Initial List of Issues – Oct. 6, 2010 Policy Advisory Group Discussion Item

The October 6 meeting of the IWRS Policy Advisory Group will focus on identifying the most pressing policy and programmatic issues that the IWRS Policy Advisory Group feels must be addressed in the first iteration of Oregon's Integrated Water Resources Strategy (2012-17).

During August, a list of potential issues (i.e., challenges, problems, and obstacles) were compiled, based on: discussions with the Agency Advisory Group, submitted public comments, input from more than 40 IWRS Open Houses and Stakeholder Workshops combined, as well as discussions at the first three Policy Advisory Group meetings.

During September, PAG members were asked to take part in an on-line poll and note whether they thought each issue was: (A) "Critical" to address in this iteration of the IWRS, (B) "Important," but not realistic to address in this round, (C) "Would be nice to have" at a later date, or (D) "Don't Know."

Note that the issues as stated below have come from public input gathered during the past year, and they avoid stating issues in a manner that dictates a specific solution or approach to resolution. Before considering how a problem/issue should be addressed, it important to first identify the key problems on which the IWRS must focus**.** The approach that should be taken to deal with the priority issues will be the focus of subsequent PAG meetings.

As stated in this survey, some issues are more specific than others. The broader issues, if seen as important by the PAG, may be refined, clarified and narrowed through discussion. Based on previous PAG discussions, the Project Team is already compiling a list of information needs, so for the most part, these are not included in the survey. Issues resulting from lack of public knowledge or lack of funding will be discussed at a future PAG meeting so, again, for the most part, these are not included in the survey.

Results: These results represent a starting point for discussion during the October 6 meeting. PAG will discuss whether this list of issues is the one to address in the first iteration of Oregon's Integrated Water Resources Strategy (2012-17).

16 of 18 PAG members participated in the poll. The results below are divided into three categories:

- Issues receiving 11 or more votes as "Critical for Inclusion" in the 2012-2017 IWRS are marked with green. There are 10 of these.
- Issues receiving 8 to 10 votes as "Critical for inclusion" in the 2012-2017 IWRS are marked with yellow. There are 20 of these.
- All other issues are displayed at the end. There are 53 of these.

Issues Receiving 11 or More Votes as "Critical for Inclusion" in the 2012-2017 IWRS

1. **Stream Gages and Monitoring Wells.** The state lacks adequate funding to install, maintain, and process data from stream gages and monitoring wells. This results in incomplete information about the quantity and quality of water in Oregon's basins. Such information is critical for day-to-day operations, long-term planning, understanding trends, understanding extreme events, fulfilling reporting requirements and more.

2. **The State Lacks Criteria to Evaluate Large-Scale Regional Projects to Make Investment Decisions.** Subsequently, individual communities take their case to the Oregon Legislature for funding and decision-makers have no good way to determine the timeliness or severity of the request. They have no way to give "credit" for partnerships already formed or work already completed.

3. **Land-Use Water Use Interactions are not Always Adequately Considered.** Land- and Water-Use are closely related, in terms of both water quantity, water quality, and effects on natural systems and infrastructure. Yet, land-use decisions and water-use decisions are made with only minimal interaction. Water right permits can only be granted with the additional approval of local planners, but these planners often have little-to-no information about the carrying capacity of the land in question (is water available, will water quality be affected?, etc.). New developments do not have to describe their water sources in detail. Conversion of farm and forestland is not well understood, in terms of effects on water quality and quantity. Water issues, especially groundwater availability, are not well highlighted in County Comprehensive Plans.

4. **Poor Timing of Water Availability Compared to Water Use.** There is not enough water year-round, to meet all instream and out-of-stream demands for water, as we understand them today. Some Oregon communities have an overabundance of water (flooding) during the winter and spring, with water shortages occurring during the summer. In some reaches, summer flows drop below what is required to meet already existing instream and out-of-stream needs. New surface water rights are largely unavailable during the summer months. Climate change is likely to further exacerbate these timing issues in as-yet-not-understood ways.

