems.**

The Oregon Health Authority (OHA) regulates all public water systems under ORS 448, OAR 333-61, and the Primacy agreement with USEPA to administer and enforce the provisions of the Safe Drinking Water Act in Oregon. Since 90 percent of all Oregon public water systems serve fewer than 500 people, most drinking water quality problems and regulatory noncompliance occur in those small systems. These small systems also tend to have less technical, financial, and managerial capacity to solve these problems, so the OHA program focuses its efforts on those small systems. OHA contracts with local county health departments to conduct regulatory oversight and assistance to small systems locally, engages contractors to provide small systems with technical assistance with short-term operational problems and to provide training for operators of small systems, and provides financial assistance through the drinking water revolving fund tailored to small systems for safe drinking water construction projects. These efforts resulted in a decline in the number of small water systems with serious violations.

☑ **Protect drinking water sources.**

The OHA and OWRD are working collaboratively on a Memorandum of Agreement (MOA) to ensure that management decisions related to applicable drinking water systems are fully and efficiently coordinated to protect Oregon's water resources and Oregon's aquifers, while fulfilling the requirements of the Safe Drinking Water Act administered by the OHA Drinking Water Program. The proposed agreement sets forth the roles and responsibilities of OWRD and OHA for management of that part of the Drinking Water Program activities associated with public water supply groundwater systems.

OHA and ODEQ are also working collaboratively on various projects. The agencies work directly with public water suppliers and with partner agencies to reduce local and regional drinking water contamination risk. As of June 2014, OHA and ODEQ efforts have resulted in 30 percent of all Oregon community water systems having substantially reduced their drinking water contamination risk. These water systems include many of Oregon's larger communities and serve approximately 2,788,714 Oregonians or 83 percent of all Oregonians served by community water systems. OHA and ODEQ protection efforts continue to focus on providing drinking water source protection assistance to Oregon's smaller community water systems. Information regarding source water protection can be found here.

☑ **Monitor public drinking water for contaminants of emerging concern.**

During the period of 2008 through 2014, ODEQ and OHA monitored public water system source waters at 35 surface water intakes and 48 groundwater wells in 27 counties across the state. The ODEQ Laboratory analyzed samples for over 250 Oregon-specific herbicides, insecticides, pharmaceuticals, volatile organic chemicals, fire retardants, Poly Aromatic Hydrocarbons (PAHs), personal care products, and plasticizers. Results were interpreted by OHA toxicologists, and a short report was sent to each participating public water system. With the exception of arsenic, the levels of all parameters detected to date have been very low and have met available health standards. A summary report is available on ODEQ's website. Click here to view the report.

☑ **Encourage water providers to join the Oregon Water/Wastewater Agency Response Network (ORWARN).**

ORWARN continues to be active, and OHA provides advice as needed. The group organizes an annual statewide conference on emergency preparedness and promotes the role of and membership in ORWARN. The group now has over 100 members, and continues to reach out to smaller communities. The ORWARN website is at http://orwarn.org.

☑ **Increase domestic well testing.**

The OHA-Environmental Public Health Program has launched a "Domestic Well Safety Program" to improve local and state capacity for assessing and managing risks associated with private drinking water wells. Visit OHA's new website to find basic information, including water quality testing, treatment, maintenance, and other resources. OHA also offers a public mailing list for those interested in receiving updates on private wells in Oregon. To join, sign up here. Also, OWRD is partnering with OHA to revise a guidebook for well owners.

12B. REDUCE THE USE OF AND EXPOSURE TO TOXICS AND OTHER POLLUTANTS

☑ **Finalize and implement Oregon DEQ's Toxics Reduction Strategy.**

In 2014, Oregon DEQ continued work on the short-term Toxics Reduction Strategy priority actions established in 2012. The primary focus of 2014 work focused on the following activities: developing and implementing low toxicity state purchasing guidelines; advancing Green Chemistry in Oregon through collaboration with other agencies and other states; developing and implementing a pesticide waste collection strategy; and, expanding and enhancing watershed-based Pesticide Stewardship Partnerships throughout the state.

☑ **Implement green chemistry executive order, including revising purchasing practices related to toxic chemicals.**

In 2014, ODEQ worked with Oregon Dept. of Administrative Services (DAS) to develop broad Green Chemistry purchasing guidelines for all product and service categories. These guidelines were approved as new policy by state's chief operating officer in the fall of 2014. ODEQ is currently consulting with Oregon DAS on the implementation of these guidelines, including evaluating options for implementing low toxicity purchasing initiatives for new product categories. These categories include office furniture, building materials, and office supplies.

To advance Green Chemistry for Oregon businesses, ODEQ has coordinated with Business Oregon to identify possible outreach projects for key industry sectors or process chemical categories that could produce both significant environmental gains and economic opportunities for Oregon businesses. In addition, ODEQ is engaging with other states to develop tools and resources to help businesses and government agencies conduct effective chemical alternatives assessments, thereby avoiding the problem of "regrettable substitutions" of chemicals. ODEQ is actively involved in the Interstate Chemicals Clearinghouse (IC2 - http://theic2.org/), which serves as a valuable forum for states to exchange and generate information on priority toxic chemicals and chemical alternatives assessments. In 2014, the IC2 completed an Alternatives Assessment Guide that can be used by states and businesses to assist in the alternatives assessment process. ODEQ is also engaging with the State of Washington and other entities in the region through the Northwest Green Chemistry (http://www.northwestgreenchemistry.org/) organization, which was recently established to advance Green Chemistry in the region.

☑ **Implement the Water Quality Pesticide Management Plan.**

Approved by the U.S. EPA in 2011, Oregon's Water Quality Pesticide Management Plan outlines the roles, policies, and legal authorities of each government agency with responsibilities for protecting Oregon's water resources from pesticides and the process by which these activities will be coordinated. The Oregon Department of Agriculture maintains a website, providing background information on pesticides of interest and concern, benchmarks for aquatic life and human health, and other relevant resources. ODA also produces a bi-annual bulletin regarding pesticides issues.

☑ **Support Pesticide Stewardship Partnerships.**

Oregon's Pesticide Stewardship Partnership program (PSP) is bringing state agencies together to work closely with partners in several watersheds to assess pesticides found within streams and strive to improve water quality. The partnerships combine local expertise and water quality sampling results to encourage voluntary changes in pesticide use and management practices. State agencies including ODEQ, ODA, ODF, OWEB are working with OSU-Extension and a variety of local partners (i.e., councils, SWCD's, local landowners and growers, and tribal governments) to find

ways to proactively reduce pesticide levels while measuring improvements in water quality and crop management. The goal is to attain measurable environmental improvements, making Oregon waters safer for aquatic life and humans. For the 2013-2015 biennium, the PSP focused on monitoring efforts for the six existing and two new PSP watersheds, pesticide waste collection, and technical assistance and support for existing PSP watersheds. From July to December 2014, five pesticide waste collection events collected more than 84,000 pounds of pesticide waste. Events were held in Milton-Freewater, Hermiston, Ontario, Madras, and McMinnville and included 141 participants. Two additional events are planned for the spring of 2015 in the Medford and Coos Bay areas.

The new state funds allocated by the Oregon Legislature also supported pesticide stewardship technical assistance efforts in PSP watersheds. Grants were awarded to local agencies, non-profits and a university to conduct direct assistance to pesticide users to improve pesticide and pest management practices in ways that will benefit water quality. These grant projects will address pesticides used in an array of applications in both rural and urban areas. In addition, the state's Water Quality Pesticide Management Team supported the purchase (by ODA) of a spray "patternator" to help optimize spray efficiencies for growers in the Columbia River Gorge, as well as a "tunnel sprayer" for use in the North Willamette watersheds. The tunnel sprayer can be used with any trellised crops to recapture and reuse overspray, thus reducing spray drift up to 99 percent and reducing chemical purchase costs by as much as 35 percent.

☑ **Establish and fund "take back programs."**

In 2014, the U.S. Federal Register published new disposal regulations under the Secure and Responsible Drug Disposal Act of 2010, expanding the number of options for unused medication collection to: collection receptacles, mail-back program, and take-back events, similar to the U.S. Drug Enforcement Agency's bi-annual Drug Take Back Day. Prior to the law changes, hospitals and pharmacies were banned from accepting old or unused medication.

☑ **Continue to identify and address hazardous or contaminated sites, including brownfields.**

The Oregon Health Authority-Public Health Division (OHA-PHD) Brownfield Initiative provides assistance and serves in an advising capacity to local jurisdictions across the state to support the integration of health considerations into area-wide and site-specific redevelopment and land reuse efforts. OHA-PHD, Oregon DEQ and Business Oregon work collaboratively on various projects to link and maximize the health, environmental and economic outcomes of brownfield redevelopment efforts. OHA-PHD also provides small capacity building grants in support of brownfield efforts that engage and connect low income and underrepresented communities to resources and partners that enrich quality of life, address health inequities, and support community health improvements through redevelopment.

Within the past two years the OHA-PHD Brownfield Initiative provided assistance to the following cities and counties: Local jurisdictions: Astoria, Baker City, **Beaverton**, Chiloquin, Coos, Eugene, Grants Pass, Klamath, Medford, Portland, **Salem**, Sherwood, St. Helens, Sweet Home, Tigard, Union Counties: Columbia, Coos, Klamath, Lane, **Linn**, Marion, Multnomah, **Tillamook**, and Washington. *__Bold__ indicates OHA-PHD Brownfield Initiative serves on city- or county-level brownfield planning advisory committee

☑ **Monitor recreational waters and inform the public when contaminants are present.**

OHA and ODEQ work in partnership to monitor coastal beaches during the summer season for indications of fecal bacteria. When ODEQ finds high levels of bacteria, OHA issues a public health advisory. During the off-season, ODEQ takes a deeper look at local areas with known bacteria issues to help identify and hopefully correct causes of beach contamination. More information can be found at http://healthoregon.org/beach.

OHA works in partnership with federal, state and local natural resource-related agencies to advise the public about harmful algae blooms. When natural resource agencies notice the formation of an algae bloom, they take samples to detect concentration of blue-green algae (technically known as

cyanobacteria) and/or their related cyanotoxins. If either are present in levels of concern, OHA issues a public health advisory. More information can be found at http://healthoregon.org/hab. Click here for a recap of the harmful algal blooms during the 2013 recreation season.

OHA works with ODEQ and U.S. EPA to evaluate fish tissue data collected either during aquatic resource survey monitoring or during hazardous site assessment monitoring. Sometimes levels of contaminants can bioaccumulate and present a hazard to those who depend on fish as part of their diet. Typically, high levels of mercury and PCBs lead to fish consumption advisories in Oregon waters. More information can be found at http://healthoregon.org/fishadv.

☐ Prevent blue-green algae from forming beyond natural background levels.

12C. IMPLEMENT WATER QUALITY POLLUTION CONTROL PLANS

☑ **Continue to develop & implement TMDLs for water bodies that do not meet water quality standards.**

The 2013 Legislature restored six positions at ODEQ—three for wastewater permitting and three for TMDL monitoring. ODEQ formed a Statewide TMDL Policy Committee, which met throughout 2014. TMDL development is underway for the Deschutes, Coquille, Coos, Mid-Coast and Powder/Burnt River Basins. In 2014, ODEQ completed a Willamette TMDL five-year review of TMDL implementation progress and began outreach and technical assistance efforts with Designated Management Agencies improve implementation progress and effectiveness.

☑ **Continue to address nonpoint sources of pollution across all land uses; increase monitoring.**

In 2012 ODA began funding an additional 19 ODEQ ambient water quality monitoring sites throughout the state to increase their knowledge of water quality in agriculturally developed areas. The 19 sites are in addition to 42 ambient sites that ODA has been tracking. In 2014 the agency reported on the results of an on-going monitoring project in the Fifteenmile Creek basin that was designed to identify changes in stream sediment from improved agricultural practices. This project, initiated in 2006, already shows significant reductions in fine sediment concentrations in four of the five streams monitored.

The 2013 Legislature approved new positions at ODA to improve agricultural water quality effectiveness monitoring. ODA has been working to expand monitoring efforts by establishing focus areas (small watersheds) where all SWCDs are targeting efforts during the 2013-15 biennium. ODA has also established two strategic implementation areas. ODA is testing the strategic implementation approach, where selected areas around the state will receive outreach and education to address priority water quality concerns.

