



## Open House Survey Responses

Oregon's Integrated Water Resources Strategy

Survey II: Vision, Challenges, Solutions, Education, and Outreach

February 12, 2010 – October 2, 2010

83 Participants

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This document reflects survey responses gathered from open house events, mailed to the Water Resources Department, or submitted online through the IWRS Project Page. The questions described in this survey are the same as those posed during the open house discussions.

**Question 1: (Vision) As we embark on a long-term, integrated water resources strategy, what are some broad objectives you have, with regard to water in Oregon? Describe your goals and hopes for the state, in terms of water quantity, water quality, and other water related issues.**

1. I hope that the ecosystem services are given the highest weight- a healthy ecosystem has benefits for all other concerns. More specific goals: 1) Continue to have instream flows, including peak and base flows, that are close to natural in as many systems as possible. 2) Focus on conservation as an answer to finding enough water 3) Consider the entire costs/benefits associated with water use (ecosystem services) rather than the obvious/primary uses.
2. The goal should be clean, healthy watersheds and aquifers that do not suffer from clear cuts, run-off, and industrial and agricultural pollutants. Rewrite water rights law to favor healthy aquatic ecosystems over dumping water inefficiently over croplands; limited agricultural water rights just enough that more efficient irrigation systems are developed in response. Restrict use and force scarcity to encourage technology efficiencies for irrigation. Create a strategy that allows for more than enough water for fish and aquatic wildlife, riparian vegetation, recreation, drinking water, and some efficient crop irrigation, in that order. Make industry return the water they use cleaner than how they found it.
3. The state DEQ and WRD permit regulators need to do better enforcement of CWA requirements instead of bypassing and ignoring them. ODEQ senior staff pays little attention to ODFW and ODF staff comments, few as they are. ODEQ does not adequately staff the tracking and monitoring of water pollution standards in our streams, rivers, and wetlands. To OWRD: It's just passing the buck to leave WQ testing and monitoring up to neighborhood groups (student and community groups' test results are ignored and not used as evidence by DEQ in enforcement cases anyway).
4. I would like to see a complete review of water rights, laws addressing rights, and efforts to preserve our aquifer and clean surface water supplies. I would like to see attention to the challenges of providing water throughout the state as we experience climate change.

5. Protect my water rights. Protect our food production for our nation. Stop the subversion of our laws.
6. I am looking for: sustainable use of water, minimizing pollution, incentives, and education for conservation, development for personal use of gray-water, protection from out of state grab of water, especially for profit, just allocation of it (water).
7. Don't shut down commercial, industrial, mining, logging, we need family wage jobs.
8. Water efficiency needs to be a major focus!! Water needs to be priced to encourage efficiency. Inter-basin transfers need to be restricted to protect ecosystem within a basin
9. Preserve agricultural use and improve streamflow and quality at the same time.
10. Protect water as a common resource not to be turned into a profit oriented venture. Keep it private
11. Preserving free flowing streams and enforcing ecological responsibility when diverting water for domestic, agricultural, or industrial use. Make a plan, make it law to conserve Oregon's water supply.
12. Water should be drinkable; Water should be clean enough for fish; Water should not be sold in bottles.
13. More storage like dams, also incorporating generating capability.
14. To fully integrate water plans with land use plans - modify OAR's w/ both agencies and update the state agency coordination plan of OWRD.
15. More basin groundwater study to establish the minimum/maximum seasonal and historical trend. Need formal USGS aquifer studies done- all part of establishing water balance and budget. Closer cooperation with DEQ on water quality management. Start key above and below ground storage and reduce impacts to stream take in summer and fall.
16. Marion County, and probably other counties, have no protection for surface waters in their development policies for allowing subdivisions or partitioning in areas where new groundwater use for domestic wells. Since surface and groundwater affect each other, policies are needed to protect even small streams from excessive groundwater pumping nearby. Also, since counties often are headed by commissioners intent on helping business and increasing their tax base, they lean too far toward development at the cost of the environment, and are not knowledgeable about water issues. Water policies and land

development limitations (which allow domestic wells) based on them should be determined by the State and not the individual county administrators/policies.

17. We need clean water. Our rivers need to be protected against runoff. We need regulations against drugs and chemicals in our water. We need less dams. Bottled water should be banned. We want to be proud of our tap water.
18. Adopt instream water rights on all streams. Protect peak and ecological flows before allowing new storage projects. Study, catalog, and then protect more streams for scenic waterway designation. Require measurement of all diversions for Agriculture and Municipal and Personal use. Protect groundwater sources for streams. Regarding new Water Right applications: better analyze (more strict rules for justifying application) stricter justification standards for Municipal, Agriculture, and Personal Water Rights. Stronger protections for the public right when its water is being allocated.
19. Adopt instream water rights on all non-covered rivers and tributaries. Protect ecological functions including peak flows in above ground systems, and protect groundwater resources that feed them. Issue water right permits only following detailed demand forecast analysis. Designate more waterways as "scenic." Adopt the legal framework in the Integrated Water Strategy.
20. To manage the resource in a balanced manner, placing a high value on immediate, short and long term strategies. More people are moving to the Pacific Northwest and they are not bringing new water sources with them.
21. Obviously, we hope for enough water for all and of high quality for human consumption. I believe all users need to conserve. There seems to be too many agencies involved in our system of granting rights, monitoring, testing etc.
22. More reservoir sites. Help to deal w/ BLM & USFS for easement / permission. Outside funding for communities to build.
23. Increase storage to recharge groundwater. Beavers are experts at trapping and holding water that raises the groundwater level, cools streams, etc. Beavers in Oregon should be protected and trans location should be increased and less regulated.
24. Storage increases. Funding for staff to get WRD caught up on workload. Mobilize public pressure to fund maintenance of infrastructure.
25. Speed up the process of issuing water rights. There is too much back log of applications.

26. My hopes and goals for the state of Oregon in terms of water quantity and water quality would be to set future goals for quantity and quality based on good current, collected data and an obtainable future condition.
27. Water policies are already in place- use those. Water rights are already established- these need to be upheld. Water quality is important but use common sense.
28. My primary objective would be that farmers and ranchers not get squeezed out as the state becomes more and more urban. The highest demand for water is from agriculture but they are the group with typically the least political clout. They, and their water use, need to be protected. Second, I would like to see water quality protected and improved even beyond today's level. We need to especially protect groundwater.
29. Encourage and allow more on stream and off stream water storage projects to collect and save winter rains.
30. Sufficient water needs to be available for economic development, environmental reliance and for community use. A balance is important.
31. Job growth requires access to water from our rivers. Eventually, it will also require coastal desalination plants with which to recharge the sources of our rivers. We need to protect our waterways from damage, but we also need to protect the rights of communities to grow jobs for their people.
32. Broadly speaking, I hope to see water use managed to protect agricultural needs while increasing the amount of water left in streams and aquifers, especially during critical summer months. I believe that irrigation water can and must be used and conveyed more efficiently, and that efficiency improvements could increase the water quantity available to support healthy ecosystems. I hope to see more thorough monitoring of pesticides and emerging contaminants in Oregon's water bodies, and a better understanding of what contamination data means for human and ecosystem health.
33. To give agriculture high priority; we need agriculture in our state.
34. Begin with the problem on which you are addressing this issue. It is "A longage of People." No reason to address issue if there are too many people for the amount of water available. This is the situation and is considered beyond carrying capacity. First you need a "carrying capacity" study such as one the U of Oregon does. Such a study was done for the Portland METRO area. Determine carrying capacity study to see how much water is needed for a high quality of life for existing population. Do we have enough water for existing population, not ruining ecosystems? Enforce all water quality standards. Bring all waters up to standards. Determine all waters of the state have senior water rights for public purposes, domestic, fish & wildlife, etc.

35. Water Quantity: It bothers me to see water levels drop due to irrigation. Not only river levels, but the creeks. Creeks are the prime spawning habitat and we need to protect them. It makes no difference whether water is drawn directly from a river system, or from a well adjacent to that system. When the water table drops, river water will soak into the ground to replace it. Leaving less water flowing in the river.
36. A good objective is to have plenty of pure drinking water for everyone available in Oregon, quite obviously... I think that a good way to start is to have a group of persons that work for this-a new sector of the state offices... which in turn would subsequently create more jobs in the name of labor, planning, and communications. This would cost money but in turn would be worth it to protect, restore, prevent, and educate about the emerging water crisis at hand.
37. I believe that the old model of "first come fist served" needs to be changed. It is a model that does not equitably share the limited amount of water we have ... most notably, it ignores that the native people and the animals were here first. On a pragmatic level, the state has become much more urbanized and that need must be addressed somehow.
38. Improving the efficient use of water- not using potable water for non-potable uses; graywater; rainwater harvesting, stormwater management; designing for water right use; looking at alternative and supplemental water sources for residential, commercial, industrial and public uses.
39. Increase water conservation, as a society, by sharing the costs of water conservation by the major water user - agriculture. The WISE project has outlined a potential comprehensive solution (or package of solutions), i.e., implement huge water conservation measures by piping canals, pressurizing systems, applying less water by applying it where it's needed, when it's needed. Then take saved/conserved water and return it instream.
40. Widespread use of composting toilets would save a huge amount of water. Graywater use would also mean less water extracted from rivers, streams, aquifers, springs etc. Lessening of pesticide use, especially by homeowners.
41. Storage needs are critical BUT approval/funding should not be allocated with an emphasis on instream uses over out-of-stream uses. Existing Oregon water appropriation/use law should be the foundation of such decisions.
42. We need to keep AG viable today and in the future as we can not lose any more resource industries.
43. The "data" is often not readily available. Would like more of the data available in searchable, extractable databases. Would like to also see the projections of growth and

climate on water, especially as we see crop changes, with more demand on water in many cases than grass seed.