5. **Inefficiencies in Agricultural Water Use.** Irrigated agriculture comprises the majority of water use in Oregon, and many irrigators have noted that they could be using water more efficiently. They are often hindered from making improvements in their water systems by lack of capital, lack of a compelling "business case," and fear of decreased water rights. Statewide efforts related to water conservation are narrow, with programs focused on the allocation of conserved water program and water management and conservation plans.

6. **Disincentives for Water Conservation.** Water right holders who conserve water must register these savings as part of the state's Allocation of Conserved Water in order to legally "spread" this water to new lands. This program is still relatively unknown, leading people to believe that conservation is a pointless effort that results in lost water rights. Federal programs, particularly the Conservation Reserve Enhancement Program (CREP) contains disincentives to conserve, with early adopters receiving no credit for their efforts.

7. **Outdated Water Right Records.** Many water right records are not well organized or accurate. Some water rights have been without beneficial use for more than five years; many water right certificates are in the names of persons or businesses who no longer exist; much of the contact information on file is no longer accurate.

8. **Obstacles to ASR Projects.** State and federal water quality standards, designed to protect public health and maintain the quality of Oregon aquifers, make Aquifer Storage and Recovery (ASR) projects prohibitively expensive for some small communities and agricultural users. This is particularly true for the use of recycled water.

9. **Loss of Mid-Level Snowpack.** Climate change researchers predict a loss of mid-level snowpack as a naturally occurring water storage method with changes in climate. This leads to other water challenges such as the timing of water deliveries and less groundwater recharge.

10. **Little Public Appreciation for the "Value" of Water.** Water users do not see the "true cost" of drinkable and reliable water. They pay for diversion, transmission and treatment of water, but not the water or the use of the water itself.

Issues Receiving 8 to 10 votes as "Critical for Inclusion" in the 2012-2017 IWRS

1. **Federal Standards.** Many of the requirements for operating reservoirs, meeting water quality standards, and other forms of water management are federally established, and difficult to modify. Federal standards and national legislation will trump state standards in most cases.

2. **Difficulty Managing Conjunctively.** Managing groundwater and surface water together is a relatively new approach for water managers. Lack of data describing the connection between groundwater and surface water results in an incomplete understanding of water availability, water recharge, gaining reaches, losing reaches, return flows, and water contamination.

3. **Lack of Knowledge about Cumulative Groundwater Effects.** The state has not sufficiently quantified the cumulative effect of land-use changes, exempt-use wells, or other groundwater withdrawals. The state does not have adequate records of groundwater well locations, the quantity of water contained in aquifers statewide, the percent allocated, how aquifers interface with nearby surface water sources and their ecosystems, whether they are contaminated, and if they are, what contaminants are involved.

4. **Basin Plans Are Outdated.** Water quantity and water quality are not addressed together in current basin plans. Basins differ in the kind of flexibility and authorities local governments have related to water. Plans represent a litany of allowable uses, but provide no guidance to basins about how to address water challenges. There is no side-by-side comparison of Basin Plans (content, authorities, etc.).

5. **Insufficient Authority to Make Land-Use Decisions Related to Water.** Some planners feel they need more authority to make decisions based on water availability. Local governments are not required to demonstrate adequate water supply to accommodate long-term growth; they are only required to have a plan to accommodate infrastructure needs. State law is very permissive for rural development, and less so for urban development.

6. **Fragmented Government.** Local, state, and federal agencies all have responsibility and authority for water management. Differing mandates and programs lead to conflict, some redundancies and some gaps in water management. Differing mandates, even at the state level, result in the state's inability to "speak with one voice."

7. **Competition for Allocated Water.** In many places, water is fully allocated ("over allocated" in some parlance) under the Doctrine of Prior Appropriation. This "first come, first served" system says nothing about actual need or public, economic, environmental, or social benefits. Junior water right holders often do not receive their fully allotted water rights under this system. To add to the complexity, recent environmental restrictions have curtailed even the ability of senior water right holders to access water. Stakeholders differ on whether this is an "allocation" issue or a "scarcity" issue.

