



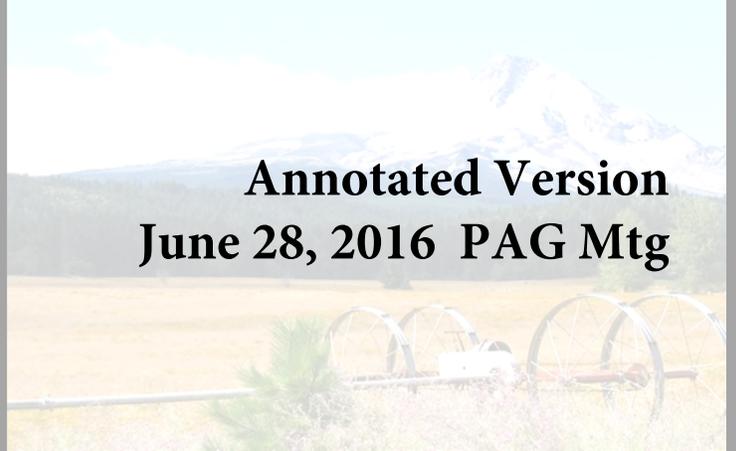
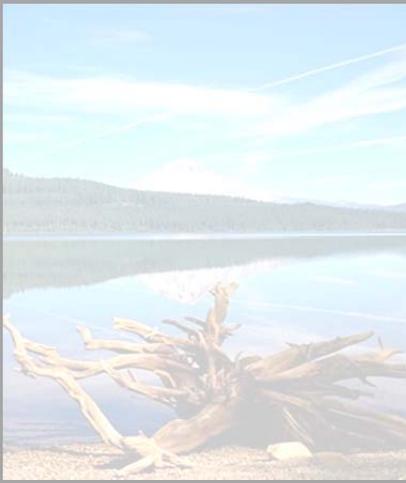
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Integrated Water Resources Strategy
2017 Policy Advisory Group

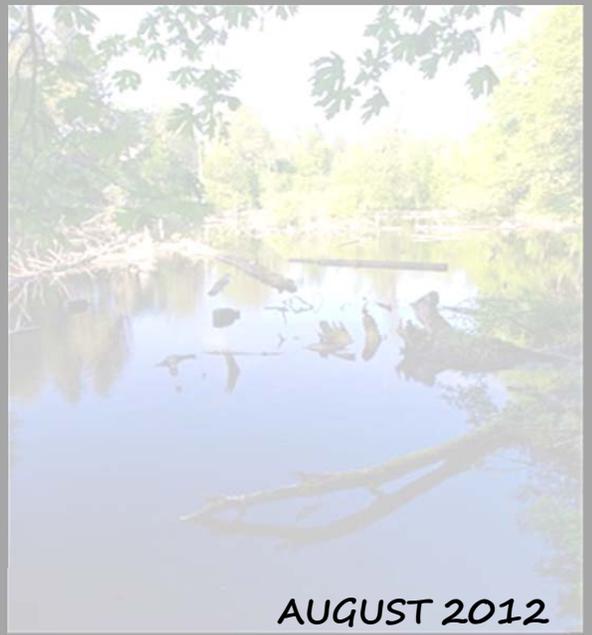
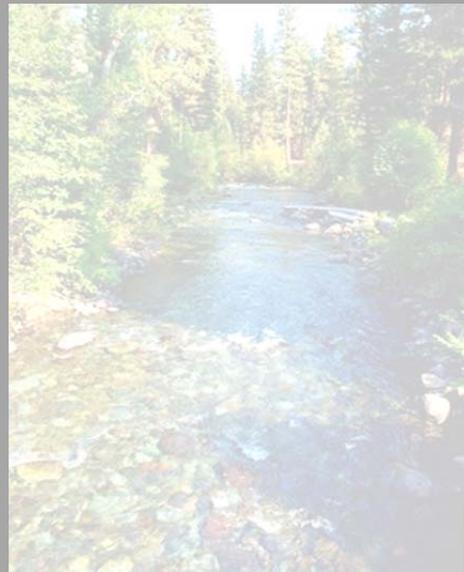
June 28, 2016 Meeting Materials

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- Annotated 2012-2017 IWRS Workplan
 - 2012 IWRS Recommended Actions and Sub-bullets
 - PAG Workspace



**Annotated Version
June 28, 2016 PAG Mtg**

**OREGON'S
INTEGRATED WATER RESOURCES STRATEGY
2012-2017 DRAFT WORKPLAN**



AUGUST 2012



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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 exist 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.

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?
<ul style="list-style-type: none"> 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. <p>Updated in August 2012. Available online via the IWRS website and DSL website.</p>	2E	Intern	0	DSL, state & federal ptnrs	No
	<ul style="list-style-type: none"> 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. <p>The U.S. Forest Service published an inventory field guide in March 2012 (prior to IWRS adoption).</p>	3B	Existing	Existing	Public & Private Partners
<ul style="list-style-type: none"> 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. <p>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.</p>		4B	Existing Workgroup	0	ODFW, WRD