44. Avoid unintended consequences by making negative improvements (i.e. avoid unnecessary changes based on political desires).
45. Maintain historical use of water and do not elevate instream uses over older priority dates. Regional flexibility must be maintained. Keep regulatory by other agencies under WRD- they should have more say than ODFW, etc. on water uses.
46. Water allocation among uses and users is transparent and fair. Decisions based on law first, science second, political correctness never.
47. Reservoir storage of all capacities...quality enforcement...deep water preservation...low head hydro-electric dams with fully operational and successful fish ladders like at the Gold Ray Dam.
48. Enough clean, cold water to maintain a healthy ecosystem. Bring back native fish populations.
49. I want dams on rivers so floods do not take our deep water holes for fish and destroy the trees and vegetation. I want the government to stop causing droughts and floods and allow Mother Nature to decide on what rain will fall. I want farmers to have access to water and good farm lands not to be used to build homes upon unless at least 5 acres is used for farming and the house is part of their farm.
50. Restrain government involvement and protect private property rights.
51. My broad objectives include widespread recognition and acknowledgment that each Oregonian has a right to the water that falls on their property, that every right is accompanied by a responsibility to our neighbors, and that private property rights are basic and fundamental to everything else that may happen in this or any state.
52. I think it is absurd that the State of Oregon feels that it "owns" the water. Water belongs to all of us and we the People should be able to use it for domestic and agricultural purposes without asking your permission.
53. I am concerned that we are now in 2010, nearly 20 years after EPA initiated watershed management efforts in the nation, and Oregon agencies are still operating in silos. For example, toxic pollutants are still discussed without considering more conventional pollutants like domestic sewage components. Water supply planning still ignores the cumulative effects of ever increasing numbers of exempt wells.

54. Water Quality: protection of the quality of water is highly important, regulations tend to generalize over vast regions and ignore more site specific issues. I would propose that regional physical characteristics are incorporated into regulatory requirements in order to not only be practicable but also take advantage for better water quality. Also, it's time to go after more than just the low hanging fruit (new development). We need to address existing infrastructure and retrofit WQ BMPS to post development, especially older industrial development and transportation. To do this we must find ways to fund this so it actually happens.
55. Hydrogen production from water is the future. We need to be able to pump water from the rivers for conversion into hydrogen; where, in fuel cells it is recombined with oxygen to become water again. With the correct exhaust collection, reclamation, and reuse engineered into these systems, we will only lose 17% of the water mass to energy.
56. That most of the regulatory process be returned to the counties. You have overreached your constitutional bounds.
57. Above all, maintain protect, and conserve what we already have; enforce land use regulations which protect water sources; prevent degradation of our water resources by point and non-point pollution sources; financially support/fund conservation programs.
58. Drinking water, in adequate amounts, clean and pure, is number 1. Regarding quantity, I'm beginning to save rainwater for plants and want to do more of that. Living in the Heceta Water District in the Florence (Lane Co.) area, I have concerns about the quantity of water as new developments claim water to serve these projects. When have we reached the point when we cannot support new projects without jeopardizing existing ones? Our water is sand screened and sets in a wonderful aquifer that needs diligent watchfulness. I do not advocate centralized sewer systems as the ultimate to protect the aquifer. I think that septic systems, a smaller treatment system, is just fine.
59. Better regulations to save all wetlands, seasonal and permanent, from becoming filled and developed. Areas of natural water collection provide filtered fresh water for human consumption and natural wildlife habitat. Strong regulation to control river pollution and heating from industry and loss of riparian habitat for tributaries and streams. Protection of watersheds from toxic chemicals, logging, human overuse. Reducing water usage with efficient technology, education and information outreach services, public forums, and media.
60. The State of Oregon has managed water resources for decades without undue disruption to the populous. I would hope that that would continue, and that no more dams would be demolished by environmental interests.

61. The Clean Water Act puts pressure on the State to list polluted streams. This is good and necessary, however it also introduces a very strong bias to avoid finding any new water quality problems that agencies will have to approach a largely underfunded and unsupportive legislature for. Therefore, the 303d lists are not a very good representation of the water quality reality. PR pushes the perception that the 303d list is the only goal to reach 'and all will be restored' and beneficial uses of our water will be fine. This is a very dangerous attitude for water quality assessment and monitoring. The toxics parameter has been actively avoided for decades and there is a huge backlog of unacknowledged NPS conditions that are compromising beneficial uses. Many pollutant effects that are population limiting are affecting salmon, river mussels, lamprey, other species that support salmon, and humans as well. This head-in-the-sand paradigm must be changed somehow to allow for pointedly investigative environmental assessment of water quality NPS pollutants that become suspected of having population limiting toxic effect on species of concern. We desperately need this monitoring and investigative capability for integrity of our salmon diversity restoration effort, and for human health degradation from recreation uses and drinking of water use of our waters.
62. More emphasis on protection of valuable nature resources for natural resource use. Human use of water resources should be scaled to fit within the overall needs of the watershed. Conserve and reuse existing sources of water. More regulation and protection of marine resources. Create marine preserves. Broader protection of wetland resource, especially famed wetland resources.
63. Be sure that the irrigation water right remains in place to feed our country.
64. "Reasonable" balance between consumptive and non-consumptive uses.
65. Any possibility of coming up with an outreach figure for H<sub>2</sub>O, like Smokey the Bear or give a hoot don't pollute Owl?
66. Practicality. Common-sense. Stop using catch phrases and buzz words.
67. To understand how much water we have in ground reserves; to find ways to protect the environment and provide water for people; to supply ample water to industry and commercial needs.
68. Water quality that supports beneficial uses. Sufficient water for both fish and efficient irrigators.
69. Water should be available in sufficient quantity and quality to support native fish species in all streams where they historically existed.



70. Preservation of the natural character of our rivers and streams at low flows, high flows and the flows in between; minimize withdrawals (surface and groundwater) that affect stream flows through maximum efficiency and precise and effective measurement, management and enforcement.
71. I believe water quality should be the no. 1 priority. People still take water for granted and do not respect or care for their resource (polluting lakes and rivers, mainly, using pesticides, dumping etc.). I would hope our goal would be to protect the resources we have now.
72. (a) Senate bill 100 was a good idea, but administrative land use rules were too broadly drawn and didn't take into account geographic differences and possible use of the land. This has created years of conflict and legal wrangling. Let's avoid this if possible with water allocation and think in terms of watersheds, small and large, and empower local long range plans, and administrative rules but recognizing federal and state mandates.
- (b) Recycling of wastewater must be a priority.
- (c) Modernizing agricultural water distribution and application techniques is essential.
- (d) Non-point source pollution in water must be diverted away from creeks and streams until it is cleaned and quality restored.
- (e) All streams in urban settings should be viewed as possible parklands, non-vehicle transportation routes, and playgrounds for children and refuge for migratory fish, birds, and other animals.
- (f) Efforts to increase storage of water for agricultural use should use recycled water first, not water withdrawn from rivers and streams, or wells.
- (g) I hope that children through their schools or other educational institutions learn about the water cycle and each community young and old knows where their water comes from and goes, once they have used it.
- (h) Training and building up a large core of experts in hydrology, water law, sanitation, and farming and irrigation techniques, through our education system should start immediately.
- (i) Zoning regulations should be reviewed such that graywater and collected rainwater could be used for home yard or public space. This should be encouraged.
- (j) Large and small scale agricultural operations that collect animal waste should be carefully regulated to avoid runoff and groundwater contamination. This applies to agricultural and industrial chemical waste as well.
- (k) Streams and river systems should have a guaranteed minimum daily flow before withdrawal is allowed.
- (l) Investigation and research into new waste disposal treatment systems should be a state priority, particularly for homes not connected to municipal collection and treatment facilities.
- (m) Road engineering through creeks and streams should be rethought and new standards set so that physical barriers to fish migration are avoided.

73. I hope that we can maintain and improve our water quality. Many cities in other states cannot drink from the tap! Oregon should be a model for all other states.
74. Instream flow gets higher priority as public resource. Source water protection more of a priority, prevention rather than reaction. More strict septic system inspections. Water quality and quantity are looked at in all development applications.
75. I hope the state can increase water quality, and preserve water quantity statewide for the long term.
76. More water instream. More efficient use of water. Better control of non-point source pollution from land use. Periodic review of water uses to ensure constant improvements.
77. Clean, high quality water is available to all for drinking (avoid environmental injustices); proper water for irrigation/agricultural industry, commercial use from recycled, graywater, and rainwater. Oregon can be (will) the most water sustainable state.
78. Instream water rights and protecting freshwater ecosystems should have high priority. Leasing and purchase of these rights will be critical for the viability of many salmonid and cool water species, especially where stream flows will be reduced and temperatures increase in areas now dependent on adequate snowpack for summer/fall flows. Another critical issue is the connectivity of groundwater with surface water. As more wells are drilled, how will this affect stream flows?
79. Balancing in-stream water needs with growing municipal, agricultural, and recreational needs.
80. Clean water in our rivers, streams, creeks, and water that supports life, fish, insects, plants, etc. The appropriate allocation of water resources, i.e. research and study on the state's water resources leading to an understanding of its limitations and using that knowledge to create planning tools to limit development where the water resources can not support increased population of humans. Stricter fines for fouling water.
81. First - review and revise the present water laws so that both groundwater and surface water are not over allotted.