☑ **Ensure effective management and oversight of stormwater in urbanized areas.**

Oregon DEQ developed guidance for urban and rural residential areas for reducing the impact of urban development in a watershed by addressing post-construction stormwater management.

☑ **Assist communities with septic system challenges.**

The 2013 Legislature provided two positions to DEQ's Onsite Septic System to provide service to customers and counties. ODEQ and the Governor have submitted legislation to the 2015 Legislature to provide low-interest loans to property owners who need to rehabilitate and maintain onsite septic systems.

Funding

13A. FUND DEVELOPMENT AND IMPLEMENTATION OF OREGON'S IWRS

☑ **Fund implementation of the 2012-2017 IWRS**

The 2013 Legislature funded one permanent, senior position at OWRD, three positions at DEQ and one position at ODA to ensure the implementation of the 2012 IWRS.

☑ **Fund required updates of state-level IWRS.**

> See above. The next iteration of the IWRS is due in 2017.

☑ **Fund development of place-based IWRS.**

> See Recommendation 9A above.

13B. FUND WATER RESOURCES MANAGEMENT AT THE STATE LEVEL

☑ **Fund those water management activities for which the State has responsibility.**

> The 2013 Legislature increased the Department's transaction and dam safety fees for a four-year period beginning July 1, 2013. The 2013 Legislature also authorized a watermaster for Wallowa County where there was none, and an assistant watermaster in Klamath County to help with increased workload in the wake of the Klamath Adjudication. The Governor's 2015-17 Recommended Budget requests a hydrologic technician and a water right specialist to assist in implementation of the Klamath River Basin agreements.

☑ **Ensure increased and adequate funding from the General Fund.**

> Recent Governor's Recommended Budgets and Legislatively Approved Budgets have moved natural resource agencies from one percent of the State's General Fund Budget to two percent.

☑ **Seek additional funding sources.**

> Bond funds dedicated to funding water resources development projects have increased from $3.5 million dollars in 2009-11 to $23.9 million in 2013-15. Fulfilling commitments made during the 2013 Legislative session, the Governor's office has offered a new legislative concept, to establish a task force to identify and recommend funding solutions for the future.

13C. FUND COMMUNITIES NEEDING FEASIBILITY STUDIES FOR WATER CONSERVATION, STORAGE, AND REUSE PROJECTS

☑ **Continue to provide SB 1069 grants to help evaluate the feasibility of water conservation, storage, and reuse projects.**

> The 2013 Legislature authorized $750,000 in grants to Oregon communities to study the feasibility of water conservation, reuse, or storage projects. The Governor's 2015-17 Recommended Budget requests an additional $2 million for this grant program. First established in 2008, the program requires a 50 percent cost match from applicants. A program handout provides details/statistics of the program since 2008.

IWRS Recommended Actions – Implementation at a Glance

UNDERSTAND WATER RESOURCES, SUPPLIES, INSTITUTIONS

- ✓ 1a. Conduct additional groundwater investigations
- ✓ 1b. Improve water resource data collection and monitoring
- ✓ 1c. Coordinate inter-agency data collection, processing, and use in decision-making

UNDERSTAND OUT-OF-STREAM NEEDS/DEMANDS

- ✓ 2a. Update long-term water demand forecasts
- ✓ 2b. Improve water-use measurement & reporting
- ✓ 2c. Determine pre-1909 water right claims
- 2d. Update water right records with contact information
- ✓ 2e. Update Oregon's water-related permitting guide

UNDERSTAND INSTREAM NEEDS/DEMANDS

- ✓ 3a. Determine flows needed (quality & quantity) to support instream needs
- 3b. Determine needs of groundwater dependent ecosystems

WATER-ENERGY NEXUS

- ✓ 4a. Analyze the effects on water from energy development projects & policies
- ✓ 4b. Take advantage of existing infrastructure to develop hydroelectric power
- 4c. Promote strategies that increase/integrate energy & water savings

CLIMATE CHANGE

- ✓ 5a. Support continued basin-scale climate change research efforts
- ✓ 5b. Assist with climate change adaptation and resiliency strategies

WATER-LAND USE NEXUS

- 6a. Improve integration of water information into land-use planning (& vice versa)
- 6b. Update state agency coordination plans
- 6c. Encourage low-impact development practices

INFRASTRUCTURE

- ✓ 7a. Develop and upgrade water & wastewater infrastructure
- ✓ 7b. Encourage regional (sub-basin) approaches to water and wastewater systems

KEY:

$ = Additional funding provided by 2013 Legislature

✓ = Completed or significant progress made

EDUCATION AND OUTREACH

- 8a. Support Oregon's K-12 environmental literacy plan
- 8b. Provide education and training for Oregon's next generation of water experts
- ✓ 8c. Promote community education & training opportunities
- ✓ 8d. Identify ongoing water-related research needs

PLACE-BASED EFFORTS

- ✓ 9a. Undertake place-based integrated, water resources planning
- 9b. Coordinate implementation of existing natural resource plans
- ✓ 9c. Partner with federal agencies, tribes, and neighboring states in long-term water resources management

WATER MANAGEMENT AND DEVELOPMENT

- ✓ 10a. Improve water-use efficiency & water conservation
- ✓ 10b. Improve access to built storage
- 10c. Encourage additional water reuse projects
- ✓ 10d. Reach environmental outcomes with non-regulatory alternatives
- ✓ 10e. Authorize and fund a water supply development program

HEALTHY ECOSYSTEMS

- ✓ 11a. Improve watershed health, resiliency, and capacity for natural storage
- ✓ 11b. Develop additional instream protections
- ✓ 11c. Prevent and eradicate invasive species
- ✓ 11d. Protect and restore instream habitat and habitat access for fish & wildlife

PUBLIC HEALTH

- ✓ 12a. Ensure the safety of Oregon's drinking water
- ✓ 12b. Reduce the use of and exposure to toxics and other pollutants
- ✓ 12c. Implement water quality pollution control plans

FUNDING

- ✓ 13a. Fund development & implementation of Oregon's IWRS
- ✓ 13b. Fund water resources management at the state level
- ✓ 13c. Fund communities needing feasibility studies for water conservation, storage, and reuse projects

Oregon
Kate Brown, Governor

Water Resources Department
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MEMORANDUM

TO: Water Resources Commission

FROM: Alyssa Mucken, IWRS Coordinator

SUBJECT: Agenda Item A, February 25, 2016
Water Resources Commission Meeting

2017 Update to Oregon's Integrated Water Resources Strategy

I. Introduction

During this agenda item, staff will update the Commission on the Development Plan for the 2017 Integrated Water Resources Strategy (IWRS), laying out the process and timeline for outreach and other activities. Refer to Attachment 1 for a copy of the 2017 Development Plan.

During a recent meeting, the Commission expressed an interest in continuing to evaluate progress made under the 2012 Integrated Water Resources Strategy. During this agenda item, staff will share a draft document for reporting progress. Refer to Attachment 2 for a draft progress report.

II. 2017 Development Plan

Following the Commission's input during the November 2015 meeting, Department staff sketched out a Development Plan for the 2017 IWRS. The plan lays out a calendar for public involvement, stakeholder outreach, advisory group meetings, open houses, regular newsletters, tasks, and opportunities to comment. Also included is a description of the statutory framework and associated requirements for revisions and other updates to the IWRS.

The Project Team and Advisory Groups

In early February, the Department re-convened the project team agencies to begin discussions regarding the 2017 update. Project team agencies include the Water Resources Department, Department of Environmental Quality, Department of Fish and Wildlife, and the Department of Agriculture. Project team staff will assist in the development of the 2017 IWRS by helping with 2016 open houses, providing updates on the progress made under the 2012 IWRS, contributing technical content for the 2017 IWRS, and noting where more emphasis is needed with regard to water quality, ecosystem needs, and agricultural issues.

The other state agencies with economic development and natural resource responsibilities will continue to serve as part of the Agency Advisory Group (AAG). This group has continued to be involved with the IWRS, contributing to the place-based planning guidelines, serving as technical reviewers of grant applications, helping with the development of the State's permitting guide, and several other activities.

Federal agencies also have the opportunity to provide input, as part of the Federal Liaison Group. With an emphasis on building drought resiliency for this next iteration, federal agency coordination will be important for sorting out the funding, technical, and early warning tools that are needed in Oregon.

The Policy Advisory Group

The Director's Office has developed a list of citizens to serve on a Policy Advisory Group (PAG). Staff sought suggestions from stakeholder organizations, the IWRS Project Team, and the Water Resources Commission subcommittee. Similar to the 2009-12 PAG, group members are asked to represent themselves, not a specific entity or organization. Members were selected based on the following attributes: leadership in the community, water-related expertise, and a personal commitment to help the state continue to understand and meet its water needs. This new PAG provides an opportunity to expand the conversation and garner diverse and fresh perspectives, which will ultimately bring renewed interest to the IWRS.

The Department is also exploring opportunities to engage those stakeholders that have been traditionally involved in our day-to-day activities.

The PAG will focus its attention on developing and vetting new recommended actions relating to drought; they will not focus on the text or technical background. For the 2017 IWRS, the PAG will rely on the existing guiding principles, goals, objectives, and critical issues developed previously. In regards to the key topic areas, preparing for extreme events (such as drought, floods, and earthquakes) and adapting to climate change are important issues facing Oregon that should be better reflected in the next iteration of the IWRS. This summer, Governor Kate Brown directed the Department and its partner agencies to further address climate-related risks and to build drought resiliency into the 2017 Integrated Water Resources Strategy.

Four PAG meetings are scheduled for 2016 and will be open to the public. Meetings will be single day sessions to accommodate travel needs and will be held at the Department's main office in Salem. The first meeting has been scheduled for Wednesday, March 30. Subsequent meetings are planned for June, September, and late November.

Open House Events

The Project Team has a lot of information to share with the public, including progress on the 2012 IWRS. The Project Team also wants to hear from Oregon communities regarding water resource challenges, needs, and opportunities.

The Project Team has taken suggestions from partners and the Commission's subcommittee to develop a list of dates and locations for its Spring 2016 Open Houses.

As in 2010, the Project Team will design these events to cater to both the working professional, as well as young families and retirees.

III. IWRS Progress Report

In March 2015, the IWRS Project Team shared its first progress report, a "roadmap to implementation," with the Water Resources Commission. This progress report provided a comprehensive summary of implementation activities under each recommended action. The Commission asked staff to develop a condensed version of this information.

Department staff have developed an "at-a-glance" implementation document that uses a five-point bar scale to help illustrate progress made under Oregon's 2012 Integrated Water Resources Strategy. Actions were evaluated against the Department's 2012-2017 implementation workplan.

This new format condenses the March 2015 progress report into a short summary tool. As we gather more implementation updates from our sister agencies, stakeholders, and other public and private organizations, the Department will continue to evaluate and revise future iterations of this progress report.

IV. Conclusion

The Department will continue to update the IWRS website with project information and offer ways for the public and stakeholders to get involved.

Staff will also plan to present and share information with the Commission during regularly scheduled meetings and will seek guidance and input from subcommittee members, as needed.

Attachment 1: 2016-17 Development Plan
Attachment 2: Draft "At-a-Glance" Progress Report

Alyssa Mucken
503-986-0911

Oregon's Integrated Water Resources Strategy
2017 Development Plan (Working Draft)

February 25, 2016

Contents

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I. Background - Statutory Foundation & Legislative Direction

During 2009, the 75th Legislative Assembly passed House Bill 3369 directing the Water Resources Department to develop a state-wide, integrated water resources strategy to help Oregon meet its future water needs in terms of water quantity, water quality, and ecosystem functions. This statutory foundation is codified in Oregon Revised Statute (ORS) 536.220, as shown in section VIII of this document.

ORS 536.220(2), calls for the state to "formulate a coordinated, integrated state water resources policy and provide means for its enforcement, that plans and programs for the development and enlargement of the water resources of this state be devised and promoted and that other activities designed to encourage, promote and secure the maximum beneficial use and control of such water resources and the development of additional water supplies be carried out by a single state agency…"

The statute further clarifies these mandates by stating that the Water Resources Department "shall design the strategy to meet Oregon's in-stream and out-of-stream water needs."