<p>◆ Water Conservation and Efficiency. Revise informational materials supporting the agricultural and <u>municipal Water Management and Conservation Plan</u> programs and <u>Allocation of Conserved Water program</u>, 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.</p> <p>Updated an existing guidebook for developing municipal water management and conservation plans, released in March 2015. The Allocation of Conserved Water program has overhauled its forms and materials, in order to make the program more understandable and user-friendly. Staff have given presentations and tutorials in several venues during 2013-15.</p>	4C, 10A	Intern	0	WRD, DOE ODA,OWEB	No
<p>◆ 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.</p> <p>Ongoing studies include the Willamette Water 2100 project and the Deschutes WaterSMART basin study. Completed efforts include the Hood River Basin WaterSMART Study and the 2015 Demand Forecast. The Northwest Climate Assessment Report was completed in 2013.</p>	5A	Existing	Existing	OCCRI WRD	No
<p>◆ 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.</p> <p>In 2015, more than \$15 million was awarded through the Community Development Block Grant Program. Funding made available through the Safe Drinking Water Act Revolving Loan fund can be found here: http://www.orinfrastructure.org/Infrastructure-Programs/SDW/Funding-Reports/</p>	7A	Existing	Existing	IFA, DEQ, OHA	No
<p>◆ 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.</p> <p>Agency staff continue to volunteer at the Children’s Clean Water Festival and provide presentations at AWWA and OAWU training conferences.</p>	8a-8d	Existing	Existing	ODE, ODA, OHA, WRD	No

<p>◆ 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.</p> <p>The Oregon Environmental Quality Commission unanimously approved rules establishing a voluntary water quality trading program in December 2015. DEQ issued a revised Internal Management Directive in March 2016.</p>	10D	Existing	Existing	DEQ, WRD	No
<p>◆ 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.</p> <p>OWEB continues to invest funding in watershed restoration activities. 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.</p>	11A	Existing	Existing	OWEB, ODA, ODF, DSL, ODFW	No
<p>◆ 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.</p> <p>The 2013-15 approved budget provided ODFW with 3 permanent and 12 seasonal employees funded from the revenue generated from the Aquatic Invasive Species Prevention Permit. 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.</p>	11C	Existing	Existing	ODFW, DEQ, ODA, OSMB	No
<p>◆ 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.</p> <p>The OHA-Environmental Public Health Program launched a “Domestic Well Safety Program. OHA developed a new website to find basic information, including water quality testing, treatment, maintenance, and other resources. OWRD partnered with OHA to develop a water well handbook for rural homeowners. Handbook released in June 2015 and distributed widely.</p>					

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?
<ul style="list-style-type: none"> 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. <p style="color: blue; font-size: small;">DEQ continues work on the short-term Toxics Reduction Strategy priority actions established in 2012. The primary focus of work focuses 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. DEQ plans to revise and update its Toxics Reduction Strategy in 2016.</p>	12B	Existing	Existing	IFA, OHA, DEQ, ODA, ODF	No
<ul style="list-style-type: none"> 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. <p style="color: blue; font-size: small;">The status of TMDL development: http://www.deq.state.or.us/wq/tmdls/docs/TMDLStatusMap.pdf</p>	12C	Existing	Existing	DEQ, ODA, ODF	No

Step	Contributing Recommended Actions	Staff Required per 2 yrs	Total Cost Estimates per 2 yrs	Lead Agency(ies)	Requires Legislative Concept?
<p>◆ 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.</p> <p><i>The 2013-15 budget included \$250,000 to conduct cooperative groundwater studies. It also included funding for a Chief Groundwater Technology scientist that will be responsible for establishing procedures and methods to capture and process data using rigorous scientific standards, overhauling data organization, and formatting. This position has been filled. WRD is initiating a groundwater study in the Malheur Lake Basin.</i></p> <p>Additional components could include identifying the location and use of <u>exempt use wells</u>; identifying the location of <u>underground injection control systems (UICs)</u>, 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.</p> <p><i>The last CGWA evaluation occurred in 2010, conducted by agency hydrogeologists. New evaluation processes are being developed by the Department’s groundwater section and will summarized in a State of the Groundwater Report, due out this summer.</i></p>					
	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.

The 2013-15 budget provided \$780,000 for new gaging stations and associated upgrades. Funding included 2 hydro-techs and 1 information services position at WRD. The 2013-15 budget also provided \$780,000 for new dedicated groundwater monitoring wells, plus 2 hydrogeologists.

- ◆ This request also includes the establishment of a groundwater monitoring program at the Department of Environmental Quality. This would involve personnel and monitoring equipment.

In 2013, Oregon DEQ received funding from the Legislature to initiate a groundwater monitoring program beginning in 2015. Funding included two new positions. DEQ 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.

- ◆ 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.

During the 2013-15 budget, ODA received \$963K and 3 positions to improve agricultural water quality effectiveness monitoring.

1B	7-WRD	\$2,250K GF	WRD,	No
	3-DEQ	\$962K GF	DEQ,	
	Ext.-ODA	\$965K GF	ODA	
	2-ODF	\$735K GF	ODF	

◆ **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.

Many of the positions noted above can be used to support inter-agency data coordination. An inter-agency STREAM Team has been formed to collaborate on data collection and foster monitoring relationships between agencies.

1C	1-WRD	\$250K GF	WRD,	No
	2-DEQ	\$300K GF	DEQ,	
	2-ODFW	\$300K GF	ODFW,	
	1-ODA	\$250K GF	ODA	

◆ **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.

The 2013 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.

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.”

The 2013 Legislature re-capitalized the state’s cost-share fund with \$100K. There were 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).

2B	1	\$225K GF	WRD	No
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◆ **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.

The 2013 Legislature providing funding to hire a new watermaster in Wallowa County and an assistant watermaster in Klamath County. [1.83 FTE; 342K in GF]

2B, 2C, 10A-E	2	\$343K GF	WRD	No
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◆ 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.

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

	2D	2	\$430K OF	WRD	Yes
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◆ 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.

ODFW staff have been conducting limited instream flow studies (even prior to IWRS adoption) as time and partnerships allow. 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. OWRD received funding in 2013-15 as requested, hiring a hydrologist and water right application caseworker. Both positions are currently filled.