8. **Not All Water Right Holders Measure and Report Use.** With budget cuts, the number of water right holders required to report their water use who actually do so has decreased precipitously. Further, not all water right holders are required to report their use, such as owners of exempt use wells or private entities without reporting conditions on their permits.

9. **Municipalities Have a Duty to Serve Regardless of Water Availability.** Municipal water providers have an obligation to serve all new customers inside already established service territories, regardless of whether water is available, and whether they have adequate water rights, water storage, and water delivery systems in place.

10. **Unintended Consequences of Water Conservation.** Best management practices in water conservation and efficiency can result in decreased return flows, modified structures and function of riparian areas and wildlife habitat, decreased groundwater recharge, and more.

11. **A Lack of Interstate Allocation Agreements** -- means that other states could divert groundwater or surface water upon which Oregon depends (e.g., Washington with the Columbia River, Idaho with the Snake River, and California with the Klamath). Other states have statutes, rules, and informal agreements with Oregon, but not formal agreements on this topic. Further, Oregon and its neighboring states manage resources differently, making it difficult for federal agencies to act consistently as partners.

12. **No Assurance of Transboundary Protections.** Currently, Oregon has no way to guarantee that Columbia River water protected instream to the Oregon border, will make it through Washington without being diverted.

13. **Insufficient Water In Some Reaches to Serve Instream Needs.** There are numerous stream reaches with threatened, sensitive, or endangered species that have no instream water rights, or inadequate instream water rights to meet instream needs. The level of protection differs between mainstems and their tributaries. No one has clearly quantified the volume of water rights necessary to meet instream needs across the state. Fish Conservation and Recovery Plans and Water Quality Programs do not specifically quantify water needs for anadromous or resident fish, nor lay out timelines to apply for additional instream rights. DEQ has no current plans to apply for additional instream water rights.

14. **Total Maximum Daily Flow requirements (TMDLs)** do not integrate water quantity and water quality.

15. **Non-point Sources Add Contaminants.** These include run-off from impervious surfaces, construction areas, instream mining, shorelines, agricultural fields, etc.

16. **Decrease in Natural Storage and Filtration Systems.** Wetlands, forestlands, floodplains, meadows, riparian areas, and estuaries have been altered, developed, and channelized, preventing them from providing traditional flood control, erosion control, water quality, water recharge, habitat and other "services." ("Green infrastructure" versus "Built Infrastructure") There are not adequate statewide policies affording protection of floodplain and riparian area management.

17. **Little public appreciation for the role of irrigated agriculture.** Many Oregonians do not appreciate the role that water plays in the state's agricultural economy. For instance, irrigated agriculture, the largest user of diverted water, is responsible for a significant portion of the state's economy. Open farmland and flood irrigation often provides a source of seasonal wetlands for migrating birds.

18. **Expiration of the Columbia River Treaty.** The treaty between the United States and Canada potentially sunsets in 2014. Although it currently focuses on flood control and hydropower, it could be modified and expanded to address other Columbia River-related topics.

19. **Lack of Detailed Modeling to Understand Climate Change and the Local Level.** Climate change modeling and forecasting conducted by international institutions are not detailed enough to accurately describe the effects of climate change at the basin or watershed level. Local effects of climate change are not well understood.

20. **Irrelevant Systems and Structures.** Climate change may result in water supplies that are available during different times of the year than today. Water, fish, and other natural resources may even move to different locations than where they are today. As a result, those operating procedures, permitting, and regulatory programs whose conditions or limits are based on seasonal use, location, and duration, may become less relevant.

All Other Issues

1. **Project Oriented Data Collection**. Local governments, academic, private and other entities collect, process, and report water quantity and water quality data using methods not always consistent with state standards. This often results in data that is not transferable, comparable, or useful among multiple organizations. Much of this work is project-specific and may mean that the data process is not very strategic or useful on a broader scale.

2. **Limited Institutional Capacity at the Basin Level.** Basins and watersheds have few resources to dedicate to water governance—planning, alternatives analysis, scientific studies, partnerships, funding, implementation, pilot projects, and administration, at the local level.

