Oregon
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MEMORANDUM

TO: Water Resources Commission

FROM: Tracy Louden, Administrator

SUBJECT: Agenda Item J, August 22, 2014
Water Resources Commission Meeting

Budget Update: 2015-17 Agency Request Budget

I. Issue Statement and Background

The Department submitted its Agency Request Budget for the 2015-17 biennium this month. This report provides information on the base budget and the budget packages that were submitted to the Governor for consideration.

II. Discussion

The Agency Request Budget for 2015-17 can be easily divided into two parts: (1) the cost of continuing business as usual, referred to as the Current Service Level or Base Budget, and (2) the cost of any new activities, as proposed by individual budget packages.

The Current Service Level Budget for the Department is $53.8 million, comprised of $28.4 million General Fund, $20.7 million Other Funds, $3.4 million Lottery Funds used for Debt Service, and $1.3 million Federal Funds. These funds support 157 positions and nearly $12 million of grant/loan funds.

As discussed at the last Commission meeting, development of the budget packages began in February of this year and involved two meetings with the stakeholders in the spring. The packages were introduced and discussed with the Commission at the May meeting. The packages focus on advancing implementation of the Integrated Water Resources Strategy, with enhancements to current activities as well as a few new initiatives. The table below is a summary listing of the packages; the full narrative is included as an attachment to this report.

Pkg #	Title	FTE	General Fund	Lottery Bond or Other Fund
101	Water Right Backlog Reductions and Klamath Transactions	1.00	64,133	
102	Rebuilding Water Management Field Capacity - Assistant Watermasters	2.00	356,082	
103	Advancing Groundwater Data Management and Processing	1.00	215,261	
104	Hydrotech to Assist with Data and Water Management in the Klamath Basin	1.00	191,822	

Pkg #	Title	FTE	General Fund	Lottery Bond or Other Fund
105	Regional Solutions and Place-Based IWRS Community Liaisons	2.00	413,328	872,469
106	Helping Communities Evaluate Water Projects - SB 1069 Feasibility Study Grants	0.75	139,318	791,954
107	Addressing Data Gaps by Establishing the Northwest Region Hydrotech	1.00	188,822	
108	Assessing the Impact of Drought on Oregon Communities	0.50	81,030	
109	Advancing Water Right Mapping to Improve Service Delivery and Efficiency	1.00	126,651	
110	Monitoring Coordinator for Efficient Data Sharing and Management	1.00	211,067	
111	Mitigation Specialist to Address Water Supply Challenges	1.00	192,662	
112	Upgrading Well Inspectors and Hydrotechs	1.00	228,553	1,860
113	Recapitalizing the Water Supply Development Fund	1.00	186,962	20,483,990
114	Supporting Investigations of the Similkameen Water Supply Project			2,342,840
115	Integrated Water Resources Development	5.00	1,026,218	
116	CTUIR Settlement Technical Assistance		100,000	
117	Analysis and Repair of Critical Dam Infrastructure	1.00	234,310	11,279,698
118	Utilizing Evapotranspiration Data for Enhanced Water Management	1.00	382,248	
119	Fulfilling State Commitments in the KBRA			3,812,974
121	Providing Critical Engineering Technical Assistance for Levees	1.00		234,310
	Total	22.25	4,438,467	39,820,095

III. Summary

The Agency Request Budget for the 2015-17 biennium takes a $53.8 million Current Service Level Budget and adds $44.3 million in budget packages for a total budget request of $98.1 million. Most of this increase would be to fund grant programs. There are no fee increases proposed in the Agency Request Budget; the increase is composed of General Fund, Other Funds, or Lottery/Lottery Bonds. The Governor will assemble all agency requests and prioritize them to meet his 10-Year Plan for Oregon; making adjustments to meet the requirement for a balanced budget proposal. The Governor's Budget will be published on December 1, 2014. Staff will update the Commission as information becomes available.

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Attachment 1: Budget Package Narrative

Package 101 –Water Right Backlog Reduction and Klamath Transactions

Purpose

It is important to the Department to provide timely service to customers. Staff have undertaken a number of process improvement exercises in recent years to increase efficiencies. Despite this, there are still backlogs related to permit extensions and certificates. Furthermore, the Department and stakeholders would like the Department to proactively notify water right holders of the need to submit a claim of beneficial use, or request an extension of time to complete development.

In addition, the 2010 Klamath Basin Restoration Agreement and the 2014 Upper Basin Comprehensive Settlement Agreement, requires inflows into Upper Klamath Lake to increase by 30,000 acre-feet. This will be achieved in part by leasing and transferring water rights. The Department expects that this increased activity will necessitate additional staff to process these transactions timely. Anticipating that the Klamath County Circuit Court will eventually issue a final court decree, there will also be an increase in the number of water right certificates that must be issued pursuant to the decree.

This package supports implementation of the 2012 Integrated Water Resources Strategy's Recommended Actions #10 and #13b. Recommended Action 10 pertains to water management and development, whereas #13b calls for funding to support water resources management at the state level. This package also supports the Governor's 10-Year Plan's strategy to improve the regulatory environment for large and small businesses, as well as the strategy to balance ecological and economic interests to improve the health of watersheds, and fish and wildlife habitat.

How Achieved

This package proposes to add one additional FTE to help with water right backlog activities and enhance service to customers. This position will be tasked with reviewing claims of beneficial use and issuing certificates, as well as responding to unanticipated water right related processing needs, including needs arising in the Klamath Basin. This person will be trained in several areas of water rights including the processing of instream transfer and lease applications, reviewing claims of beneficial use, and issuing certificates.

Quantifying Results

This position will send out and follow up on at least 100 reminders per year to help water right holders remember to submit claims of beneficial use or request an extension, prior to the date in which the permit could be subject to cancellation. This position will also process 100 water right certificates per year and will be the lead staff person processing transfers and leases in the Klamath Basin.

Staffing Impact

9915101	C8503	Natural Resource Specialist 3	Water Rights Backlog Reduction Specialist	Permanent	1.00

Revenue Source

General Fund $164,133

Package 102 – Rebuilding Water Management Field Capacity – Assistant Watermasters

Purpose

Watermasters and assistant watermasters provide the field presence needed for effective water management. Field personnel distribute available water to water right holders; ensure compliance with permit conditions; protect the resource; inspect for hazards; collect critical data; and educate water users and the public. County support in the form of assistant watermasters has waned in recent decades, dropping from 37 assistants to 15 full and part-time staff, even as the number of water rights has increased. The purpose of this package is to provide assistant watermaster resources to aid in water management in the Klamath Basin, and in the Eastern Region of the State (Harney, Malheur, Baker, Union and Wallowa counties).

The watermaster in the Klamath Basin currently has two assistant watermasters, one of which is temporarily supported by local funding through the Klamath Power and Water Agency. It is critical for the Klamath office to have stable funding for two assistants to fulfill water distribution activities in the basin. The completion of the administrative phase of the Klamath Adjudication in 2013, resolved over 700 claims to water. As a result, these "determined" claims have some of the oldest priority dates in the basin and are now enforceable, requiring greater field capacity.

The Department's East Region is comprised of five eastern counties and embodies a third of the state of Oregon. Chronic shortages of water and the vast distances to be covered to address water challenges necessitate the need for additional assistant watermaster support for those counties. For example, the watermaster that serves the district that includes Malheur County is responsible for managing water over an area exceeding 9,500 square miles (about the size of Vermont). Given the limited resources and the tremendous areal coverage necessary, it is difficult to be responsive to water management issues in a timely manner.

Oregon's 2012 Integrated Water Resources Strategy identifies the need to rebuild field capacity to meet water distribution and water supply demands. This package helps implement Recommended Action 13b, which calls for funding water resources management at the state level. This package also supports the strategy in the Governor's 10-Year Plan to balance ecological and economic interests to improve the health of watersheds, and fish and wildlife habitat, as field staff are responsible for distributing water for instream and out-of-stream needs.

How Achieved

The two new positions will provide additional staff resources to increase capacity to protect senior water rights, as well as conduct activities such as stream flow gaging and implementation of the Commission's 2000 water measurement strategy.

Quantifying Results

A number of the Department's Key Performance Measures rely on having adequate field capacity. Progress on these KPMs is presented annually. The Department expects to see improvement in KPMs #2, #3, #8 and #12.

KPM #2 measures the protection of instream water rights by watermaster staff. KPM #3 monitors compliance with watermaster activities, which is supported by having field staff available to answer questions, educate the public, and work with water users. KPM #8 requires increases in the number of significant diversions that have water measurement devices. The watermaster staff are responsible for contacting owners of the significant diversions and working with them to identify appropriate measuring devices. Finally, KPM #12 measures the number of diversions per field staff, indicating the capacity for watermaster staff to distribute and manage the State's water resources.