The law also directs the Water Resources Department to work in close cooperation with the Department of Environmental Quality and Department of Fish and Wildlife, to develop the

Integrated Water Resources Strategy (IWRS) and to develop data on an ongoing basis to forecast these needs. The Department of Agriculture is also listed as a key agency, responsible for reporting progress and included in the list of consulting entities who shall receive notice prior to adoption of the IWRS.

The Water Resources Commission has responsibility for formal adoption of the Strategy. The legislation requires the Strategy to include objectives as well as actions designed to meet these objectives under the strategy. It also requires: a description of relevant factors such as population growth and land-use change; plans and recommendations related to the challenges presented by climate change; provisions to ensure communications and partnerships with key stakeholders; a description of functions and roles to be played by other agencies; and finally, public policy options and recommendations.

II. Oregon's 2012 Integrated Water Resources Strategy

To guide development and implementation, the Water Resources Commission developed the following vision statement early on in the process:

> *A statewide integrated water resources strategy will bring various sectors and interests together to work toward the common purpose of maintaining healthy water resources to meet the needs of Oregonians and Oregon's environment for generations to come.*

Following a 3-year public process that involved several advisory groups, the Water Resources Department presented the state's first integrated water resources strategy to the Water Resources Commission for adoption. The Water Resources Commission adopted the IWRS on August 2, 2012, providing a blueprint for better understanding and meeting Oregon's water quantity, water quality, and ecosystem needs now and into the future.

With the Commission's adoption, agencies were set on an implementation path. A 2012-17 workplan was developed to guide implementation priorities.

The goals and objectives of the 2012 IWRS largely reflect the language contained in ORS 536.220. The Department's advisory groups, particularly the Policy Advisory Group, helped to further articulate the goals, objectives, and guiding principles of the Strategy. The Department developed a framework document that outlines the essential elements of the 2012 IWRS. In this document, you will find the following goals and objectives supported by more than forty recommended actions that aim to address the most critical water-related challenges facing the state.

Goal 1: Improve our understanding of Oregon's water resources
- Objective 1: Understand water resources today
- Objective 2: Understand instream and out-of-stream needs
- Objective 3: Understand the coming pressures that might affect our needs and supplies

Goal 2: Meet Oregon's water resources needs
- Objective 4 : Meet Oregon's instream and out-of-stream needs

During the first round of implementation (2012-2017), the State has followed a workplan that prioritized recommendations calling for improved surface water and groundwater data, local water planning, water supply development, instream protections, and funding options to help local communities and state agencies meet their water-related responsibilities. Department staff have regularly updated the Commission on implementation activities. In March 2015, the Project Team agencies brought forth a "roadmap to implementation" document that outlined progress made on recommended actions. Continuing to evaluate our progress, showing both successes and gaps, will be a priority for the 2017 Update and subsequent iterations of the IWRS.

III. Setting Expectations for the 2017 Update

The Integrated Water Resources Strategy is ambitious, and as such, agencies and other partners have taken a phased approach to implementation. In the first round of implementation, Oregon's natural resources agencies focused primarily on building our existing data and monitoring programs—for both groundwater and surface water—and developing the capacity at the state and local level to help with collaborative planning and implementation of water resources projects.

Using a phased approach to implementation means that, although significant progress has been made over the past three years, many actions under the IWRS need further attention or resources to carry out. The Department is proposing the keep the goals, objectives, and guiding principles of the 2012 IWRS intact. For the 2017 Update, the Department intends to focus our attention on reporting progress toward implementation, exploring a few key topic areas that require further attention or resources, and identifying recommended actions that will be the priority for implementation following adoption of the 2017 IWRS.

Preparing for extreme events (such as droughts, floods, and earthquakes) and adapting to climate change are important issues facing Oregon that will be better reflected in the next iteration of the IWRS. Through Executive Order 15-09, Governor Kate Brown has directed the Department and its partner agencies to further address climate-related risks and to build drought resiliency into the 2017 Integrated Water Resources Strategy.

Below is a basic framework for updating the Integrated Water Resources Strategy. Public input and advisory group discussions will likely influence the direction or emphasis on certain work-products or processes.

- **Revisions –** Slight revisions to IWRS chapters to reflect new data, maps, and studies. The Project Team and other sister agencies will inform this effort.

- **Reporting Progress –** Include sections that show or demonstrate progress for each recommended action. Indicate which actions need targeted investments to further implementation. Develop a concise "progress report" briefer that builds upon the March 2015 "Roadmap to Implementation" report.

- **Address Drought and Other Emerging Issues.** Include a new sub-section on drought, other extreme events, and emerging needs or issues. This will likely include a new sub-set of recommended actions.

- **Develop an Implementation Workplan**. Develop a workplan of priority recommended actions for implementation in 2017-22.

IV. Public Involvement & Stakeholder Engagement

Public involvement and stakeholder engagement will occur during the 2017 Update process, along with advisory group discussions, and opportunities to review and comment on the draft 2017 IWRS. Planned activities and events to solicit public input are discussed below.

The Department will continue to maintain a project website for the Integrated Water Resources Strategy where public meetings, draft documents, and opportunities for comment will be shared. The Department maintains an email distribution list with over 1,200 subscribers. This tool will be used to disseminate information to the public. The IWRS Project Team also has a dedicated email address (waterstrategy@wrd.state.or.us) where the public and stakeholders can contact staff any time to share concerns, thoughts, or suggestions.

- The project website is available here: http://www.oregon.gov/OWRD/pages/law/integrated_water_supply_strategy.aspx

- The public email subscription service is available here: http://listsmart.osl.state.or.us/mailman/listinfo/iwrs

Online Survey (February-March 2016)
In early 2016, the Department will solicit input via an online survey, distributing it to the IWRS Listserv and various stakeholder organizations. The survey will focus on the 2015 drought, associated impacts, and options to mitigate future drought risk to communities across the state.

Public Meetings (April 2016)
In 2010, the Department hosted open house events in 11 locations across the state to gather public input. For the 2017 Update, the Department will host similar events in April, with a minimum of one in each region. Possible locations include Medford, Salem, Ontario, Redmond, Pendleton, and Newport. Department staff will seek input from the Water Resources Commission sub-committee to identify specific locations, local facilitators, and partners. The IWRS Project Team agencies will also provide logistical support for these meetings.

Stakeholder Meetings
Department staff will be available to stakeholder organizations that request a briefing and discussion regarding the 2017 IWRS Update Process. These briefings could include an opportunity to provide informal input to the Project Team. Staff will also plan to brief legislative committees upon request.

V. Project Team & Advisory Groups

The Department will convene several advisory groups to help support the 2017 Update. The IWRS Project Team, Agency Advisory Group, and Federal Liaison Group were groups convened during the first round and will be utilized, although with new members and staff, for the 2017 Update process.

IWRS Project Team. The IWRS Project Team consists of staff from the agencies listed below. This team is responsible for day-to-day activities, such as public outreach, content development, and inter-agency coordination.

- Oregon Water Resources Department
- Oregon Department of Fish and Wildlife
- Oregon Department of Environmental Quality
- Oregon Department of Agriculture

The Project Team will also be responsible for supporting discussions of the Policy Advisory Group, described below. Project team staff will meet on a continuing basis.

IWRS Agency Advisory Group. Several other state agencies will also provide support for development of the next IWRS. The Agency Advisory Group includes a mix of natural resource and economic development staff whose goal is to ensure a balance of technical considerations. The group will provide much of the outreach, narrative, data, and analysis needed to develop the 2017 IWRS. Along with the four project team agencies noted above, participating agencies include:

- Oregon Department of Energy
- Oregon Department of Forestry
- Oregon Department of Geology and Mineral Industries
- Oregon Department of Housing and Community Services
- Oregon Department of Land Conservation & Development
- Oregon Department of State Lands
- Oregon Department of Transportation
- Oregon Governor's Natural Resources Office
- Oregon Health Authority – Environmental Public Health Section & Drinking Water Section
- Oregon Infrastructure Finance Authority & Business Oregon
- Oregon Parks & Recreation Department
- Oregon Watershed Enhancement Board

Federal Liaison Group. The Federal Liaison Group (FLG) is another coordinating group of federal agencies with land management or water-related responsibilities. The FLG meets on a less frequent basis, but will be likely play a key role in drought-related discussions, considering their role in water supply forecasting, technical assistance, and drought-related funding programs. The Department will convene the FLG members during the IWRS development process.

Policy Advisory Group. The Policy Advisory Group that was convened to support development of the first IWRS was instrumental in laying the foundation and shaping the content of the IWRS. The Department will convene a new policy advisory group to provide feedback and guidance to the IWRS Project Team.

The Department will strive to select members that represent a diverse geography, expertise, and interest. The Department plans to bring together those that are knowledgeable about water-related issues, and hopes to gather members of the public that are new to the Integrated Water Resources Strategy.

The following is a proposed schedule and suggested content for the Policy Advisory Group discussions:

Meeting 1: March 30, 2016
Welcome and overview, set expectations, review guiding principles, discuss 2017 process, and allow opportunity to identify emerging issues. Introduce IWRS progress report, bring forth public input gathered thus far.
Meeting 2: June 8, 2016
Begin discussion of draft recommended actions, share technical reports, including the 2015 Water Demand Forecast and 2016 Monitoring Strategy. Discuss revised progress report, drought-focused discussion & input (e.g., new policy, initiatives, and data); allow opportunity for identifying other emerging issues.
Meeting 3: September 14, 2016
Continue discussion on draft recommended actions; sketch beginnings of 5-year workplan (2017 – 2022).
Meeting 4: November 30, 2016
Bring forth final draft recommended actions for review and input. Following meeting, make revisions, release IWRS draft for public comment (target release: October 31).

Water Resources Commission Sub-Committee. Commissioners Bruce Corn and Bob Baumgartner are serving on a sub-committee of the Commission to provide feedback and help guide the 2017 update process. As necessary, staff will schedule check-in meetings with the sub-committee on various topics, in between regularly scheduled Commission meetings.

VI. **Adoption**

The Water Resources Commission will be responsible for adopting the 2017 IWRS. Plan adoption must also be recognized by administrative rule. The Department will present the 2017 IWRS to the Water Resources Commission for adoption during its summer 2017 meeting.

VII. **Project Schedule**

	2016												2017											
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
Launch IWRS Update 2017	■																							
Convene IWRS Project Team		■																						
Drought Survey		■																						
Open Houses (4-5)				■																				
Stakeholder Briefings			■																					
PAG Meetings			1		2		3		4															
Commission Updates		■			■			■		■														
Legislative Session		■												■	■	■	■	■						
Draft Progress Report			■																					
Revised Progress Report					■																			
Draft Drought Chapter & Actions							■																	
Draft IWRS Released										■														
Public Comment Period										■	■	■												
Final revisions and formatting													■	■	■	■								
Notify other boards/commissions															■	■								
Adoption																				■	■			
Rule-Making																					■	■		

Water Resources Commission 2016 Meeting Dates
February 25-26, 2016
May 19-20, 2016
August 18-19, 2016
October 13-14, 2016

Water Resources Commission 2017 Meeting Dates
TBD

IWRS PAG Meeting Dates
March 30, 2016
June 8, 2016
September 14, 2016
November 30, 2016

IWRS Open House Events
TBD

VIII. **The Legal Framework – ORS 536.220**

Below is an excerpt from ORS 536.220, which provides the legal authority and foundation for development of Oregon's Integrated Water Resources Strategy and subsequent iterations.

536.220 Policy on water resources generally; integrated state water resources strategy.

(1) The Legislative Assembly recognizes and declares that:

(a) The maintenance of the present level of the economic and general welfare of the people of this state and the future growth and development of this state for the increased economic and general welfare of the people thereof are in large part dependent upon a proper utilization and control of the water resources of this state, and such use and control is therefore a matter of greatest concern and highest priority.

(b) A proper utilization and control of the water resources of this state can be achieved only through a coordinated, integrated state water resources policy, through plans and programs for the development of such water resources and through other activities designed to encourage, promote and secure the maximum beneficial use and control of such water resources, all carried out by a single state agency.