Funding was allocated for staff during the 2015-17 biennium, allowing three ODFW biologists to conduct instream flow studies. Studies are currently underway based on a prioritized selection of areas and/or stream reaches.

	3A, 11B	3-ODFW 2-WRD	\$491K GF \$368K GF	ODFW WRD	No
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◆ 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."

The WRD received \$750K in grants during the 2015-17 budget to conduct place-based planning across the state. After a competitive solicitation process during Fall of 2015, the Water Resources Commission approved four areas for funding: the Mid-Coast, Malheur Lake Basin, the Lower John Day, and the Upper Grande Ronde Basin. WRD has hired two planning coordinators to assist with these planning efforts.

	9a	0	\$500K GF	WRD	No
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- 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.

In 2015, new bonding authorities were created for \$11 million in grants or contracts to pay for water supply projects in the Umatilla basin.

10B	Existing	\$10M in bonds	WRD, DEQ, OHA	No
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- 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.

The 2015 Legislature approved funding for an engineer, two place-based planning coordinators, and a coordinator for grant administration. Funding to increase the feasibility grant coordinator from 0.25 FTE to 1.0 FTE was also approved. All positions have been filled. \$2.0 million was provided for feasibility grants during the 2015-17 biennium. \$6.25 million was provided for grants and loans to construct or implement water resources projects under the authority of SB839 (2013). This builds upon funding of \$10 million provided in 2013 for the SB839 water supply development program.

The 2015 Legislature provided \$30 million to recapitalize the Water Development Loan Fund using dedicated General Obligation Bonds for the purposes of financing water development projects.

10A-E, 11A-D, 9A, 9C	4	\$21M in bonds	WRD	Yes
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- ◆ 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.

The 2013 Legislature provided funding for an IWRS Coordinator for WRD, 3 integrated water resources specialists at DEQ, and a water quantity specialist at 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.

Agencies developed place-based planning guidelines, after researching and writing a discussion paper on neighboring state approaches. The 2015 Legislature approved funding for 2 planning coordinators housed at WRD, along with \$750,000 in grants to pilot place-based planning. Department requested letters of interest in Fall 2015, receiving a total of 16 potential requests. In February 2016, the Water Resources Commission approved funding for 4 pilot planning areas: Mid-Coast, Upper John Day, Lower Grande Ronde, and the Malheur Basin.

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.

The place-based planning pilots are in the beginning stages of initiating place-based planning.

13A, 9A-B, all of 10, 11, 12	3-4	\$750K GF	WRD, DEQ, ODFW, ODA	No
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- 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.

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 approved a hydrologic technician and a water right specialist to assist in implementation of the Klamath River Basin agreements. 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.

13B	--	Self-funding	WRD	Yes
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- 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.

The 2013 Legislature authorized \$750,000 in grants to Oregon communities to study the feasibility of water conservation, reuse, or storage projects. The 2015-17 budget provided an additional \$2 million for this grant program. Funding to administer this program was also increased to a full time position.

13C	0.5	\$1.2M in bonds	WRD	No
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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?
<ul style="list-style-type: none"> 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. <p><i>Completed. In 2014, WRD 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.”</i></p>	1C	TBD	0	WRD	No
<ul style="list-style-type: none"> 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. <p><i>The U.S. Department of Energy released a report in July 2014 that examines the water and energy nexus and identifies challenges and opportunities.</i></p>	4A	TBD	0	DOE, WRD	No
<ul style="list-style-type: none"> 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. <p><i>No efforts have been undertaken during this biennium.</i></p>	6A, 6B	TBD	0	DLCD	No

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?
<p>◆ 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).</p> <p>Completed. WRD developed an updated demand forecast in December 2015.</p>					
	2A	TBD	TBD	WRD	No
<p>◆ 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).</p> <p>WRD issued the Adjudicator’s Findings of Fact and Final Order of Determination for the Klamath Basin on March 7, 2013. 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.</p>					
	2C	TBD	TBD	WRD	No
<p>◆ 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.</p> <p>WRD developed a new monitoring strategy for our stream gages and monitoring wells, where climate change research has been identified as a key objective.</p>					
	5B	TBD	TBD	WRD	No

<p>◆ 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.</p> <p>A Low Impact Development manual was recently developed for Western Oregon. Several entities partnered to complete this manual.</p>		6C	TBD	TBD	DCBS, DEQ	No
<p>◆ 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.</p> <p>An engineer was recently hired at WRD to support the Water Resources Development Program and to support Dam Safety Program.</p>		7A	TBD	TBD	WRD	No
<p>◆ Regional Infrastructure. Policy and funding discussions around regional infrastructure may be bolstered by the place-based planning efforts (9a) undertaken in 2013-15.</p> <p>Place-based planning areas were just recently selected in February 2016.</p>		7B	TBD	TBD	WRD	No

2012 IWRS Recommended Actions and Sub-Bullets

1: Understand Water Resources Today

1.A: Conduct Additional Groundwater Investigations

- Test water quality in private drinking water wells
- Maintain and install additional monitoring wells
- Partner with USGS to conduct and cost-share additional groundwater investigations
- Assess groundwater administrative areas
- Locate and document exempt use wells [\[1\]](#)
- Locate and document UICs [\[1\]](#)

1.B: Improve Water Resources Data Collection and Monitoring

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

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

- Coordinate federal, state & local monitoring and data efforts
- Improve and integrate data from partners
- Process backlogs
- Improve availability of information
- Invest in scientific modeling tools
- Map major water institutions, documenting their responsibilities, programs, data [\[1\]](#)

2: Understand Out-of-Stream Needs

2.A: Update Long-Term Water Demand Forecasts

- Update the state's long-term water demand forecast [\[1\]](#)
- Update crop water-use tables [\[1\]](#)
- Quantify/model economic value of instream and out-of-stream water [\[1\]](#)
- Enhance the state's water use reporting system