Staffing Impact

9915102	C8502	Natural Resource Specialist 2	Assistant Watermaster – East Region	Permanent	1.00
9915103	C8502	Natural Resource Specialist 2	Assistant Watermaster – SC Region	Permanent	1.00

Revenue Source

General Fund $356,082

Package 103 – Advancing Groundwater Data Management and Processing

Purpose

Reviews of groundwater applications must be processed in a consistent manner throughout the state, include an analysis of all relevant hydrogeological data, be scientifically defensible, and be consistent with Department rules and statutes. One of the Department's Key Performance Measures is to complete initial reviews of applications for new water rights within 45 days. The Department's performance on this KPM has suffered due to the significant time it takes for Groundwater Section staff to complete science-based application reviews. Such reviews require the compilation and analysis of complex hydrogeological data in order to properly assess groundwater supplies, potential injury to senior users, and potential impacts to surface water supplies.

The time necessary to review groundwater applications in a fair and consistent manner is directly related to staff's ability to access data that are currently stored in a variety of paper and digital formats. A significant backlog of groundwater level, recorder well, aquifer test, groundwater use, and water well data exists. Sources of data include Department staff, other state agencies, other states (California, Washington, Idaho), the US Geological Survey, and private consultants. Most of this data is currently processed in a piecemeal manner, which makes it unavailable in a consistent and readily accessible format.

Standardized procedures for obtaining and storing groundwater data would make it readily available to all groundwater staff members, leading to more efficient analysis and less time spent on ad-hoc organization of miscellaneous datasets. This data would also be available to water users, consultants, and other agencies. In addition, the Groundwater Section must update its data collection and management system, so staff can retrieve and enter data directly into mobile devices while in the field, saving time and improving data accuracy.

This budget request is a direct response to Recommended Actions # 1b and #1c in Oregon's 2012 Integrated Water Resources Strategy. These Recommended Actions are: 1b - Improve water resource data collection and monitoring, and 1c - Coordinate inter-agency data collection, processing and use in decision-making. This package also supports strategies in the Governor's 10-Year Plan to improve the regulatory environment for large and small businesses, and to balance ecological and economic interests to improve the health of watersheds, and fish and wildlife habitat.

How Achieved

A chief groundwater technology scientist, Natural Resource Specialist (NRS 5), would be responsible for establishing procedures and methods to capture and process data using rigorous scientific standards, including a major overhaul of

data organization and formatting. This position would serve as the liaison between the Groundwater Section and other sections within the Department that collect and archive groundwater-related data (Enforcement, Information Services, Water Use Reporting, and Water Rights), and other agencies (DEQ, OHA, US Geological Survey, etc.). The chief scientist would evaluate groundwater data sets, and create more efficient processes for capturing, formatting, sharing, analyzing, and archiving data. Improvements in the Department's groundwater data capabilities will improve how staff process, use, and share groundwater data with the public and other state agencies.

Both stakeholders and staff assisted in the development of this budget request, and see the immediate value such a position would have in meeting deadlines for groundwater permit reviews and data analysis that go into such reviews.

Quantifying Results

This budget package will lead to improved performance on the Department's Key Performance Measure #10, Complete Initial Review of Applications within 45 Days. The ability to timely complete groundwater reviews continues to be a challenge in meeting this performance metric.

Groundwater applications require a technical review from the Groundwater Section and typically represent the most complex applications evaluated by the Department. The purpose of a groundwater review is to protect existing water right holders—both surface water and groundwater. Any difficulty in obtaining the hydrogeological review that must occur before groundwater applications can be processed makes the 45-day requirement for issuance of an initial review very difficult to meet.

In 2012-13, only three percent of groundwater applications received an initial review within 45 days. During 2015-17, the Groundwater Section will work to move from three percent to 40 percent of initial reviews completed within 45 days. During 2017-19, the Groundwater Section will aim for 50-60 percent.

Staffing Impact

9915104	C8505	Natural Resources Spec 5	*Chief Groundwater Technology Scientist*	Permanent	1.00

Revenue Source

General Fund $215,261

Package 104 –Hydrotech to Assist with Data and Water Management in the Klamath Basin

Purpose

The Final Order of Determination in the Klamath Basin Adjudication was delivered to the Klamath Circuit Court in March of 2013. In that final order, 491 water rights were determined and can now be enforced. These determined rights represent the most senior of water rights in the basin and it is the Department's responsibility to distribute the water resources to meet the needs of senior water rights. To monitor and manage water for these hundreds of newly determined senior rights in the basin, there has been a significant increase in hydrographic measurement duties to provide timely water supply data. Furthermore, an additional 13-15 stream gauges will be installed to meet measurement needs to manage water in the basin.

It is the hydrographic technician's responsibility to keep the stream gaging equipment operating properly, conduct regular measurements at various water elevations, and input the collected information into a central database. The Department is currently unable to meet the water measurement demands necessary to manage the 491 new water rights in the basin. To address this, staff have been pulled in from other basins to assist, resulting in a delay of duties in those basins. Management of the Klamath water rights is not feasible without additional support in the basin.

This request is consistent with recommended actions #10, #2a, and #12b in the 2012 Integrated Water Resources Strategy. Recommended Action #10 identifies a need for rebuilding field capacity to manage and distribute water. In addition, data collection helps improve water forecasting (Recommended Action #2a), and the monitoring of waters (Recommended Action #12b). This package also supports the strategy in the Governor's 10-Year Plan to balance ecological and economic interests to improve the health of watersheds, and fish and wildlife habitat, as field staff are responsible for distributing water for instream and out-of-stream needs.

How Achieved

This package proposes to add one hydrologic technician to conduct hydrographic duties in the basin for the management of senior water rights. The position will be responsible for the existing network of 12 stream gages in the Klamath basin, plus an additional 13-15 gages that are required for water management under the Klamath Adjudication and the settlement agreements.

Quantifying Results

The goal for the Department is to increase its capacity to collect quality stream flow data. To track progress on this goal and compliance with measurement protocols, a quarterly report is generated for each region. Additionally, the

Department's Key Performance Measure #4 requires the number of stream flow gages operated and maintained through the Department to increase. With the addition of the Klamath Basin hydrologic technician and the installation of the new gaging stations, the Department will be better able to meet data needs in the Klamath Basin.

Staffing Impact

9915105	C8502	Natural Resource Spec 2	Hydrologic Technician	Permanent	1.00

Revenue Source

General Fund $191,822

Package 105 – Regional Solutions and Placed-Based IWRS Planning Community Liaisons

Purpose

The state's first Integrated Water Resources Strategy (IWRS) was adopted in August 2012, creating a statewide framework and path forward for meeting Oregon's instream and out-of-stream water needs. The State is moving ahead with implementation, pursuing actions to ensure Oregon has the resources it needs to thrive and grow. Recommended Action 9a of the IWRS calls for undertaking a placed-based approach to water resources planning. With proper design and participation, a place-based approach to water resources planning can leverage technical and funding resources available to make more meaningful local impacts.

Because every river basin in Oregon is unique with widely varying ecological issues, community values, and economic dynamics, place-based integrated water resources planning will be essential to help the state and communities work together to determine needs, evaluate options, and identify water resources projects. Ultimately, this approach is meant to empower communities that are willing to work together to meet current and future instream and out-of-stream water quantity, water quality, and ecological needs. In furtherance of the Healthy Environment and Jobs and Innovation goals of Governor Kitzhaber's 10-year Plan, this approach would help balance ecological and economic interests to improve the health of watersheds, and fish and wildlife habitat, as well as improve access to water for agriculture.

The Governor has called for a similar approach to community and economic development through Regional Solutions, recognizing the unique needs of each region in the state and working at the local level to identify priorities, solve problems, and seize opportunities to get specific projects completed. Supporting regional solutions is one of the strategies outlined in Governor Kitzhaber's 10-year Plan to reach the goal of Oregon having a diverse and dynamic economy that provides jobs and prosperity for all Oregonians.

Already, regions have begun working together through Regional Solutions and Oregon Solutions to address basin-specific water challenges through such efforts as the Water for Irrigation, Streams, and Economy project, the Columbia River Umatilla Solutions Task Force, and the Deschutes Water Planning Initiative. Water is likely to be a continued focus as five of the eleven regions have identified water quantity-specific priorities, three regions have local government infrastructure needs, and five regions have agriculture as a priority. The Department will need adequate staff resources to have an active role in Regional Solutions in order to fully understand regional priorities and proactively solve problems.

During development of Oregon's Integrated Water Resources Strategy, communities specifically asked for help in the following areas: gathering critical surface water and groundwater data; developing future water resources scenarios; developing water resources projects that provide multiple benefits and meet various state and federal requirements;

partnering with the state to develop new water resource management techniques; leveraging additional funding sources; and streamlining regulations for complicated projects.