(c) The economic and general welfare of the people of this state have been seriously impaired and are in danger of further impairment by the exercise of some single-purpose power or influence over the water resources of this state or portions thereof by each of a large number of public authorities, and by an equally large number of legislative declarations by statute of single-purpose policies with regard to such water resources, resulting in friction and duplication of activity among such public authorities, in confusion as to what is primary and what is secondary beneficial use or control of such water resources and in a consequent failure to utilize and control such water resources for multiple purposes for the maximum beneficial use and control possible and necessary.

(2) The Legislative Assembly, therefore, finds that:

(a) It is in the interest of the public welfare that a coordinated, integrated state water resources policy be formulated and means provided for its enforcement, that plans and programs for the development and enlargement of the water resources of this state be devised and promoted and that other activities designed to encourage, promote and secure the maximum beneficial use and control of such water resources and the development of additional water supplies be carried out by a single state agency that, in carrying out its functions, shall give proper and adequate consideration to the multiple aspects of the beneficial use and control of such water resources with an impartiality of interest except that designed to best protect and promote the public welfare generally.

(b) The state water resources policy shall be consistent with the goal set forth in ORS 468B.155.

(3)(a) The Water Resources Department shall develop an integrated state water resources strategy to implement the state water resources policy specified in subsection (2) of this section. The department shall design the strategy to meet Oregon's in-stream and out-of-stream water needs.

(b) The Water Resources Department shall work in close cooperation with the Department of Environmental Quality and the State Department of Fish and Wildlife to develop the integrated state water resources strategy in consultation with other state, local and federal agencies, with other states, with Indian tribes, with stakeholders and with the public.

(c) The Water Resources Department, in close cooperation with the Department of Environmental Quality and the State Department of Fish and Wildlife, shall develop data on an ongoing basis to forecast Oregon's in-stream and out-of-stream water needs, including but not limited to in-stream, underground water, human consumption and water supply needs, for the purpose of developing and updating the integrated state water resources strategy.

(d) The integrated state water resources strategy shall describe the following:

(A) Oregon's in-stream and out-of-stream water needs, including but not limited to ecosystem services, water quality and water supply needs.
(B) Objectives of the strategy.
(C) Actions that are designed to achieve the objectives of the strategy.
(D) Plans related to the challenges presented by climate change.
(E) Provisions to ensure communication and partnership with key stakeholders.
(F) Specific functions and roles to be played by state agencies, including but not limited to the State Department of Agriculture, the State Forestry Department, the Department of Human Services, the Oregon Business Development Department, the Department of Land Conservation and Development, the Oregon Watershed Enhancement Board, the State Parks and Recreation Department, the Department of State Lands and other relevant state agencies.
(G) Public policy options and recommendations.
(H) Relevant strategy factors, including but not limited to population growth and land use change.
(I) Recommendations of the Water Resources Department regarding the continuous monitoring of climate change effects on Oregon's water supply and regarding water user actions that are necessary to address climate change.

(e) (A) The Water Resources Commission shall give the Environmental Quality Commission, the State Department of Agriculture and the State Department of Fish and Wildlife notice of the integrated state water resources strategy prior to adoption of the strategy. The strategy shall take effect upon adoption by the Water Resources Commission.

(B) The Water Resources Commission shall review and update the integrated state water resources strategy every five years. The Water Resources Commission shall give notice to the Environmental Quality Commission, the State Department of

Agriculture and the State Department of Fish and Wildlife prior to adopting any revisions of the strategy. Revisions of the strategy shall take effect upon the Water Resources Commission's adoption of the revised strategy by reference in rule.

(4) This section does not limit the authority granted the Environmental Quality Commission or the Department of Environmental Quality under ORS chapter 468B. [1955 c.707 §1; 1989 c.833 §53; 2009 c.907 §44; 2013 c.1 §76]

DRAFT

Oregon's Integrated Water Resources Strategy

Progress Report

February 2016

ABOUT THIS DOCUMENT

This at-a-glance implementation document uses a five-point bar scale to help illustrate progress made under Oregon's 2012 Integrated Water Resources Strategy (IWRS). In March 2015, the IWRS Project Team shared its first progress report, a "roadmap to implementation," with the Water Resources Commission. The first report evaluated progress made under the IWRS 2012-2017 implementation workplan. A progress bar with 4 squares [■■■■] means the Department and its partners fully met the commitments of that recommended action, as described in the implementation workplan. A progress bar with no squares means little to know work has been completed under that recommended action.

This new format condenses the March 2015 progress report into a short summary tool. As we gather more implementation updates from our sister agencies, stakeholders, and other public and private organizations, the Water Resources Department will continue to evaluate and revise future iterations of this progress report.

ABOUT THE KEY

■ Completed
IP In Progress
□ Not yet started

SNAPSHOT OF PROGRESS

Objective 1: Understand Water Resources Today

- ■■■ 1A. Conduct additional groundwater investigations
- ■■■ 1B. Improve water resources data collection and monitoring
- ■■■■ 1C. Coordinate inter-agency data collection, processing, and use in decision-making

Objective 2: Understand Instream and Out-of-Stream Needs

- ■■■ 2A. Update long-term water demand forecasts
- ■■ 2B. Improve water-use measurement and reporting
- ■ 2C. Determine pre-1909 water right claims
- 2D. Update water right records with contact information
- ■■■■ 2E. Update Oregon's water-related permitting guide
- ■ 3A. Determine flows needed (quality & quantity) to support instream needs
- ■ 3B. Determine needs of groundwater-dependent ecosystems

Objective 3: Understand the Coming Pressures that affect our Needs and Supplies

- ■ 4A. Analyze effects on water from energy development projects and policies
- ■ 4B. Take advantage of existing infrastructure to develop hydroelectric power
- ■ 4C. Promote strategies that increase/integrate energy and water savings
- ■■ 5A. Support continued basin-scale climate change research efforts
- ■ 5B. Assist with climate change adaptation and resiliency strategies
- 6A. Improve integration of water info into land use planning (vice versa)
- 6B. Update state agency coordination plans
- 6C. Encourage low impact development practices
- ■■ 7A. Develop and upgrade water & wastewater infrastructure
- ■■ 7B. Encourage regional (sub-basin) approaches to water/ wastewater systems
- 8A. Support implementation of Oregon's K-12 environmental literacy plan
- 8B. Provide education & training for Oregon's next generation of water experts
- ■■ 8C. Promote community education and training opportunities
- ■ 8D. Identify ongoing water-related research needs

Objective 4: Meet Oregon's Instream and Out-of-Stream Needs

- ■■■ 9A. Undertake place-based integrated, water resources planning
- 9B. Coordinate implementation of existing natural resource plans
- ■■ 9C. Partner with federal agencies, tribes, and neighboring states in long-term water resources management
- ■ 10A. Improve water-use efficiency and water conservation
- ■ 10B. Improve access to built storage
- 10C. Encourage additional water reuse projects
- ■■ 10D. Reach environmental outcomes with non-regulatory alternatives
- ■■■ 10E. Authorize and fund a water supply development program
- ■■ 11A. Improve watershed health, resiliency, and capacity for natural storage
- ■ 11B. Develop additional instream protections
- ■■■ 11C. Prevent and eradicate invasive species
- ■■ 11D. Protect and restore instream habitat and habitat access for fish & wildlife
- ■■■ 12A. Ensure the safety of Oregon's drinking water
- ■■■ 12B. Reduce the use of and exposure to toxics and other pollutants
- ■■■ 12C. Implement water quality pollution control plans
- ■■■■ 13A. Fund development and implementation of Oregon's IWRS
- ■■ 13B. Fund water resources management activities at the state level
- ■■■ 13C. Fund communities needing feasibility studies for water conservation, storage, and reuse projects

PROGRESS ON INDIVIDUAL ACTIONS

1A. Conduct Additional Groundwater Investigations

- IP Test water quality in private drinking water wells
- IP Maintain and install additional monitoring wells
- IP Partner with USGS to conduct and cost-share additional groundwater investigations
- IP Assess groundwater administrative areas
- IP Locate and document exempt use wells
- IP Locate and document UICs

1B. Improve Water Resources Data Collection and Monitoring

- IP Establish dedicated monitoring wells
- IP Update Oregon's stream gage network
- Implement an on-going state-wide groundwater quality monitoring program
- Prioritize basins for data collection and monitoring
- IP Evaluate habitat conditions and effectiveness of restoration efforts
- IP Add remote and real-time capability to monitoring stations

1C. Coordinate Inter-Agency Data Collection, Processing, & Use in Decision-Making

- Coordinate federal, state & local monitoring and data efforts
- IP Improve and integrate data from partners
- IP Process backlogs
- IP Improve availability of information
- Invest in scientific modeling tools
- Map major water institutions, documenting their responsibilities, programs, data

2A. Update Long-Term Water Demand Forecasts

- Update the state's long-term water demand forecast
- Update crop water-use tables
- Quantify/model economic value of instream and out-of-stream water
- IP Enhance the state's water use reporting system

2B. Improve Water-Use Measurement and Reporting

- Reinstate a water-use reporting coordinator at WRD
- IP Fully implement the State's Water Measurement Strategy; offer cost-share dollars
- Encourage businesses to conduct self-evaluations of water use
- IP Employ remote-sensing

2C. Determine Pre-1909 Water Right Claims

- IP Complete un-adjudicated areas
- IP Settle federal reserved claims, including tribal claims
- Settle groundwater claims

2D. Update Water Right Records with Contact Information

- Authorize WRD to update names on water right certificates
- Update related water right database and GIS records
- Rule-making should specify acceptable documentation

2E. Update Oregon's Water-Related Permitting Guide

- Provide updated agency contacts, policies, links
- Provide industry-specific information where possible

3A. Determine Flows Needed (Quality & Quantity) to Support Instream Needs

- Conduct base flow needs studies
- IP Develop elevated flow requirements
- Develop models/studies on economic value of instream and out-of-stream water

3B. Determine Needs of Groundwater-Dependent Ecosystems

- IP Identify and characterize groundwater-dependent ecosystems statewide
- IP Complete groundwater basin studies

4A. Analyze Effects on Water from Energy Development Projects and Policies

- Analyze the water demands and water quality impacts of current and proposed water-intensive energy development projects (bio-energy, geothermal, solar, natural gas, and hydroelectric)

4B. Take Advantage of Existing Infrastructure to Develop Hydroelectric Power

- IP Utilize the state's expedited application process to develop hydroelectric projects at existing infrastructure

4C. Promote Strategies That Increase/Integrate Energy and Water Savings

- IP Move toward energy independence for publicly operated treatment works (wastewater treatment)
- Encourage communities to look for and integrate ways to conserve both energy and water
- Continue to implement and evaluate building codes that encourage water and energy efficiency
- Ensure that efficiency programs capture and publicly report both water-energy savings data
- Partner with Oregon's 10-year Energy Action Plan to promote conservation strategies for water & energy

5A. Support Continued Basin-Scale Climate Change Research Efforts

- IP Improve climate change projections at a basin scale
- IP Develop reliable projections of basin-scale hydrology, and their impacts on other systems

5B. Assist with Climate Change Adaptation and Resiliency Strategies

- IP Provide support to communities to incorporate climate change into their planning decisions
- IP Look for more efficient ways to conserve, store, and reuse water in anticipation of climate change
- IP Invest and make improvements in surface water and groundwater monitoring
- IP Invest in real-time forecasting of water deliveries, basin yield, streamflow, flood and drought frequency projections
- ☐ Analyze how instream and out-of-stream water rights will fare with hydrologic changes
- ☐ Analyze how water rights will fare with changing crop needs
- IP Use the U.S. Environmental Protection Agency's Climate Ready Water Utilities Program
- IP Increase ecosystem resiliency to climate change
- IP Ensure continued water and wastewater services in a changing climate

6A. Improve Integration of Water Info into Land Use Planning (vice versa)

- ☐ Develop and share information regarding the location, quantity, and quality of water resources
- ☐ Protect water sources in the course of land use decisions

6B. Update State Agency Coordination Plans

- ☐ Update State Agency Coordination Programs in coordination with DLCD

6C. Encourage Low Impact Development Practices

- ☐ Compile and provide online information on low impact development policies
- ☐ Update local development codes, improving local capacity to review and permit green infrastructure designs

7A. Develop and Upgrade Water & Wastewater Infrastructure

- ☐ Improve dam safety; retrofit for seismic issues
- IP Develop emergency action plans for high hazard dams
- ☐ Properly abandon infrastructure at the end of its useful life
- ☐ Use an "asset management" approach to identify and plan for rehabilitation, upgrade or replacement of infrastructure
- IP Ensure that basic maintenance needs continue to be eligible for grant and loan funding
- IP Advocate for continued infrastructure funding
- ☐ Encourage communities to consider natural infrastructure in lieu of, or as a complement to, built infrastructure.