**Question 2: (Challenges) As we sketch out “scenarios” that depict what the future of Oregon’s water resources may look like, what do you see as some of the factors that may hinder our ability to meet Oregon’s water needs in the future?**

1. Climate change will change the timing and quantity (depending on region) of water availability in streams and precipitation. At the same time, ecosystems will be under stress from other climate change effects and more people will probably be moving to the Pacific Northwest than current population trends might indicate.
2. Low snowpack, summer droughts, increased population, deforestation, clear cuts, persistent pollutants in aquifers, uneducated fools, personal and corporate greed, bad policy, politics, outsiders seeking to steal Oregon's water (e.g. Nestle or T Boone Pickens), lack of political will, and bureaucracy.
3. The larger utilities have too much influence on politicians such as the Governor, who appoints heads of state regulatory agencies and boards such as the Port Commission, DEQ and ODA. The utilities and housing corporations have a history of irresponsible, self-serving behavior in relation to water resources and riparian habitat. They have shown they have no interest restoring water quality. The State needs to quit facilitating bad development practices, adequately monitor existing development, and sanction and fine bad management practices. To OWRD: Hire more enforcement and education staff under the Federal utilities stimulus funding; do your job protecting WQ beneficial uses, in the public interest; and quit complaining about why you can't do adequate monitoring and enforcement.
4. We have many aging water transmission lines and out of date infrastructure. We need ways to help communities to improve the water provision systems. Water temperature in streams and rivers will be a larger problem in the future, so we need to devise ways to keep our surface water healthy for fish. There has been a problem with toxic algae in many rivers, so we need research and means to control its growth.
5. Unfounded environmental concerns by folks with an activist cause and no investment in the land or even their own survival.
6. Too much development, high water use industry, water bottling plants, pollution of the Columbia from the Hanford site.
7. Desert development.
8. Inefficient use of water by farming where farming is not practical based on ecosystem needs in the basin. It doesn't seem like we have adequate protections to prevent the exploitation of our water by private (corporations) and public (cities, state) entities.

Studies to show whether rainwater harvesting is a sustainable way to develop water supply while still protecting natural in-stream hydrology.

9. Fighting for water instead of seeing each others perspective.
10. Lower snow pack. More usage of water.
11. Lack of understanding by individuals that water is a finite resource.
12. Granting speculative water rights NOW. Not enforcing conservation of water by businesses and individuals.
13. Lack of information, local and regional. Lack of regional outlook and coordination effort. Lack of leadership from the Governor.
14. Too much government agencies, permits, licenses, and rules.
15. People misunderstand the problem and the need to conserve water and therefore are less likely to support financially or otherwise. Fear of change- the way individuals have historically received their water may lead to apathy.
16. Refusal to revisit use of Oregon's share of Columbia River. East-West political and environmental divide within the state. Oddly, those who have little water restriction vs. Eastern state which has many constraints.
17. As Oregon has been hit particularly hard by the recession, I feel it is important that the economic value of water and water access not be understated. Despite the immediate incentive to allow increased water use as a way to help Oregon recover economically. Oregonians must be foresighted and plan for the future while employing recovery activities.
18. Lack of coordination between counties and OWRD, county officials who deny global climate change and science regarding coming water crises, and the political decisions made by those who control land use decisions on the county level. Also, the ignorance of the facts about how water is replenished and acts, etc, in the general public and the property rights demanders who do not care how their decisions affect others around them if they do things that affect water in their area.
19. Definitely protecting our water is an uphill battle against a rising population. Urban growth boundaries are very important.
20. Legally: get rid of "exempt wells" in groundwater limited areas. Do the already required "public interest review" of any transfer of a water. This is not being done at present.

21. Increased population. Vested interests, including permitting of "exempt wells", that erode these efforts. Inadequate analysis of water demand and lack of a clear "public interest review" of water rights transfers.
22. Lack of effective land use laws. Urban sprawl. Warmer, dryer weather patterns, agricultural practices.
23. Population growth, allowing mining of gravel and gold in streams. Lack of will to do hard things such as limit usage. Uncertainty about amount of rainfall in the future.
24. Politicians / environmentalists / activists who have no plan of program. Looking (for) votes or just destructionists.
25. Over appropriation of water by agriculture users that do not use meters or monitor water rate / use.
26. Not enough funding for storage increases, WRD staff, and maintenance of infrastructure.
27. Too much interference from environmental groups.
28. A decline in water quality and an increase in western states population growth will hinder our ability to meet Oregon's future water needs.
29. There should be plans to use sea water in the Willamette Valley if afraid of lack of water. Oregon Senators and Representatives need to see the whole state of Oregon and not make changes that will adversely hurt what laws are already in place.
30. Population growth and associated increasing demands.
31. Unrealistic blockage at every turn by ODFW to allow water storage projects. The water storage would allow large expansions of water dependent crops. ODFW seems to have a goal of saving every single fish and willing to sacrifice food crops to do so.
32. Increasing suburbanization and movement of people from cities into rural watersheds. Identifiable contamination of groundwater reserves. Regulations based on fear of loss that are not balanced for multiple benefits and users.
33. Over-zealous conservation groups who react in a knee-jerk fashion. We must all work together to find a common ground for the common good. We need access to these waterways, but we also need to see the quality of these waterways greatly improved.

34. Increasing demand is obviously a concern, especially in areas where water supplies are already fully allocated (or over allocated). I think we will need to strive for more efficient use to meet growing demands. Lack of storage capacity may also make it difficult to meet growing demand, so there may be a need to store more winter flow for summer use. However, this will need to be carefully studied to quantify the impacts of winter water diversion on ecosystem resources. I think there is a lack of understanding of groundwater/surface water connections, which in this region has led people to irrigate from wells without recognizing the potential impacts on flow in already stressed streams. Better education, based on better science, could prevent us from making assumptions about water availability that actually leads to depletion of water supplies.
35. The continuing expansion of cities onto prime farmland, the law seems to require cities to plan for expansion. But who plans for expansion or stops extinction of farmland in this great state?
36. Overpopulation of people. By far the main reason, core to all our problems. Not enforcing laws. Establishing senior water right for public purposes.
37. Population growth requires water. Plain and simple. Water collection reservoirs holding back water to meet this growing demand do so by denying rivers their life blood. Every square foot of concrete poured, every square foot of roofing, is one less square foot of earth capable of absorbing rainwater. Water that runs over concrete and asphalt, picking up pollutants and leading to erosion as it tries to find its way to the river. The time has come when we must revise our attitudes toward growth.
38. Costs and budgets, resources, pollution, contamination, miscommunication, miseducation and ignorance.
39. Population growth. Pure and simple. The world needs fewer people. In relatively wet Oregon, it will become an issue as water immigrants decamp from the SW as it becomes water critical down there.
40. Existing building code requirements - or rather, lack of. No requiring of rainwater to flush toilets, etc.; Lack of incentives to harvest rain- no tax breaks, no rebates, no graywater policies for outdoor use yet.
41. Resistance to change and fear. People worry that water metering or increased regulatory oversight will put agriculture out of business, or infringe on private property rights, when in actuality more information and sharing of costs (for example, through a water bank-market based solution) or by instream leasing.
42. Not enough storage capacity. Population out of proportion with ability of land (and water) to support it.

43. Lack of impoundment. Emphasis on environmental factors.
44. The over-reaching of The Endangered Species Act to over-ride local efforts to meet needs.
45. Where water is versus where it is needed, and when water is available versus when we might want it.
46. Instream water rights trumping productive use and creating dry lands and failing to recharge the aquifers.
47. This seems to be somewhat political verses science based. Don't change what isn't broken. Educate people on the benefits of flood irrigation to our aquifers and our water fowl and wildlife (this includes the Governor and commission).
48. Population growth. Lack of data- specifically there is a known issue with groundwater overdrawn in areas of Harney Basin, but well permits continue to be issued because there is no actual data to base a denial on. Litigation.
49. Illogical environmental regulations and/or legislation, such as targeting removal of dams for "fish passage" when fish count trends are already going UP!
50. Greed by municipalities, irrigators, and developers who want to suck the earth dry for profit without any regard to our environment.
51. Building more residential and business facilities that use our water we need for farming.
52. Unrestrained government environmental policies.
53. Interference and undue influence of and by the federal government. Political maneuvering and power-mongering within Oregon by environmental groups in order to maintain their position of influence within the state.
54. Access to water should not be regulated. If someone wants to dig a well or a cistern, they have the right to do so on their own land. Make it easier for people to solve their own water needs by getting government out of the way.
55. Global warming; ongoing and increasing groundwater pollution (especially when that groundwater discharges to surface waters and/or drinking water wells); state agencies that fear to take action in face of pushback from legislators.
56. If we continue to develop industries and commerce that is water hungry, we lose our ability to sustain our supply of water. Control water use, both in commerce and property