Today, the Water Resources Department is not equipped to consistently participate in local water resources planning activities, nor does the state provide a mechanism or forum to engage in long-term community discussions regarding the protection and management of water resources. Place-based integrated water resources planning is a way to ensure the community members have a voice in their own water future. Building trust and developing long-term relationships are additional benefits that can be realized through place-based strategies; these are important foundations for successful implementation of tangible water resources projects.

Similarly, having staff that are focused on addressing Regional Solutions projects and priorities will ensure that the Department understands Regional Solutions projects, and actively communicates and coordinates Department actions that affect these projects in advance.

This request is implements Recommended Actions in the 2012 Integrated Water Resources Strategy including: undertake place-based integrated, water resources planning (Recommended Action # 9a); coordinate implementation of existing natural resource plans (Recommended Action #9b); partner with federal agencies, tribes, and neighboring states in long-term water resources management (Recommended Action #9c). This package also supports strategies in the Governor's 10-Year Plan to: support regional solutions and align local, regional, and state economic development priorities; improve access to water for agriculture; and balance ecological and economic interests to improve the health of watersheds, and fish and wildlife habitat.

How Achieved

The Department, working with other state agency partners, is in the initial phases of developing guidance for place-based integrated water resources strategies. The strategies should serve as a blueprint for meeting both instream and out-of-stream needs, taking into account water quantity, water quality, and ecosystems. Meeting water needs should be considered within the context of specific watersheds, accounting for the hydrological, geological, biological, climatic, socio-economic, cultural, legal, and political conditions of a community.

During 2015-17, the Department plans to partner with up to three communities to test the guidelines and develop a place-based, integrated water resources strategy. Feedback from these pilots will allow the state to adjust and improve its place-based guidelines for communities to use into the future. This package includes a request for $750,000 dollars to provide grants to those communities undertaking the place-based efforts. The grants would provide communities with the

initial financial capacity to cover facilitation, logistical, and technical costs associated with undertaking a place-based process. This would include the costs associated with determining water needs, acquiring necessary information, identifying and understanding future scenarios, evaluating alternatives, or ultimately developing a strategy for how the community intends to address its water needs.

Deschutes, Hood River, Rogue, Tualatin, and Powder Basins have already signaled interest in pursuing a place-based approach.

Given the similarities in responsibilities and skill sets needed for staffing place-based planning and Regional Solutions, this request includes 2 FTE – one for the eastern side of the state and one for the western side – to serve as community liaisons on place-based and regional solutions activities. These positions are essential to the success of place-based efforts and further engagement in Regional Solutions projects. These positions would act as a central point of contact to communities in order to provide technical assistance, research and follow up on questions, coordinate with other agencies, track the details of projects, and consistently participate in local water resources planning activities. Ultimately, this will allow the Department to be proactive and responsive to technical, funding, and permitting needs.

Quantifying Results

The development of a structured planning process as well as staff to provide technical assistance for communities seeking to address instream and out of stream water needs will create jobs and further economic development, while maintaining healthy ecosystems. The Department expects that these two staff will have more frequent communication and involvement with Regional Solutions as measured by consistent attendance at Regional Solutions meetings and continued involvement in projects.

In 2015, the Department expects to complete the place-based guidelines and begin working with possibly three-pilot regions in order to test the guidelines and process. The Department will then evaluate the guidelines based on information obtained during the pilot projects. By 2017, the Department expects to report on the outcomes of this process in order to launch this in a broader capacity across the state.

Staffing Impact

9915106	C8504	Natural Resources Spec 4	Community Liaison – West Side	Permanent	1.00
9915107	C8504	Natural Resources Spec 4	Community Liaison – East Side	Permanent	1.00

Revenue Source	
General Fund for staff	$413,328
Other Fund - Lottery Bonds for grants	$872,469
(Funds needed May 2016 issuance)	

Package 106 – Helping Communities Evaluate Water Projects – SB 1069 Feasibility Study Grants

Purpose

Oregon is facing increased demands for water, while supplies are increasingly limited in many areas of the state. To adequately meet Oregon's diverse water needs now and into the future, water must be used wisely by looking at innovative water conservation or reuse projects and environmentally-sound storage projects. Across the state, there are numerous potential water supply projects that cannot move forward because of a lack of funding to cover the up-front costs related to exploring the feasibility of such projects. The costs of the numerous feasibility studies and environmental analyses that must be conducted before a project can even begin can add up to hundreds of thousands of dollars, presenting a considerable and often insurmountable barrier.

To meet this challenge, the Oregon Legislature in 2008 established the Water Conservation, Reuse and Storage Grant program (SB 1069), which provides grants for feasibility study work. There continues to be a strong demand for these grants, and it is expected that this demand will increase as the State focuses on providing a secure water future for both instream and out-of-stream needs. This package requests funding to increase the grant program from $750,000 to $1.5 million during the 2015-17 biennium.

This request fulfills the 2012 Integrated Water Resources Strategy's Recommended Action 13c, which identifies the need to provide communities with funding to help evaluate the feasibility of water conservation, storage, and reuse projects. It also helps further strategies contained in Governor Kitzhaber's 10-year Plan to meet both the Healthy Environment and Jobs and Innovation goals. Specifically, this package helps local governments invest in improved water and wastewater systems; balance ecological and economic interests to improve the health of watersheds, and fish and wildlife habitat; and increase access to water for agriculture.

How Achieved

Meeting instream and out-of-stream water needs through water conservation, reuse and storage projects is critical to the economy of Oregon, and for healthy watersheds, fish and wildlife, and recreation. There is currently $750,000 General Fund in the Department's base budget for the Water Conservation, Reuse and Storage Grant program. During the 2013-2015 grant cycles, the program was oversubscribed. This package proposes to increase the amount to a total of $1.5 million with $750,000 from Lottery Bonds. In addition, this request would increase the FTE for grants administration from .25 FTE to 1 FTE.

This competitive grant program requires a dollar-for-dollar match, allowing state funds to be leveraged and ensuring that only serious applicants apply. OAR Chapter 690, Division 600 describes the process that will be used. There is typically a 60-day period to apply for the grants, followed by an evaluation of the applications by a technical review team, and a 30-day public comment period. Recommendations are then brought to the Water Resources Commission for approval.

	Grant Requests Received		Grant Applications Funded	
Biennium	# of Applications	$ Dollars	# of Applications	$ Awarded
2009-11	35	$ 5,040,943	21	$1,370,875
2011-13	23	$ 2,295,774	19	$1,123,835
2013-15	29	$ 1,468,489	*18	*$748,999
2015-17 Proposed	45	$2,500,000	30	$1,500,000

*Estimated - Grant awards pending a decision at the time of this submittal.

Quantifying Results

Upon the completion of each feasibility study, the Department evaluates whether the feasibility study successfully answered the question(s) posed and funded in the grant application. The Department's goal is to have 100 percent of the feasibility studies obtain answers to the questions posed and funded. Ultimately, this will result in the identification of projects that are viable for further investment to meet instream and out-of-stream needs.

Staffing Impact

*9913127	C8504	Natural Resources Spec 4	Natural Resource Grant Specialist	Permanent	.75 FTE

*Adds months to existing position

Revenue Source

General Fund for staff $139,318
Other Fund - Lottery Bonds for grants $791,954
(Funds needed March 2017 issuance)

Package 107 – Addressing Data Gaps by Establishing the Northwest Region Hydrotech

Purpose

Data collected by hydrologic technicians is used to distribute and manage water on a daily basis to protect instream and out-of-stream water rights, forecast floods, plan for recreational activities, determine water availability, and plan for future water needs. Historically, there has been one hydrologic technician for each region in the State. The hydrologic technician position in the Northwest Region, responsible for maintaining 26 gaging stations, measuring streamflow and providing quality data assurance, was eliminated during a previous budget reduction.

Since then, workloads, data, and data users have been impacted. The duties have been shared by Watermasters, Assistant Watermasters, and the Hydrographics Section; however, there are still not sufficient staff resources to properly undertake this work. As a result, while surface water gaging stations are routinely serviced every 4-6 weeks in other parts of the state, some stations in the Northwest Region may go 15 to 20 weeks. Without the hydrologic technician, the Northwest Region has suffered from the loss of data that cannot be retrieved and an inability to consistently perform quality control measures to insure data is accurate. This has resulted in a degradation of overall station value for purposes such as flood forecasting and water management.

This request is consistent with recommended actions #10 and #1b in the 2012 Integrated Water Resources Strategy. Recommended Action #10 identifies a need for rebuilding field capacity to meet water distribution and water supply demands, while Recommended Action #1b calls for improving water resource data collection and monitoring. This package also supports the strategy in the Governor's 10-Year Plan to balance ecological and economic interests to improve the health of watersheds, and fish and wildlife habitat, as data is essential for distributing water for instream and out-of-stream needs, and identifying water supply solutions.