2.B: Improve Water-Use Measurement and Reporting

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

2.C: Determine Pre-1909 Water Right Claims

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

2.D: 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

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

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

3: Understand Instream Needs

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

- Conduct base flow needs studies
- Develop elevated flow requirements
- Develop models/studies on economic value of instream and out-of-stream water [\[1\]](#)

3.B: Determine Needs of Groundwater-Dependent Ecosystems

- Identify and characterize groundwater-dependent ecosystems statewide [\[1\]](#)
- Complete groundwater basin studies

4: Water and Energy

4.A: 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) [\[1\]](#)

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

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

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

- 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 [\[1\]](#)
- Continue to implement and evaluate building codes that encourage water and energy effic.
- Ensure that efficiency programs capture and publicly report both water- energy savings data [\[1\]](#)
- Partner with Oregon's 10-year Energy Action Plan to promote conservation strategies for water and energy

5: Climate Change

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

- Improve climate change projections at a basin scale [\[1\]](#)
- Develop reliable projections of basin-scale hydrology, and their impacts on other systems [\[1\]](#)

5.B: Assist with Climate Change Adaptation and Resiliency Strategies

- Provide support to communities to incorporate climate change into their planning decisions [\[1\]](#)
- Look for more efficient ways to conserve, store, and reuse water in anticipation of climate change
- Invest and make improvements in surface water and groundwater monitoring
- 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 [\[1\]](#)
- Use the U.S. Environmental Protection Agency's Climate Ready Water Utilities Program
- Increase ecosystem resiliency to climate change
- Ensure continued water and wastewater services in a changing climate

6: Land Use

6.A: 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

6.B: Update State Agency Coordination Plans

- Update State Agency Coordination Programs in coordination with DLCD

6.C: Encourage Low Impact Development Practices

- Compile and provide online information on low impact development policies [\[1\]](#)
- Update local development codes, improving local capacity to review and permit green infrastructure designs

7: Infrastructure

7.A: Develop and Upgrade Water & Wastewater Infrastructure

- Improve dam safety; retrofit for seismic issues
- 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
- Ensure that basic maintenance needs continue to be eligible for grant and loan funding
- Advocate for continued infrastructure funding
- Encourage communities to consider natural infrastructure in lieu of, or as a complement to, built infrastructure

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

- Provides incentives, such as funding and technical assistance

Cheat Sheet of 2012 IWRS Recommended Actions

8: Education and Outreach

8.A: 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

8.B: 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

8.C: Promote Community Education and Training Opportunities

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

8.D: Identify Ongoing Water-Related Research Needs

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

9: Place-Based Efforts

9.A: 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
- Compile relevant and readily-available water-related information to support place-based IWRS

9.B: Coordinate Implementation of Existing Natural Resource Plans

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

9.C: Partner with Feds, Tribes, and Neighboring States in Long-Term Water Res. Mgt.

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

10: Water Management & Development

10.A: 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

10.B: Improve Access to Built Storage

- Develop additional below-ground storage sites
- Re-allocate water in federal reservoir systems that have not undertaken formal allocation processes
- 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

10.C: 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

10.D: Reach Environmental Outcomes with Non-Regulatory Alternatives

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

10.E: Authorize and Fund a Water Supply Development Program

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

11: Healthy Ecosystems

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

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

11.B: 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
- Expand the use of voluntary programs to restore streamflow
- Expand the geographic range of flow restoration efforts

11.C: 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
- Implement and enforce ballast water management regulations

11.D: 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
- Build upon existing ecological planning and restoration efforts

12: Public Health

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

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

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

- Finalize and implement DEQ's Toxics Reduction Strategy
- Implement green chemistry executive order, including revising purchasing practices related to toxic chemicals
- Implement Water Quality Pesticide Management Plan
- Support Pesticide Stewardship Partnerships
- Establish and fund "take back programs"
- 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

12.C: Implement Water Quality Pollution Control Plans

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

13: Funding

13.A: 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

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

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

13.C: 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

2017 Integrated Water Resources Strategy Update Workspace for PAG Members

Note to PAG members: The 2017 IWRS Policy Advisory Group first met on March 30, 2016. During and after that meeting, members brainstormed potential issues that may require more attention over the next several meetings. Below is a list of issues that resulted. Beginning on page 3, you will find some space to document your thoughts around each issue, flesh out any questions you may have, and provide suggestions with regard to next steps and priorities. Please take time to read through this document and jot down any ideas, questions, or suggestions you may have before the group's second meeting on June 28, 2016. Thank you!

Some of the ideas offered included:

- Monitoring...we're not done
- Determine whether any more "available" water exists for development (e.g., winter water for storage, already-existing agricultural reservations, etc.)
- Conduct baseflow studies
- How can we quantify / monetize water left instream, used for ag, used for municipal, etc.
- Will instream needs change, with higher temperatures? Are there any available streamflow temperature forecasts with regard to climate change?
- Measurement (i.e., how much water is instream, how much groundwater is there, how much is being used, how big are the gaps between demand and supply?)
- Anticipate and prepare for effects of extreme events (flood, drought, fire, seismic)
- Drought: prioritization of water use
- Drought: economic incentives toolbox, such as instream leases, irrigation fees, mortgage subsidies
- Oregon Resiliency Plan – tie to its recommended actions regarding water supply (conduct seismic risk assessments, encourage seismic design requirements, post-earthquake compliance, develop mitigation)
- Land-use and water intersection. Needs more work
- Aging infrastructure, including storage
- Public education, perception, buy-in. Need partners for easements, storage, conservation, etc.
- Interaction with federal policies (wild and scenic rivers, endangered species act, etc.). How are we doing?
- Water conservation / efficiency. Driving down demand. Consider setting numeric goals. Look at water-user policies at irrigation districts. Be mindful of unintended consequences of water conservation. Related topics: water used for in-conduit hydro, do water users / sectors have disincentives in place, what's "waste."
- Why isn't water reuse more prevalent?
- Look into other sources? (e.g., mitigation, desalination, etc.)
- Burden of proof, or the "precautionary principle," in decision-making
- Balance instream protections & economic development; is there systemic bias toward one or the other?
- Water right transfers and reviews. How are we doing?
- Ensure adequate field staff, for distribution of water, enforcement, conflict resolution, water user education
- Ensure adequate permitting staff, for timely decision-making, response to requests
- Instream protections
- Groundwater protection (quantity and quality) — drinking water source, emergency / back-up supplies, drought resource, mined versus sustainable source.
- DEQ's toxics reduction strategy, pesticide management plans, status of pesticide use & reporting system
- Protect vulnerable populations
- Maintain public funding programs for core needs, not just inter-agency, integrated needs
- Agency funding: adequate for the job? How do we measure "enough"?

Sample workspace:

Proposed Topic Area: proposed topic name or description from previous PAG input

Recommended Action: Staff noted corresponding actions from 2012 IWRS; if there was no corresponding recommended action, we noted where this might fit.

Overview of Progress to Date: Summary of known progress to date. (Corresponds to IWRS recommended actions & sub-bullets). If no progress, so noted.

Your thoughts/suggestions: This space is for PAG members to make notes such as—

- *If the topic area reflects what you shared in the first meeting or if you want to refine the topic.*
- *Whether this is a request for additional information, or a request for action.*
- *Whether existing recommended actions address your concerns.*
- *Whether or not you want to prioritize tackling this topic.*

PAG members, please work through these questions for each issue and document your thoughts prior to the next meeting

Proposed Topic Area: Measurement (i.e., how much water is instream, in aquifers, is being used, and how big are gaps between demand & supply?)

Recommended Action: Existing 1a “Conduct Additional Groundwater Investigations,” 2A “Update Long-Term Water Demand Forecasts,”
2B “Improve Water-Use Measurement and Reporting”

Overview of Progress to Date:

- **(1A) 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.
- **(1A) 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.
- **(1A) 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.
- **(1A) Assess groundwater administrative areas.** The Department completed an analysis in 2010, and is updating these assessments during 2016.
- **(1A) 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.
- **(1A) Locate and document UICs.** No progress.
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- **(2A) 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.
- **(2A) 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.
- **(2A) 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.

- **(2A) Update crop water-use tables.** Evapotranspiration techniques used to develop the state's 2015 Long-Term Demand Forecast, updated crop water-use tables throughout the entire Columbia River Basin, Powder Basin, and Klamath Basin. Areas still needing updated values are coastal basins and the great basin.
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- **(2B) 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.
- **(2B) 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).
- **(2B) 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 evapotranspiration and crop water use on the ground. The state's December 2015 long-term water demand forecast also makes use of this technology. See http://www.oregon.gov/owrd/LAW/docs/IWRS/OWRD_2015_Statewide_LongTerm_Water_Demand_Forecast.pdf.
- **(2B) Encourage businesses to conduct self-evaluations of water use.** [Consider changing from "businesses" to "water users"? No progress reported yet, so we still have time to change the wording.]

Your thoughts/suggestions:

Proposed Topic Area: Monitoring...we're not done!

Recommended Action: Existing 1B "Improve water resource data collection and monitoring"

Overview of Progress to Date:

- **Update Oregon's stream gage network.** The 2013 Legislature added \$730,000 for new stream gages & 3 staff to provide additional capacity for collecting and analyzing surface water data, as well as installing and upgrading stream gages. The Department has begun to install and upgrade monitoring equipment; Priority areas are located throughout the state, with emphasis in the Klamath Basin.
- **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. DEQ 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. Initial focus areas included the Rogue watershed and the North Clatsop Plain on the North Coast. DEQ will be sampling in the Walla Walla Basin and another basin to be determined in 2016.
- **Prioritize basins for data collection and monitoring.** OWRD has developed a [2016 Monitoring Strategy](#), using input from staff and partners. This strategy identifies the types of programs and decisions that require streamflow and groundwater data, and sets 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 DEQ to restart the collection of water quality and biological data to guide watershed restoration efforts under the Oregon Plan. Another three positions at ODFW were authorized to focus on monitoring for fish and fish habitat. Monitoring continues to be an important tool to evaluate water quality status and trends and also to determine if policy and permitting actions are achieving their desired outcomes.

Created in 1990, ODFW's Aquatic Inventories Project is a statewide freshwater and estuarine research program. The project assesses aquatic habitat, conducts fish presence/absence surveys, monitors fish populations, establishes salmonid watershed prioritization, monitors habitat restoration projects, and reconstructs historical salmonid life history.

- **Add remote and real-time capability to monitoring stations.** OWRD installs real-time telemetry equipment on new gaging stations, and updates equipment on existing stations, when resources allow.
- **Establish dedicated monitoring wells.** The 2013 Legislature authorized two groundwater scientists to provide additional capacity for collecting and analyzing groundwater data, and the establishment of about a dozen groundwater level monitoring wells each biennium. After identifying a pool of eligible drillers, securing landowner access agreements, and establishing protocols for the protection of cultural resources, the Department has begun to install wells; priority areas include the Umatilla Basin, the Dalles, Harney Valley in the Malheur Basin, and the Deschutes/Metolius area.