- use. Encourage and reward conservation and discourage heavy use industry by taxing and reduced incentives.
57. Global warming, being somewhat of a misnomer, really leads to longer, wetter winters, so I do not see that we are going to have a real problem in the long run. In the short term, we also need to be building desalination plants along (beneath) our coastline in order to deliver potable water to the interior of the state as well as its use as a source of hydrogen energy as we move toward becoming a hydrogen economy.
58. You're interfering with our rights.
59. Primarily, greed and short-sightedness. We need to raise awareness of the true value (monetary and health wise) of clean water - clean water is worth much more to our society in the long run than another polluting industrial complex or bigger (fertilizer, pesticide and herbicide laden) tomatoes for our grocery shelves.
60. Unrestrained growth.
61. Toxic hazards, physical and chemical pollution, using rivers, streams, and wetlands as dumping grounds, filling and diverting wetlands, "moving" wetlands for development and expecting a new hole in the ground to replace an established wetland. Logging watersheds. We need better management practices to control culvert placement, reconsider concrete drainage channels, and improve follow-up maintenance and repair to re-establish natural fish passage.
62. I foresee the environmentalists taking water from the human population to provide unneeded habitats for supposed "endangered species." This, of course will reduce the human population by starving us of needed water, which we all realize is part of the environmentalist agenda.
63. We are at great risk of water quality contaminants limiting our beneficial uses even more than they currently do. Chronic low dose effects from many contaminants are becoming increasingly recognized as threats and limiting factors, with thresholds of effect that are approaching zero for many. With some eighty thousand new chemicals produced and only a few hundred ever tested adequately for chronic low dose effects on populations with compromised health or within the multi toxicant exposure reality, and with increased detection abilities for toxicant presence showing increased contaminant loads in our tissues, including breastmilk, we must raise these issues to a much higher order of priority in the field and labs as well as in our meeting rooms and desks. Our great-great grandchildren depend on it.
64. Industrial use, waste (homeowners and residence) golf courses. In general too much taking it for granted and not enough emphasis on conservation, recycling and rain water



capture. Allowing industry to pass on the full cost of impacts associated with their profit making to the public commons.

65. The sale of irrigation water rights to become instream rights.
66. Population growth, changing regulations, difficulty in siting or expanding reservoirs, relatively low cost of water does not encourage conservation.
67. Difficulty with multi-agency networking and collaboration.
68. Non-resident, non-local, non-taxpaying STAKEHOLDERS. Extreme environmentalism driving agenda. You are agency driven, not driven by a need to serve the public; I mean individual taxpayers, not some nebulous special interest group.
69. Most of our water infrastructure was built in the 70's and 80's. It is in need of maintenance and improvement. We need funding for "non-glamorous" projects.
70. Competing interests. Inefficient irrigation use. Legacy of treating rivers as waste streams.
71. Irrigation and water diversions. Food production is a fundamental need, but we should make sure that water is used as wisely and conservatively as possible. Irrigation water use in eastern Oregon is currently >95% of all water use. Demand is likely to increase with expected temperature increases and longer growing seasons.
72. I believe there is already more than enough water being diverted from rivers, streams, and groundwater to meet all of Oregon's out-of-stream water "needs" of the future. That water just needs to be used more efficiently by existing users. Future demands can then be met with conserved water, and there should even be plenty left over to enhance streamflows. Factors hindering this result include:
  - a. Continued allocation of free ground and surface water. (Including: allocations under new groundwater and surface water permits; allocations for storage of winter water; and "allocations" through extensions that allow permit holders to maintain rights for water that cannot be put to beneficial use in a reasonable time.) By making so much water available free (to the extent there is a "price," it is for permit processing and diversion facilities, not for the water), the state artificially suppresses the price of water and prevents development of an efficient market that would lead to maximum efficiencies and transfers to the highest and best uses.
  - b. Failure to effectively manage and enforce existing water laws and permit conditions. People continue to divert water with no permit and/or to exceed seasonal and volume limitations (deliberately or because no measurement is required). Many go unnoticed. Others get at most a slap on the wrist. This is no

way to treat what is supposedly the next most valuable resource. If further suppresses the price of water, with all of the consequences discussed in No. 1 above. Measurement and effective enforcement are a must. Funding should come through increased permit fees and management fees on existing users (who should count their blessings in getting free water for so long and who will likely profit handsomely as the price of water rises).

- c. Continued indulgence of the underlying assumption that future water demands can only be met with water now resting in aquifers or flowing in streams and rivers. To the extent future demands will in fact be greater than existing demands, that would seem to be true only for domestic water use as an increase in irrigated acreage seems unlikely (or at least insensible). Numerous studies show that population can increase dramatically without increasing water use (through reduction in per capita use). Still, OWRD continues to accept demand projections from municipalities (projections used to justify extensions on permits granted for unreasonable amounts of water) that project future demand as Existing Per Capita Use x Projected Future Population.
- d. Imprecise and ineffective measurement, management, and enforcement. If water is truly the next most valuable resource, it's mind boggling that the state gives it away for free and doesn't require measurement of ALL diversions and impoundments. Also, illegal use is rampant; so we are letting people steal our most valuable resource.

73. The fact that the state has so little money, small tax base, no sales tax. Where does the money come from to pay for managing our resources?

74. Water is neither created nor destroyed. It is always there. Educating ourselves how to best use it is the challenge. State and federal budget deficits for years to come will make it difficult to pay for modernizing irrigation systems, updating our wastewater treatment facilities, restore streams, and expand education and training programs on water utilization. Change is hard. Having a back ache is a common experience. Lying down, standing, or sitting still will provide some relief. Change of position, even slowly causes more discomfort. A lot of use will have to change the way we view the water world and how we conduct our affairs. This will be painful. Preparing the citizens for the changes will take patience and recruitment of skilled educators and effective communicators. The political climate is poisonous and civic discussion, exchange of views, or even debate of issues is very difficult. We will grow up but in the meantime, skillful handling of this topic is essential so it isn't captured by select stakeholders who misrepresent the issues and make public education even more difficult. There are many Federal and State authorities who have a say in what happens to collection, distribution, disposal of water, as well as protection of natural resources surrounding water. Wending through these agencies is discouraging and a daunting process if one wants to change the way things are

done. Will this process ever be streamlined? Climate change experts try to predict what will happen to our snow and rainfall. The public is not receptive to their messages. Restoring public trust is science isn't the IWRS responsibility, but how science is presented and the transparency of sources may influence how the public views and accepts recommended changes in water use. The public and businesses are not receptive to more top down regulations about water, especially farmers and ranchers. Mark Twain: "whiskey is for drinking, water is for fighting." If water becomes a true commodity, bought, sold, traded, stolen, how will municipalities regulate and distribute for the common good? Maybe municipalities should sell the wastewater.

75. Too many people! Inadequate water conservation. Industry must be required to return water to lakes, rivers, etc in a pristine condition.
76. Climate change. Prior appropriation doctrine and property rights advocates (ex. Measure 37-type issues). Lack of funding (for pretty much everything, but especially enforcement).
77. Vested use permits and property rights. Commercial farm and forest practices that are not "best practices." Lack of education of the public, in general, of existing conditions and trends as well as what can be done.
78. Prior appropriation law is outdated. Non-point source pollution rule are ineffective. Some "beneficial uses" are not in the public interest. Lack of water metering and monitoring.
79. Climate change, pollution, population growth, and increased recognition of environmental/recreational benefits # under status quo will lead to conflict. Privatization of water supplies for drinking and hydropower will exacerbate the problem. Current rate structure and business practices for water/wastewater utilities contradict incentives for good water use/policy. Successful water policy will be an economic boon to Oregon but will create immigration challenges. The water policy must anticipate its success and accommodate/adapt to the influx of population.
80. Climate changes are happening more rapidly than expected in many areas, making effective actions important on a shorter timeframe.
81. Budget/Funding authorizations for OWRD and other agency activities. Willingness/ability to increase regulation over agricultural activities.
82. Unbridled development. No planning codes that relate to water resources and availability as well as water quality. Weak enforcement of fines when water quality violations occur. Failure to properly clean up Hanford.
83. Present water rights laws.

**Question 3: (Solutions and Opportunities) Do you have water resource solutions (policies, projects, or approaches) that you would like to see as part of this Integrated Strategy?**

1. Conservation, conservation, conservation. Water conservation needs to be looked at strategically- where are the highest inefficiencies in water use and how can they be changed? How can natural storage capacity be increased? Increasing beaver populations is a very important tool for this! Some standard approaches such as municipal rain gardens and permeable paving are still important but the cost/benefit of these projects may be mostly helpful for education rather than serious impact. High level regulations requiring permeable paving and graywater use would help a great deal, but individual/pilot/volunteer projects will not be enough.
2. Actively study how Israel or other advanced arid communities use water more efficiently than Oregon and find ways to encourage the agricultural community to adopt more efficient irrigation technologies and techniques. Find the most sensitive aquatic native species in each basin and make sure the water flow and quality is \*always\* high enough to allow that species to thrive in all parts of the water system.
3. I conducted a watershed assessment (<http://www.tryoncreekreport.com/>) which took a broader approach to land use effects on WQ and stream habitat. The Tryon Creek Baseline Report 2001 incorporated data from the local sewer/stormwater agency, clearly showing frequent and egregious WQ violations in this local creek system, but both DEQ and the county Health Officer chose to disregard the implications of the data.
4. Water providers can use technology to track maintenance schedules and to detect leaks. Water conservation through improved plumbing and fixtures can be effective in reducing demand. Irrigation in homes and businesses can be improved, and more drought tolerant plants can be used more often. Classes for landscapers and property managers can be effective.
5. Protect the water rights. Protect the production of food in the USA for USA. Even the integrated strategy meeting is costly for us as citizens and will ultimately cost our nation. This is a back door attempt at taking water rights from beneficial uses to environmental uses that can be turned into the wasting of water instead of the use of water.
6. Incentives for drip irrigation in agriculture, mandates for more judicious use by industry
7. Wise use by all parties.
8. The Conserved Water Allocation Program should be encouraged and be more agriculture friendly. Incentives to convert to drip irrigation.
9. Planting native plants near water sources.