How Achieved

Re-establishing the hydrologic technician in the Northwest Region will lead to regular maintenance of gaging stations for data continuity and quality control, as well as result in regular surface water measurements. The Department's data collection program is based on standardized scientific protocols outlined by the U.S. Geological Survey in Water Supply Paper 2175. Surface water gaging across the state follows these standards for data quality control. This proposal is consistent with Recommended Action #1b of the Integrated Water Resources Strategy, which calls for improved water resources data collection and monitoring.

Quantifying Results

The Department generates a quarterly report for each region to track progress and compliance with measurement protocols. These reports show the Northwest Region is not meeting standard measurement protocols. With the re-establishment of the Northwest Region hydrologic technician, stream data collection in this region will be brought back into compliance with standard data protocols.

The Department also reports annually on Key Performance Measure #4, which sets targets for the Department to increase the number of streamflow gages it operates and maintains. Re-establishment of this position will prevent the loss of existing stations.

Finally, the Department uses internal performance measures to track field work, including the number of streamflow measurements made each year. This position will result in an increase in streamflow measurement.

Staffing Impact

9915110	C8502	Natural Resource Spec 2	Hydrologic Technician	Permanent	1.00

Revenue Source

General Fund $188,822

Package 108 – Assessing the Impact of Drought on Oregon Communities

Purpose

Although we know that areas in Oregon have suffered from drought, there has not been an effort to understand how frequently droughts have occurred, or how they have affected Oregonians and ecosystems. Communities are beginning to plan for worst-case drought scenarios and need better information about the impact, frequency, duration, and intensity of previous droughts in order to assess the appropriate response. This information is not currently available in any organized fashion.

This package is in direct response to challenges in addressing data needs for the state's Hazard Mitigation Plan. The plan identifies and prioritizes potential actions that would reduce Oregonians' vulnerability to natural hazards. In addition, the plan satisfies the requirements of the Federal Emergency Management Agency to ensure that Oregon is eligible to receive hazard mitigation and disaster assistance funds from the federal government. Understanding and responding to drought is one component of this plan.

In addition, this package helps address Recommended Actions # 1c and 5b in Oregon's 2012 Integrated Water Resources Strategy. These Recommended Actions are: 1c - Coordinate inter-agency data collection, processing and use in decision-making; and 5b - Assist with climate change adaptation and resiliency strategies. This package also supports strategies in the Governor's 10-Year Plan to: improve access to water for agriculture, and to help local governments invest in improved water and wastewater systems.

How Achieved

In order to better understand when and where drought occurs and its related impacts on Oregon's communities, the Department seeks to undertake a project to characterize the history of droughts in Oregon and their economic and environmental impacts. This project would assess which communities are most vulnerable to drought, the impacts, and how likely drought will affect the state and specific regions in the future.

Quantifying Results

This request is for a limited duration position that will complete an analysis of historic drought in Oregon in 12 months.

Staffing Impact

9915111	C8502	Natural Resource Spec 2	Drought Specialist	LD	.5 FTE

One 12 month limited duration position

Revenue Source	
General Fund	$81,030

Package 109 –Advancing Water Right Mapping to Improve Service Delivery and Efficiency

Purpose

Until recently, maps of water rights were generally not used as a primary resource for regulation purposes or individual right-by-right analysis. Recent projects have demonstrated the value of water right mapping as a tool for water management, pushing the need for increased accuracy and completeness. For example, as a result of recent activities in the Klamath Basin, both internal and external customers needed to be able to closely review maps of water rights in the basin to perform analyses, look for overlapping rights, and compare maps to evapo-transpiration data. To facilitate this, the Department had to quickly task several staff members to go through and map areas that were identified as problems.

In addition, as the Department continues to focus on improving water right processing efficiencies and service, there is a need to advance the Department's ability to effectively identify the location of water rights. The Department reviews maps to analyze the potential for injury on new water right applications, transfers, and other transactions, as well as to distribute water to senior users. This analysis is challenging in areas where water rights' point of diversion and place of use are unmapped, have been mapped using less accurate methods (prior to 2004), or where the place of use is not fully delineated (only represented by a single point). Updated water right maps will improve the ability of the Department, public, consultants, and water users to identify if there is a water right on the property and determine the location of diversions and lands where the water can be used.

This budget request addresses Recommended Actions # 1c, 2b, 2c, 2d, and 9a in Oregon's 2012 Integrated Water Resources Strategy. These Recommended Actions are: 1c - Coordinate inter-agency data collection, processing and use in decision-making; 2b - Improve water-use measurement and reporting; 2d - Update water right records with contact information; and 9a - Undertake place-based integrated, water resources planning.

How Achieved

Funding and filling the currently unfunded Data Technician 1 position would allow WRD to begin addressing the backlog of maps that need to be completed for more recent certificates, and reviewing unmapped water rights. Longer-term, this position would work on mapping rights where the place of use is not fully delineated and bringing older, less accurate mapping up to standard.

Poly-points. Water Right mapping has gone through many changes since it began in 1989. Up until 2000, it was loosely coupled with the water right database system (WRIS). During the conversion to the new WRIS system, water right maps were linked; however, there were a number of rights that were not able to be linked and/or were not mapped. Due to

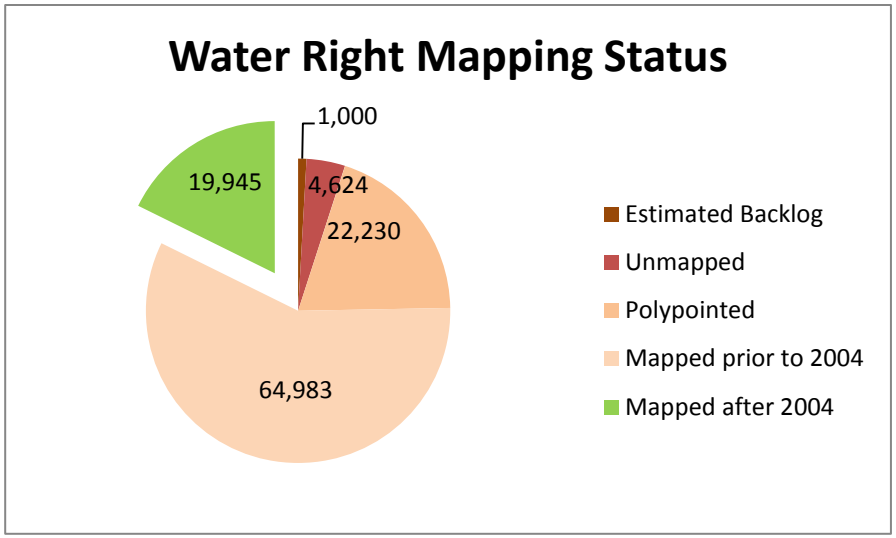
limited resources, the Department created a “poly-point” symbol in each 40-acre section of the map to designate that there may be a water right associated with land somewhere in the 40 acres. This, however, does not provide accurate information to perform more detailed analysis. Therefore, staff needs to review these poly-points, determine their validity, and identify whether they can be mapped.

Mapped prior to 2004. Prior to 2004, mapping was done using lower resolution base data, with limited control points, and without benefit of aerial photography. After 2004, the standards and processes changed to a higher resolution scale and included tax lots and aerial photography to provide control points. Since mapping done prior to 2004 is inherently less accurate than the current process, staff would review these rights and adjust them accordingly.

Backlog. There has been a push to reduce the backlog of pending water right certificates in the Water Rights Services Division. This increase in the processing of water rights creates a backlog of work for the Data Tech group to input and digitize maps into the Department’s database.

Quantifying Results

This project would be broken into three phases: Phase 1 – Backlog/Unmapped Rights, Phase 2 – Poly-pointed Rights, Phase 3 – Pre-2004 Mapped Rights. The chart below shows the number of water rights in each category that require mapping. The Department expects this to be a long-term project, with the initial Phase 1 taking approximately 4-6 years to complete.



Staffing Impact

9915112	C85010	Water Right Data Tech	*Water Right Mapping Specialist*	Permanent	1.00

Revenue Source

General Fund $126,651

Package 110 –Monitoring Coordinator for Efficient Data Sharing and Management

Purpose

The Water Resources Department seeks to improve its monitoring data to make decisions about water right permitting, wisely manage the resource, comply with legal mandates, support economic development, and achieve public and private interest outcomes.

Enterprise monitoring is part of Governor Kitzhaber's 10-year plan for a healthy environment that sustains communities, our economy, and the places we all treasure. The Enterprise Monitoring System builds on existing collaborative monitoring efforts, maximizing the use of state resources to achieve environmental outcomes more efficiently, cost effectively, and with better results. A significant part of the Governor's investment in water quantity and quality builds upon a cross-agency enterprise approach to monitoring stream and watershed health; this information helps the state identify and prioritize problems, measure and reward successes, focus limited resources in places where they will have the most benefit, and ensure that programs produce the desired results.