7B. Encourage Regional (Sub-Basin) Approaches to Water/ Wastewater Systems

- ■ Provides incentives, such as funding and technical assistance

8A. Support Implementation of Oregon's K-12 Environmental Literacy Plan

- ☐ Support funding for implementation
- ☐ Natural resource agencies, community organizations, and others should engage in education for environmental literacy activities

8B. Provide Education & Training for Oregon's Next Generation of Water Experts

- ☐ Conduct a survey of water organizations in Oregon
- ☐ Determine whether educational programs in Oregon are equipped to meet the coming demand for water professionals
- ☐ Offer internships, fellowships, and job shadow programs to expose students to careers in water
- ☐ Continue funding support for water-related trade programs at Oregon community colleges

8C. Promote Community Education and Training Opportunities

- ■ Continue to promote education and outreach through actions required in local Water Management & Conservation Plans
- IP Promote technical training for public and private partners
- IP Promote access to water-related recreational opportunities through the use of the Water Trails Program

8D. Identify Ongoing Water-Related Research Needs

- IP Continue to identify ongoing research needs at the local and state level
- IP Partner with public and private researchers

9A. Undertake Place-Based Integrated, Water Resources Planning

- ■ Develop a template for place-based integrated water resources strategies
- ■ Provide technical assistance and other incentives to communities undertaking place-based IWRS
- IP Compile relevant and readily-available water-related information to support place-based IWRS

9B. Coordinate Implementation of Existing Natural Resource Plans

- ☐ Coordinate and reconcile existing ecological planning and restoration efforts
- IP Dedicate resources for state and local implementation

9C. Partner with Federal Agencies, Tribes, and Neighboring States in Long-Term Water Resources Management

- IP Protect Oregon's interests in shared surface water and groundwater basins
- IP Partner to improve access to additional stored water

10A. Improve Water-Use Efficiency and Water Conservation

- ☐ Establish and maintain an online water-use efficiency and conservation clearinghouse
- ☐ Prioritize agricultural water-use efficiency
- ■ Expand outreach and participation in the State's water-use efficiency and conservation programs
- ☐ Conduct a state-wide water conservation potential assessment

10B. Improve Access to Built Storage

- IP Develop additional below-ground storage sites
- IP Re-allocate water in federal reservoir systems that have not undertaken formal allocation processes
- IP Develop additional above-ground, off-channel storage sites where needed
- ☐ Evaluate the status of storage infrastructure
- ☐ Authorize and fund the State to invest in and purchase water from stored water facilities

10C. Encourage Additional Water Reuse Projects

- ☐ Conduct a statewide assessment of the potential for additional water reuse
- ☐ Ensure that Oregon has the right policies and regulations in place to facilitate water reuse
- ☐ Provide incentives for increased water reuse

10D. Reach Environmental Outcomes with Non-Regulatory Alternatives

- IP Assist in the research and development of non-regulatory tools to meet environmental outcomes
- IP Develop protocols for translating water quality projects into credits
- IP Develop protocols for translating streamflow restoration into credits and accounting strategies
- IP Complete stream functional assessment

10E. Authorize and Fund a Water Supply Development Program

- IP Identify opportunities for the State to serve as a partner in water supply development projects
- IP Authorize the Water Resources Department to invest in projects, to purchase and/or contract for water supplies
- ■ Authorize bonds to finance these investments

11A. Improve Watershed Health, Resiliency, and Capacity for Natural Storage

- IP Preserve wetlands
- IP Restore floodplain functions
- IP Maintain forested areas
- IP Improve riparian conditions

11B. Develop Additional Instream Protections

- ☐ Establish additional instream water rights where needed to protect flows
- ■ Designate scenic waterways where needed to protect recreation, fish, and wildlife uses
- IP Expand the use of voluntary programs to restore streamflow
- IP Expand the geographic range of flow restoration efforts

11C. Prevent and Eradicate Invasive Species

- IP Support the Oregon Conservation Strategy's six state-wide actions to prevent new introductions, and decrease the scale and spread of infestations
- IP Implement and enforce ballast water management regulations

11D. Protect and Restore Instream Habitat and Habitat Access for Fish & Wildlife

- IP Remove fish passage barriers and support fish screening efforts by implementing actions in Oregon's Conservation Strategy
- IP Build upon existing ecological planning and restoration efforts

12A. Ensure the Safety of Oregon's Drinking Water

- IP Assist public water suppliers; support small public water systems
- IP Protect drinking water sources
- IP Monitor public drinking water for contaminants of emerging concern
- IP Encourage water providers to join the Oregon Water/Wastewater Agency Response Network
- IP Increase domestic well testing

12B. Reduce the Use of and Exposure to Toxics and Other Pollutants

- IP Finalize and implement DEQ's Toxics Reduction Strategy
- ■ Implement green chemistry executive order, including revising purchasing practices related to toxic chemicals
- IP Implement Water Quality Pesticide Management Plan
- IP Support Pesticide Stewardship Partnerships
- IP Establish and fund "take back programs"
- IP Continue to identify and address hazardous or contaminated sites, including brownfields
- ☐ Prevent blue-green algae from forming beyond natural background levels
- ■ Monitor recreational waters and inform the public when contaminants are present

12C. Implement Water Quality Pollution Control Plans

- IP Continue to develop and implement TMDLs for water bodies that do not meet water quality standards
- IP Continue to address nonpoint sources of pollution across all land uses; increase monitoring
- IP Ensure effective management and oversight of stormwater in urbanized areas
- IP Assist communities with septic system challenges

13A. Fund Development and Implementation of Oregon's IWRS

- ■ Fund implementation of 2012-2017 IWRS
- ■ Fund required updates of state-level IWRS
- ■ Fund development of place-based IWRS

13B. Fund Water Resources Management Activities at the State Level

- IP Fund those water management activities for which the State has responsibility
- IP Ensure increased and adequate funding from the General Fund
- IP Seek additional funding sources

13C. Fund Communities Needing Feasibility Studies for Water Conservation, Storage, and Reuse Projects

- ■ Continue to provide SB 1069 grants to help evaluate the feasibility of water conservation, storage, and reuse projects

EXECUTIVE ORDER NO. 15-09

DIRECTING STATE AGENCIES TO PLAN FOR RESILIENCY TO DROUGHT, TO MEET THE CHALLENGE THAT A CHANGING CLIMATE BRINGS

Water is the foundation for our economies, communities, ecosystems, and quality of life. Oregon has a strong history of managing and caring for water to meet both instream and out-of-stream needs.

As of July 27 2015, I have declared drought emergencies in 23 of Oregon's 36 counties. These emergencies have been occasioned by drought conditions that include record-breaking low snowpack levels, high temperatures, and significantly low stream flows in many parts of the state. Many Oregon counties have experienced two consecutive years of drought conditions, and several have had multiple drought declarations over the past five years. The primary problem experienced in the 2014-2015 water year so far – an extremely warm winter resulting in historic lows for mountain snowpack, the main source of water storage and stream flows for many areas of Oregon – may occur again in the winter of 2015-2016 due to El Nino conditions. In the longer-term, if climate predictions are correct, these conditions will become the new normal. Oregon, along with other western states, must plan for and address how a changing climate challenges our current systems and policies, and threatens our economy and quality of life.

Drought has many effects, including severe water reductions for irrigated agriculture; reduced forage for grazing; water restrictions or shortages in communities with limited supplies; low reservoir levels that limit or prevent recreational activities; low stream flows and high water temperatures that harm fish and restrict angling and other river uses; reduced productivity of forests and increased mortality of trees; and increased risk of wildfire.

Drought conditions may persist or grow worse in future years. Now is the time to get ahead of our water resource challenges and improve our resiliency to drought to prevent much more serious problems.

The Oregon Legislature has approved new funding to begin helping communities do the work to address their water challenges. While this funding is a critical piece of meeting instream and out-of-stream water needs for Oregon's future, it is also critical that the state update its drought emergency plans and processes, and update how the state manages its own use of limited water resources.

Many Oregon agencies already have taken steps to improve the sustainability of their operations, including actions to reduce water, but Oregon state government

can and should lead by example, demonstrating to Oregonians that drought is a serious issue that can be managed if we all work together.

NOW THEREFORE, IT IS HEREBY DIRECTED AND ORDERED:

To increase Oregon's resiliency to drought and to better protect Oregon's communities, economy and natural resources:

I. I hereby direct state agencies that own or manage land or facilities, including the Department of Administrative Services, Oregon Parks and Recreation Department, Oregon Department of State Lands, Oregon Department of Fish and Wildlife, Oregon Department of Forestry, Oregon Department of Transportation, Oregon Military Department, and the Department of Corrections, but not including the Oregon University System, to:

a. Work with the Department of Administrative Services and Oregon Water Resources Department to establish what their baseline use of water is;

b. Consult with water suppliers, or (as applicable) manage their own water supplies, to identify and carry out:

(1) Short-term actions that curtail or end the non-essential use of water for landscaping and other exterior features of building and grounds including, but not limited to lawn watering, fountains that do not re-circulate water, and window washing;

(2) A moratorium (where allowed) on the installation of new non-essential landscaping projects that require irrigation at state-owned buildings;

(3) Development and placement of signs and other messaging within state-owned buildings to encourage state

employees to reduce their non-essential uses of water inside state-owned buildings; and

(4) Assessments to determine that state-owned buildings and facilities have current leak detection systems or procedures to address leaks that are being carried out on a timely basis.

c. Consider any social and disproportionate effects of actions on underserved communities before making final decisions on water-saving measures; and

d. Report to the Governor by November 1, 2015, and annually thereafter, on progress in implementing these actions, barriers encountered, and future steps planned to reduce non-essential use of water.

The goal of such actions is to reduce non-essential water consumption by 15 percent or more on average across all state-owned facilities on or before December 31, 2020, and to work with private building owners who lease facilities to state agencies to reduce non-essential water consumption at their buildings.

II. I hereby direct the Oregon Water Resources Department and Oregon Office of Emergency Management to engage other state agencies, federal agencies, tribal governments, local governments and other stakeholders to update Oregon's Drought Annex to the State of Oregon Emergency Operations Plan to reflect emerging information on the risk of drought and the need to assure that Oregon is appropriately prepared for future droughts.

III. I hereby direct the Oregon Water Resources Department to address drought in Oregon's 2017 update to the Integrated Water Resources Strategy, including long-term drought resiliency planning.

EXECUTIVE ORDER NO. 15 - 09
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IV. I hereby direct all state agencies to work with the Oregon Water Resources Department to use their websites and other outreach tools to:

a. Encourage voluntary actions by Oregonians to conserve water; and

b. Communicate agencies' actions to conserve water.

This Executive Order shall remain in effect until it is otherwise modified, amended or terminated.

Done at Salem, Oregon this 27 day of July 2015.

Kate Brown

KATE BROWN
GOVERNOR

ATTEST:

Jeanne P. Atkins

Jeanne P. Atkins
SECRETARY OF STATE

Contains Recycled Materials

Drought Annex
State of Oregon Emergency Operations Plan

January 2016

Oregon Office of Emergency Management
Oregon Water Resources Department

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Acronyms

DRC	Drought Readiness Council
NRCS	U.S. Natural Resources Conservation Service
NWPCC	Northwest Power and Conservation Council
OAR	Oregon Administrative Rule
OCCRI	Oregon Climate Change Research Institute
ODA	Oregon Department of Agriculture
ODEQ	Oregon Department of Environmental Quality
ODF	Oregon Department of Forestry
ODFW	Oregon Department of Fish & Wildlife
ODHS	Oregon Department of Human Services
OEM	Oregon Office of Emergency Management
OHA	Oregon Health Authority
ORS	Oregon Revised Statute
OWRD	Oregon Water Resources Department
OPRD	Oregon Parks and Recreation Department
OSMB	Oregon State Marine Board
PUC	Public Utility Commission
NDMC	National Drought Mitigation Center
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NWS	National Weather Service
USACE	U.S. Army Corps of Engineers
USBLM	U.S. Bureau of Land Management
USBOR	U.S. Bureau of Reclamation
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WSAC	Water Supply Availability Committee

Purpose

The purpose of this annex is to establish a framework for the State of Oregon to conduct an effective, coordinated, and timely response that minimizes negative impacts resulting from severe drought conditions.