10. Demand based pricing. Enhanced public education: programs through schools. More integrated funding and delivery systems- example: responsibility of watershed health which crosses multiple jurisdictions.
11. Laws that protect peak and ecological flows. Require a public interest review of a transfer of water rights.
12. Propagate a state policy stating that water (air and other resources) is a resource held in "common" and belongs to the people. Portland is a good model.
13. Many projects subject to land permits and licenses.
14. Provide notice to adjoining effected property owners of all (most) water right applications.
15. Umatilla and Walla Walla Basins have mature, active study and coalition groups with extensive work products. This has resulted in current recharge projects in both basins.
16. The sheer volume of water used for landscaping needs to be addressed. Promotion of Xeriscaping, the use of local vegetation, and land conservation should all be incorporated into this conservation plan. I don't know if this is implemented already in Oregon, but re-use water projects, particularly in agriculture, should be considered.
17. I think that domestic wells should require permitting, the same as those for farms/irrigation. This would require better more consistent study of how new wells will affect a local area and existing groundwater uses and surface waters.
18. In Canada over 140 municipalities and the entire province of Quebec have now placed restrictions on the cosmetic use of synthetic lawn pesticides as a result of health and environmental concerns. The Ontario provincial government promised on September 24, 2007 to also implement a province-wide ban on the cosmetic use of lawn pesticides, for protecting the public. Medical and environmental groups support such a ban.
19. Manage agricultural practices with a set goal of reducing water consumption. Removal of irrigation canals, replaced with efficient pump systems, using state of the art irrigation systems and technology. Require golf courses to reclaim water. Require drought-resistant landscape on new development. Eliminate irrigated turf in new developments. Develop and enhance new and existing wetland areas.
20. Active watershed councils, bio-swale projects for storm runoff, removing invasive weeds.
21. Watershed councils can help in many ways. Work with OWEB and successful councils like The Partnership for the Umpqua Rivers.

22. Public education program to tell folks where to find documents in local libraries to understand their community use of water.
23. The south coast aquifers are unique and shouldn't be subject to criteria used in other regions. My static levels are the same today as they were 40 years ago.
24. Oregon State Forestry Department has a good system to protect water quality on forest lands. I would like to see riparian management guidelines applied to all land uses along fish streams.
25. Would like a dam at 3 forks on Owyhee River to help reserve water on dry years. SWCD has implemented innovative ideas on water conservation and demonstrate how they work then give farmers incentives to purchase these.
26. The water bank in Central Oregon is a good example of creative thinking in addressing water issues.
27. Bandon Cranberry Water Control District has the Windhurst Reservoir as an example. With help from WRD more could be allowed and built on the south coast to supply water needs for the cranberry industry.
28. Personally, I am working to develop hydrologic soils to extend my non-watering periods. I think re-using water and catchment systems are good. A "water star" label is needed like the "energy star" label would help me identify products that conserve water
29. I have developed a plan for the North Valley of Josephine County so that it can be free from the Grants Pass system. Our future depends upon adaptable modularity. We need to move away from overarching centralized control(s) over our local water needs where job growth and energy requirements are concerned. Our future Hydrogen economy will require access to the water from our rivers. We need to not hobble our future energy freedoms with today's lack of imagination. Very soon, we will get our electricity from hydrogen from our river waters. The by-product of fuel cells is water which can (and should) be captured and returned to our local aquifers. Stationary fuel cells are the best way to deal with this, as water vapor is considered a green-house gas.
30. I have several concerns and suggestions about groundwater.

First, I would like to see more public education about groundwater resources. Educational topics would include protecting groundwater quality, conserving groundwater quantity, and understanding interactions between groundwater and surface water. Public education might be accomplished through some type of partnership between OWRD and local conservation groups (Soil & Water Conservation Districts, Watershed Councils, or regional or outreach staff from other state agencies like ODA and

ODFW). If OWRD could develop some technical resources and guidance, then the other partners could implement education programs/projects using that guidance.

Second, I would like to see financial support for research relating to groundwater recharge and discharge pathways. More thorough research could help us make better decisions about where and how much groundwater extraction should be permitted, based on predicted impacts to other water users and aquatic habitats.

Third, I would like to see financial support for projects that would slow or stop the loss of groundwater through wells that commingle multiple aquifers. My suggestion here is specific to the Mosier area but it may be applicable to other regions, especially within the Columbia River Basalts. Research in the Mosier area has indicated that construction of commingling wells is responsible for massive declines in well water levels, but the small Mosier community is struggling to find the financial and technical resources to address the problem.

Fourth, related to the need for financial and technical assistance to stop aquifer commingling in wells, there is a need for regulations to prevent this type of problem from increasing. While the Mosier area may be interested in pursuing special area well construction standards, I think it also might be effective to have more specific standards in many areas of the state, depending on local water resource issues.

Fifth, I think that OWRD should encourage local organizations to be engaged in developing water resource management plans and strategies. Watershed Councils and the Soil and Water Conservation District in Wasco County have effectively worked with land owners, water users, and agency personnel to plan research and management projects related to Wasco County's water resources. I suggest that this can be an effective method of engaging the end users in planning for sustainable water supplies. Increased financial or technical support from OWRD could help this management and planning effort grow.

31. Education and sound science to conserve water usage.
32. Do a carrying capacity study as done by Portland METRO. U of Oregon did this study. Do water quality studies for pharmaceuticals, hormones etc. No more diversion of water until the carrying capacity study is done to determine what is or is not needed.
33. Irrigators, ranchers and farmers, should be encouraged to modernize their systems. Replacing inefficient sprinklers that waste water to evaporation with drip systems that conserve and use less water.

34. At this point, I do not. But I think that a good idea would be to get youth involved [Being one myself] to educate about Oregon's water and spread word throughout our community to stop pollution and start using less water.
35. People tend to buy into what they feel they have a say and a stake in. Your outreach programs are right on track with that. If only all the people who are simply users (not on a water list serve, not in the business, not living on a river, not irrigating...) could find out how vital this discussion is, we would all be better served. I am thinking about how to make this a holistic project for my little Clackamas part of the world.
36. Rainwater harvesting- up to 65% of domestic water use can be replaced by rainwater; graywater harvesting; stormwater LID's.
37. Stream stewardship programs that enlist the help of property owners who have water bodies on or next to their property.
38. Use the Deschutes Water Alliance as a model for developing basin-wide focus groups to assist state policy makers in water allocation/use. Maintain the primacy of WRD as the state agency in charge of Oregon's water matters.
39. Water quality needs to be looked at basin by basin; central Oregon (Crooked River) has different soil types than what the Willamette Valley has (they should not have the same solution).
40. Fully fund the "Watermaster" positions, as they are a great resource. They earn their pay when they have to shut off water rights during droughts.
41. Utilize historic uses and information from local users to plan strategy.
42. Funding- Seek outside sources verses establishing water user fees, as they can break small family ranches and farm. Once a draft is established, regional meetings need to be held again to keep people abreast of development and to continue to receive input.
43. I believe that research is the number 1 need so that we have a full understanding of what actions are needed and what the impacts of our decisions will be. We should not rush to action.
44. Yes: hydro-electricity will improve Oregon's sustainability. Every existing hydro project should be reviewed for success/failure on every level (environmental, financial, economic, etc.), so lessons are learned to improve the next hydro project. Without local energy sources, Oregon will have an extremely difficult time fulfilling her motto!



45. Buy out farmers on the Klamath. Remove dams. Pass minimum streamflow laws with teeth. Have cities like Bend have mandatory water conservation programs like Las Vegas. Water fountains, lawns, and more golf courses don't belong in the desert when fish don't have enough water. The "water alliance" in central Oregon does not represent water conservation and environmental groups.
46. Stop allowing any more residential homes to be built in the area. We don't have the water for farming and more people. We need to make the area sustainable for the people we have.
47. Protect private property rights and restrain government environmental policies.
48. My solution is to insist that every Oregonian have access to "public domain" water within the state, for every Oregonian who owns private property within the state to have rights to the water that falls on their property, and for the immediate end to all federal government "ownership," control and influence over land and water rights within the state of Oregon.
49. The cumulative nonpoint source impacts, both on quality and quantity are becoming bigger concerns than the traditional big problems (big sources of pollution or water users). Pushing all these little problems together into one big problem (as has been done traditionally) can no longer be sustained financially or environmentally. We need to start tackling the smaller problems systematically rather than on a shotgun approach.
50. We incorporate many water quality components to our urban capital programs and look for ways to conserve, protect and improve water resources in our community. What gets in our way is typical. Lack of funding. In some cases our cost to improve things are escalated by regulatory process. This is getting better but still has room to improve. Natural resource organizations like watershed councils are doing great things with minimal funding. Work done with OWEB grants continues to maximize efforts. Fund these types of programs more.
51. Just look at the work being done by Professor Roger Ely at OSU. We want to build upon his work to create a new, comprehensive, and compact way to produce energy from water in a clean, green, and organic manner.
52. The wise stewardship of these resources by the individual and counties.
53. Municipal use of wetlands for sewage treatment, such as in Arcata, California, would be a start. Encourage and support private use of experimental systems in residential sector. Encourage and support practices such as organic farming that, in essence, protect existing water supplies.