In addition, many other groups outside of state agencies are collecting water quantity related data, but may not have the expertise to ensure that the information collected will be usable and collected in a manner that provides quality assurance. The Department often receives requests to assist in analyzing data that has been collected and finds that it cannot be used. There is a need to provide technical assistance to entities that collect data, such as cities, counties, watershed groups, and nongovernmental organizations, to ensure that data collected will maximize data collection capabilities, and minimize the amount of data that is collected but cannot be used.

This budget request is a direct response to Recommended Actions #1B and 1C in Oregon's Integrated Water Resources Strategy, adopted in 2012. These Recommended Actions are: 1b - Improve water resource data collection and monitoring; and 1c - Coordinate inter-agency data collection, processing and use in decision-making. This package also supports strategies in the Governor's 10-Year Plan to: balance ecological and economic interests to improve the health of watersheds, and fish and wildlife habitat; and partner with local landowners to protect drinking water sources.

How Achieved

Adding a full-time Natural Resources Specialist 4 will allow the Department to coordinate inter-agency collaborative monitoring efforts, fill data gaps, and make improvements to how we gather, process and share water resources data and information. This in turn, will provide leadership, guidance and expertise in water resource data needs assessment and quality assurance.

This budget proposal will assist with the following:

1. Identify, make recommendations, and begin solving individual Natural Resource Agency data management gaps. For example, this would include identifying where there is a need for gaging stations, working across sections within the Department to integrate groundwater and surface water needs, and determining what surface water information is needed to make decisions on water supply projects.
2. Participate in an interagency task force to plan for the creation of an environmental monitoring and information clearinghouse, ensuring that water quantity is considered alongside water quality in recognition of the direct relationship between quantity and quality.
3. Help manage labor-intensive data processes. For example, it takes one staff member all morning to process the previous day's stream gage data, quality assure it, and post it to the internet. Using this process, we can say that 85 percent of the Department's existing gages are "near real time." The Department does not have the capacity to extend this process to the remaining gages or any new gages that come on-line.
4. Regularly communicate progress to the inter-agency STREAM Team on meeting these objectives.
5. Interface with other agencies, tribes, cities, counties, watershed groups and others to ensure that data collected outside of the Department is done so in a manner that provides high-quality, usable data. This position would act as a liaison to identify monitoring on restoration grants, as well as partner with other entities at the technical level to coordinate data collection efforts.

Quantifying Results

In the first biennium, accomplish tasks 1-2. Tasks 3-5 will be ongoing. The Department expects to increase the number of gauges that provide near-real time data. In addition, the Department expects that this position will help facilitate improvements in KPM #1 and KPM #4. KPM #1 measures the percent of watersheds that need flow restoration for fish that had a significant quantity of water put instream through WRD administered programs, and KPM #4 measures the percent change from 2001 in the number of WRD operated or assisted gaging stations.

Staffing Impact

9915113	C8504	Natural Resources Spec 4	Monitoring Coordinator	Permanent	1.00

Revenue Source

General Fund	$211,067

Package 111 – Mitigation Specialist to Address Water Supply Challenges

Purpose

Most of the surface water resources in Oregon are fully allocated during the summer months. In some locations in the state, groundwater aquifers are no longer capable of sustaining additional development. Climate change is expected to further impact both surface water and groundwater supplies. One way to meet new needs in these areas is to allow a water right applicant to provide mitigation water for the new use. As shown by the Deschutes Basin Mitigation program, which requires new groundwater withdrawals to be mitigated with an equal amount of water placed instream to offset the impact to surface water flows, mitigation programs can provide opportunities for new development while also meeting instream needs.

Mitigation can be used as a water management tool in areas where new groundwater or surface water withdrawals are limited due to impacts to a surface water source that is fully allocated. While the Deschutes Basin requires mitigation for groundwater and surface water interactions, new water withdrawals from the Columbia River also must be mitigated between April 15 and September 30. Similarly, Oregon's Scenic Waterway Act – created to maintain the free-flowing character of designated rivers and lakes in quantities necessary to support recreation, fish, and wildlife uses – limits new groundwater rights without mitigation, if groundwater pumping (individually or cumulatively) will measurably reduce surface water flows.

With increased demand for groundwater throughout the state and the need to mitigate surface water withdrawals from the Columbia River during the growing season, there is an increased interest and need for mitigation programs to support new water right permits. The Department will need a mitigation specialist to develop rules, track, and oversee mitigation credit transactions. The Department does not currently have staff to handle the expected workloads of this magnitude. Early areas of focus will be the Umatilla and Klamath Basins.

This package implements Recommended Action 10d of the 2012 Integrated Water Resources Strategy, which calls for reaching environmental outcomes with non-regulatory alternatives. It also facilitates implementation of Recommended Action 5b to assist with climate change adaptation strategies. This package also helps to carry out the Governor's 10-Year Plan. In furtherance of the Healthy Environment's goal, this package helps balance ecological and economic interests to improve the health of watersheds, and fish and wildlife habitat. This package also supports the Jobs and Innovations' goal by helping to improve access to water for agriculture.

How Achieved

The person in this position will work with stakeholders to develop draft rules, providing guidance for creating mitigation credits. Once rules are adopted, the mitigation specialist will start providing outreach to individuals and communities within the area. The Department expects initial implementation to occur in the Umatilla Basin, and followed by the Klamath Basin. Once implemented, a web-based tracking system can be developed so that interested parties and applicants can ascertain the status of mitigation on any pending application or in the basin as a whole.

Quantifying Results

The Department would use the person in this position to develop and implement rules, develop a web-based tracking system, and oversee mitigation credit transactions within the 2015-17 biennium. Rules would be developed in 2015-2016, followed by implementation and outreach for mitigation to begin by 2017.

Staffing Impact

9915114	C8504	Natural Resources Spec 4	Mitigation Specialist	Permanent	1.00

Revenue Source

General Fund $192,662

Package 112 – Upgrading Well Inspectors and Hydrotechs

Purpose

Position responsibilities and Department expectations for both well inspectors and hydrologic technicians have changed over the years that these positions have been in place and it is a challenge for the Department to recruit and retain individuals that can effectively perform the job requirements.

The Well Inspection Program places inspectors in the field to work with well drillers to ensure that water supply wells are constructed in a manner that is protective of public health and the groundwater resource. Well inspectors visit wells being constructed to observe practices and see that the well construction meets standards, given the geologic and hydrologic conditions encountered. Well inspectors must have training in geology and hydrology, and the knowledge to understand and recognize both proper well construction and improper construction practices. Inspectors must have the presence and tact to make decisions in the field with authority, without antagonizing the well driller or landowner. Well inspectors interface with the public and the well drilling community and need to be able to make decisions in the field on behalf of the Department.

The Surface Water Measurement Program is designed to measure surface water flows and maintain surface water gaging stations around the state to track flow conditions in near-real time. It is used by a variety of agencies and other entities for making daily decisions, protecting and monitoring instream flows, forecasting floods, designing infrastructure such as bridges and culverts, planning for recreational activities, better understanding how much water is available for new uses, and tracking long-term trends such as climate change and drought. The equipment necessary to collect and operate gaging stations has become increasing complicated. Hydrologic technician's responsibilities have changed from maintaining simple measurement gear and paper-chart recorders, to operating and programming telemetry communications equipment, acoustic Doppler measuring devices, and sophisticated digital recording equipment.

This budget request is a direct response to Recommended Action #12a of Oregon's 2012 Integrated Water Resources Strategy, which calls for ensuring the safety of Oregon's drinking water. This package also supports strategies in the Governor's 10-Year Plan to partner with local landowners to protect drinking water sources.

How Achieved

The Department is revamping the technical training and skill requirements for these positions for protection of the resource, high-quality data collection, and to meet customer service needs. Upgrading these positions from NRS1 to NRS2 will enable the Department to recruit individuals with the aptitude and skills necessary to perform the duties of the

position. In addition, the Department has identified a need for well inspectors to not only inspect wells, but also review all well logs, as this is an effective way to initially identify problems with well construction. As a result, while technical knowledge and skills will increase, so will workloads; therefore, the Department is seeking to add one additional well inspector.

This proposal is consistent with recommended actions in the 2012 Integrated Water Resources Strategy, including: improving water resources data collection (action item #1b); training for water professionals (#8b); rebuilding field staff (#10); and protection of Oregon's drinking water (#12a).

Quantifying Results

The Department tracks the number of wells annually inspected around the state and presents that information to the Water Resources Commission and the Commission's Groundwater Advisory Committee. The Department will also begin tracking the number of well logs reviewed and the number of well logs that require follow-up. The goal is to maintain or increase the number of wells inspected, while also increasing the number of well logs reviewed.