Your thoughts/suggestions:

Proposed Topic Area: Determine whether any more “available” water exists for development (e.g., winter water for storage, already-existing ag reservations, etc.)

Recommended Action: Would fit into a new 1D

Overview of Progress to Date:

Note: The Department already has a water availability tool, although water availability doesn’t necessarily equate to a guaranteed permit; Division 33 also plays a part. And, reservation extensions are underway in several basins, although that doesn’t necessarily equate to water being available at any future proposed site.

Your thoughts/suggestions:

Proposed Topic Area: Conduct baseflow studies

Recommended Action: Existing 3A: “Determine Flows Needed (quantity and quality) to Support Instream Needs”

Overview of Progress to Date:

- **Conduct base flow needs studies.** ODFW staff have been conducting limited instream flow studies (even prior to the IWRS adoption) as time and partnerships allow. The 2013 Legislature authorized three biologists at ODFW to identify and prioritize basic and elevated streamflow needs for fish, but the positions were not filled due to budgetary concerns. 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. Staff funding was allocated for staff during the 2015-17 biennium, allowing three ODFW biologists to conduct instream flow studies. Studies are currently underway based on a prioritized selection of areas and/or stream reaches.
- **Develop elevated flow requirements.** 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). To date, no projects have triggered the development of a seasonally varying flow under SB 839. The resulting matrix and narrative from these task forces will inform rule-making activities scheduled for 2015 and grants awards scheduled for May 2016. For matrix and narrative, see: http://www.oregon.gov/owrd/docs/SB839/SVF_TF_Report_to_Gov_Leg_WRC.pdf. For grant proposals and staff recommendations, see: http://apps.wrd.state.or.us/apps/misc/wrd_notice_view/Default.aspx?notice_id=22 (click on 2016, May) for the Commission agenda.

Your thoughts/suggestions:

Proposed Topic Area: Determine if instream needs will change, with higher temperatures?

Are there any available streamflow temperature forecasts with regard to climate change?

Recommended Action: Existing 3A: "Determine Flows Needed (quantity and quality) to Support Instream Needs"

Overview of Progress to Date: See above. [Note: ODFW's instream water rights are based on physical habitat, not temperature.] Though we generally expect stress on streams to increase under climate change resulting in warming stream temperatures, the processes controlling stream temperature are complex and multiple local and regional processes need to be considered when determining climate change impacts on stream temp. "The one constant is that a healthy watershed will be more resilient to climate change than one that isn't healthy- and that should continue to be the focus of restoration and management efforts."

Your thoughts/suggestions:

Proposed Topic Area: How can we quantify / monetize the value of water left instream.

Recommended Action: Existing 3A: "Determine Flows Needed (quantity and quality) to Support Instream Needs"

Overview of Progress to Date:

- **Develop models/studies on economic value of instream and out-of-stream water.** ODFW has published studies on the value of fisheries, both recreational and commercial. See: http://www.dfw.state.or.us/agency/economic_impact.asp.

Your thoughts/suggestions:

Proposed Topic Area: Anticipate and prepare for effects of extreme events (flood, drought, fire, seismic)

Recommended Action: Would fit into a new 5C; give each extreme event its own number? May need action title broader than the existing “#5 Climate Change.”

Overview of Progress to Date:

Your thoughts/suggestions:

Proposed Topic Area: Drought: prioritization of water use

Recommended Action: Would fit into new 5C; May need broader title.

Overview of Progress to Date:

Generally, Oregon law does not provide a preference for one kind of use over another. If there is a conflict between users, the date of priority determines who may use the available water. If the rights in conflict have the same date of priority, then the law indicates domestic use and livestock watering have preference over other uses. However, if a drought is declared by the Governor, the Department can give preference to stock watering and household consumptive purposes, regardless of the priority dates. See <http://www.oregon.gov/owrd/PUBS/docs/aquabook2013.pdf> for more.

Your thoughts/suggestions:

Proposed Topic Area: Drought: economic incentives toolbox, such as instream leases, irrigation fees, mortgage subsidies

Recommended Action: Would fit into new 5C; May need broader title.

Overview of Progress to Date:

Your thoughts/suggestions:

Proposed Topic Area: Oregon Resiliency Plan – tie to its recommended actions regarding water supply

(i.e., conduct seismic risk assessments, encourage seismic design requirements, post-earthquake compliance, develop mitigation)

Recommended Action: Would fit into new 5C; May need broader title.

Overview of Progress to Date:

Your thoughts/suggestions:

Proposed Topic Area: Land-use and water intersection. Needs more work.

Recommended Action: Existing 6A-C: Improve integration of water Information into land-use planning & vice versa; update state agency coordination plans; encourage low-impact development practices

Overview of Progress to Date:

- **6A. Improve integration of water Information into land-use planning (& vice versa).** [No progress thus far.]
- **6B. Update state agency coordination plans in coordination with DLCD.** [No progress thus far.]
- **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. DEQ and partners have a 2015 LID (low-impact development) manual for Western Oregon. <http://www.deq.state.or.us/wq/tmdls/lidmanual.htm>.

Your thoughts/suggestions:

Proposed Topic Area: Aging infrastructure, including storage

Recommended Action: Existing 7A, “Develop and upgrade water and wastewater infrastructure.”

Overview of Progress to Date:

- **Improve dam safety; retrofit for seismic issues.** 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 new high hazard rated dams, to be completed at owners’ expense. Approximately 75 percent of all state-regulated high hazard dams have, or are in the process of developing, EAPs.
- **Properly abandon infrastructure at the end of its useful life.** Improperly abandoned or neglected wells are a health and safety threat to Oregon’s citizens and groundwater supplies. 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 WRD staff. During 2015, OWRD decommissioned a number of outdated measurement structures, such as stilling wells and cableways that are no longer in use.