3. **Lack of Knowledge about an Ability to Recover Groundwater.** Communities are not sure how to recover their groundwater resources once depleted or contaminated (regardless of whether or not they are formally designated as groundwater limited areas, groundwater administrative areas, etc.). Consumers are not certain how to find information about protecting groundwater resources in the first place. They do not know how to test their groundwater for contaminants.

4. **Vulnerable Underground Injection Control (UIC) Devices.** There is no process in place to protect existing underground injection control devices from new residential development. As exempt wells are drilled near these devices, cities are forced to spend thousands of dollars to decommission the devices.

5. **Obstacles to Water Re-Use and Recycling.** Oregonians who want to re-use or recycle wastewater, stormwater, and rainwater to stretch Oregon's water supplies are bumping up against funding, infrastructure, regulatory, informational, and public perception obstacles.

6. **Inadequate Tools to Manage Stormwater.** Generally regarded as a liability or nuisance, stormwater management is a challenge that faces many communities and businesses, as something to be "discarded." There are not adequate stormwater policies in place at the state level, or often times at the local level. Some small cities in Oregon do not have requirements for stormwater management because they fall outside of the stormwater permitting program requirements. Further, land-use planning focuses on where development occurs, but not how, leading to inefficient management and use of stormwater.

7. **Forest Land, Water, and Land-Use are not adequately linked in the state's public policies.** Not enough emphasis is placed on the maintenance (non-conversion) of forest land, despite the water quantity and quality benefits healthy forests provide.

8. **Inadequate Integration of Water and Energy Policies.** Diversion, movement, and application of water requires much energy. Generation and cooling related to power generation requires much water. Yet, at the public policy level, the planning, financing, and development of water and power resources (even renewable energy resources) are largely conducted in separate exercises.

9. **Water Right Permitting Requirements.** Maneuvering through local, state, and federal permitting requirements for water-related projects is complicated, time-consuming, expensive, and uncertain

for some applicants. These include water right permits, extensions, certificates, transfers, etc. The administrative backlogs in these areas are significant.

10. **Unauthorized Use Impinges on Existing Water Rights.** Use of water without a required water right and wasteful use are examples of instances where watermasters must regulate on behalf of the senior water right.

11. **Inadequate Water Allocation Decision-Making Tools.** Local and state governments need better information (consistent assumptions, data, models, software programs, inter-agency input, public input, information sharing) to make water allocation and development decisions without injuring other parties.

12. **Lack of Agreed Upon Demand Forecasting Methodology.** Demand Forecasting is financially, technically, and time intensive, and includes the needs of multiple water users, such as irrigated agriculture, municipalities, industries, power generation, recreation, navigation, domestic users and more. These forecasts involve differing assumptions. In a simplified example, municipalities multiply their "per-capita water use" of today by future population projections in order to estimate the amount of water required. They then adjust for conservation programs or other public policies that may affect the demand forecast. Critics contend that the amount water used is not the same as the amount actually necessary to survive, and that these calculations are therefore incorrect.

13. **Groundwater Depletion.** Withdrawing groundwater more rapidly than it can recharge results in supplies that are drawn down too quickly and depleted. Depletion of groundwater supplies results in higher expenses for water users, who have to deepen wells, lower pumps, or drill new wells. Dry wells result in wasted costs for landowners who attempt to drill new supply wells.

14. **Degradation of Above-Ground Storage Facilities.** Existing storage facilities are losing their capacity and usefulness, due to maintenance challenges, build up of silt and sediment, Endangered Species Act (ESA) requirements, and other new developments.

15. **Obstacles to Storage Projects.** Obstacles to above and below-ground storage projects include regulatory barriers, funding for all project stages, Endangered Species Act and other environmental requirements. Individual communities and businesses have difficulty understanding and meetings all local, state, and federal requirements for such projects.

16. **Cost of Compliance.** Environmental requirements, such as ESA, make new construction of storage projects prohibitively expensive, if not impossible.