The Department currently tracks the number of gaging stations operated on streams around the state for KPM #4. These hydro-tech positions are responsible for maintaining the count of stations and increasing the measurement locations as needs are identified. Other internal Department reports on the number of streamflow measurements made annually and the quality of the data collected (data protocols) by these positions should improve.

Staffing Impact

9915109	C8502	Natural Resource Spec 2	Well Inspector	Permanent	1.00
11 positions	C8502	Natural Resource Spec 2	Various	Permanent	N/A

Revenue Source

General Fund	$228,553
Other Funds	$1,860

Package 113 – Recapitalizing the Water Supply Development Fund

Purpose

Most of the surface water resources in Oregon are fully allocated during the summer months, requiring water users seeking new supplies to turn to other tools such as water conservation, reuse, storage, and other mechanisms to meet their needs. The need for an increased focus on securing water supplies for both instream and out-of-stream needs is exacerbated by a changing climate, which will alter snowpack, temperatures, and the hydrology of many streams throughout Oregon. This will affect the availability and quality of water, as well as increase the incidence of droughts.

Other western states, particularly neighboring California and Washington, have long had authorities in place, allowing the state to take an active role in the development of water resources to benefit both instream and out-of-stream uses. In recognition of this, the 2013 Oregon Legislature passed Senate Bill 839, establishing a Water Supply Development Account to provide loans and grants for water resources development projects that have economic, environmental and community benefits. The Legislature authorized funding of $10.2 million in lottery revenue bonds to be issued in spring of 2015. It is estimated that the demand for funding will far exceed the amount available.

Recapitalization of the grant and loan fund is necessary to continue to advance the state's ability to help evaluate, plan, and develop water resources projects to provide access to new water supplies for instream and out-of-stream uses in Oregon.

Recapitalizing the Water Supply Development Account (Account) represents an important step towards implementation of Oregon's Integrated Water Resources Strategy, as it furthers a number of recommended actions aimed at: authorizing and funding a water supply development program (Recommended Action #10e), improving access to built storage (Recommended Action #10b),improving water use efficiency and water conservation (Recommended Action #10a); encouraging water reuse (Recommended Action #10c); and determining and protecting flows needed to support instream needs (Recommended Actions #3a and #11b).

This package also supports strategies in the Governor's 10-Year Plan to: balance ecological and economic interests to improve the health of watersheds, and fish and wildlife habitat; help local governments invest in improved water and wastewater systems; improve access to water for agriculture; and grow Oregon's traded sector and industry clusters.

How Achieved

A number of actions must be undertaken to develop rules before the Department can issue grants and loans. In the meantime, the Department continues to work with federal, state and local partners to help evaluate water supply development options. With the addition of one grant staff, the Department expects that the grant and loan program will be in place in late 2015 or early 2016, and that applications for funding will far exceed the amount of funds available. Therefore, the Department proposes to recapitalize the Account from Lottery Bonds issued in the spring of 2017 with a 6-year limitation provided like a Capital Construction Budget. This is similar to the method used by the Oregon Watershed Enhancement Board to provide funding for projects that span multiple biennia. If the Account is not recapitalized during the 2017 bond cycle, the grant program would likely be dormant for several years after the first grant cycle in 2015, as the next potential bonding cycle would not occur until 2019.

Quantifying Results

The Department anticipates funding up to 15 projects ranging from $250,000 to $5 million to develop and implement water resources projects for both instream and out-of-stream needs. The development of new water supplies will create jobs and further economic growth by providing water to meet the needs of agriculture, ecosystems, industries, recreation, and municipalities. The long-term goal is to increase the quantity of water available to meet instream and out-of-stream needs as a result of funded projects.

Staffing Impact

9915108	C8504	Natural Resources Spec 4	Natural Resource Grant Specialist	Permanent	1.00

Revenue Source

General Fund for staff	$186,962
Other Fund – Lottery Bonds	$20,483,990
(Funds needed March 2017 issuance)	

Package 114 –Supporting Investigations of the Similkameen Water Supply Project

Purpose

Located in Northeast Oregon, the Umatilla Basin has exceptional conditions for agriculture. Due to overdraft of aquifers in the area, more than 21,000 acres of productive farmland are currently without water. As a result, there have been various efforts to identify water supplies for the basin.

The benefits of increasing water available to the Umatilla Basin can be demonstrated by an Economic Benefit Analysis that was completed for the Umatilla Basin Aquifer Recovery Assessment in 2009. One scenario analyzed the effect of an increase of an additional 68,664 acre-feet of water for irrigation, which was estimated to: stimulate $209 million in regional economic activity; create 1,233 jobs; increase labor income by $43 million; and increase state tax revenue by $3 million annually.

A proposed project on the Similkameen River in Canada presents an opportunity to provide additional water to the Umatilla Basin. The headwaters for the Similkameen River originate in the South Central part of British Columbia, Canada. The river crosses into Washington where it then flows into the Okanogan River which ultimately flows into the Columbia River before reaching Oregon. FORTIS, Inc. is currently proposing to develop a hydroelectric project on the Similkameen River, but has determined that the project is not economical unless it provides water to benefit users downstream. Both Oregon and Washington have engaged in conversation with FORTIS and are exploring the potential for water to be released from the project during the summer months, which could provide mitigation water for Oregon irrigators to withdraw water from the Columbia River.

Total funding of over $100 million from both Oregon and Washington will be necessary for the project to proceed. Prior to such investment, there are a number of questions that will need to be addressed to ensure the economic and environmental viability of the project. This package requests $2 million to fund Oregon's participation in environmental studies with Washington and FORTIS to bring the project closer to implementation.

This package supports implementation of the 2012 Integrated Water Resources Strategy, including: Recommended Action 10e - Fund water supply development; and Recommended Action 10b - Improve access to built storage. In addition, it furthers the strategy of improving access to water for agriculture in the Governor's 10-Year Plan.

How Achieved

The Water Resources Department Water Supply Development team will work with staff from the State of Washington's Department of Ecology and FORTIS to determine environmental studies that will benefit Oregon and aid in bringing the project online by approximately 2020.

Quantifying Results

The project is currently expected to provide Oregon up to 77,000 acre-feet of water each year for 50 years. The development of new water supplies is necessary to meet the water needs of agriculture, fish and wildlife, and other interests. These new water supplies will create jobs and further economic development by providing adequate water for irrigation and healthy ecosystems. This package proposes to invest in environmental reviews; therefore, success will be measured by the completion of environmental reviews deemed necessary by the Department and Fortis to determine whether to continue to participate in the project.

Staffing Impact

No Staff

Revenue Source

Other Fund – Lottery Bonds $2,342,840
(Funds needed October 2015 issuance)

Package 115 – Integrated Water Resources Supply Development

Purpose

Most of the surface water resources in Oregon are fully allocated during the summer months, requiring water users to turn to other options to meet their needs. Climate change – which will alter snowpack, temperatures, and the hydrology of many streams throughout Oregon – further increases the need and urgency to secure water supplies for both instream and out-of-stream needs. Oregon needs to ensure that it is capable of providing water to support healthy and resilient communities, economies and ecosystems. Water managers, water users, and conservation groups will need to look for more efficient ways to conserve, store, and reuse water, while also considering innovative alternatives or new ways to meet needs. This can be done by developing storage, utilizing water right transfers and nontraditional techniques, and further pursuing water conservation, reuse, and efficiency projects.

This package implements a number of actions necessary to implement Oregon's Integrated Water Resources Strategy, including: authorizing and funding a water supply development program (Recommended Action #10e); partnering with federal agencies, tribes, and neighboring states in long-term water resources management (Recommended Action #9c); improving access to built storage (Recommended Action #10b); determining and protecting flows needed to support instream needs (Recommended Actions #3a and #11b); improving water-use efficiency and water conservation (Recommended Action #10a); encouraging additional water reuse projects (Recommended Action 10c); and assisting with climate change adaptation and resiliency strategies (Recommended Action 5a).

This package also supports strategies in the Governor's 10-Year Plan to: balance ecological and economic interests to improve the health of watersheds, and fish and wildlife habitat; help local governments invest in improved water and wastewater systems; improve access to water for agriculture; and grow Oregon's traded sector and industry clusters.

This package may be affected by the recommendations of the Senate Bill 839 (2013) task force on governance, which are expected to be made toward the end of this calendar year. The Department is committed to ensuring that this package is consistent with those recommendations, and understands that the Governor's Recommended Budget will be the vehicle to assure that that occurs.

How Achieved

The Integrated Water Resources Development Initiative will focus on improving the state's ability to partner with communities and individuals to assess, plan, and develop new water supplies for instream and out-of-stream uses in Oregon.