54. Strong advocacy and support for household rainwater collection. Conservation.
55. Watershed and wetland protections, prohibit toxic chemical spraying, protect riparian corridors, stronger regulation to protect rivers from domestic animal and human sewage wastes. Establish centers for drug collection and proper disposal. Stronger industrial anti-pollution regulations and enforcement. Prevent fills of streams and tributaries.
56. Don't change anything. Don't make any more laws that the citizens must follow. Just try to do your job by making water available--build more dams, as they did in years gone by. More water storage is needed and needed now.
57. Yes! Actually get out in the field and conduct pointedly investigative sampling and assessment of suspected pollutant sources that are compromising our waters--- as the TOP priority. Lots of stream segments that have no 303d listing are actually compromised above standards and criteria yet do not show up as such for 303d or for any other meaningful assessment. All of our other priorities should be subordinate to the gathering of this essential information. Scientific integrity for this is essential, and we will continue to be more part the problem rather than part of the solution until we place 'monitoring' up at the TOP of the priorities. We must find the funding and the will to do this in order to become fiscally, as well as ethically responsible in the long term... which is the only term that really counts in this emergency for our progeny.
58. I like the Wetland Mitigation Banking model and can envision a water resource mitigation requirement that can help fund and protect water resources in the future.
59. Complete the adjudication process on the vested rights that are in place.
60. Focus on good tilth practices for H<sub>2</sub>O percolation, e.g. no-till. Palouse Basin has a great council where cross border agencies (city, state, county) work well together.
61. Statewide guidelines, but watershed based plans, administration, and control.
62. Conservation pricing by water providers has resulted in less demand. We need to take advantage of the recession. ASR's are great when they can be used.
63. It makes sense to monitor and enforce private domestic wells that currently don't require permits; it makes much more sense to monitor and enforce the largest use, i.e. irrigation. In eastern Oregon, this may mean converting remaining flood irrigation to sprinkler irrigation, and funding will have to be made available to help make that happen.
64. In particular: increased permit fees; management fees for existing users; measurement and monitoring of all diversions; effective enforcement.

65. I don't. Our community projects are a combination of mitigations, private endeavors, federal and state mandated water quality improvements, but no overarching basin wide vision that incorporates all the stakeholders exists. The Klamath Basin restoration plan involved a lot of mediation by very skilled people. It could be that this model would help regions of the state find local solutions to the water questions, or we could just throw the problem at the courts.
66. Water resource planning should be science based, not political. Someone must speak on behalf of wildlife and their water rights.
67. Deal with exempt wells; they are not invisible and should be regulated or permitted somehow. Additional monitoring for pesticides and pharmaceuticals. Access federal storage water for municipal needs (maybe also for more agriculture?). Don't allow development on floodplains or in floodways.
68. Adaptive management (plan - implement - monitor - adapt); periodic review and modification of water uses.
69. Building codes/public resources require/promote/support domestic graywater and rainwater use and commercial recycled water use. Wastewater utilities (e.g.MWMC) are producing recycled water but need concerted partnership/support of environmental, economic, and water supply agencies and organizations.
70. Counties, such as Benton, have taken the lead in land-use planning and education so that development in the future will have minimal impact on streams, wetlands and riparian areas. Grass-root support at local levels is essential.
71. I would like to see a multi-agency approach to managing rivers like the John Day River. The river flow can go from <50 cfs in Aug/Sep to over 300cfs in just a couple days after the irrigation season. Farmers are driving their equipment into the main river, digging trenches 90% across the river and building push-up dams. I have also seen people continue to irrigate for a couple days past the irrigation season. If I remember correctly, the John Day now also has a TMDL for temperature. The above actions will not help address the temperature issue. On rivers like these that have severely low flows and have other related issues like Temperature TMDL's it would be interesting to see an evaluation on how increased enforcement, diversion metering, and WMCPs for uses other than just municipal uses might help fix the broader problems and help protect all water uses.
72. Our community conducted a USGS survey of our aquifer and is now applying for grant monies to address and remedy the problems that were identified in the study.
73. Something that has not been discussed much is the use of Rainwater Harvesting for agricultural purposes. There are several successful examples in western Oregon.

**Question 4: (Education and Outreach) Part I - Do you feel that you have access to adequate information about water resource issues? Part II - Please suggest ideas for better education and outreach about these issues.**

**Part I**

Of the 83 participants that took the survey, 32 of them responded to this question. Of those, 22 participants responded positively to having access to adequate information, whereas 10 participants felt they did not, and one individual wasn't sure. Some participants provided further comments:

1. Frankly, I do not. I'm an eighth grader working on a project at Parrish Middle School in the Lit II class, and I have been having trouble finding information about the local ISSUES with our water department and resources.
2. Yes, now that meetings have been held and the presentations are available on the OWRD website.
3. The information is available for those who seek to find it.
4. Personally, if I'm persistent, I can usually find the information I am seeking on issues. But I suspect many others may simply give up before they finally reach the information they need.
5. No, I do not have adequate information... that is the precise problem, and anybody that feels that they do have adequate information is deficient in capability to adequately deal with the water quality emergencies that we are facing. Until we have 'monitoring' as a very top priority we will not be capable of being 'informed'.
6. NO! Info on this project and meeting was ABSENT. This is not acceptable.
7. OWRD does a good job providing information over the Internet. Please continue progress in this area.
8. I find that data on watershed status, water quantity, water quality, and fish status is very compartmentalized. I suspect that experts in these areas can find on-line historical data, but there is no single source of data on a single watershed such as ours available to the interested citizen. Transparency of this data and ready access going forward is important.
9. I'm not sure- I don't have the time to be focusing on this issue and looking for information. I know that many people don't know where to go to find out what is legal/a good idea for graywater use or information on, for example, if it's a good idea to put rain gardens near houses.

10. Personally, yes, but I don't think I'm representative.
11. The Oregon Water Bureau website is outstanding.
12. This is the responsibility of the citizens to stay informed.
13. I don't know of a state wide educational effort related to these issues. I know of many non profit's who are engaged in the process. Oregon Water Watch, Trout Unlimited as examples.
14. OWRD has great staff that is always accessible and eager to help.
15. Yes, but I also look for it. Perhaps there are some out there whose ignorance may be from lack of interest in the subject.
16. The WRD have done great with user groups, environmental organizations, but I haven't seen much go to the general public.

**Part II (Ideas for better education and outreach)**

1. I would suggest using social media engagement and ads (that's how I found this survey). Hire experts to help.
2. What is your education and outreach now? If it consists only of public surveys and promotional publications, then that's inadequate. Do your job right and report on that. Report on water adequacy in local rivers and streams and coordinate more with permit staff at ODFW and ODEQ so they will develop the backbone to do their job in the public interest as well.
  - a) State agencies should provide more accessible public records of regulatory permits for stream/wetland development as well as lengthening the amount of time such records are kept available for public review. Members of the public, particularly public interest environmental organizations, should be included, not excluded from the decision making process, particularly in the case of multiple uses of streams and wetlands located in publicly or municipally-owned lands.
  - b) The state needs to mandate that municipal sewer/stormwater agencies and transportation agencies stop using our natural streams and wetlands as convenient, cheap dumping sites for street and industrial runoff. While the State gives lip service to riparian ecology and allows state local governments to exclude steep slopes and riparian corridors (from zero up to about 100 ft. width depending on size of creek) from their buildable lands inventories, but the State provides no strong encouragement to put true riparian buffers into effect. Sewer bureaus have

an obvious and pernicious conflict of interest when they become the de facto stream management agencies. This problem has increased due to weak oversight by regulatory agencies such as ODEQ, ODFW, OWRD, and ODSL. OWRD seems to view itself as a facilitation agency for development in environmental zones, and this needs to change if the State actually wants to restore water quality and wildlife habitat.

- c) The State's adopted "mixing zone" concept has already proven detrimental to water quality. The concept sanctions bad practices and needs to be dropped.
3. Information through the Regional Water Providers broadcast efforts is helpful. I would like to know more about how irrigation water rights are enforced and tracked.
4. I live a water resource issue with my farm.
5. Maybe all water bills should be accompanied by water saving advice, schools should be given material for better understanding of water issues.
6. OWRD is doing a good job at this.
7. Better education and outreach about these issues.
8. WRD website is very good but could be more user-friendly.
9. The open house was a good idea.
10. There is probably a lot of info available but it is hard to access when one only has dial-up. Lots of graphics. More user friendly websites- seem designed for people who already know what they're looking for.
11. People in charge of agencies are too far removed from reality of the working of water mechanics.
12. Continue to educate children on water issues.
13. Department needs to complete a formal USGS study. This is a must-have tool for aquifer management.
14. Rather than address water issues as an us vs. them basis (rural vs. urban, agriculture vs. industry, etc.) educating people about all of the uses of water in Oregon can help provide cross-regional support of the tenets of this plan.