17. **Municipal Water Waste.** Many municipal water users waste water, letting water run off impervious surfaces, running the tap, overwatering, etc.

18. **Water Right Transfers.** There are concerns that water right transfers are causing injury to downstream users.

19. **Unfinished Adjudications** -- (formalizing water right claims) remain unfinished throughout the state, making it difficult to regulate and distribute water on behalf of senior water right holders.

20. **Unfinished Tribal Water Right Claims** -- remain unfinished throughout the state, making it difficult to regulate and distribute water on behalf of senior water right holders.

21. **Use of Water to Create Energy Isn't Always Viewed as "Green."** Renewable energy technologies, such as hydroelectric power, low-head hydro, in-conduit hydro, wave and tidal power technologies, have known and/or suspected undesirable side effects related to the environment.

22. **Some Water Efficiency Projects Result in Higher Energy Consumption.** Moving to more "water efficient" systems often results in greater energy use and costs, as water is pumped, pipes are lined and pressurized, and systems are automated.

23. **Water Quality Permitting Requirements.** Maneuvering through local, state, and federal permitting requirements for water quality permitting is complicated, time-consuming, expensive, and uncertain for some applicants. These include NPDES discharge permits, stormwater permits, etc. The administrative backlogs in these areas are significant.

24. **Inadequate institutional capacity to monitor contaminants.** Public and private entities lack adequate institutional capacity to monitor traditional and emerging contaminants. This can include a lack of trained staff, up-to-date equipment, and updated programs/methods.

25. **Obstacles to Preventing Contamination.** Oregonians want to prevent contamination from occurring in the first place and seek to repair affected waters, habitat, and ecosystems, but obstacles include funding, detection technology, publicly available and understandable information, transboundary pollutants, persistent contaminants, regulatory obstacles, and political will. Public policy tools in use to protect water quality today (total maximum daily load or TMDLs, 303(d) lists, NPDES permits, pesticide restrictions, etc.) do not completely address all current and emerging contaminants.

26. **Lack of Data to Quantify Impacts of Run-Off and Removal Fill Activities.** The state lacks consolidated data on the water quality impacts of run-off and removal-fill. This includes stream functional assessments, watershed and wetlands information, and effectiveness of current mitigation strategies.

27. **Inadequate Water Quality Adaptation Plans.** Some, but not all, public and private entities have adequately completed their water quality adaptation plans, including agriculture water quality plans, municipal plans, stormwater plans.

28. **Private Well Owners Lack Information.** Private wells are largely unaccounted for in the state's Water Quality and Drinking Water Program. As a result, they have difficulty receiving technical, monitoring, funding, pollution prevention and other assistance related to contamination issues.

29. **Inadequate Description and Quantification of Water Quality Needs** – for fish and other species, habitat, recreation, etc.

30. **Cumulative Effects of Discharges.** The state does not know for certain the cumulative impacts of National Pollutant Discharge Elimination System (NPDES) or other discharges to Oregon waters. Synergistic effects of multiple contaminants and their effects on human and aquatic life are poorly understood, making it difficult to know what data to collect.

31. **Improper Well Construction and Abandonment.** Improperly constructing or abandoning wells can result in a loss of pressure, wasted resources, and potential aquifer contamination.

32. **Aging Infrastructure.** Aging and failing septic systems, municipal and industrial wastewater infrastructure, and other infrastructure / pipelines can cause contamination of water supplies, creating a public health problem. Outdated treatment systems / technologies do not adequately protect public health.

33. **Cost of Infrastructure Construction, Maintenance, and Updates.** Compared to the cost of the water itself, It is expensive for individual communities and businesses to build and maintain adequate treatment, storage, and conveyance infrastructure for water and wastewater. Infrastructure that ages without maintenance or replacement is an increasing public health concern.

34. **Lack of Standardized Methodology to Value Water Left / Placed Instream.** It is difficult to quantify or monetize the value and services that cold, abundant water provides instream. As a result, this value might be overlooked.