The Department is undertaking a number of initiatives to develop a comprehensive integrated water resources development strategy. Place-based planning is part of this longer-term strategy to help communities to strategically address water needs and identify water projects that will have broad-based community support. Regardless of whether projects are identified through a place-based approach or on an individual basis, project proponents can apply for funding through the Department's Water Conservation Reuse and Grant Program to help evaluate the feasibility and viability of the project. Once a project has been vetted, funding for actually developing and implementing the project is available through a grant and loan program established by the Oregon Legislature in 2013 to fund water supply projects.

While the state has been steadily working towards implementing funding programs to help further water resources development projects; there is a need for the state to be able to provide technical, financial, permitting, project management, and engineering expertise to actively assist individuals, farmers, cities, counties, tribes, nongovernmental entities, and communities in developing water resources projects.

This package requests staff resources to provide financial, permitting, engineering, and project management expertise. The positions and roles are identified in further detail below:

Project Manager - The project manager will assist individuals and communities in identifying, evaluating, and developing water resources projects, determining necessary steps to drive a project forward from conception to completion. This position will also be responsible for acting as the liaison for the Department with contractors, consultants and other state and federal agencies to ensure that projects are on track. This would include assisting in the review and development of scopes of work, coordinating quality control of key deliverables related to projects, and ensuring that state investments are being managed appropriately. The project manager will identify and advise on policy issues, working with project proponents and stakeholders to develop solutions. The project manager will also conduct public outreach and community meetings as necessary.

Water Supply Permitting and Technical Assistance Coordinator: The coordinator will work under the direction of the project manager to provide technical assistance to project developers in working through permitting challenges both within and outside of the agency. The coordinator will also assist with obtaining necessary hydrologic data to determine the water supply benefits associated with projects, and formulate strategies to shape projects so that the desired water supply

benefits are realized. This may include providing assistance with determining the amount of water that may be realized from a project or available for new development.

Finance Analyst – Projects will need to obtain funding from local, federal, and private investments in order to leverage limited state dollars. The Financial Analyst will conduct financial modeling and financial analysis to facilitate in identifying other sources of capital. This position will also be responsible for the origination, structuring, negotiating and closing of project financing and investments. This position will have the ability to locate and understand the various funding options and devise an overall financing plan for projects. The position will assist in the review and negotiation of contracts. In addition, this position will monitor other grant and loan opportunities to help the state, individuals and communities obtain and leverage these funds.

Engineer: A water resources development engineer is necessary to help the state and communities identify and evaluate options for new or expanded water storage, water conservation, and other projects that require engineering expertise. Such an engineer will provide critical guidance in the development and evaluation of: feasibility studies, engineering designs, hydrologic analyses, geologic evaluations, as well as construction /implementation. The engineer will also be responsible for evaluating grant program proposals, and reviewing feasibility study reports to advise the Department on funding of projects and the viability of such projects from an engineering perspective.

Quantifying Results

These positions will play a key role in new or expanded water resource projects in Oregon. Meaningful metrics would include the amount of water in acre-feet newly available, the amount of water conserved, the increase in water use efficiency, the amount of water needs met as a result of an innovative approach (mitigation, transfers, etc.), and the amount of water protected instream as a result of the Water Resources Development Team's efforts.

Staffing Impact

These staff will be added to the current NRS 5 and NRS 4 in the Water Supply Development Program.

9915115	C8505	Natural Resources Spec 5	Project Manager	Permanent	1.00
9915116	C8504	Natural Resources Spec 4	Water Supply Technical Coordinator	Permanent	1.00
9915117	C1245	Fiscal Analyst 3	Finance Analyst/Economist	Permanent	1.00
9915118	C1245	Fiscal Analyst 3	Finance Analyst/Economist	Permanent	1.00
9915119	X3148	Professional Engineer 1	Water Supply Engineer	Permanent	1.00

Revenue Source

General Fund	$1,026,218

Package 116 – CTUIR Settlement Technical Assistance

Purpose

The 1988 Umatilla Basin Act authorized a "bucket for bucket" exchange of Columbia River water for Umatilla River water for three Umatilla Project irrigation districts. This locally brokered initiative is recognized as a shining example of salmon restoration in the Columbia Basin and demonstrates the ability of local stakeholders to cooperatively resolve differences related to water use and management. This third and final phase of the Umatilla Basin Project, known as "Phase III," has not yet been implemented and would complete the exchange for Westland Irrigation District, while also potentially addressing tribal water needs.

The state is currently in negotiations to settle the Confederated Tribes of the Umatilla Indian Reservation's (CTUIR) water rights. One of the tools to determine the amount of water available for the settlement is the Umatilla River Basin RiverWare Model, a proprietary model created by a consulting firm representing the CTUIR. The primary purpose of the model is to simulate the proposed Phase III Westland Exchange Project and compare those simulated results to the existing conditions under the Phase II Exchange. This will supplement existing analyses of the Tribes' Settlement Proposal.

While the consulting firm and CTUIR originally determined that the model only needed to encompass the upper 65 percent of the Umatilla River watershed, other vested parties in the negotiation have voiced concern that the spatial scope of the model is not adequate to protect their water interests in the lower basin.

In the event that the negotiating parties agree that the extent of the model should encompass the entire Umatilla River watershed, OWRD has determined that it is in the best interest of the state to contribute to this effort by securing funding for the costs associated with expanding the model. The preliminary cost estimate provided by the consulting firm for expanding the model ranges from $300,000 to $600,000. It is estimated that OWRD's contribution would be $100,000.

This budget request supports Recommended Actions #2c and 9c in Oregon's Integrated Water Resources Strategy, adopted in 2012. These Recommended Actions are: 2c - Determine pre-1909 water right claims, and 9c - Partner with Federal agencies, tribes, and neighboring states in long-term water resources management. This package also supports the strategy in the Governor's 10-Year Plan to balance ecological and economic interests to improve the health of watersheds, and fish and wildlife habitat.

How Achieved

This constitutes a monetary contribution to CTUIR for its modeling efforts. OWRD will review the model and confirm its use, output and application.

Quantifying Results
The updated model will be reviewed by OWRD staff and others included in the review process. This will ensure that stakeholders concerns are addressed and that the model will be used in accordance with the settlement proposal.

Staffing Impact
No Staff

Revenue Source
General Fund $100,000

Package 117 –Analysis and Repair of Critical Dam Infrastructure

Purpose

Dams in Oregon are aging, with the majority more than 50 years old, and some approaching 100. The Water Resources Department directly regulates more than 900 dams. Dam owners should be encouraged to evaluate, modify, and invest in their dams in order to protect public safety, and maintain the water supply, flood control, and other benefits that result from dams and reservoirs. This concept proposes to analyze and help repair the structural integrity of dams.

Part 1 of this request is for the Water Resources Department to hire a dedicated engineer to conduct a comprehensive safety analysis of Oregon dams. It has been almost 35 years since these types of evaluations have been conducted. Using mostly Federal Funds between 1979 and 1981, the Department worked with the US Army Corps of Engineers to develop a safety analysis of 40 dams in Oregon. Dozens of dams have not received this type of analysis, and none have received an updated seismic evaluation from the Department. In the past two decades, scientists have developed a better understanding of earthquakes in the Pacific Northwest, as well as extreme flood events. With increased development and population, including homes and apartments, below aging dams, there is a need to further evaluate dams for structural integrity, the ability to pass high flood flows, and withstand earthquakes.

Part 2 of this request is to establish a grant program to provide financial assistance to dam owners for rehabilitation and public safety actions related to dams. As structures age and additional seismic information becomes available, Oregon's state agencies are encouraging dam owners to retrofit dams and perform needed maintenance and upgrades. The state's dam safety engineer and staff inspect hundreds of dams each year in Oregon. More than 60 of these are classified as "high hazard," referring to the likely loss of life and property downstream from the dam, should the dam fail. These dams are further identified by the condition of the dam itself. The Department has identified almost 20 "high hazard" dams in Oregon that are also in "unsatisfactory" or "poor" condition.

This budget request furthers Recommended Actions # 7a, 7b, 10b, and 12a in Oregon's Integrated Water Resources Strategy, adopted in 2012. These Recommended Actions are: 7a - Develop and upgrade water and wastewater infrastructure; 7b - Encourage regional (sub-basin) approaches to water and wastewater systems; 10b - Improve access to built storage; and 12a - Ensure the safety of Oregon's drinking water. It also implements the Governor's 10-Year Plan strategies to help local governments invest in water and wastewater systems, as well as increase access to water for agriculture.