This incident annex describes the roles and responsibilities of state agencies during severe drought situations and serves as a companion document to the State of Oregon's Emergency Operations Plan.

This response document is supported by other drought mitigation and long-term water management strategies, such as the state's 2015 Natural Hazards Mitigation Plan and Oregon's 2012 Integrated Water Resources Strategy.

The Office of Emergency Management is primarily responsible for development of this plan, with significant input and contribution from the Water Resources Department, the lead agency for this hazard.

Planning Assumptions

- Drought is a normal, recurring feature of climate. It occurs almost everywhere, although its features vary from region to region, and defining it can be difficult.
- Changes in the timing of streamflow related to changing snowmelt have been observed and are likely to continue, reducing the supply of water for many competing demands and causing far-reaching ecological and socioeconomic consequences.
- Drought is a slowly developing – and often long-lasting – disaster, with cumulative impacts, making consistent and early monitoring and detection critical. Drought can adversely affect agriculture, community water supplies, industry, fish and wildlife, recreation, and other beneficial uses.
- During a drought, local jurisdictions should consider all water management tools available and routinely consult with water suppliers within the region.
- The initial responsibility for providing emergency water supplies rests with local jurisdictions.
- When local resources have been exhausted, additional assistance may be provided by state agencies.

Background

Types of Drought

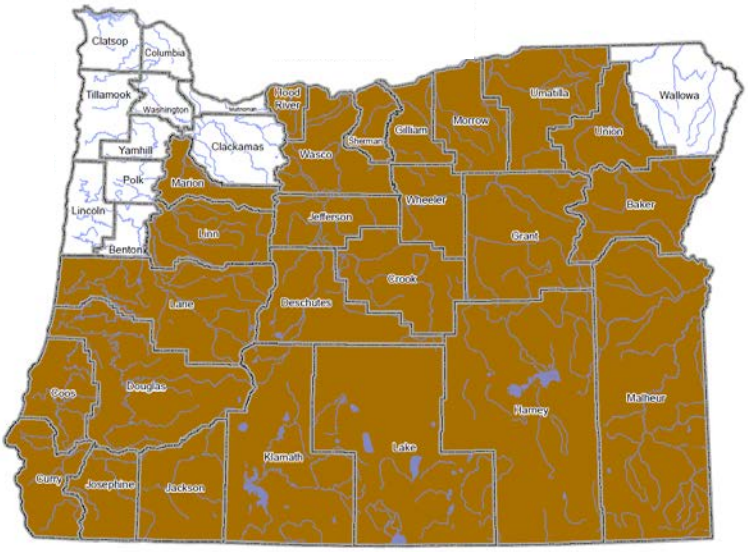
Droughts can generally be characterized by an increased demand or decreased supply of water. In the early 1980s, researchers with the National Drought Mitigation Center (NDMC) and the National Center for Atmospheric Research located more than 150 published definitions of drought. In order to simplify analysis, the NDMC now provides four different ways in which drought can be defined:

- **Meteorological** - a measure of departure of precipitation from normal. Due to climatic differences, what might be considered drought in one location of the state may not be the same in another location.
- **Agricultural** - refers to a situation where the amount of moisture in the soil no longer meets the needs of a particular crop.
- **Hydrological** - occurs when surface and subsurface water supplies are below normal.
- **Socioeconomic** - refers to the situation that occurs when physical water shortages begin to affect people.

Drought in Oregon

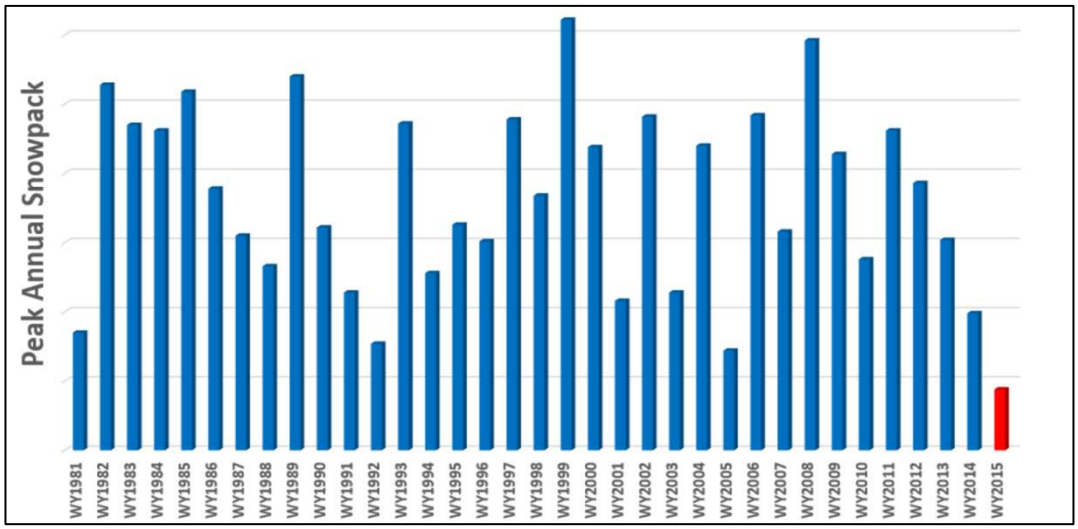
Drought is a common and frequent occurrence in Oregon. The droughts of 1976-1977, 1992, 2001-2002 and 2015 were felt statewide. The drought of 2015 was especially challenging. By September, 25 counties were under a state drought declaration. This was particular difficult for areas that had experienced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

Figure 1: 2015 Drought Declarations



Record warm temperatures during 2015 contributed 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. Figure 2 below provides a historical look at the 2015 snowpack compared to previous years.

Figure 2: Peak Annual Snowpack (Water Year 1981 – 2015)

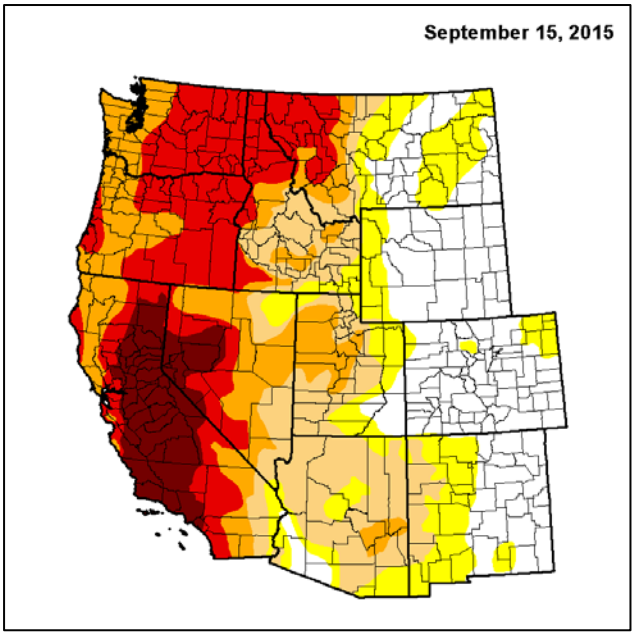


Source: NRCS Snow Survey Program

For much of southern Oregon, 2015 was the second or third year of drought, and the impacts continued to intensify. However, the extent and severity of this year's drought exceeded the two previous years for the state as a whole. Drought conditions affected agriculture, community water supplies, recreation, fisheries and wildlife, and contributed to a very active wildfire season.

Many parts of Oregon experienced a dry and hot spring and summer, with periods of record-high temperatures, especially in western and northeast Oregon. Overall, it was the hottest June on record for most of Oregon and one of the hottest Julys on record. The meteorological summer— June through August—was also the hottest on record for many locations, with cities such as Portland, Salem, Eugene, Roseburg, Medford, and Klamath Falls setting new temperature records.

Figure 3: U.S. Drought Monitor



Due to these severe conditions, Governor Kate Brown issued an Executive Order in July 2015 directing state agencies to reduce water use at all state-owned facilities and to update the state's emergency response plan for drought, the incident annex to the state's emergency operations plan. Previous versions of the annex were completed in March 1988, February 1991, June 1993, June 2001, and September 2002.

Early Drought Monitoring & Preparedness

Determining Drought

Oregon Revised Statute (ORS) Chapter 536 identifies authorities available during a drought. To trigger specific actions from the Water Resources Commission and the Governor, a "severe and continuing drought" must exist or be likely to exist. Oregon relies upon two inter-agency groups to evaluate water supply conditions, and to help assess and communicate potential drought-related impacts. The Water Supply Availability Committee (WSAC) is a technical committee chaired by the Water Resources Department. The other group—the Drought Readiness Council—is a coordinating body of state agencies co-chaired by the Water Resources Department and the Office of Emergency Management.

Water Supply Availability Committee – The Water Supply Availability Committee consists of state and federal agencies that meet early and often throughout the year to evaluate the potential for drought conditions. If drought development is likely, monthly meetings occur shortly after release of NRCS Water Supply Outlook reports for that year (second week of the month beginning as early as January) to assess conditions. Participating members of the WSAC include representatives from the following agencies:

- Oregon Department of Agriculture
- Oregon Department of Forestry
- Oregon Office of Emergency Management
- Oregon Water Resources Department (Chair)
- NOAA-National Weather Service and Northwest River Forecast Center
- USDA-NRCS Snow Survey Program
- U.S. Army Corps of Engineers
- U.S. Geological Survey

Water Supply Forecasts

Several state and federal agencies monitor water supplies and track potential drought conditions. The National Weather Service, for example, provides hydro-meteorological, snow cover, and other available data from the SNOTEL network operated by the NRCS. The network provides snow depth, snow water equivalent, and temperature data for high elevation sites.

The NRCS issues a monthly "Water Supply Outlook" report detailing current and forecasted streamflow information, snowpack, precipitation, and reservoir data for each major river basin in Oregon. Data for the report is provided by the Oregon Water Resources Department, U.S. Geological Survey, the National Weather Service and other cooperators.

The following are indicators used by the Water Supply Committee for evaluating drought conditions:

- Snowpack
- Precipitation
- Temperature anomalies
- Long range temperature outlook
- Long range precipitation outlook
- Current streamflows and behavior
- Spring and summer streamflow forecasts
- Ocean surface temperature anomalies

(El Nino, La Nina)
- Storage in key reservoirs
- Soil and fuel moisture conditions
- NRCS Surface Water Supply Index

Through the Water Resources Department, the WSAC communicates the status of drought conditions to local, state, and tribal agencies, and their designated emergency management points-of-contact. During a severe drought, local emergency managers should coordinate closely with water providers (municipal and irrigation), OWRD field staff, and other water users. Representatives from city, county, and tribal governments are encouraged to attend WSAC meetings for pertinent information on local conditions and potential courses of action.

The Committee is also responsible for providing updates and reports on conditions to the Drought Readiness Council.

Drought Readiness Council – The Drought Readiness Council (DRC) is an advisory body of state agencies involved with natural resources management, public health, or emergency services. The Council relies on information provided by the Water Supply Availability Committee to assess how conditions may affect various sectors across the state, including instream and out-of-stream uses.

A primary role of the Drought Readiness Council is to review local requests for assistance and make recommendations to the Governor regarding the need for a state drought declaration. The Council is generally responsible for ensuring coordination among state agencies and will help water users and others access drought-related information and assistance programs.