15. Somehow the general public needs more information about recharge of groundwater, needs to conserve use, etc. Since many people don't even read the newspaper, however, I am not sure how to accomplish this.
16. Fees for water should be increased so that the water departments have money to use to educate the public about water resource issues.
17. The public interest review mentioned above would add more information, however.
18. League of Women Voters of Oregon is completing an intensive study.
19. Information about water resource issues should be taught in K-12 grades in school. Nothing is more important in life than water.
20. It is much better to use incentive and tax credits. Please no new laws or taxes. We have adequate information- just educate the lawmakers & inform them that we value water and they need to talk to us for education
21. Access is as good as I need.
22. More public meetings, like this one, and better publicity about upcoming meetings- paper, TV, radio, announcements.
23. The meeting in Tillamook was very poorly advertised for the general public.
24. I would like to see a new study on the contamination levels of the Rogue River between Grants Pass and Indian Mary Park. Hormone levels may be reaching levels that threaten the long-term survival of the Rogue River livestock.
25. It is difficult to keep up on the issues, so much is relayed with hard to read language that the average person doesn't understand. Coming to meetings with so many of the "players" having college educations is intimidating to those of us less educated, we listen but don't have the confidence to speak.
26. The problem is lack of water quality control implementation and allowing more people into the State.
27. Education is the key. We must find a way to instill value for nature, forests, natural systems, the great outdoors. All made possible with sun and water. And like a flower without water, it will wither and die!
28. I have access and interest. As I said above, the people who don't think about this are the ones who DO need to think of it. I was a conference put on by the U of P in March. After

that, every time I flush the toilet I say "thank you". Not that I am perfect, but it would be good if everyone started to pay attention to water and how we take it for granted.

29. More education about water conservation in the southern part of the state; learn from other water conservation campaigns- WATERUSEITWISELY; smart from the start.
30. Better education and outreach about these issues.
31. Encourage greater uses of electronic communications, such as listserv. Contact irrigation district management for assistance in getting the word out to irrigators.
32. Good to look to the future demands on water as the valley evolves.
33. More regional meetings on the progress of this plan. Dates and agendas for the WRD Commission meetings (minutes too).
34. We need to educate people on HAARP and chemtrails. We need to educate people on the benefits to having dams and their use for clean electrical power. We need to educate people on how dams helped increase fish populations in the rivers as rivers without dams up them went dry or got to hot and low. We need to educate people on the importance of thinning our forests to stop the catastrophic forest fires and how they suck up 300 gallons of water a day. We need trees. They bring rain. But when they are too closely populated it is not good for them, it makes for a more dangerous situation in a fire and they compete for water.
35. Keep political agendas out of it, and protect private property rights.
36. I suggest that every county in the state of Oregon be required to hold public meetings on the subject of water rights, and that these meetings be publicized widely via Internet and local newspapers.
37. A state clearinghouse for water resource issues, quantity & quality, would be helpful rather than making us search all the different agency and organization sites.
38. Maybe better coverage of issues through ordinary sources. News, TV programs, advertisements and local group meetings
39. Perhaps a state-wide "WATER INFORMATION CENTER," with one or two information officers that are accessible by phone or email - no answering machines. Primary job would be referring public inquiries to appropriate state or federal office. Often, attempts at communication with state agencies leads to frustration because of the slow response of employees hiding behind their answering machines. Perhaps a number of state and federal agencies would be willing to 'contribute' a 10% FTE to fund the clearinghouse.



40. What is the impact of a new household on water usage? We like to get our information in a printed format. Please disseminate information in the newspaper or by mailings. We're not good at attending meetings and open houses.
41. Outreach 'open house' events in rural communities to raise awareness with information and education about the value of wetlands, by protecting them with stronger laws. Forming coalitions with stakeholders to reach consensus and understanding of the need for clean water supplies and the value of promoting riparian habitats.
42. We need scientific integrity along with ethical integrity to deal with water quality in time, and we can't do this with our heads in the sand. Kiss your grandkid, forget about retirement, and get your body out there in the field to do investigative water quality sampling and scientific assessment. Actual water quality monitoring is inherently politically subversive for short term politics but essential for long term politics, so therefore it never gets done, and we have the current mess we are in with almost total avoidance of funding and scientific integrity for contaminant toxicological assessment as it applies to salmon diversity recovery, aquatic, and human health as well.
43. Every area is different and should be handled different.
44. It might be too huge! Too expensive for each agency to reinvent the wheel & create info for outreach. Peoples time is very constrained, boil down info.
45. I love the League of Women Voters publications. Many citizens groups want to address water needs. CPO's are also a great resource for citizen involvement and education
46. I am not sure that increasing reservoir capacity is the best or only solution, but it may be necessary with what is known about coming climate change. We should be discussing and implementing conservation measures across the state and addressing how water is used. At the same time, we should be encouraging connectivity of freshwater aquatic habitats and continuity of flow regimes that would support aquatic (and riparian) species. It also makes sense to restore natural floodplain connections to enhance storage capacity in lieu of constructing reservoirs. There are many places in the eastern part of the state, where I live, where such restoration would go a long way towards enhancing late-season streamflow, reducing sediment loads, and cooling water temperatures needed by aquatic species, including fish. There should be a corresponding effort to educate the public that this is in our best interest. Incentives should be created for conservation by existing water rights holders. This should include relaxing the requirement that water "has" to be put to beneficial use at the risk of losing the water right. Leaving water in streams should be a benefit, not a penalty. We need to educate the state legislature that this is the right thing to do.

47. In particular, scan all file documents and make available online (or require submission in digital form for online posting).
48. I would like our Bear Creek Watershed Council to have links to all sources of water use on our website and updated regularly. A pool of experts in water use who communicate effectively and don't become flamethrowers for select stakeholders will be important.
49. OPB-TV could broadcast a special program about water in Oregon and the Pacific Northwest. "Oregon Field Guide" might be one venue.
50. Need more data about groundwater; where it is located. Need more pesticide use reporting, especially uses near water.
51. Needs to be more widely broadcast to the general public. Educate children with basic stewardship to protect water.
52. We need more water metering and water quality monitoring, especially during storm events when land use/abuse has the more adverse effect on water quality.
53. Online GIS mapping and water balance "games" help citizens engage and learn. Need a simple, catchy URL like "oregonthirst.info" and Facebook, Twitter, You Tube updates - information that can be easily shared with/among networks and people get excited and enthused and want to share it. Hire professionals. Support K-12, community colleges, OUS on water education programs.
54. See #70 above, in "solutions" responses. Also, working with local watershed councils is a good way to educate the public and restore watershed functions all over the state.
55. Billboards, social media, TV, Radio.

**Question 5: Additional comments for the Project Team**

1. Continue to involve watershed councils in this work- we have multiple stakeholders interested in this issue and we're used to working on controversial issues that require creative and ambitious approaches.
2. Start to use quantitative measures of all water uses to model the best usage plan and determine, measure, and grant water usage.
3. I would like to receive results from the survey, and suggest you post them online. Thank you.
4. Part of the challenge is to keep our surface water features free of pollutants and erosion. Such contamination can waste our water supplies. Awareness of the need to preserve the purity of our water resources is important.
5. My Dad had a old navy antidote of wisdom. He said, "Look at your hole card." Folks, the food supply in this country needs to be protected. The law upheld. Masses of so called educated people are socializing the nation for their own interests.
6. I am pleased that you have these open houses. I found it very useful, good hand-outs.
7. One rule doesn't apply to every area. We need regional control overseen by state and federal authority.
8. Strengthen wetland protections in our state to protect the ecosystem functions. Do not allow groundwater withdraws at a higher rate than natural recharge rates.
9. Water Resources Department should look at its rules from the user's perspective. Become a more "customer friendly" agency.
10. Normalize the language of urgency and conservation. Establish target use maximum amounts for households, businesses, and farms, and incentivize conservation. Do we know how much water we use daily? Advertise! Make meters visible and public. Commodity vs. Natural Resource. How do we frame the discussion?
11. Would like to see a regional approach with Washington state- waters don't do state boundaries. Ecosystem regions might be a way of designating areas. Question- What are you all going to do about the Nestle proposed plan, in Cascade Locks, to suck out 100,000,000 gallons/year for bottled public water for private profit?
12. Need to develop state fee/fund mechanism that is protected for water only use.

13. While planning and education may be statewide process, it is important to allow and encourage local actions that help conserve water and provide responsible water use. (This is akin to the state-based approach to chemical pollution and chemical use policy that has been slow at the federal level, but engaged by individual states.)
14. The coming open houses are a good idea, but perhaps encouraging the local newspapers to do more stories on water issues.
15. Use of pesticides and fertilizers on Willamette Greenway land should be strictly prohibited.
16. Oregon's rivers are critical to fish and wildlife habitat, as well as the state's iconic grandeur. These should be balanced against - and in my opinion given priority over - development interests.
17. Please look at the science as well as the political-social-economic values. We cannot afford to continue to extract and exploit in the name of progress. We must learn to enhance and conserve. Water is a limited resource, even in the sometimes wet Pacific Northwest. Make available some of the DEQ material regarding contamination and degradation of the Columbia and Willamette River basins. Plan for a dryer future.
18. This is a good model, different people with different concerns and experience sharing ideas. Our moderator was excellent.
19. You are doing an excellent job. You are on the right track. Planning the future, look back to learn from past mistakes and pitfalls.
20. Discover a local community which has solved their water problems through a grassroots, bottom up process and use the model throughout Oregon.
21. I think there is too much emphasis on science that can be wrongly interpreted. Common sense has to have a place in the process. Remember farmers provide food and we're not getting rich at the expense of the natural resource.
22. Cost of a future water resource strategy should be funded by all Oregon people (not just those that live along streams, rivers, and lakes).
23. The west side and east side of Oregon are entirely different. One law does not work for both when it comes to water. Have flexibility and remember water is the lifeblood of the land in Eastern Oregon. Don't destroy us.
24. Farmers and ranchers and their associated water needs must be protected. Our policies can't just be lead by the urban centers.

25. More support by WRD for storage projects- buck ODFW questionable objections. Better communication within WRD departments. 3rd floor doesn't seem to know what's going on at the first floor.
26. It is important what you are doing. I look at the Trask, Wilson, and Kilches Rivers when they are blue, and see thousands of water bottles going down. Water needs to maintain a balance of users.
27. Again, we need to all work together to find a common sense middle ground. We need to allow job growth while at the same time demanding the highest levels of water purification achievable by humans. We need to be able to source the water from our rivers as long as that water is returned, in a purified level of quality, back to the local ecosystem.
28. Don't forget the little people. We are a state of many, Portlander's shouldn't dictate to all of Oregon.
29. Keep in mind the Economy is a wholly owned subsidiary of the Environment. No environment no economy. There is a need for assurance bonds on all private water activities. We should use the "Precautionary Principles" in all planning. The State is responsible for protecting the Public Trust Rights for the people that was determined at Statehood. These include navigation, commerce, and fisheries. All private rights are secondary. Climate Change- This is so far in the future you are wasting resources on addressing other than saying if we maintain a carrying capacity the human element is done. Statistics on this probable future are still sketchy. We have immediate needs NOW.
30. First let me make it absolutely clear. I despise Al Gore! He is rotten to the core. But, if he could be made to realize that by building dams, we are flooding forests, killing trees that turn Co2 into oxygen. Replacing cold running rivers with warm water lakes that produce algae and all the other bad things associated with lakes. The containments held behind dams, etc, etc. We could use him to our advantage. That would tickle me to no end.
31. I am an Eighth grader at Parrish middle school working on a "Save the world" Project for our literature II class. I am looking for more information on a local basis about the issues with our water system and how it affects us, our environment, and on a bigger scale. Thank you for taking the time to read this. :)
32. Next year I am writing my thesis for a masters in interdisciplinary studies. My subject matter is water. So, the question is for you. What is the thing that needs study? What parts of the puzzle don't seem to come together?

33. Urban Stormwater Low Impact Development measures (LID) can be very helpful for urban water conservation, but the major potential source of water conservation lies in the agricultural sector. We as a society need to understand the cost to all of us if we don't encourage conservation.
34. I fear Salem will try to regulate water usage without adequate regionalization.
35. While it was stressed at this meeting that water rights won't be affected, I believe it is a real possibility. Extreme environmental groups are constantly filing instream rights, which can affect our rights. I really want to see these protected, as loss of these rights makes my land less valuable and takes away my livelihood by not allowing me to grow hay for my livestock.
36. Threats of protective environmental lawsuits should cease to dictate Oregon's environmental policy; even when issued, a threat can still be defeated and overcome in court. We need more people in Salem with enough common sense and guts to stand up to this kind of legal threats until the threats subside until they're few and far between.
37. A healthy environment is a healthy economy. People move to Oregon for the pristine rivers, lakes and fishing as do our tourists. This is what makes us special. Please do your job to keep it special and to improve our water quality and quantity as needed. Thanks...
38. We need to educate people about the government's hidden use of weather control in which they cause the droughts, floods and more....As General Cohen said before Congress: "Others [terrorists] are engaging even in an eco-type of terrorism whereby they can alter the climate, set off earthquakes, volcanoes remotely through the use of electromagnetic waves... So there are plenty of ingenious minds out there that are at work finding ways in which they can wreak terror upon other nations...It's real, and that's the reason why we have to intensify our [counterterrorism] efforts." Former Secretary of Defense William Cohen at an April 1997 counterterrorism conference sponsored by former Senator Sam Nunn. Quoted from DoD News Briefing
39. Protect private property rights, and restrain government environmental policies.
40. Many of the water-rights and clean-water access problems we face as a state and as beleaguered individuals within the counties of Oregon stem directly from federal government interference. The first and best thing we must do here in Oregon is get rid of the federal government ownership and/or control of state lands and our water. We must STOP accepting federal bribes in exchange for giving up our rights.
41. Water is the final battle we will deal with. Let's not get there. Protect our resource; keep it here in the region where it originates. Use common practices to regulate and don't get too complicated. Our communities cannot survive without this resource, physically and

financially. Don't allow heavy water use in arid parts of the state. Don't allow large corporate farms to over use water where we don't have any. The financial gains from our water resources should be kept in state not outside. Sustainable use will help these issues. Water, like the mountains, coast, and natural beauty of Oregon are a state wide, publicly owned resource that belongs to all. Treat it as such, require that everyone does, and help fund improvements in ways that are sustainable.

42. I fully understand and respect our need to protect the rivers and streams, and I support it 100%. But we also need to be able to use water from the rivers for our future hydrogen-based economy. Water is the coal and petroleum of the very-near future. It is the perpetual energy 'machine' and we need to be able to access it in a controlled and respectful fashion.
43. I appreciate the internet survey opportunity. Often, I just don't have time to write a letter, figure out just who to send it to, etc.
44. Thank you for taking this into consideration. We wish you the best in this very important job.
45. Thank you for this opportunity. All community members need to be more informed about their source of fresh water and to be aware of potential ground water, well, and river pollutants, inappropriate use and waste.
46. For starters: Start applying the hardness-dependency factors mandated in the standards and criteria, but often not properly used for very low calcium carbonate waters ecotoxicologic assessment in our mid coast Oregon waters. Many pollutants greatly increase in toxic effects as hardness level decreases. Apply this to new data gained through an intensive study of toxic metal anthropogenic input to our salmon stream high priority sites. These inputs are identified as NPS pollutant problems and need increased sampling, analysis, and detailed quantification and ecotoxicologic assessment on a site-specific basis. Huge numbers of lost lead fishing sinkers are added to many of these habitats each year, are readily demonstrable to be dissolving into these waters and to be the source of colloidal particulate can stay suspended for miles to expose gill and gut to Pb particles where they can dissolve in place greatly increasing toxic potential population limiting effects in Coho and other salmonids as they transition to the ocean phase where we can't well observe population declines from these exposures. We need to know to what degree this is happening. The Siuslaw River is polluted with toxic metals leaching and flaking into the water from seven heavily degraded railroad bridges that have been contaminating salmon for decades. This needs quantification and clarification with scientific integrity. These are the tip of the ecotoxicologic iceberg of potential sources that probably have population limiting effects on the salmon and associated species that support salmon, as well as humans that recreate in these waters and become similarly exposed. This never shows up on 303d, or any other meaningful assessment of water

quality. Why not? What is up with that? Children are placed in high lead contaminated riverine pothole 'bath tubs' to play while the families continue to swim in the streams. These children are very likely getting dosed with percutaneous and particulate 'hand to mouth exposures.' These activities have been traditional for decades, yet we still find no reason to investigate. These children could be suffering lead toxicity effects that limit their mental abilities and overall health. In the near future, water quality contaminant science will identify many such impaired waters, which will limit our beneficial uses of them thus also decreasing the effective quantities that are available for use. We need to attain a fearless approach to water quality monitoring, rather than the current political timidity and ignorance if we are to ever hope to balance resource sustainability and health with beneficial use. We cannot continue to put this investigation off and be ethically responsible.

47. Thank you for taking this time to listen.

48. My family owns an irrigated farm in Yamhill County. We have (and use) water rights on a tributary of the South Yamhill River. Water is very valuable (economically) for operation.

49. DEQ and WRD need a "Go-To" number people can contact with questions (e.g., is rain water harvesting legal).

50. You don't take questions during this presentation. Please describe the difference between real public input and imperial public pabulum.

51. The budget shortfall is an opportunity to streamline agencies. It also motivates cities and districts to work together to control costs and share resources.

52. We need better information on expected climate changes. National and regional averages cannot tell us enough about local climate variations. This is especially true of precipitation. Current models are completely inadequate for describing the expected distribution and seasonal variation of precipitation amounts, other than the conversion of winter snow to rain. Oregon may be one of the fortunate places where precipitation increases enough to moderate the effects of increased temperature. If not, this is still an area where more research and modeling effort is needed. However, if the state decides to proceed, there should be a concerted public education effort that promotes water conservation, supports aquatic species, and reaches out to partner (federal, local) agencies so that the intended outcomes can be realized. Thanks.

53. Thank you for the opportunity to comment.

54. Let's git er done!



55. We might take another look at former Governor Tom McCall's ideas about encouraging people to visit - and then go home!
56. Nice job; great maps.
57. Positivity! "Celebrate Oregon Water!" campaign. Promote Oregon's wonders as education tools - head of Metolius, Willamette Valley Ag Lands, wetlands and groundwater, snow capped Cascades, etc. Get citizen fluency in water sources - groundwater, surface water, rainwater, graywater, recycled water, purified water, desalinated water, and conservation and efficiency.
58. Thanks to the team for developing this strategy.
59. I think Oregon needs to be planning its development more wisely, especially in regards to water resources. There are areas which do not have enough water to support the amount of new families building new homes and moving into the area. However, there is nothing that the planning departments can do to stop the development based on water limitations since there is as yet no code related to water availability that they can use in planning. We need to be honest about what we truly can support and set limits for development. We also need to encourage appropriate use, protection or management of water, i.e. alternatives to lawns, graywater use, stormwater runoff, semi-permeable pavement, riparian areas, etc.