How Achieved

An initiative to comprehensively evaluate Oregon's portfolio of dams for seismic capacity, flood capacity, and structural integrity is needed in order to assure that dams can continue to store water for beneficial uses. A first step would be to develop an evaluation methodology and apply it to up to six dams to determine the cost factors per dam and formulate procedures to complete this work for dam owners. This modern safety analysis would include an evaluation of:

- Earthquake vulnerability including seismic slope stability and liquefaction potential
- Capacity to withstand high flood events and safely pass flood flows without failure
- Evaluate the susceptibility to internal erosion or structural failure

Authorizing the Department to provide grants to owners to help bring them up to safety standards can address public safety concerns, while also creating or maintaining jobs. Since power generators, municipalities, agricultural irrigators, and others rely on dam storage, loss of this storage capacity can impact the economic vitality of both individuals and communities. Doing this work requires significant financial resources that many dam owners cannot afford, while at the same time, Oregon communities are concerned about the safety and structural integrity of aging infrastructure. The Department would provide grants to owners of dams in which the Department has identified a need for modifications to the dam in order to meet safety standards.

Many projects considered under this proposed grant program would span 2 or more biennia to fully accomplish the statement of work, therefore, the Department proposes fund the projects from Lottery Bonds issued in the spring of 2016 with a 6-year limitation provided like a Capital Construction Budget. This is similar to the method used by the Oregon Watershed Enhancement Board to provide funding for projects that span multiple biennia.

Quantifying Results

Part 1. With the requested staff resources, the state expects to complete four to six analyses per biennium.

Part 2. Grants will result in repairs necessary to bring dams up to safety standards. The Department has identified almost 20 "high hazard" dams in Oregon that are also in "unsatisfactory" or "poor" condition. These would likely be among the first recipients of grants.

Staffing Impact

9915120	X3148	Professional Engineer 1	Project Engineer	Permanent	1.00

Revenue Source	
General Fund for staff	$234,310
Other Fund – Lottery Bonds	$11,279,698
(Funds needed May, 2016 issuance)	

Package 118 - Utilizing Evapotranspiration Data for Enhanced Water Management

Purpose

Evapotranspiration is water that is transpired from the leaves of plants and evaporated from the soil. The University of Idaho's Department of Agricultural and Biological Engineering has been instrumental in helping state and local governments, as well as private agricultural businesses in the Western United States, locate, track, and quantify evapotranspiration through a satellite-based technology called METRIC (Mapping Evapotranspiration using high Resolution and Internalized Calibration).

METRIC has been used on water issues in Montana, California, New Mexico, Wyoming, Texas, Iowa, Nebraska, Colorado, Nevada, Washington, Texas, and Idaho. Recently, information provided by METRIC was used by OWRD in negotiating the *Upper Klamath Basin Comprehensive Agreement*.

The Water Resources Department seeks to develop and use evapotranspiration data for water management, planning, and conservation efforts to help quantify the amount of water consumed by irrigated agriculture.

This information is useful to provide for more precise water distribution, to confirm compliance with water right permit conditions, and assess water right transfer and conservation proposals. It can also be used to identify irrigation efficiency and soil drainage characteristics.

In addition, hydrogeologists can use monthly and seasonal evapotranspiration data to calibrate ground water information. This improves the understanding of depletions from the aquifers caused by pumping, as well as recharge to aquifers from irrigation diversions.

This budget request implements Recommended Actions # 1b and 1c in Oregon's 2012 Integrated Water Resources Strategy. Recommended Action 1b calls for improved water resource data collection and monitoring, while 1c calls for coordinating inter-agency data collection, processing and use in decision-making.

How Achieved

METRIC uses digital images from Landsat satellites to compute and map evapotranspiration for individual fields. METRIC is up to 96 percent accurate over a full growing season, and can replace more expensive methods of monitoring water use on a monthly and annual basis. Use of the technology requires an initial investment in software, technically trained staff, and up-to-date and geographically accurate water right records.

A full-time Natural Resources Specialist 3 could manage the METRIC evapotranspiration mapping program and maintain a collaborative relationship with the University of Idaho.

Quantifying Results

Two to three evapotranspiration analyses will be conducted per biennium, quantifying the amount of water used/consumed by irrigated croplands and unirrigated areas such as wetlands, riparian and forested areas. Regions to be analyzed will be identified and prioritized on an as-needed basis.

This will give the agency an accurate up-to-date quantification of how, and how much, water is being used in a given area. For example, this data would be an invaluable tool in tracking the progress of the 30,000 acre-feet restoration goal outlined in the *Upper Klamath Basin Comprehensive Agreement*. In addition, there is a groundwater study underway in the Hood River Basin and this data could be a vital component in completing this analysis.

Staffing Impact

9915121	C8503	Natural Resource Spec 3	METRIC Coordinator	Permanent	1.00

Revenue Source

General Fund $382,248

Package 119 – Fulfilling State Commitments in the KBRA

Purpose

In early 2010, after years of intense and often difficult negotiations, the Klamath Basin Restoration Agreement (KBRA) and the associated Klamath Hydroelectric Settlement Agreement (KHSA) were signed. As signatory to the KBRA, the State of Oregon has committed to support legislative authorization and appropriation of funds to address potential economic losses to Klamath County.

This package will provide for the provision of funds to execute Oregon's commitments to the Klamath River Basin Restoration Agreement of 2010 and further economic development in Oregon's portion of the Klamath River Basin.

This package supports implementation of Recommended Actions 2c and 9c of Oregon's 2012 Integrated Water Resources Strategy. These Recommended Actions are: 2c - Determine pre-1909 water right claims; and 9c - Partner with federal agencies, tribes, and neighboring states in long term water resources management.

How Achieved

These funds will be used to address potential economic losses to Klamath County in accordance with Klamath Basin Restoration Agreement.

Quantifying Results

This action will support agricultural development and economic vitality in Klamath County.

Staffing Impact

No Staff

Revenue Source

Other Fund – Lottery Bonds $3,812,974
(Funds needed May 2016 issuance)

Package 121- Providing Critical Engineering Technical Assistance for Levees

Purpose

Levees are designed to manage floodwater and reduce the risk of flooding, but can be overtopped or fail during flood events that exceed the levee's design, or due to improper maintenance. The Federal Emergency Management Agency (FEMA) requires levees to be accredited in order to be included on Flood Insurance Rate Maps as providing flood protection. The National Flood Insurance Program (NFIP) offers low-cost flood insurance in areas behind accredited levees.

In recent years, there have been significant changes in how levees are considered when determining NFIP insurance rates. A levee that has not been certified to FEMA standards is not considered to provide any flood protection, and the area behind the levee is designated a high-risk flood zone when the area is remapped. This is a departure from past practice, and when implemented will cause significant insurance increases for communities. Communities such as Reedsport, Warrenton, Pendleton, Scappoose, and the Metro area have been faced with the need to determine whether to pursue certification, and how to fund such an activity.

To meet FEMA's criteria for accreditation, the levee owner must provide documentation from a professional engineer, or the Corps of Engineers, demonstrating that the levee meets federal certification requirements. At the present time, a minority of levees gets support from the Corps of Engineers and many levees have never been evaluated for safety. This proposal would fund a full-time engineer to evaluate levees in Oregon and assist owners undergoing the certification process. This position would be used to assess levees not part of the Corps of Engineers' Levee Safety Program.

This budget request supports implementation of Recommended Action # 7a in Oregon's 2012 Integrated Water Resources Strategy. Recommended Action 7a calls for developing and upgrading water and wastewater infrastructure. This corresponds with the strategy to help local governments invest in improved water and wastewater systems in the Governor's 10-Year Plan. Evaluating levee safety also supports implementation of Oregon's Hazard Mitigation Plan.

How Achieved

This proposal was developed in conjunction with the Infrastructure Finance Authority (IFA), which is seeking additional funding and authorities to provide financial assistance to levee owners. While funding is a challenge for communities, obtaining an engineer to undertake the evaluation and certification process can also be difficult. The Department and IFA; therefore, identified an opportunity for the state to provide this technical support to communities and owners of levees that are not currently under the Corps of Engineers' jurisdiction. To achieve this, the Department would need an engineer to:

evaluate levees and identify actions necessary to bring them into compliance with federal certification requirements; work with consultants that are undertaking the repairs and modifications; and provide documentation for certification once necessary repairs or modifications are complete.

The Department's existing Dam Safety Engineer would oversee this position, and also directly coordinate with FEMA and the USACE.

Quantifying Results

The effectiveness would be determined by the number and length of levees inventoried and inspected with a determination of necessary work to bring the levee up to current FEMA certification standards. This analysis would be provided to the levee owner and to the IFA and, if the community so decides, used to hire an engineer to design a repair and administer construction. The longer-term goal would be for levees to successfully undergo the certification and accreditation process, resulting in lower flood insurance rates on lands behind the levee.

Staffing Impact

9915122	X3148	Professional Engineer 1	*Levee Safety Engineer*	Permanent	1.00

Revenue Source

Other Funds ` $234,310

(The Infrastructure Finance Authority plans to provide funding during the biennium to fund an engineer at WRD. The proposed position would be filled when funds become available. Funds would come to the Department as payment for services.)