The DRC is co-chaired by Water Resources Department and the Office of Emergency Management. Altogether, the DRC includes senior-level staff from the following:

- Oregon Climate Change Research Institute
- Oregon Department of Agriculture
- Oregon Department of Energy
- Oregon Department of Environmental Quality
- Oregon Department of Fish and Wildlife
- Oregon Department of Forestry
- Oregon Health Authority's Drinking Water Program
- Oregon Office of Emergency Management (co-chair)
- Oregon Water Resources Department (co-chair)

Drought Declaration Process

The legal authorities for drought mitigation and response functions are found in ORS 536.700 - 536.780 and Oregon Administrative Rules (OAR) Chapter 690, Division 19. The Governor, through the request of a local jurisdiction, can declare an emergency under ORS 401.165.

Under ORS 536.740, the Governor has authority to declare that a severe, continuing drought exists, or may exist, in any (or all) of the drainage basins in Oregon. Based on that declaration, the Governor or the Oregon Water Resources Commission can also direct state agencies and political subdivisions to implement a water conservation plan or water curtailment plan. Additionally, ORS 536.750 states that a drought declaration by the Governor allows the Water Resources Department to provide existing water right holders with access to temporary water management tools, described in OAR 690-019.

More serious conditions may require further action, including a declaration of emergency as defined under ORS 401. When requesting a declaration of emergency by the Governor, local governments must first conduct response operations to the full extent of their capability, as defined by local statutes and more fully described in emergency operations plans. As a part of that response, local governments must have exhausted all local resources including requesting assistance through mutual aid, intergovernmental agreements, and private contracts. Assistance through this process is most applicable when the severity of the drought causes or threatens widespread loss of life, injury to person or property, human suffering or financial loss—in other words, agricultural or socioeconomic droughts.

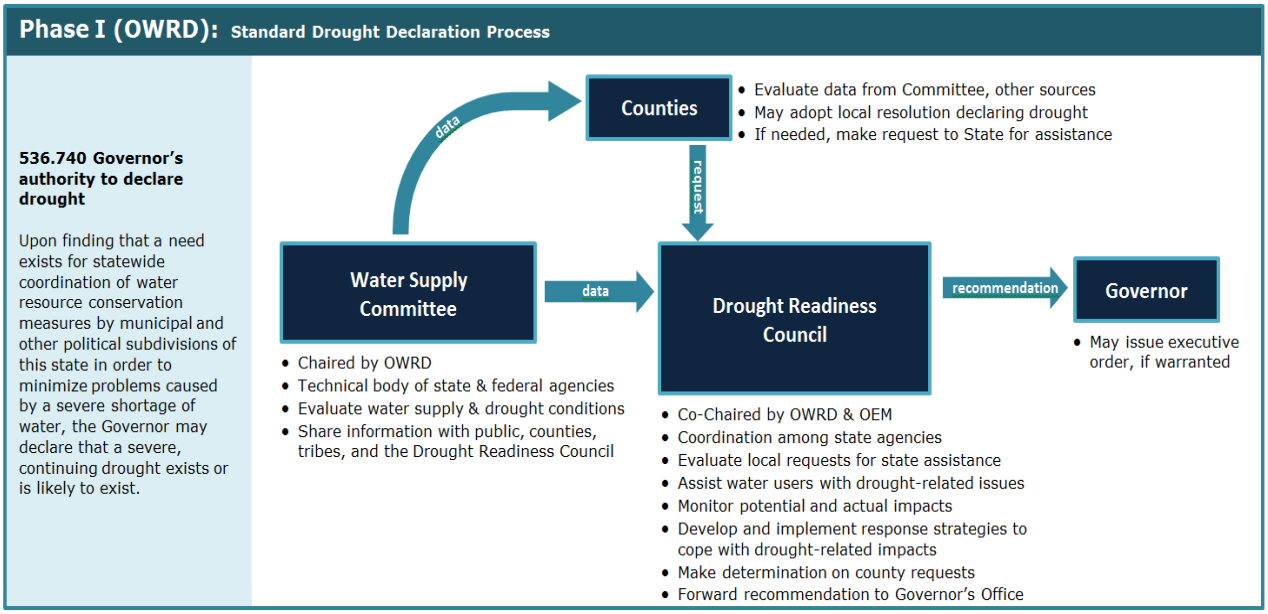
Together, these sections of statute and rule provide a framework with graduated series of policy tools for responding to drought. Typically, state drought declarations of either kind expire at the end of the calendar year; if conditions persist through the winter and spring, affected jurisdictions would request new drought declarations.

The first step in the drought declaration process begins at the local level, where emergency managers consult with local water providers and WRD regional staff members. This consultation may lead to a local governing body adopting a resolution or ordinance declaring a drought within its boundaries.

If conditions persist, the next action is to request access to temporary water right tools, or state agency coordination and assistance, or both. For this, cities or districts must appeal to the county that the majority of their area lies within. That county may then make a written request for a state declaration of severe and continuing drought. The Water Supply Availability Committee plays a key role in evaluating water supply conditions related to such a request (see Figure 4 below). After

reviewing the county request, the Drought Readiness Council makes a recommendation to the Governor.

Figure 4: Standard Drought Declaration Process



If water supply conditions deteriorate to the point of a severe water emergency, for example, where drinking water supplies are threatened and state resources are needed to respond, then an emergency declaration under ORS 401 can be triggered. A part of that local declaration must be a request for a state declaration of emergency. This state declaration allows much broader action than the water right tools available under ORS 536, including the deployment of people and equipment from any state agency deemed necessary.

All requests for assistance following an emergency declaration should be made by local emergency management staff members on behalf of their jurisdiction through the Oregon Emergency Response System (OERS)[1]. Like many emergency management response scenarios, maintaining a secure and effective drinking water supply requires a very wide variety of goods and services, depending on the specific circumstances at the time of the incident. Therefore, agencies that maintain such equipment, or information about private-sector service providers, are best able to keep their own directories current and accurate. Combined with a single point for resource requests, this ensures efficient handling of requests. OEM acts as a coordinator to establish which of the potential agencies is capable of responding to the request, and if no state resources are available, the request can be promptly made to federal or private resources based on the requirements indicated.

[1] http://www.oregon.gov/omd/oem/pages/tech_resp/oers.aspx

Federal Declaration Process

Several federal assistance programs become available when a federal drought designation is issued. Federal drought designations are automated using the U.S. Drought Monitor and are administered d differently than drought declarations issued by the Oregon Governor. Federal declarations are conducted under the authority of the U.S. Secretary of Agriculture and are distinct from Presidential disaster declarations.

An Oregon county receives a federal drought designation when any portion of the county meets the "severe" drought intensity value for eight consecutive weeks as determined by the U.S. Drought Monitor. In addition, any county can be designated when a portion of its area has an "extreme" or higher drought intensity value at any time during the growing season. Counties that are contiguous to federally declared counties are also eligible for federal drought assistance.

State Response: Agency Roles & Responsibilities

Systematic coordination and effective communication among local, state, federal, and tribal governments is a fundamental component of the state's drought response. Water management is conducted through a number of plans and policies, many of which directly or indirectly address drought response or other water supply strategies. In its response, state agencies will rely upon other partners and governments, actively seeking their input and involvement when severe drought indicators are present.

State and local Natural Hazard Mitigation Plans, local Water Management and Conservation Plans, curtailment plans, and federal storage operational procedures all fill essential roles in this intergovernmental coordination.

Many state agencies will provide some level of assistance during a drought, primarily through existing agency programs and resources. Some agencies can provide personnel and/or equipment, while others offer knowledge, expertise, or technical assistance. State agencies or institutions with drought-related responsibilities are described below. As mentioned earlier, federal partners are key for providing meteorological and hydrologic data to assess water supply conditions, whereas others can provide drought relief through financial assistance or planning programs.

Oregon Department of Agriculture

- Participates in the Water Supply Availability Committee and the Drought Readiness Council.
- In conjunction with the USDA, may provide analysis of the impact of the drought upon agriculture.
- Coordinates with the USDA on emergency drought relief for agricultural users.

Oregon Department of Energy

- Participates in the Drought Readiness Council.
- Monitors and provides estimates of the impact of the drought on electric power generation capability and expected power supplies.

Oregon Department of Environmental Quality

- Participates in the Drought Readiness Council.
- May provide information on potential water quality impacts.
- In conjunction with the Department of Fish and Wildlife, may make yearly operational recommendations regarding reservoir releases for instream flow purposes.
- Monitors and advises on actions to reduce pollutant discharges into streams, lakes, and estuaries.
- Contact and track communications with National Pollutant Discharge Elimination System (NPDES) permittees in areas with declared drought emergencies and in areas affected by low flow conditions.

Oregon Department of Fish and Wildlife

- Participates in the Drought Readiness Council.
- Adjusts fishing opportunities to prevent “wasting" of game fish.
  - Liberalize fishery for a limited period.
  - Adjust the timing or location of hatchery fish stocking.
  - Selective fishing and hunting restrictions and changes.
  - Restrict access for fishing and hunting related to wildlife concerns.
- Take advantage of drought outcomes to manage invasive species.
  - Conduct eradication actions for invasive species.
  - Recommend to land managers that native plants be actively used to rehabilitate habitat after wildfires.
- Educate the public about actions they can take to reduce drought-related impacts on fish, wildlife and their habitat.
  - Distribute advisories and work with media to inform public on risks, voluntary actions, and management changes that are applicable during drought.
- As resources allow, provide feed and water at strategic points for wildlife.
- Attempt to minimize wildlife-human conflicts as wildlife move to areas with water and food.

Oregon Department of Forestry

- Participates in the Drought Readiness Council.
- Provides information on forest fuel moisture levels, wildfire activity, and prescribed fire activity.

- Provides estimates on expected wildfire risk for the current year.
- Provides information to forest landowners on conditions that warrant limiting access.
- Maintains up-to-date lists of potable water vendors and transporters.

Oregon Department of State Lands

- If warranted, provide emergency authorizations for removal or fills within rivers and streams for such activities as “push-up dams” or excavation to allow free flow of water.

Oregon Governor’s Office

- Acts as a liaison to the Drought Readiness Council.
- May act as a convening body during severe drought situations.
- Drafts executive order declarations for Governor’s consideration.

Oregon Health Authority (Drinking Water Program)

- Participates in the Drought Readiness Council.
- Provides technical guidance on the disinfection of emergency water containers and transport equipment as well as emergency treatment of water.
- Provides, in coordination with the Water Resources Department, information on drought-related impacts to any public water supplies.
- Provides information on best practices for water hauling from one public water system to another.

Oregon Infrastructure Finance Authority

- Provides information to business and industry on federal and state loan programs that may become available.
- Coordinates with funding agencies to deliver infrastructure financing to local communities.
- Provides financing for planning and technical assistance to improve water system efficiency and resilience to drought.
- Provides design and construction financing to improve water, sewer, and storm water system infrastructure.

Oregon Office of Emergency Management

- Co-chairs the Drought Readiness Council and maintains coordination with the Water Supply Availability Committee.
- Receives requests from local governments for emergency assistance under ORS 401.
- Advises the Governor and drafts state emergency declarations under ORS 401.
- Advises the Governor and drafts requests for a Presidential declaration.

- If necessary, coordinates and administers services related to a Presidential declaration.

Oregon Water Resources Department

- Chairs the Water Supply Availability Committee and co-chairs the Drought Readiness Council.
- Receives requests from local governments for drought assistance under ORS 536.
- Advises the Governor and coordinates state drought declarations under ORS 536.
- Administers the distribution of water and enforces the prior appropriation system of water rights.
- Protects the interest of the State relative to instream flows for fish and wildlife, recreation, or water quality needs.
- Provides, in conjunction with U.S. Geological Survey, the Natural Resources Conservation Service, National Weather Service, Northwest River Forecast Center, State Climatologist, and other state and local agencies, information on the drought, its expected severity, and its potential impact on water users.
- May assist individual water users in analyzing their water supply situation and identifying alternate water sources.
- Monitors groundwater conditions and estimate the effects of the drought on groundwater and related water users; provide technical assistance to groundwater users.
- Expedites the issuance of temporary water use applications pursuant to OAR 690-019.
- Assists in water curtailment and conservation planning and may require water curtailment and/or conservation plans, as necessary.
- Maintains a dedicated website to disseminate information on drought conditions, available resources, and other relevant information.