- **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 could provide funding for the rehabilitation of infrastructure; 2015 saw additional funding. In addition, due to recently enacted federal requirements, DEQ requires all publicly owned treatment works projects funded through the State Revolving Fund (SRF) to have a Fiscal Sustainability Plan in place by project completion. An FSP contains similar information as an asset management plan, including an inventory of critical assets, evaluation of conditions, and plan for maintaining/replacing assets.
- **Ensure that basic maintenance needs continue to be eligible for grant and loan funding.** The 2015 Legislature authorized Infrastructure Finance Authority 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.** For publicly-owned treatment works projects funded through the State Revolving Fund (SRF), DEQ may score applicants more highly if their project encompasses “green” components, such as green infrastructure, water and energy efficiency, and environmentally innovative projects. Such projects may also qualify for principal forgiveness.

Your thoughts/suggestions:

Proposed Topic Area: Public education, perception, buy-in. Need to develop a network of partners for easements, storage, conservation, etc.

Recommended Action: Existing 8C, “promote community education and training opportunities.”

Overview of Progress to Date:

- **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.** [No progress thus far.]

Your thoughts/suggestions:

Proposed Topic Area: Interaction with federal policies (wild and scenic rivers, endangered species act, etc.). How are we doing?

Recommended Action: Existing 9C, “partner with federal agencies, tribes, and neighboring states in long-term water resources management.”

Overview of Progress to Date:

- **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. Also, note recent work in the 15-Mile basin relating to irrigation and ESA. Fish kills were becoming frequent, and NOAA Fisheries began investigating “take” of listed species. Local irrigators worked with partners, including NOAA and ODFW, to develop a rotational agreement for water use that increased instream flow and decreased temperatures.
- **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 and/or instream conditions. There are funds available through the state for both the feasibility study and the implementation of such projects. [Federal nexus?]

Your thoughts/suggestions:

Proposed Topic Area: Water conservation & efficiency. Drive down demand. Consider setting numeric goals and/or incentives. Look at water-user policies at irrigation districts. Be mindful of the unintended consequences of water conservation. Related: water used for in-conduit hydro, do water users / sectors have disincentives in place, what's "waste."

Recommended Action: Existing 10A, "improve water-use efficiency and water conservation."

Overview of Progress to Date:

During the 2015 drought, the Governor issued Executive Order 15–09, setting numeric goals for state agencies to reduce their nonessential water consumption by 15 percent before the end of 2020. In addition:

- **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. OWRD's conservation section has also updated a guidebook for development of municipal water management and conservation plans.
- **Conduct a state-wide water conservation potential assessment.** [No progress thus far.]
- **Establish and maintain an online water-use efficiency and conservation clearinghouse.** [No progress thus far.]
- **Prioritize agricultural water-use efficiency.** [No progress thus far.]

Your thoughts/suggestions:

Proposed Topic Area: Why isn't water reuse more prevalent?

Recommended Action: Existing 10C, ""encourage additional water reuse projects""

Overview of Progress to Date:

- **Conduct a statewide assessment of the potential for additional water reuse.** [No progress thus far.]
- **Ensure that Oregon has the right policies and regulations in place to facilitate water reuse.** DEQ, WRD, and ODFW are working together to refine the recycled water registration process to ensure that each agency's interests and concerns are addressed in an integrated manner when applications are processed. May need more details on existing water rights that can be leased instream to offset what would have been discharged and the impacts to return flow on water availability.
- **Provide incentives for increased water reuse.** [No progress thus far.]

Your thoughts/suggestions:

Proposed Topic Area: Look into other sources? (e.g., mitigation programs, desalination, etc.)

Recommended Action: Fit into a new 10F

Overview of Progress to Date:

Your thoughts/suggestions:

Proposed Topic Area: Burden of proof, or the “precautionary principle,” in decision-making

Recommended Action: Fits into already-existing “Balance” and “Sustainability” Principles of the IWRS.

Overview of Progress to Date:

Your thoughts/suggestions:

Proposed Topic Area: Balance instream protections & economic development; is there systemic bias toward one or the other?

Recommended Action: Fits into already-existing "Balance" Principle of the IWRS.

Overview of Progress to Date:

Your thoughts/suggestions:

Proposed Topic Area: Water right transfers and reviews. How are we doing?

Recommended Action: Would fit into a new 10G.

Overview of Progress to Date:

Your thoughts/suggestions:

Proposed Topic Area: Ensure adequate field staff, for distribution of water, enforcement, conflict resolution, water user education

Recommended Action: Would fit into a new 10H.

Overview of Progress to Date:

Your thoughts/suggestions: Is this separate from the “funding” discussion in 13B? Describe service territory or shortfalls across all IWRS agencies.

Proposed Topic Area: Ensure adequate permitting staff, for timely decision-making, response to requests

Recommended Action: Would fit into a new 10H.

Overview of Progress to Date:

Your thoughts/suggestions: Is this separate from the “funding” discussion in 13B?

Proposed Topic Area: Instream protections

Recommended Action: Existing 11B, “develop additional instream protections.”

Overview of Progress to Date:

▪ **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. Funding was allocated again for the 2015-17 biennium, and three staff are currently conducting instream studies. 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.

DEQ anticipates pursuing instream flow work in 2016 – 2017, to evaluate if and where additional instream protections are needed for pollution abatement.