35. **Remaining Pristine Areas Necessary for Reference Sites Are at Risk.** There are not many "pristine" areas left in the state (fully functioning ecosystems in their natural state). These areas typically serve as a baseline, or reference point, for other areas that are becoming more developed.

36. **Temperature Is Inadequately Addressed in the Forest Practices Act.**

37. **Methodologies are not in place to adequately protect ecological flows** during the development of water projects.

38. **Animal Waste Degrades Water Quality.** Cattle trample streambeds and banks and add animal waste. Confined Animal Feeding Operations and other on-farm livestock contribute, too. Wild horses have access to streams. Ducks and geese contribute significant amounts of animal waste as well.

39. **"Unprotected" Marine Areas.** There are concerns that Oregon's marine life and marine habitat are not adequately protected.

40. **Unknown Efficacy of Restoration and Mitigation Programs.** It is unclear whether public and private restoration and mitigation programs are adequately restoring the areas they are supposed to restore, with some calling for better monitoring and evaluation of such programs. Funding is scarce for this type of monitoring.

41. **There is no State-Wide Guidance for Future Restoration Work.** While there is plentiful information about restoration successes, there is no sense of how much work remains, or whether the state has optimized its expenditures of resources. There is no prioritization or basic data framework for watershed / basin restoration work, or for short- and long-term restoration and mitigation opportunities. Watersheds lack comparable data about streamflow, groundwater contribution to streamflow, precipitation, water quality, and habitat quality.

42. **Decreasing or Overlooking Native Species.** Various plant and animal species perform roles in the health of our ecosystem. One mentioned frequently has been the beaver, which builds dams that

help with natural storage and groundwater recharge. Others include anadromous and non-anadromous fish, and lamprey.

43. **Inadequate Preparation for Natural Disturbances.** Seismic events, floods, droughts, fires, invasive species, climate change, and other natural disturbances threaten the physical integrity of water and wastewater systems throughout the state. These are highly divisive issues, because of the tension between those who desire to develop and serve populations centers and those who desire a return to a natural state. Preparing for these challenges is very expensive, and requires back-up systems, partnerships, and coordinated plans, in addition to funding. Valuing the ecological benefits that arise from natural disturbance is difficult to do.

44. **Infrastructure-Related Obstacles to Wildlife.** Infrastructure placed in the water (dams, culverts, diversions, etc) presents challenges to fish passage and habitat.

45. **Invasive species** -- especially juniper, require inordinate amounts of water, as well as degrade waterways and block water intakes/diversions.

46. **Cumulative Effects of Hatcheries on Water Quality** are not fully understood.

47. **Little appreciation for the role of municipal water providers.** Many do not appreciate the role that water providers play in the state's population centers. Municipal water providers deliver safe, potable water to communities for household use, economic development, public safety, and fire suppression.

48. **Lack of information regarding new / emerging industries.** The state does not have a good understanding of the types of industries that may be eyeing Oregon as a potential industrial site. In particular, we do not know where in the state these industries will settle, nor the exact water and wastewater needs of new or growing industries. Recruitment and economic development strategies for Oregon are largely silent on the topic of water and wastewater issues.

49. **Destruction.** A changing climate with all of its implications for fire, storm surges, flooding, and flashier streams, could inflict damage on existing infrastructure and ecosystems.

50. **Environmental Injustices.** Oregon's low-income, minority, and tribal communities are underrepresented in many water-related decisions at the local, state, or federal level.

51. **Mis-use of Potable Water.** We waste a lot of time, energy, and money treating water to potable standards, only to use it for non-potable tasks.

52. **Obstacles to Individuals' Efficient Use (and Re-Use) of Water.** Many water users would like to make system, scheduling, or behavioral improvements that would use water more efficiently (accomplishing the same task with less water), but cannot afford the capital investments required for retrofits or training. Nor do they feel they have the right technical or regulatory information or regulatory flexibility.

53. **Drawbacks to Graywater Systems.** Uses of graywater and other decentralized water systems bring with them potentially serious public health risks. Incorrect installations, operator error, and lapses in system maintenance could result in serious illness or death.