Communications

The Oregon Water Resources Department will be the lead state agency for coordinating and communicating information regarding water supply shortages. This includes providing information to the public and the news media, as well as tribal governments and local jurisdictions for assessing drought impacts in their communities. Much of this information will be disseminated through the Water Resources Department website.

However, many federal partners also play an important communication role, providing much of the technical data and information regarding seasonal forecasts and various water supply outlooks.

Other state agencies will also contribute information or guidance, such as the Oregon Department of Fish and Wildlife, Oregon Parks and Recreation Department, Oregon State Marine Board, and the Oregon Department of Forestry. These agencies, for example, will inform the public of any fishing restrictions, parks-related closures or operational changes, boater and recreational access to

waterbodies, and any fire-related restrictions, closures, or general information. State agencies will develop or routinely update their communications plan to help prepare for and alleviate drought-related risks.

Data, Water Right Tools, & Federal Assistance

When considering the need for drought-related assistance, local and tribal governments can rely on a number of informational resources to make this determination. Those resources are noted below.

⇒ Local government assistance:	OWRD, OEM, DRC
⇒ Drought conditions:	OWRD, WSAC
⇒ Snowpack:	NRCS
⇒ Streamflows and groundwater levels:	OWRD, USGS
⇒ Reservoir storage:	USBOR, USACE, NRCS, local operators
⇒ Weather observations or forecasts:	ODF, NWS, OCCRI
⇒ Soil moisture levels:	NRCS, ODF
⇒ Forest fire risk:	ODF, USFS, USBLM
⇒ Drinking water supplies:	PUC, USACE, OHA, local water utilities
⇒ Agricultural drought impacts:	ODA, USDA, local irrigation districts
⇒ Fish and wildlife habitat impacts:	ODFW, USFWS
⇒ Water quality:	ODEQ, USGS, OHA
⇒ Recreation impacts:	OPRD, Travel Oregon, OSMB, USACE
⇒ Socio-economic impacts:	OHA, ODHS, Business Oregon
⇒ Power production impacts:	NWPCC, PUC, ODOE

Drought Permits & Water Right Transfer Options

Oregon Administrative Rule Chapter 690-019 provides mitigation activities appropriate during extraordinary drought situations. These rules were developed to mitigate problems which may develop during years when water supplies are inadequate.

A state-issued drought declaration allows the Water Resources Department to offer certain temporary tools to existing water right holders in a drought-declared county. These tools are available through an expedited review process, reduced fee schedule, and are intended to be short-term authorizations, not long-term solutions to deal with frequent or recurring water supply shortages. These emergency tools include:

⇒ Temporary Drought Permits:
An approved drought permit allows a water user to temporarily replace water not available under an existing water right. The most common drought permit allows the use of groundwater as an alternative to an existing surface water right.

⇒ Temporary Transfers:
A water user can apply to change the type of use, place of use, or the location of the diversion under an existing water right.

⇒ Temporary Instream Leases:
Once approved, a water user can convert all or a portion of a water right to an instream use for a period of one year or the term of the drought declaration, whichever is shorter.

⇒ Temporary Substitutions:
Any person holding both a primary water right originating from a surface water source and a supplemental right from a groundwater source may apply to temporarily use the supplemental right instead.

⇒ Special Option Agreements:
A water-right holder can enter into an agreement that authorizes the use of water at locations, from points of diversion, and for uses other than those described in the water right. Typically, the agreement remains in place until terminated by the parties, and provides additional water-supply options in times of drought.

⇒ Temporary Exchange of Water:
The Water Resources Commission has authority to approve a temporary exchange of existing rights, such as using stored-water instead of a direct-flow surface-water right.

⇒ Human Consumption or Stock Water Use Preference:
The Water Resources Commission has authority to grant a temporary preference to water rights for human consumption and/or stock watering uses. The Water Resources Commission must approve temporary administrative rules instituting the preference.

Federal Assistance Programs

Several emergency drought programs exist at the federal level. Programs for farming and ranching operations are administered by the U.S. Department of Agriculture through the Farm Service Agency, USDA Rural Development, and the Natural Resources Conservation Service. The U.S. Small Business Administration provides loans to businesses, including non-profit organizations. The U.S. Bureau of Reclamation also offers grants for drought resiliency planning and project implementation. Links to those programs can be found in the following section.

Online Resources

Drought Conditions & Forecast Information

⇒ NRCS Water Supply Forecasts:
http://www.wcc.nrcs.usda.gov/wsf/

⇒ NRCS Oregon Surface Water Supply Index:
http://www.nrcs.usda.gov/wps/portal/nrcs/detail/or/snow/waterproducts/?cid=stelprdb1244919

⇒ NWS Northwest River Forecast Center:
http://www.nwrfc.noaa.gov/ws/index.html?version=20150727v1

⇒ NWS Long-range Forecasts (temperature and precipitation):
http://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=3

⇒ U.S. Drought Monitor:
http://droughtmonitor.unl.edu/Home/StateDroughtMonitor.aspx?OR

⇒ U.S. Geological Survey's WaterWatch (real-time streamflow comparisons):
http://waterwatch.usgs.gov/index.php?r=or&id=ww_current

⇒ U.S. Seasonal Drought Outlook (Climate Prediction Center):
http://www.cpc.ncep.noaa.gov/products/expert_assessment/sdo_summary.php

Drought Permitting & Transfer Resources

⇒ Drought Mitigation Rules (Division 19):
http://www.oregon.gov/owrd/law/docs/law/oar_690_019.pdf

⇒ Drought Application Forms:
http://www.oregon.gov/owrd/Pages/wr/drought_assistance.aspx

Drought Planning

⇒ EPA's Incident Annex Checklist for Water and Wastewater Utilities (June 2015):
http://www.epa.gov/sites/production/files/2015-06/documents/drought_0.pdf

⇒ NIDIS National Drought Mitigation Center:
http://drought.unl.edu/

⇒ OWRD Water Management & Conservation Planning (Division 86):
http://arcweb.sos.state.or.us/pages/rules/oars_600/oar_690/690_086.html

⇒ OWRD Guidebook for Water Management and Conservation Planning (March 2015):
http://www.oregon.gov/owrd/docs/wmcp_guidebook.pdf

⇒ OWRD Model Curtailment Guidance (February 2005):
http://www.oregon.gov/owrd/wr/docs/model_curtailment_ord.pdf

Federal Assistance

⇒ Bureau of Reclamation:
http://www.usbr.gov/drought/

⇒ Farm Service Agency (USDA):
http://www.fsa.usda.gov/programs-and-services/disaster-assistance-program/index

⇒ Natural Resources Conservation Service (USDA):
http://www.nrcs.usda.gov/wps/portal/nrcs/detail/mt/home/?cid=nrcseprd334210

⇒ Risk Management Agency (USDA):
http://www.rma.usda.gov/news/currentissues/drought/

⇒ Small Business Administration:
https://www.sba.gov/content/drought-disaster-assistance

Other Online Resources

⇒ OWRD Water Well Handbook (June 2015):
http://www.oregon.gov/owrd/pubs/docs/Well_Water_Handbook.pdf

⇒ OWRD Groundwater Resources for Landowners (e.g. locate a well driller):
http://www.oregon.gov/owrd/Pages/GW/landowner_resources.aspx

⇒ OWRD Drought Website:
http://www.oregon.gov/owrd/Pages/wr/drought.aspx

⇒ Oregon Emergency Response System (OERS):
http://www.oregon.gov/omd/oem/pages/tech_resp/oers.aspx

⇒ OEM Emergency Operations Plan:
http://www.oregon.gov/OMD/OEM/Pages/plans_train/EOP.aspx

⇒ OHA Drought and Health:
http://public.health.oregon.gov/Preparedness/Prepare/Pages/PrepareForDrought.aspx

Enrolled
House Bill 4113

Sponsored by Representatives FAGAN, HACK, CLEM; Representatives GALLEGOS, GOMBERG, HELM, HUFFMAN, PARRISH, WITT, Senator ROBLAN (at the request of Oregon Water Resources Department) (Presession filed.)

CHAPTER .....

AN ACT

Relating to the Task Force on Drought Emergency Response; and declaring an emergency.

Be It Enacted by the People of the State of Oregon:

SECTION 1. (1)(a) The Task Force on Drought Emergency Response is established. The task force shall consist of no fewer than 11 and no more than 15 members.

(b) The President of the Senate shall appoint one member who has the qualifications described in subsection (2) of this section.

(c) The Senate Minority Leader shall appoint one member who has the qualifications described in subsection (2) of this section.

(d) The Speaker of the House of Representatives shall appoint one member who has the qualifications described in subsection (2) of this section.

(e) The House Minority Leader shall appoint one member who has the qualifications described in subsection (2) of this section.

(f) The Governor shall appoint no fewer than seven members and no more than 11 members who have the qualifications described in subsections (2) and (3) of this section.

(2) The members appointed to the task force must be individuals who have expertise in matters related to drought emergencies or drought emergency response or who represent private or public sectors having an interest in matters related to drought emergencies or drought emergency response.

(3) The members appointed by the Governor:

(a) Must include, but need not be limited to, representatives of the conservation community, counties, Indian tribes, industrial water users, agriculture, irrigation districts and municipal water suppliers; and

(b) Must be from geographically diverse areas of this state including, at a minimum, the western, central and eastern areas of Oregon.

(4) The task force shall research and evaluate potential tools to prepare for or deal with drought emergencies. The activities of the task force may include, but need not be limited to:

(a) Evaluating the sufficiency of existing tools to address short-term drought response needs and recommending additional tools to address short-term drought response needs;

(b) Identifying options to minimize the impact of drought on agricultural, municipal and other interests;

(c) Identifying options to minimize the impact of drought on fish and wildlife;

(d) Identifying tools to assist small water providers in developing water management, conservation or efficiency plans and in anticipating drought risks and responses;

(e) Identifying the data and resources necessary for anticipating drought and drought impacts on the economy, communities and the environment; or

(f) Recommending improvements in information sharing necessary for enabling the public, water users and recreational in-stream users to understand drought conditions and to assist in efforts to mitigate or adapt to drought.

(5) A majority of the task force constitutes a quorum for the transaction of business.

(6) Official action by the task force requires the approval of a majority of the task force.

(7) The task force shall elect one of its members to serve as chairperson.

(8) If there is a vacancy for any cause, the Governor may make an appointment to become immediately effective.

(9) The task force shall meet at times and places specified by the call of the chairperson or of a majority of the task force.

(10) The task force may adopt rules necessary for the operation of the task force.

(11) The task force shall submit a report in the manner provided in ORS 192.245, and may include recommendations for legislation, to an interim committee of the Legislative Assembly related to natural resources no later than November 1, 2016. The task force shall provide a copy of the report to the Water Resources Commission.

(12) The Water Resources Department shall provide staff support to the task force.

(13) Members of the task force are not entitled to compensation, but may be reimbursed for actual and necessary travel and other expenses incurred by them in the performance of their official duties in the manner and amounts provided for in ORS 292.495. Claims for expenses shall be paid out of funds appropriated to the department for purposes of the task force.

(14) All agencies of state government, as defined in ORS 174.111, are directed to assist the task force in the performance of duties of the task force and, to the extent permitted by laws relating to confidentiality, to furnish information and advice the members of the task force consider necessary to perform their duties.

SECTION 2. Section 1 of this 2016 Act is repealed on December 31, 2016.

SECTION 3. In addition to and not in lieu of any other appropriation, there is appropriated to the Water Resources Department, for the biennium beginning July 1, 2015, out of the General Fund, the amount of $25,000, which may be expended for Task Force on Drought Emergency Response purposes.

SECTION 4. This 2016 Act being necessary for the immediate preservation of the public peace, health and safety, an emergency is declared to exist, and this 2016 Act takes effect on its passage.

Passed by House February 26, 2016

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Timothy G. Sekerak, Chief Clerk of House

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Tina Kotek, Speaker of House

Passed by Senate March 2, 2016

.....
Peter Courtney, President of Senate

Received by Governor:

.....M.,....., 2016

Approved:

.....M.,....., 2016

.....
Kate Brown, Governor

Filed in Office of Secretary of State:

.....M.,....., 2016

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Jeanne P. Atkins, Secretary of State