- **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 and WRD worked with communities and stakeholders to propose the designation of two additional scenic waterways in the Molalla and Chetco Rivers. In 2016, the Governor designated both of these reaches as State Scenic Waterways. See <https://www.oregon.gov/oprd/NATRES/scenicwaterways/Pages/assessments.aspx> for more information.
- **Expand the use of voluntary programs to restore streamflow.** [No progress thus far.]
- **Expand the geographic range of flow restoration efforts.** [No progress thus far.]

Your thoughts/suggestions:

Proposed Topic Area: Groundwater protection (quantity & quality) — mined vs. sustainability.

Recommended Action: Would fit into a new 11E.

Overview of Progress to Date:

Restrictions on new uses from groundwater aquifers are adopted to ensure sustained supplies for existing water users and to protect important natural resources. Except in very severe situations (e.g., critical groundwater areas), these restrictions do not affect existing water uses, only WRD's ability to authorize new uses in these basins. See <http://www.oregon.gov/owrd/PUBS/docs/aquabook2013.pdf> for discussion of basin programs, critical groundwater areas, and more.

Your thoughts/suggestions:

Proposed Topic Area: DEQ's toxics reduction strategy, pesticide management plans, status of pesticide use & reporting system

Recommended Action: Existing 12B, "reduce the use of and exposure to toxics and other pollutants."

Overview of Progress to Date:

- **Implement Oregon DEQ's Toxics Reduction Strategy.** DEQ continues work on the short-term Toxics Reduction Strategy priority actions established in 2012. The primary focus of work focuses 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. DEQ plans to revise and update its Toxics Reduction Strategy in 2016.
- **Implement green chemistry executive order, including revising purchasing practices related to toxic chemicals.** As part of the green chemistry executive order (#12-05), DEQ helped the Oregon Department of Administrative Services (DAS) develop Green Chemistry purchasing guidelines (adopted as policy in 2014) and implement a low toxicity product purchasing pilot project for janitorial supplies. Current projects include establishing green chemistry purchasing criteria for furniture, office supplies, and building materials, and working with Business Oregon to identify possible projects for key industry sectors or process chemical categories that could produce both significant environmental gains and economic opportunities. DEQ is also working with businesses and agencies throughout the region to raise awareness of the need to conduct effective chemical hazard and alternatives assessments, thereby avoiding the problem of "regrettable substitutions" of chemicals. The environmental agency directors for the three West Coast states signed a Memorandum of Understanding (MOU) in 2015 to facilitate collaboration on training, tool development, and safer product and chemistry pilot projects. In addition, DEQ is actively involved in the Interstate Chemicals Clearinghouse (IC2 - <http://theic2.org/>), which helps states exchange and generate information on priority toxic chemicals and develop tools for chemical alternatives assessments, as well

as Northwest Green Chemistry (<http://www.northwestgreenchemistry.org/>) , a multi-stakeholder group 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 Water Quality Pesticide Management Team is an interagency group who coordinates these activities. 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) brings state agencies together to work with watershed partners to reduce pesticide levels, while measuring improvements in water quality and crop management. The partnerships combine local expertise and water quality sampling results to encourage voluntary changes in pesticide use and management practices. Partners include DEQ, ODA, ODF, OWEB, OSU-Extension, watershed councils, soil and water conservation districts, local landowners and growers, and tribal governments. For the 2015-2017 biennium, the PSP focused on monitoring efforts for eight existing and one new PSP watershed, statewide pesticide waste collection (see "take back programs" below), and technical assistance and support for existing PSP watersheds. 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.
- **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. In addition, funds have been allocated by the Oregon Legislature, as part of the Pesticide Stewardship Partnership, to collect unwanted and unused waste pesticides from agricultural producers, forest landowners and other commercial pesticide applicators. From July 2014 through calendar year 2015, over 160,000 pounds of waste pesticides have been collected from 265 participants. Several more pesticide collection events are planned for 2016.
- **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. The OHA-PHD Brownfield Initiative provided assistance to the following cities: Astoria, Baker City, Beaverton, Chiloquin, Coos, Eugene, Grants Pass, Klamath, Medford, Portland, Salem, Sherwood, St. Helens, Sweet Home, Tigard, Union and counties: Columbia, Coos, Klamath, Lane, Linn, Marion, Multnomah, Tillamook, and Washington.
- **Monitor recreational waters and inform the public when contaminants are present.** OHA and DEQ work in partnership to monitor coastal beaches during the summer season for indications of fecal bacteria. When DEQ finds high levels of bacteria, OHA issues a public health advisory. During the off-season, DEQ 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 also 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>.

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.** [No progress thus far.]

Your thoughts/suggestions:

Proposed Topic Area: Protect vulnerable populations

Recommended Action: Fits into already-existing “Public Process” and “Sustainability” Principles of the IWRS.

Overview of Progress to Date:

Your thoughts/suggestions:

Proposed Topic Area: Maintain public funding programs for core needs, not just inter-agency, integrated needs

Recommended Action: Existing 13B, “fund water resources management at the state level.”

Overview of Progress to Date:

- **Fund those water management activities for which the State has responsibility.** The 2013 Legislature increased the Department’s transaction 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 Legislatively Approved 2015-17 Budget includes a hydrologic technician and a water right specialist to assist in implementation of the Klamath River Basin agreements, as well as a Groundwater Data Chief. The 2016 session provided additional resources to support a groundwater study in the Harney Basin.
- **Ensure increased and adequate funding from the General Fund.** Recent Legislatively Approved Budgets have moved natural resource agencies from one percent of the State’s General Fund Budget to closer 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, and \$50 million in 2015-17.

Your thoughts/suggestions:

Proposed Topic Area: Agency funding: adequate for the job? How do we measure “enough”?

Recommended Action: Existing 13B, “fund water resources management at the state level.”

Overview of Progress to Date:

See above.

Your thoughts/suggestions: