Contents

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DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: A. Review of Programs

SPREADSHEET REFERENCE #: 1,

ASSIGNED: WRD/HELM

BACKGROUND/ISSUE STATEMENT:

See introduction of the various roles and responsibilities. The Drought Annex was reviewed and updated in 2015, as was the Oregon Natural Hazards Mitigation Plan. The State Drought Council has continued to meet this year and work on coordination both between agencies and with local entities on matters related to drought response. In regards to the Drought Annex, staff have identified that one area that remains a challenge is coordination between state agencies, local emergency managers, and drinking water providers.

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
A1 Review of state agency coordination of drought-related program efforts, including Office of Emergency Management, DLCD, OWRD, ODFW	
A2	
A3	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
A1	X						
A2							

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:** The question regarding drought declarations under ORS 536 vs 401 is addressed in the next section.
    a. If continue to include, staff suggest making the recommendation clearer and identifying what the challenge is. Is there a particular issue or problem that requires review? Is there a reason to identify particular agencies?
    b. Potential Proposal to Address Water Provider: OWRD and OHA's Drinking water program, in coordination with OEM, local governments and water suppliers, as applicable, should work to identify and implement actions to improve coordination on matters related to drinking water supply shortages. This also ties into assessing vulnerable systems below.

2. **Notes on Feedback/Next Steps**:

DRAFT IDEAS FOR DISCUSSION 9.26.16
CITATIONS AND/OR OTHER REFERENCES:

State of Oregon Emergency Operations Plan, Drought Incident Annex. Oregon Office of Emergency Management and Oregon Water Resources Department. January 2016.

http://www.oregon.gov/owrd/WR/docs/OR%20EOP_2015_IA%2001%20drought(2).pdf

Oregon Drought Annex

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: B. Drought declarations process and tools (except conservation plans – discussed in 5 and 6)

SPREADSHEET REFERENCE #: 2, 3, 4,

ASSIGNED: WRD Staff

BACKGROUND/ISSUE STATEMENT: =

Overview of Process for Declaring Drought

As noted in the introduction, there are two authorities that can be exercised by the Governor during a drought. The first is a declaration "that a severe continuing drought exists, or is likely to exist," activating authorities under ORS 536.700 - 536.780. These authorities are limited to coordination on water conservation activities and the making available water right tools: the statutes do not provide broader authorities for statewide coordination on other actions. In contrast, the second is a declaration of a state of emergency under ORS 401.165 to ORS 401.204, which provides the Governor with broad authorities to activate resources and assistance, and direct state agencies to undertake coordination and assistance activities. In past years, drought declarations have been issued citing both ORS Chapter 401 and 536 authorities. An evaluation of the authorities and an update to the Drought Annex in 2015, resulted in a change to this practice, with authorities first being activated under Chapter 536, and Chapter 401 only being activated upon more severe conditions, such as a drinking water emergency.

As discussed in the introduction, prior to receiving a drought declaration from the Governor, the county has traditionally been required to first submit a letter from the Board of Commissioners or County Court, requesting the declaration and providing supporting information as to why it is needed. Unlike Chapter 401, the drought statues in Chapter 536 do not require the county to submit a request; however, it has been and continues to be the standard practice that a county request is first required to activate drought authorities under Chapter 536. The Drought Readiness Council reviews the information provided by the county and data about conditions from the Water Supply Availability Committee to ensure that a declaration is warranted. In addition to hydrologic indicators, the Drought Readiness Council also considers impacts on the ground that may require a response. The county's ability to describe impacts is an important factor in the Council's decision. As a result, it is important to note that a drought declaration makes state drought response tools available; however, there are likely to be areas of the state experiencing drought conditions that do not request or require state-level assistance. The Drought Readiness Council provides recommendations to the Governor's Office; ultimately, it is up to the Governor to decide whether to issue a drought declaration.

Discussion of Drought Declarations Process

B1 & B2 - Timing of Drought Declarations - The timing of drought declarations may make it difficult to utilize drought tools and plan for drought. Addressing timing may help both out-of-stream and instream needs. Presentation on instream referred to "first-tier hydrologic drought declaration".

B3 - Staff and TF members have outlined the following in previous meetings, which could be added to the report if this is responsive to the proposal: (1) most of the drought tools are rarely used, if ever. WRD has no record of use of many of the tools, or limited records of such use (ie. not tracked due to infrequency), (2) temporary drought transfers and emergency drought permits are the most frequently used of the tools, however, use of these is often rare or limited except in a few counties where they have had a higher frequency of use (3) all tools are intended to be temporary in nature - multiple years of drought and multiple consecutive years of the use of some of the tools can have longer-term impacts and pose challenges (ie. drought permits), (4) some of the drought tools are not well known and suffer from a lack of understanding about how they would work (special options, drought leases, exchanges, and substitutions), (5) some of the tools are likely not used because drought declarations may occur too late in the year, (6) some of the tools might not be used because WRD has very little resources for education and outreach - therefore, there is a lack of awareness of their existence, (7) tools are intended to be used infrequently and in emergency situations only -

therefore, the lack of use is a good thing. (For example, the preference for human consumption and stock allocates water outside of the prior appropriation system, taking water from senior users), and (8) Many of the drought tools duplicate WRD's regular existing tools; therefore, individuals might go through the regular processes instead.

B4 - Under ORS Chapter 536, the current practice is generally to have the county request a drought declaration and then for a state drought declaration to occur on a county scale. There have been some exceptions, for example, in 1992 there was a statewide declaration, while in 2012 there was a declaration on a sub-basin scale in the Lost River sub-basin. There is no requirement in ORS Chapter 536 that the process involve a county request or occur on a county scale. Some members observed that there may be some pros and cons to the county approach. For example, it was noted that not all sectors or entities within a county are impacted by drought in the same way: only one sector, or one entity (such as a district or municipality) may require assistance or be short on supplies. Some thought that this adds politics to the process of determining a drought declaration and suggested that the Governor declare drought based on scientific indicators and indices. Others noted that the current approach allows for local input into the decisions and accounting for the local and regional conditions.

The difficulty of defining drought is well documented. According to Oregon's Drought Annex,

> "Droughts can generally be characterized by an increased demand or decreased supply of water. In the early 1980s, researchers with the National Drought Mitigation Center (NDMC) and the National Center for Atmospheric Research located more than 150 published definitions of drought. In order to simplify analysis, the NDMC now provides four different ways in which drought can be defined:
>
> - Meteorological - a measure of departure of precipitation from normal. Due to climatic differences, what might be considered drought in one location of the state may not be the same in another location.
> - Agricultural - refers to a situation where the amount of moisture in the soil no longer meets the needs of a particular crop.
> - Hydrological - occurs when surface and subsurface water supplies are below normal.
> - Socioeconomic - refers to the situation that occurs when physical water shortages begin to affect people."[1]

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
B1. Having counties indicate that drought is likely or may occur in advance of a drought declaration and severe conditions, could be helpful to encourage planning and conservation in advance of severe conditions.	
B2. Potentially, this could also allow for access to limited tools (such as leases and water use agreements) and lead to increased outreach and public awareness.	Legislation
B3. Enhanced review of existing authorities granted the commission following a drought declaration: (a) frequency of use; (b) degree of effectiveness; (c) review of resulting issues or problems; (d) need for modification or expanded authorities.	
B4. Revise the drought declaration process so that the Governor declares droughts (1) solely via ORS 536.740 (i.e. without a tie to the county emergency request under ORS 401.165) and (2) utilizing a scientific indicators and indices.	

[1] Drought Annex, Pg 7

DRAFT IDEAS FOR DISCUSSION 9.26.16

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
B1	X						
B2	X						
B3	X						
B4	X						
B5							

STAFF NOTES AND NEXT STEPS:

3. **Staff Notes:**
    a. B1 – WRD has begun a new process where it has a regular water conditions report that is distributed. Department has limited capacity to conduct outreach. Also recall that Kathie Dello had a presentation about efforts to develop a Drought Early Warning System for the PNW. Does this proposal intend to require the counties to warn about drought? Would this require legislation? Would expanding Department's outreach capabilities instead address the concern?
    b. B2 – WRD's regular temporary transfers and instream leases allow individuals to undertake similar actions as a drought declaration. Do the drought tools offer something different that would require that they be made available early as opposed to going through the regular tools?
    c. B3 – Is this a recommendation that the task force undertake this? See information above that explains WRD's initial assessment.
    d. B4 – In the 2015 Drought Annex update, the process under 536.740 is now separate from ORS 401.165. Also note that there are many definitions of drought and many different drought indicators and indices. Remove reference to 401, since that is no longer part of 536 process.

4. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: C. Funding for Drought Planning

SPREADSHEET REFERENCE #: 8, 12

ASSIGNED: WRD

BACKGROUND/ISSUE STATEMENT:

Drought planning has been identified by academics and governmental entities as an essential tool in preparing for and anticipating drought conditions (CITATION). "According to FEMA, taking steps ahead of time to prevent or lessen known impacts from a natural disaster saved $4 for every $1 expended." (Drought Response Program FY 2015 Funding Opportunities (USDOIBR) PowerPoint). Oregon's own Natural Hazard Mitigation Plan (NHMP) identifies the need for support for development and update of local and state hazard mitigation plans.

Community drought planning efforts are limited by a lack of funding and technical support. The Water Resources Department's current programs cannot fund the various planning activities for drought; Water Management and Conservation Plans (WMCP), Curtailment Plans, Conservation Plans, Drought Contingency plans, or Local Hazard Plans. WRD funding programs are intended for broader integrated planning, feasibility studies, and implementation of projects that address long term water resiliency.

Leveraging federal drought funding is dependent on an entity being prepared so it can respond quickly when a grant opportunity is announced. Many aide programs, such as FEMA and WaterSMART, require a minimum cost-share portion for non-federal participants, which can be a significant sum of money to procure under a short application deadline. Without dedicated cost-share funding sources secured prior to a grant proposal request announcement there is significant risk of leaving money on the table if awarded the grant, a scenario which Santiam Water Control District found themselves in 2015.

Furthermore, having plans in place such as a Local Hazard Mitigation Plan, can help position entities to receive federal funding for implementing mitigation projects.PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
C1 Provide funding assistance for planning – this may help communities leverage federal planning and project funding.	Legislation/Budget?

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
C1							

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:**. If a risk assessment of small communities were conducted (see recommendation on risks/vulnerabilities), this could help them better articulate risks and prioritize.

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

Oregon Natural Hazards Mitigation Plan (2015) (ONHMP)

TOPIC TITLE: D. Drought Emergency Funding

SPREADSHEET REFERENCE #: 9, 26

ASSIGNED: WRD, with help from Golden

BACKGROUND/ISSUE STATEMENT:

Some states have identified a need to provide funding for emergencies related to drought. California, Washington and Montana have prioritized funding to protect both human and animal life during drought.

California has invested billions of dollars into drought response and has a number of different programs.

The Washington Emergency Fund, administered by the Department of Ecology, "may provide assistance to public bodies for projects and measures designed to alleviate drought conditions related to agricultural and fisheries survival. " (WAC 173-166-090). The funding assistance is reserve for public bodies projected to receive less than 75% of normal water supply as a result of natural drought conditions, or be expected to experience undue hardship as a result. Additionally, the funds are "only available for projects or measures undertaken in response to drought conditions which are beyond the normal scope of operations of the public body." Funds can be used to modify an existing water source or deepen an existing well, develop emergency or alternate water source, purchase or lease water or water rights to be used during a drought, construct emergency interties or connections, implement emergency water conservation and education programs, build transmission pipelines, diversion structures or storage devices, acquire pumps and accessories for moving water, detect and repair leaks, and line water canals. Public drinking water projects serving populations of 25,000 or less and the median household income is 80% or less than the state is exempt from the match fund requirement.

Montana provides limited funding "for emergency situations such as municipal water supply development and supplementing critical stream flows to avert the collapse of fisheries" during drought conditions through the Renewable Resource Grant and Loan Program Emergency Fund. Existing law also allows the lease or sale of surplus or salvaged water which can "serve to mitigate drought impacts by redistributing water to areas of deficient supply" (85-2-435, -415, -419 MCA). The Environmental Contingency Account is utilized for emergency projects to solve immediate water related problems faced by state and local government… that, if delayed until legislative approval can be obtained, will cause substantial damage or legal liability to the project sponsor" (75-1-1101 MCA). [REF Q].Staff at previous meetings noted the challenges experienced with assisting small water systems with emergency needs for relatively small amounts of funding during drought in 2015. In addition, there was no emergency funding like Washington has to incentivize instream flows or work.

D1. Establish a Fund for Emergency Response Projects for Both Instream and Out-of-stream needs

Existing vehicles for investments in stream flow restoration in Oregon, such as the Oregon Watershed Enhancement Board's Water Acquisition program or Oregon Water Resources Department's Water Projects Grants and Loans program, typically require long-term planning and implementation. These funding sources are critical to meeting long-term needs but not well-suited for meeting immediate, short-term needs. Drought emergency funding to meet instream and out of stream needs would provide additional resources to drought stricken landowners and small water systems while benefiting the public.

D2. Waive Lease Fees During Drought

Instream leasing under ORS 537.348 allows water right holders to temporarily convert their water rights to instream use. Drought conditions may allow for spring and early summer irrigation but reduce mid- to late-summer water availability, potentially reducing or eliminating agricultural production. In contrast, increased spring and early summer stream flow associated with water rights leased instream will often benefit fish and wildlife even during drought years. Instream leasing provides an alternative use of water that benefits the public while drought conditions limit agricultural

production.Currently, landowners who lease their water rights instream pay between $110 (for a renewed lease) to $450 (for a new, multi-party or multi-water right lease) fee to the Oregon Water Resources Department.[2] During drought years, these fees increase the financial burden on landowners looking to provide public benefits. Eliminating these fees during drought years will reduce barriers to instream leasing and the provision of the associated benefits.

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
D1 Establish a fund for emergency response projects for both instream and out-of-stream needs. Provide state funds for the specific purpose of leasing and/or purchasing water for instream use in areas under declared drought. Prioritize funding for streams that support listed fish and/or are of high ecological values. If there is an Emergency Response Fund, how should it be distributed? How much money is needed based on current vulnerability? Funding options should be carefully evaluated. What oversight is needed to ensure proper use of funds? Make a small amount of funding available to address small water system needs. Drought may exacerbate existing small water system challenges and have less capacity to anticipate or respond to issues that arise during drought. Having a small amount of funding to assist these systems during on items that would provide immediate benefit during the drought to provide access to drinking water. Drought emergency funding to meet instream needs should: • Be available to applicants eligible for grant or loan funding under OWRD's Water Resources Development Program; • Proceed through agency review prior to a drought declaration and be available immediately upon declaration of a drought; • Support the following investments o Instream leasing under ORS 537.348; o Forbearance agreements that contractually limit a landowner's use of their own water right if the agreement has the documented support of any of ▪ Oregon Department of Fish and Wildlife; ▪ Oregon Department of Environmental Quality; or ▪ Oregon Parks and Recreation Department. • Require at least a minimal level of monitoring to ensure public benefits from the investment; • Prioritize investments that meet instream needs in waterways that support state or federally listed sensitive, threatened, or endangered species; and • Prioritize investments that are part of a comprehensive water management, conservation, or restoration plan.	
D2 Waive OWRD's instream lease fees during droughtin counties with declared droughts under OWRD's existing authority. Existing statutory authorities allow for this reduction in fees during a drought year. ORS 536.050(5)(a) allows but does not require OWRD to waive all or part of the fees identified for instream leasing. Rather than requiring action by the legislature, this change could be made by requiring OWRD to waive instream leasing fees through changing Oregon's	

[2] 2015. Oregon Water Resources Department. Fee Schedule Effective January 1, 2015. Salem, OR: Oregon Water Resources Department.

Administrative Rules.	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
D1	X	X	X	X			
D2	X		X				

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:** Might consider not limiting funding for instream to regular leases, but extending to drought leases and special option agreements. Might also consider for small communities that OEM has authorities under 401.525, ORS 401.532, ORS 401.534, ORS 401.536.

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

Washington Emergency Drought Relief, Chapter 173-166

http://apps.leg.wa.gov/WAC/default.aspx?cite=173-166&full=true#173-166-090

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: E. Support for water use regulation, drought response and mitigation staff

SPREADSHEET REFERENCE #: 10, 11

ASSIGNED: WRD

BACKGROUND/ISSUE STATEMENT:

WRD's IWRS Coordinator currently serves as the Drought Coordinator, assisting with drought response actions as well as participating in the Oregon Natural Hazards Mitigation Plan. Aside from these activities, WRD does not have staff that can assist communities in a meaningful way in preparing for and anticipating drought. In addition, during the 2015 drought, several staff were pulled off of other activities to work on drought response.

The Department has 21 watermasters housed in five regional offices and 16 satellite offices across the state. Severe drought conditions in 2015 had notable impacts on water distribution. First, regulation took place earlier in the season on stream systems that are typically regulated every year. Additionally, low flow conditions required regulation in areas that generally see little or no regulation in normal years. These low flow conditions meant that some watermasters met with surface water users who did not know they had water rights, or the specifics of their rights. In 2015, watermasters and their assistance regulated 586 stream systems, up from 493 in 2014. Actions were taken to protect instream rights, senior out-of-stream rights, and stop unauthorized use. (p. 4, WRC Agenda Item N, August 2016).

The watermaster corps is the sole provider of water regulation and distribution in Oregon. Regulatory actions are either actions by the watermasters corps that cause a change in water use behavior, or field inspections that determine no change is necessary. This metric gauges the field workload and communication with water right holders and is influenced by weather (wetter years generally require less regulation, such as in 2011), availability of staff to undertake the work, and by external forces such as federal irrigation project management related to Endangered Species Act issues. The data show a sharp increase [in watermaster workload] between 2014 and 2015, due to the severe drought in 2015. This increase in workload to respond to drought was a challenge for field staff, and meant that workloads had to be prioritized accordingly.

Watermaster workloads are increasing statewide due to the increasing number of water rights, wells, population, homes, and the new marijuana industry. County and other funded assistant watermaster and office positions have declined from 37 in 1981 to 17 in recent years, while the number of water rights and the water management and distribution workload has increased in all basins around Oregon. Multiple dry years have intensified competition for water resources. Some watermasters are unable to timely meet all of the needs required of them: water right and transfer/lease application reviews, streamflow measurements, gaging station operation and maintenance, observation well measurements, water use measurement, permit compliance checks, complaint response, water right research, well research, and timely regulation and distribution of water for senior water right holders. Each region has its own set of workload challenges that need to be addressed in order to best serve Oregonians. Some workload challenges include: delays in regulation, excessive overtime (leading to accrual of comp time), insufficient visibility of field presence to discourage illegal use, the need to collect data and measurements for increased regulation, and increased calls and complaints related to water use in the new marijuana industry.

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
E1 Fund additional watermasters.	
E2 Drought response and mitigation staff	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:**. Does text address what task force members were thinking?

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

MEMO from Ivan Gall, Field Services Administrator, Agenda Item N, August 19, 2016, Water Resources Commission Meeting, Update from Watermaster District 5 and Report on 2015 Field Regulation and Enforcement Activities.

2017-2019 Agency Request Budget, Water Resources Department, Budget Narrative

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: F. Outreach and Communication Tools

SPREADSHEET REFERENCE #: 11, 40, 41, 49, 50, 20

ASSIGNED: DeLorenzo, Smitherman

BACKGROUND/ISSUE STATEMENT: WRD can provide info on 2015 drought that pulled staff off of other work, as well as need for WRD to think about drought as an ongoing activity in order to engage in proactive actions for preparedness and mitigation, as well as outreach. Outline 2015 Response actions. Many of these materials are already available in other states. For example: http://cuwcc.org/Resources/Drought-Resources/tool-kit. Added training on general drought mitigating for small water providers (based on location or type of source) could also be a tool (web-based). Hazard Mitigation Plan - 86 - Improve and sustain public information and education programs aimed at mitigating the damage caused by natural hazards

Prior discussions included lack of resources for website, outreach materials, PSAs, education about drought tools and other tools, lack of social media. Etc.

Can be a key factor in helping small water districts prepare and mitigate drought - see discussion on communications below. Outreach could also be a key factor to addressing drought impacts on rivers and fish, i.e. communication/outreach is critical to informing the public about instream leasing and/or conserved water opportunities (i.e. communication to watershed councils, etc).

Communication was identified by some members as a critical component for conservation to be successful, stating that consistent messaging is necessary to inspire voluntary public participation. Educating the public about water management and focusing on how all Oregonians are affected by drought. People need to understand where their water comes from.Highlight Ashland's campaign?> <Highlight other state's investments such as California? Prior discussions included lack of resources for website, outreach materials, PSAs, education about drought tools and other tools, lack of social media. Etc.

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
F1 Developing a communications tool box - Make a Drought Outreach Toolkit available for water systems to facilitate drought and curtailment communications. Many small water providers around the state do not have the tools or resources available to effectively communicate curtailment actions. Currently, the State has limited resources available to help these systems. The creation of an outreach toolkit may help reduce the burden on these staff/resource limited systems. Most large water users have already implemented strong conservation and public outreach programs that can easily be adapted to meet needs and requirements during periods of drought. This Toolkit is intended primarily to help smaller water systems that may not have the resources or funding required to implement or develop conservation and curtailment programs. It's important to note here that drought communications and messaging can be a time consuming process producing undue strain on systems that already are understaffed or underfunded. The purpose of this Toolkit it to minimize expense and time required to develop messaging and make it easier for smaller systems to communicate with their customer base. Develop generic materials related to drought (i.e. pamphlets of water conservation and curtailment, PSAs, website messaging, etc) that could easily be tweaked and modified to be water provider specific could help take the burden off of smaller suppliers who are short on staff. These materials could be hosted on a website for free download/access. Develop educational materials, including videos for all sectors.	

> . > > See appendix.	
F2 Outreach and Education on Existing Tools - Education should include outreach about existing tools - (instream leases, conserved water act, drought tools, etc).	
F3 Need for outreach and public information sharing. Statewide. Education and Public Relations should be on-going and has proven effective in conservation and other areas.	
F4. WaterSense fixtures, EPA WaterSense Program -Short Term -Provide educational tools on the use of these products and direct people to their local water utility to find out if they have incentives for installing these products.	
F5. Communicating drought preparedness could also provide some benefit. The EPA has developed a check list of steps that water users could take to prepare. https://www.epa.gov/sites/production/files/2015-06/documents/drought_0.pdf	
F6 Concept that would look at more frequent billing, or put differently would provide more info to the consumer	
Modeled after the resources developed by the California Urban Watershed Conservation Council and the US Environmental Protection Agency these resources can be broken up into 5 categories: 1. Model Water Management/Curtailment Plans, 2. Water Loss and Supply Alternatives, 3. Customer Programs and Communication, 4. Water Supply Fact Sheet, 5. Water Resources Funding. • Model Water Management/Curtailment Plans- Having a developed curtailment plan is an essential part of being prepared to respond to water shortages in a timely manner. This tool will provide an overview of curtailment development, reference resources and tools, and provide examples of plans from around the state with the goal of helping agencies develop a curtailment plan quickly with minimal cost. This can be integrated with EPA Worksheet 2 (or something similar/more Oregon specific) Update or Develop a Drought Response Plan (attached at the end of this document). • Water Loss and Supply Alternatives- The savings potential inherent to implementing a water loss control program can be more than the savings achieved through other programs combined. These losses represent water that the agency has already paid to obtain, store, treat and distribute. A water loss control program can include leak detection, pressure management, and improved speed and quality of leak repair. The could be integrated with EPA Worksheet 6 (attached at the end of this document) Water Supply and Demand Management. • Customer Programs and Communication- This primer identifies popular and effective water efficiency and conservation programs, and communication and outreach strategies that have been used by water utilities to educate customers and influence water use behaviors. Programs that can be highlighted here include the City of Ashland and Regional Water Provider's Consortium. This section could include: • An index of water efficiency programs • A (high level) Water Conservation Measure Analysis Model to analyze conservation opportunities for the water providers. The model is **simple** Excel-based tool that estimates water savings and costs for various pre-loaded conservation measures based on specific information about the municipality. This may help utilities determine what conservation measures might be most cost-effective to implement. This has been used in California and by the City of Bend. • EPA Worksheet 5 (or something similar) which focuses on system efficiencies and water use reduction measures that can be implemented quickly during a drought. • Strategies for how water providers can communicate with their customers	

• Strategies for how water providers can communicate with the media • References linking examples of effective water efficiency programs and communication strategies • Water conservation outreach templates, i.e. leak detection, outdoor water conservation, indoor water conservation • Water Supply Fact Sheet- A challenge that all water providers face is communicating the value of water to their customer base. To better understand water shortages and the need to reduce use customers first need to understand their water source, the steps needed to make it safe and reliable, and the limits of the supply. This fact sheet will help providers explain their supply and delivery system in clear, well-illustrated messages, which can take several forms, such as: fact sheets, Frequently Asked Questions (FAQs), or newsletter articles. This section would feature a downloadable Water Supply Bill Insert Template and Public Service Announcement Templates for water providers to adapt to their own services areas and disseminate information to their customers. This could be a time saving and cost saving measure for small utilities with limited funds and staffing. • Resources and Funding- This section features approaches to seeking and applying for water agency funding. It includes a basic action plan for procuring needed funds, a list of common funding sources that can be used as starting points to aid in the search of available funds, and additional resources to guide funding proposals. This would also information and outreach on existing tools such as instream leases, the conserved water program, etc.	
Fund Outreach Staff at OWRD to conduct these activities	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
F1							
F2							

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:**.

2. **Notes on Feedback/Next Steps**:

- Alliance for Water Efficiency - http://www.allianceforwaterefficiency.org/
- Home water works - http://www.home-water-works.org/
- WaterSense - https://www3.epa.gov/watersense/
- Water Efficiency Videos
    - How to replace your old inefficient toilet, showerhead etc.
    - How to install a smart irrigation controller
    - How to convert your landscape to a drought tolerant landscape
    - How to save water on your farm or ranch
    - How to read your meter and determine how much you're losing from a leak
    - Do you know where your water comes from… http://northtexaswateriq.org/campaigns/wiq
- Videos showing the extent of the drought https://www.youtube.com/watch?v=JlurSQinUXg
- Q & A
- Where does your water come from?
- List of all available water rebates across the state
- Table showing water usage by appliance/plumbing fixture http://www.ashland.or.us/SIB/files/Indoor%20Water%20Use%20Evaluation%20Guide%204_5_13.pdf
- Prioritize landscape watering; trees, shrubs & flowers, lawn
- How to survive a drought
- How to water your trees
- Fact sheets on WaterSense labeled toilets, urinals showerheads, faucet aerators, pre-rinse spray valves for restaurants, and smart irrigation controllers
- Fact sheets on Clothes washers
- More information and links to presentations on Graywater applications and Rainwater Harvesting
- Provide irrigation scheduling information for different areas across the state
- **Provide links to organizations that do onsite water assessments – agriculture & farms**
- Helpful tips for starting a water efficiency program
    - First steps
    - Requesting a budget
    - Etc.
- Facilitate trainings/classes on how the conservation tools work-
- Links to waterwise landscaping websites
- Billboards
- More detailed information on saving water indoors and outdoors on website
- During drought, put a large icon on the water resource page that visitors can easily see to access drought tools and resources
- Programs for long term drought resiliency – grant program 50/50
- Graphs showing water use by sector across the state
- Graphs showing average water use in the home etc.
- Interactive map that you can click on for more region specific information – utilize GIS
- Improve Your Resiliency to Drought
    - Taking steps to stay ahead of the drought
    - Develop a checklist of tools that apply
- Stewardship and Conservation Awards – Water Resources Commission
    - People like to be recognized for their efforts
    - Continue this program to encourage future efficiency efforts

Current Website Tools to improve – (There is already a lot of great ideas and information, here are a few more)

DRAFT IDEAS FOR DISCUSSION 9.26.16

- Link to City websites instead of a pdf
- List rebates being offered by those cities
- Some document links go to "page not found"
- Sierra Nevada Landscaping document is not applicable to Southern Oregon
    - Add links to City of Ashland's water wise landscaping website http://www.ashlandsaveswater.org/
    - Medford, Hillsboro and Bend also have a water wise landscaping website
- OSU extension link does not go directly to drought assistance
- More information on agriculture resources and financial incentive programs
- More information for agriculture assistance – make easier to find http://www.oregon.gov/ODA/agriculture/Pages/DroughtDisaster.aspx
- Where is the "drought watch" page link on the OWRD website?
- Explain how to use the Water Demand Forecast Model on the website
- Develop a cost -benefit model for implementing efficiency measures

VI. Info- Worksheet examples

Note: These example should be adapted to suit to needs of Oregon water suppliers.

Staffing, Response Plans and Funding

Worksheet 2: Update or Develop a Drought Response Plan

Complete the following actions to update or develop a drought response plan. Use these worksheets as a starting point, and add to them as necessary to fit your utility. Save this worksheet to your computer before making any changes.

Responsible Person	Start Date	Est. End Date	Completion Date	Est. Budget	Notes and Comments
1. Review your existing plan and identify areas to update, such as drought stages, triggers and conservation activities.					
2. Identify state or regional requirements for drought planning.					
3. Establish drought stages and triggers — these may include water volume as measured by: a percent of storage, inflow or flow rates; reservoir or groundwater levels; climate conditions such as drought indices (U.S. Drought Portal); percent of water treatment or system storage capacity being used; daily peak demand; changes in water quality or other factors that indicate risks to water supply. Trigger levels should be established for going into and coming out of different drought stages.					
4. Establish water reduction goals for each drought stage — goals can be a percent reduction or a specific volume (for example, acre-feet or gallons per day). It may be useful to have both system-wide goals and targets for customers.					
5. Develop water savings measures for the utility and customers for each drought stage — for the utility, these might include leak detection, reduced main flushing and system pressure management. For customers, these might include limits to outdoor irrigation by specifying days or hours that outdoor watering is allowed. There may be different required water use reduction measures for each customer class (residential, commercial, industrial and agricultural).					
6. Establish variance procedures — some reductions can cause hardships for customers, or have health and safety implications. Have a procedure in place to review and approve variances administratively without needing to involve your board or council.					
7. Establish enforcement procedures — most customers will comply with the restrictions, but your utility will need to determine how and who will enforce them. Some utilities add a surcharge on the water bill, others work with their local government to write tickets or issue citations. Available options may vary between states or municipal codes.					

Water Supply and Demand Management

Worksheet 5: System Efficiency, Water Demand and Customer Use

This worksheet focuses on system efficiencies and water use reduction measures that can be implemented quickly during a drought. Add other items you would like to track at the bottom of the worksheet. Note that the actions below do not need to be completed in the order listed. Use these worksheets as a starting point, and add to them as necessary to fit your utility. Save this worksheet to your computer before making any changes.

SYSTEM EFFICIENCY

Responsible Person	Start Date	Est. End Date	Completion Date	Est. Budget	Notes and Comments
1. Increase leak detection and repair efforts in the distribution system. Ask your customers and all field personnel to report leaks.					
2. Estimate costs of repairs and potential labor overtime or emergency contractors if needed to make repairs quickly. Coordinate with your financial team to make budget adjustments and ensure funds are available. Plan for more frequent main breaks due to shifting ground because of reduced soil moisture.					
3. Consider the following to save water in your system: • Managing pressure to help reduce leaks. • Recirculating backwash water to the head of your treatment plant.					
4. Use of reclaimed water from your wastewater treatment plant could be an additional water supply, or could be used for non-potable uses such as construction, irrigation or manufacturing. Assess capital requirements and customer access points, as well as metering, administrative and regulatory requirements to see if it is feasible.					

CUSTOMER CONSERVATION

Responsible Person	Start Date	Est. End Date	Completion Date	Est. Budget	Notes and Comments
5. Identify essential water uses for health and safety and economic stability (hospitals, manufacturing, indoor use, fire protection), and estimate water usage (winter usage may provide a good estimate of how much water is needed for essential uses).					

Responsible Person	Start Date	Est. End Date	Completion Date	Est. Budget	Notes and Comments
6. Meet with large water users. Ask them to voluntarily reduce their use.					
7. Work with other departments or local governments to: • Limit vehicle washing. • Limit or stop park irrigation. • Shut off decorative outdoor water features. • Defer some routine maintenance such as main or hydrant flushing (when not required by regulation or for health and safety).					
8. Establish reduction requirements and goals for your customers and provide tips for how they can save water.					
9. Peak daily or hourly usage during hot and dry periods can be more of a concern than overall water use due to limited treatment plant, storage or transmission capacity. If this is true for your utility, limit outdoor water use to specific days per week or hours per day based on odd and even street addresses, for example.					
10. Consider requiring businesses with cooling towers to increase cycles of concentration or decrease internal temperatures by a few degrees.					
11. Estimate potential water savings from the reduction measures, such as outdoor irrigation schedules and savings from prohibiting all outdoor water use. Keep in mind that some customers may not be aware of the restrictions, so you should not plan on 100 percent compliance. Add up the savings to see if your proposed measures are enough to achieve the water savings goals in your drought response plan.					
12. If permitted in your state, encourage your customers to use gray water (water from washing machines and sinks), capture condensate from air conditioners or install rainwater collection systems for non-drinking uses such as outdoor watering.					
13. Additional action					
Additional notes					

Water Supply and Demand Management

Worksheet 6: Identify Additional Water Sources

Consider the following approaches to secure additional water supplies. Not all of these will be available to all utilities. Add other items you would like to track at the bottom of the worksheet. Note that the actions below do not need to be completed in the order listed. Use these worksheets as a starting point, and add to them as necessary to fit your utility. Save this worksheet to your computer before making any changes.

Responsible Person	Start Date	Est. End Date	Completion Date	Est. Budget	Notes and Comments
1. Evaluate shifting production from one water source to another, if you have more than one source available.					
2. Identify vendors or utilities that may have potable-water hauling trucks (for example, military facilities or emergency response agencies). Consider: • Permitting requirements to haul potable water. • Local and state weight requirements when determining what roads would be used for water hauling and where the water will be introduced into your system. • Requirements for truck disinfection and maintenance.					
3. Determine whether you need "filling stations" to provide drinking water to customers at remote locations in your system or private well owners without water. Check with vendors and nearby utilities or emergency responders to see if they have portable storage tanks. Consider: • Securing a location with adequate parking and establishing set-up procedures and operating hours. • Applicable rules and regulations. • Manning the filling stations to prevent contamination.					
4. Begin designing and planning infrastructure projects that will expand supply. Determine vendor or contractor availability and needed schedule for design, permitting and construction. Projects could include: • Lowering well pumps. • Drilling deeper or new groundwater wells. • Lowering intake structures. • Using floating intake structures. • Raising dams (determine regulatory requirements).					
5. Contact neighboring water utilities to explore interconnection options.					

Responsible Person	Start Date	Est. End Date	Completion Date	Est. Budget	Notes and Comments
6. If applicable, discuss with regulatory agencies whether you can reduce water releases from reservoirs to keep more water in storage while still meeting essential flows needed for the environment, hydropower or other downstream uses.					
7. Identify if there are any private water rights owners, groundwater wells or other water supplies that could be leased or purchased.					
8. Contact local, regional or state water rights offices to explore temporary permits.					
9. Contact local, regional or state water agencies for information on potentially available groundwater or surface water sources.					
10. Identify if there are sources that were used historically that could be brought back on line.					
11. Identify potential lower quality water sources, such as brackish groundwater, for non-potable uses or to be used for drinking water with additional treatment.					
12. Blend brackish or lower quality water with higher quality water sources at your existing water treatment plant or lease portable treatment equipment to demineralize or desalinate the water.					
13. Explore ways to supplement recharge of aquifers if you use groundwater.					
14. Check local and state regulations regarding use of reclaimed water; significant regulatory approval may be needed to use reclaimed water as a source of potable water.					
15. Check with your state Water/Wastewater Agency Response Network (WARN), rural water associations or other technical assistance providers and explore possible temporary use of another utility's equipment or support services.					

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:** Staff need to work on combining! Lots of info!

2. **Notes on Feedback/Next Steps**:

DRAFT IDEAS FOR DISCUSSION 9.26.16
CITATIONS AND/OR OTHER REFERENCES:

California Urban Water Conservation Council. 2015. Water Shortage Toolkit. http://www.cuwcc.org/Resources/Drought-Resources/tool-kit

City of Bend Oregon. 2011. Water Management Conservation Plan. http://www.bend.or.us/modules/showdocument.aspx?documentid=5972

USEPA. 2016. Drought Response and Recovery- A Basic Guide for Water Utilities.

CITATIONS AND/OR OTHER REFERENCES:

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: G. Infrastructure

SPREADSHEET REFERENCE #: 14

ASSIGNED: SNELL, DELORENZO, GREEN

BACKGROUND/ISSUE STATEMENT:

There are also barriers to this which should be mentioned later in report. Funding and technical assistance has been raised elsewhere but need to also acknowledge that some citizens don't want improved infrastructure in their backyard, which could also be brought up as an education need so people better understand need for piping and other improvements. Most ag water supply infrastructure has components that are 50 years old or more, some 100 years. Improving for water conservation and efficiency is one part, but also ensuring aging systems don't fail during drought (and there is some engineering info behind how less water can lead to more infrastructure issues).

PROPOSALS FOR CONSIDERATION:

G1 & G2 are pretty similar so I'm going to group them together. For G3 please see K1.

I. Currently water providers large and small have a handful of options for financing infrastructure improvements and addressing aging infrastructure (which would also eliminate water loss from leaks). The programs include the State Revolving Loan Fund and the Special Public Works Fund. Another program, the Water Infrastructure Finance and Innovation Act has been approved by congress, but has yet to be fully funded. While these programs are attractive options for funding infrastructure improved a number of qualifiers associated with these funding options may limit access to water providers. For example, the State Revolving Loan Fund requires that the project meets a health-based criterion, most projects that focus on aging infrastructure and eliminating water loss would not meet this qualifier. Furthermore, funds are limited to projects that are $6 million or less unless the project is approved by the Drinking Water Advisory Committee, which can significantly delay access to funds. The Special Public Works Fund gives priority for funding assistance to projects that "will stimulate industrial growth and commercial enterprise, and promote employment opportunities in Oregon" which also limits access. WIFIA has yet to receive full funding but is intended for projects over $20 million. Funding needs to be made available to water providers for promoting projects that increase diversity of water sources and promote resiliency during drought and other extreme events.

II. Infrastructure improvement can help drinking water providers responsibly manage available water and mitigate drought impacts on various social and economic levels. Infrastructure includes updating and upgrading aging pipes with high leak rates, but it also includes promoting resiliency projects such as interties between water providers allowing for diversification of water sources, and promoting storage projects that would allow for providers to store water when it is most available (winter) to supplement summer supply. To promote water supply resiliency, the barriers that impede funding from the State Revolving Loan Fund or Special Public Works Funds need to be removed, however this is unlikely as it may go against the initial intent that these funds were founded on. Another option would be for the State to create a Water Supply Resiliency Fund, or utilize some Place-based Planning funding on resiliency projects that encompass components to increase system flexibility, or identify alternative water sources. Funding for "inefficient" or, rather, vulnerable systems could be based on analyses conducted as explained in K1. In short, these systems would lack diversity of water sources, interties to neighboring systems, and/or storage options leaving them vulnerable to water shortages.

III. The funding and application of these infrastructure projects also applies to small water systems

DRAFT IDEAS FOR DISCUSSION 9.26.16

IV. Program funding could be targeted to communities or areas identified through vulnerability and adaptability assessments.

V. Infrastructure funding should be considered a long-term strategy and, most likely, would not be viable as a reactionary fix, although individual cases may vary.

G1/G2 Proposal – Recommend prioritizing funding for the improvement of water delivery systems that for efficiency and conservation; Having state policy that prioritizes improving water infrastructure for efficiency and conservation over preserving historic aging infrastructure.

G3 Proposal – Recommend new funding for municipal and agricultural water suppliers to conduct efficiency audits; evaluation of aging infrastructure; including but not limited to engineering studies of reservoirs, canals, pipelines, and other water delivery infrastructure.

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
G1 - Fund infrastructure improvements and address aging infrastructure	
G2 -Fund improvements to infrastructure to eliminate water loss from leaks	
G3 - Conduct a statewide audit of existing water systems and prioritize inefficient systems for funding,	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
G1							
G2							
G3							

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:**. Long-term. Staff needs to work on combining.

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

Business Oregon. 2012. Special Public Works Fund Handbook.

Oregon Health Authority. 2016. Drinking Water State Revolving Loan Fund- Project Priority List.

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: H. Allocation of Conserved Water Program

SPREADSHEET REFERENCE #: 15

ASSIGNED: KOSESAN, PRIESTLEY

BACKGROUND/ISSUE STATEMENT: use of conserved water ORS 537.455 – 537.500

Maybe insert WRD's web description, with a notation that there have been approximately 100 conserved water projects statewide with the bulk of those being in Central Oregon, Umatilla and Southern Oregon where there are groups/users in place who understand the benefits of the Act. Point---statewide education on this program is needed.

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
H1. Review of existing provisions regarding water conservation: a) utilization of conservation program; (b) identification of any impediments to the use of the program; (c)methods to enhance program utilization or	
(d) statutory modifications to increase use of program.	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
H1							
H2							

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:** Long-term. Education is included in Outreach section.

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

It would be helpful if the WRD could provide group with a list of conserved water projects to date by Basin.

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: I. Reducing tax risks associated with leasing water rights appurtenant to EFU lands.

SPREADSHEET REFERENCE #: 37

ASSIGNED: Golden

BACKGROUND/ISSUE STATEMENT: Instream leasing allows water right holders to temporarily convert their water rights to instream use under ORS 537.348. These leases may temporarily move water rights from lands zoned for Exclusive Farm Use (EFU) zoning to instream use. The landowner will typically fallow the associated lands during the instream lease period. ORS 308A.050 – 308A.128 define "farm use" and outline that EFU lands are assessed and taxed at a lower rate. Currently, "farm use" does not include temporary instream leasing. InWith increased exurban population growth in areas such as Deschutes County Deschutes County, where land ownership is changing rapidly, instream leasing provides a critical farm management tool to help both existing and new landowners maintain their water rights while learning about or improving farm and irrigation practices. These landowners risk additional tax liability of up to 10 years in back taxes if they participate in a lease and fallow their lands for greater than one year, creating a disincentive to lease in both drought and non-drought years.

Legislative Intent

As stated in ORS 308A.050, legislative intent, "the identification of agricultural land for farm use, as provided by law, substantially limits alternative uses of such land and justifies the valuation of that land based on its agricultural production capability."

Definition of Farm Use

308A.056 (1) defines farm use as "the current employment of land for the primary purpose of obtaining a profit in money" by engaging in identified agricultural production and management practices. 308A.056 (3) provides additional detail by listing when land is considered to be employed for farm use. Currently, leasing water rights appurtenant to land zoned for exclusive farm use does not explicitly fall under any of the identified agricultural production or management practices.

Potential Additional Tax Liability

308(A).116(7) states that "upon disqualification [from the farm tax deferral], additional taxes shall be determined as provided in ORS 308A.700-733." This amount can be up to 10 years of back deferred taxes if the EFU land remains outside the UGB. This risk deters landowners from leasing water right instream.

Limits on Disqualification

Under 308A.743, lands that have been entered into a wildlife habitat conservation and management plan approved by the Oregon Department of Fish and Wildlife or that have been included in a conservation easement may not be disqualified from farm use tax deferral. The proposed change would align instream leasing, a conservation tool, with these other programs by limiting disqualification on lands due to the instream leasing of appurtenant water rights under ORS 537.348.

DRAFT IDEAS FOR DISCUSSION 9.26.16
PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
I1. Eliminate potential risks to farm tax deferral associated with instream leasing by making the following changes to Oregon Revised Statutes: - 308A.056 Definition of "farm use." (3)(a) Farmland, the operation or use of which is subject to any farm-related government program; <u>Including instream leasing programs administered by the Oregon Water Resources Department as described in ORS 537.348(2)</u> - 308A.743 Disqualification limited when land subject to conservation and management plan, conservation easement, ~~or~~ deed restriction, <u>or farmland subject to farm-related government program; procedural requirements. (1) (C) enrolled the water rights appurtenant to irrigated farmland in instream leasing programs administered by the Oregon Water Resources Department as described in ORS 537.348(2)</u>	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
I1	X	X	X				

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:**

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: J. Technical Assistance and Preparedness Plans for Small Water Systems

SPREADSHEET REFERENCE #: 38, 39 and 41

ASSIGNED: SNELL, GREEN, PRIESTLEY (WMCP) / Julie and Suzanne – Other Technical Assistance and Tools

BACKGROUND/ISSUE STATEMENT: The "small" water system designation includes the smallest of systems who operate from a volunteer approach with no office, tools, little resources, etc. to a system of 10,000 population (some definitions include utilities serving up to 20,000 pop.) with possible incorporated city resources or stand alone utility, offices, resources, web page, tech, 20 or mores employees, etc. Purchased water, ground water or surface water with a treatment plant also plays into this as does geographical area and neighboring utilities (interties, assistance), etc.

< Discuss Disparity in technical and funding resources for individuals and small water providers compared to the larger public sector and districts. Small systems don't have staff capacity or money. Small systems need both technical resources and funding.
>Question of duplicity regarding: existing WMCP requirements and existing requirements of OAR Chapt. 333 required OM Plans specifically under source, drought and emergency. Would want to keep it very simple and short and some of this may already be found in emergency plans. >An abbreviated WMCP-lite for a 10,000 pop system might be an easy undertaking and practically useful compared to a tiny utility of 50 to 100 population operated voluntarily.
> If a utility/city wishes to expand upon conservation or curtailment plans and/or policies or incentives, consider locally driven rather than state driven.
>OAWU has produced a template to address chapt. 333 OM requirements and provides regular formal training classes.

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
J1 Some California water providers are using. It's a Drought Response Tool developed by a consulting group which is an Excel-based spreadsheet model to help agencies identify water savings opportunities, by customer sector and major end-use, and to quantify and compare the potential water savings benefits of implementing various suites of drought response actions. A similar tool (or concept) could help many water suppliers determine where best to focus conservation efforts. http://www.ekiconsult.com/news/ekis-drought-response-tool-a-customized-analytical-model-designed-to-increase-the-certainty-and-transparency-of-drought-response-planning/	
J2 A good format for a WMCP-lite may be simply a short question and answer format that could be distributed to all small water providers who don't currently have one on file. This form would pull out key elements of WMCPs such as water supply and keep it simple. For example- maybe we just focus on the development of section OAR 690-086-0160 – Municipal Water Curtailment Element, which asks the water user to evaluate the ability to maintain delivery during long-term drought or other source shortages caused by a natural disaster, source contamination, legal restrictions on water use, or other circumstances. If we link this up with a toolkit (see communications/outreach) it may take a lot of the burden off small water users. >WMCPs for smaller entities: Governor to direct WRD to produce and make available a scaled down, off-the-shelf WMCP for smaller entities, including those that may not have a WMCP trigger (e.g. home owners associations, mobile home parks, smaller special districts). > If considering small utility WMCP-lite – very abbreviated and purposeful for this small sized utility and possibly include source (rights), alternative source or backup skeleton plan and curtailment	

triggers/plan. OAR Chapt. 333 could be expanded/focused on in training/outreach to broaden small system plans and address source, drought, emergency. <creating a template or abbreviated plan such as a WMCP-lite or a Drought Response plan; developing regional model plans (similar to Texas); providing technical assistance or funding support; >	
J3 Communicating drought preparedness could also provide some benefit. The EPA has developed a check list of steps that water users could take to prepare. https://www.epa.gov/sites/production/files/2015-06/documents/drought_0.pdf	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
J1							
J2							
J3		x		x			

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:** WRD will work on refining language.

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: K. Assessment of Risks and Vulnerabilities

SPREADSHEET REFERENCE #: 42

ASSIGNED: PRIESTLEY (INSTREAM), NASH, DELORENZO

BACKGROUND/ISSUE STATEMENT: According to (REF AB pgs 12-13), data on vulnerabilities and impacts can help to target response efforts. (Fontaine M.M. et al. 2012). Colorado's Drought Mitigation and Response Plan, provides an example of how to direct response efforts based on impacts and vulnerabilities (Board, C. W. C. (2010)). Should State have directed response efforts based on impacts and vulnerabilities? If so, does Oregon have adequate impact and vulnerability data to inform State response actions?

In conducting the risk assessment for drought, OWRD found that it had little data or information to conduct the risk assessment; therefore, drought declarations were used as a proxy for determining which areas of the state are most vulnerable to drought. This approach provided a starting point for analyzing risk until there are resources to conduct a more rigorous analysis.

"Although we know that areas in Oregon have suffered from drought, there has not been a coordinated effort to systematically characterize how frequently droughts have occurred, or the impact on Oregonians and ecosystems. Communities are beginning to plan for worst case drought scenarios and need better information about the frequency, duration, and intensity of previous droughts in order to assess the appropriate response. Comprehensive information is not currently available by region, or statewide." Table 3-2

Response strategies should be geared toward those most impacted or vulnerable to drought, however, the state has no systematic process in place to track impacts or resources to complete a vulnerability risk assessment.

The state should provide funding for OSU Extension to conduct a statewide study, any year that drought conditions exist in the state, which evaluates the impacts of the drought on agricultural production, including but not limited to the economic impact on individual farms, ranches and irrigation districts, changes in soil conditions, changes in cropping patterns, changes in the productivity of businesses that are dependent on agriculture, changes in land ownership patterns, and the viability of agricultural lands.

I. Evaluation of Existing Resources

Impact assessments in Oregon consist of leveraging existing reporting requirements intended for planning and regulatory programs other than drought impact assessment. Data obtained by leveraging existing data reporting requirements is limited to first-order drought impact data i.e., reduced snowpack, lower reservoir levels, reduced stream flow, reduced soil moister, increased vegetation stress, depreciated water quality, and increased wildfire risk. This data, which Oregon does a fine job of collecting, is very important for assessing drought exposure, because it's most useful for developing and implement short-term, reactive drought management options. It is not sufficient for assessing vulnerability (Abraham, 2006). Oregon needs to develop a system that can assess system sensitivity and adaptive capacity.

II. Drought Risk Assessment and Management.

How can Oregon assess drought impacts and vulnerabilities?

A state wide vulnerability assessment for public water suppliers (including small systems) should include information on water rights, contractual agreements, state and federal environmental law, IGAs and entitlements (Kansas Water Office 2007). Fundamental questions to address include (Abraham 2006):

- Which systems have priority rights to below-average surface water during a drought?
- Which systems do not have priority rights to below-average surface water during a drought?
- When would lower priority systems begin to experience water shortages?

This should be combined with an assessment of adaptive capacity. Adaptive capacity focuses on how public water suppliers and their customers handle low water supplies. Fundamental questions to address include (Colorado Water Conservation Board 2004):

DRAFT IDEAS FOR DISCUSSION 9.26.16

- What second- or third-tier impacts that result from drought?
- What factors can help systems adapt?
- What factors can inhibit adaptability?

This information gained from the vulnerability and adaptability assessments would then be used to identify, and ultimately assist the most vulnerable systems with source, distribution, and treatment capacity limitations (Abraham 2006).

IV. This framework also applies to small systems.

V. In most cases a high level analysis of the municipal sector will be cost prohibitive. One solution is to collect this data through a series of well-designed/formatted surveys conducted online or by phone. Focus groups, interviews, and case studies can also be used as tools.

VI.

VII. *How can Oregon use assessments to guide and develop long-term planning and mitigation programs?*
The majority of data obtained from vulnerability and adaptability assessments will be most useful when applied to long-term planning. Information gleaned can be used to formulate policy aimed at reducing vulnerability and provide a foundation for targeted funds, i.e. to increase system flexibility, or identify alternative water sources. It's important to note that the assessments can be used to lay a strong foundation for Topics M, G, and F identified in this document.

CITATIONS AND/OR OTHER REFERENCES:

Abraham, Joe. 2006. Assessing Drought impacts and Vulnerabilities for Long-Term Planning and Mitigation Programs. The University of Arizona.

Colorado Water Conservation Board. 2004. Drought and Water Supply Assessment.

Kansas Water Office. 2007. Public Water Supplier Drought Vulnerability Assessment.

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
K1 Assessment of Vulnerabilities and Impacts - Asses drought impacts, risks, and vulnerabilities in order to better understand, prepare, and recover from drought for all sectors (ag, muni, instream, etc). There is a lack of quantifiable impact data. Understanding impacts and having robust impact data is essential to leveraging federal FEMA funding for resiliency projects. > Maintenance of information from recent periods of drought (establishment of central repository of information regarding impacts resulting from drought). Thorough review of information may assist with efforts to mitigate impacts during future drought periods. > funding to quantify impacts of drought on agriculture and better understand the economic impact of drought on rural communities. Assess vulnerabilities on all sectors. Determining which systems are truly affected by drought conditions compared to utilities with poor management practices, no finances, etc. and take advantage of drought declaration and funding. Also those with annual reoccurring low water/drought symptoms due to source or lack of design, planning, management, etc., and need of annual summer trucking in of water, etc. How many utilities need help of 3,423 public water systems compared to calls/requests from general population questions, etc. ? Consistent with Hazard Mitigation Plan Actions - 77 & 105 - Develop and implement methodology for gathering data and identifying the communities most vulnerable to drought and related impacts; 81 - Continue to refine priorities, and those at greatest risk; 80 - Continue to refine exposure, vulnerability, and losses. Assess	

drought impacts on river systems, especially those supporting threatened, endangered or sensitive species.	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
K1							

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:** Need to combine proposals.

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: L. Scientific Data

SPREADSHEET REFERENCE #: 43, 44, 45,

ASSIGNED: WRD

BACKGROUND/ISSUE STATEMENT:

Successful water management is dependent on the collection and evaluation of meaningful and representative data, which becomes more important as water supplies are constrained, particularly during droughts. Improving the quality of scientific monitoring data collected by the state, in collaborative effort with its other natural resource agencies, has been identified as a need in the Natural Hazard Mitigation Plan (NHMP), the Integrated Water Resource Strategy (IWRS), and the Water Resources Monitoring Strategy.

Increased monitoring for low streamflows and groundwater levels is critical for both drought management and resiliency planning. A network of strategically placed stream gages and observation wells enable Department staff to collect valuable data about water resource conditions across the state at any given time. The challenge is to have a monitoring network design that adequately, efficiently, and effectively captures water resource data essential for proper management of the state's water resources (Monitoring Strategy).

Water supply forecasts, such as those developed by the NRCS and the Northwest River Forecast Center, rely on stream gage data from rivers throughout the state. However, not all gages accurately capture low-flow events. Accurate low-flow measurements help to track water supplies for real-time distribution and allow for trend analysis and prediction of future low-flow events. Gages useful for tracking drought include those used to distribute water during low-flow periods (e.g., summer and fall), gages with high-quality records associated with the lower end of the rating curves, and gages used by other regulatory agencies that compute low-flow statistics.

Finally, data on snowpack sometimes relies on only a few data points. Snowpack is important to forecasting water supplies; therefore, increased snotel data may assist in better understanding water-year conditions.

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
L1 Increase streamflow measurement and recording - Add real-time telemetry at existing gaging stations (39) and expand the state's stream gaging network. Seek stable funding for the operation, and maintenance of stream gages (97).. recharge	Funding
L2 Increase the number of sampling locations to ensure data is representative of local conditions, specifically snow survey location (NRCS)	Funding, Staff
L3 Provide funding and gather more groundwater data and increase analysis (USGS/WRD joint studies) to better understand Oregon's aquifers, especially the size, replenishment rates, sources, and hydrologic connections between surface water and groundwater.	Funding, Staff

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
L1							

DRAFT IDEAS FOR DISCUSSION 9.26.16

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:** IS this the information the group was looking for?

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: M. Storage to Increase Resiliency to Drought

SPREADSHEET REFERENCE #: 51 [see also 35]

ASSIGNED: DELORENZO, NASH, SNELL

BACKGROUND/ISSUE STATEMENT: See IWRS Recommended Action 10B – Improve Access to Built Storage. [See IWRS discussion page 90]. Action 10E – Authorize and Fund a Water Supply Development Program. Action 13C - Fund Communities Needing Feasibility Studies for Water Conservation, Storage, and Reuse Projects. Action 11A—Improve watershed health, resiliency and capacity for natural storage.

Having redundant and emergency sources of supply can provide a resiliency benefit for municipal water providers and Oregon communities. Droughts rarely occur to the same extent in different watersheds. Therefore, developing multiple sources of supply allow water providers to provide drinking water and not stress a single resource. Some water providers have access to large municipal storage reservoirs while others rely on the "run of the river" leaving them significantly more vulnerable to the effects of drought in their watershed. It's important to note that this topic is strong connected to topics K and G.

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
M1. The role of storage to increase resiliency to drought: some members advocated for the State to promote development of storage projects, conduct storage site prioritization, and provide other assistance (unspecified). >Increasing storage capacity in Oregon is a critical long-term drought planning need. >Conduct storage opportunities inventory of potential sites for storage, including both surface and groundwater resources: (a) Identification of existing surface water storage facilities that may be increased in size with minimal impacts;(b) Identification and implementation of any pilot projects for above ground or below ground storage;~~(c) Status or progress report on use of funds allocated during Oregon's 2015 Legislative Session ($50 million).~~ (c) Identification of potential natural storage sites M1 Proposal – Provide greater funding/prioritization of storage projects that address drought and/or critical water shortages. Provide incentives for innovative, off channel projects that yield economic and environmental benefits during drought. Review previous WRD study on above and below ground storage sites, revise as needed, use list to support community level planning efforts around storage. Evaluate barriers to storage, including but not limited to regulatory and funding structures.	
M2 Need for modified flood control/spill procedures for reservoirs in times of prolonged drought. It relates to climate change and need to ensure that as we face water shortages that we are learning and modifying procedures to ensure that communities are still protected from flooding while having more water later in season for farms, communities, fish, and recreation. Look at what state options there are for flexibility in fill/spill. Would need some sort of sideboards for conditions (maybe years of drought). M2 Proposal: Evaluate current state rules and statutes related to reservoir management; evaluate impacts of multiple drought years on reservoirs statewide; develop recommendations for modified spill/fill regimes as needed to provide greater flexibility to water managers in times of drought while still maintaining reasonable level of flood control protection. LT action – evaluate and address impacts of climate change on reservoir management	

Reallocation of storage water in existing reservoirs should be considered and evaluated. This ties into concept M2. The Willamette Basin Review Study (reallocation of stored water) is an excellent example of a resource that could be used to combat drought in Oregon. The stored water in the Willamette Basin projects equals approximately 1.6 million acre feet, with only 90,000 acre feet allocated for irrigation contracts. The stored water in the Willamette projects could serve as a redundant source of supply to Oregon communities while providing an instream benefit downstream to the contracted point of diversion. The Reservoir Study is a cooperative cost-shared study with the U.S. Army Corps of Engineers. Funding for the Study has been provided by the federal government, the State of Oregon and more than 60 cities, special districts, organizations and commercial and industrial firms indicating the need to communication and transparency across all sectors. The reallocation of federally stored water also highlights the need for greater communication and transparency between the Army Corps and water stake holders (M2). It may be possible that other communities can benefit from the reallocation of storage water while minimally impacting the environment. The reallocation of stored water is a long-term mitigation strategy ideal for ensuring that communities have enough water to support growth and industry while being resilient in the face of climate change and drought.	
M3 – Direct WRD to evaluate authorities under ORS 549.605-549-645 related to participation in federal water conservation and flood control projects.	
M4 - Aquifer storage and recovery (ASR) projects also need to promoted and studies made more accessible financially. ASR projects can provide a redundant supply that can be useful in emergencies and to assist in meeting peak demands. Non-peak season water is treated and injected into available aquifers, then withdrawn during the peak season. This also creates less stress on the resource, and allows municipalities to delay infrastructure projects for peak demands. In areas where above ground storage is not practical or accessible ASR can help reduce system vulnerability. ASR, however is more applicable to short-term mitigation, although the development of ASR projects may take years. ASR is used to meet peak demands during times of diminishing flows. This, in turn, helps to mitigate the immediate impact that the water withdrawal would normally exert have on the water system.	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
M1							X
M2							X
M3							X
M4							X

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:**. Long-term. Need to work on combining various proposals. Oregon's completed an assessment of above and below ground potential storage sites in 2009. See: http://www.oregon.gov/owrd/pages/law/owsci_info.aspx#Potential_Water_Storage_Sites.

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

Water Resources Department. 2013. Willamette Basin Review - Reservoir Study.
https://www.oregon.gov/owrd/Pages/mgmt_res_study.aspx

Oregon's Policy on Water Storage facilities: ORS 536.238---Policy on water storage facilities

(1) The Legislative Assembly finds and declares that:
(a) The water resources of the state are critical to the economic and recreational well-being of the people of Oregon.
(b) The future vitality of the states economy depends on immediate planning to insure future availability of water resources.
(c) Measures to insure adequate water resources to meet the needs of future generations of Oregonians must be pursued.
(d) The potential for a future shortage of water poses serious risks to public health, safety and welfare and therefore is a matter of statewide concern.
(2) Therefore, the Legislative Assembly, in addressing the problem of how to insure adequate water resources for in-stream and out-of-stream uses in the future, declares that it is a high priority of the state to both:
(a) Develop environmentally acceptable and financially feasible multipurpose water storage facilities; and
(b) Enhance watershed storage capacity through natural processes using nonstructural means. [1993 c.386 §1]

See also, OAR 690-410-080 Water Storage.

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: N. Groundwater Credit System for not using water to bank it for drought

SPREADSHEET REFERENCE #: 17

ASSIGNED: WRD

BACKGROUND/ISSUE STATEMENT:

OWRD's understanding of the program in Washington is that it is a groundwater replacement program, in which Ecology has supported infrastructure construction to deliver Columbia River water to the area so that farmers can use surface water in lieu of groundwater. Groundwater rights are not lost but cannot be transferred (so overall use is decreased), and can be used if the new surface water deliveries dry up (so can be reestablished during drought).

With respect to artificially recharged waters, the Department already has rules in place governing carryover storage from year to year (OAR 690-350). Several operators maintain a "bank" of artificially recharged/stored water for potential use in future drought years.

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
N1	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
N1							

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:**. It was suggested that this be removed by individual that made the proposal.

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: O. Allow pre-approval of leases under ORS 537.348

SPREADSHEET REFERENCE #: 27

ASSIGNED: Golden

BACKGROUND/ISSUE STATEMENT:

Oregon's instream leasing program provides a voluntary means to aid the restoration and protection of streamflows. This arrangement provides benefits both to water right holders and to instream values by providing water users with options that protect their water rights while leasing water for instream benefits. Water users who are at risk of forfeiture of their water rights due to non-use may find instream leases to be a good management option. Instream water rights provide flows for fish and wildlife, scenic values, and improved water quality. To transfer water to instream uses, the transfer must not injure other existing water rights. Certificates and court decreed rights for surface water and water stored in a reservoir are eligible to lease to instream use. Water that is saved for use through the allocation of conserved water program may also be leased, as well as secondary rights for stored water.

Instream leasing allows water right holders to temporarily convert their water rights to instream use under ORS 537.348. These leases provide flexible tools to meet instream water needs on an annual basis, and each lease can be in place for one to five years.

OWRD's administrative process requires a minimum of 21 days to approve an instream lease. OWRD historically took 60 days to approve a new instream lease due, in large part, to limited staff available to review the large influx of instream leases received each spring. By shifting staff responsibilities, OWRD has decreased the time from lease submittal to lease approval to around 30 days.

Stream flows decline below the levels necessary to support fully-functioning systems as early as April. Even a 30 day delay between instream lease submittal, which typically occurs in late March or later, and instream lease approval contributes to low stream flows that severely limit stream function and the provision of public benefits. Agriculture producers make crop decisions early in the growing season. The offset in timing between planting decisions and instream lease application deadlines may result in water users being unable to participate in the program.

During drought years, many streams experience extremely low flows prior to a formal drought declaration. Expedited instream leasing following a drought declaration doesn't eliminate the low flows experienced prior to the drought declaration.

The proposed change would allow a water right holder to submit an application to lease their water instream for up to 5 years and notify OWRD immediately prior to each irrigation season that they desire their water to remain instream. The water right holder can use their water out-of-stream per their water right during all other years. This change would reduce the administrative burden on OWRD, decrease the financial burden to landowners, and allow for increased flexibility in water management.

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
O1 Allow pre-approval of leases under ORS 537.348. Allow a water right holder to submit an application to lease their water instream for up to 5 years and notify OWRD immediately prior to each irrigation season that the landowner desires their water to remain instream. The water right holder can use their water out-of-stream per their water right during all other years.	legislation

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
01							

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:**

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: P. Stream Assessment for High Priority

SPREADSHEET REFERENCE #: 28

ASSIGNED: ODFW/WRD

BACKGROUND/ISSUE STATEMENT:

The Department of Fish and Wildlife and Water Resources Department jointly identified priority areas for streamflow restoration in basins throughout the state in fulfillment of Oregon Plan Measure IV.A.8 between 1998 and 2002. These priority areas represent watersheds in which there is a combination of need and opportunity for flow restoration to support fish recovery efforts under the Oregon Plan for Salmon and Watersheds. WRD is focusing its efforts to aid in recovery of salmonids on these priority areas. Stream flow restoration priorities have been identified for four seasons: Summer (July - September), Fall (October - November), Winter (December - March) and Spring (April - June). Priorities have been developed based on the Water Resources Department nested watershed structure, called Water Availability Basins (WAB). The maps display each river basin, with rankings for stream flow restoration need, stream flow restoration optimism, and the State's priorities for its restoration activities.This data has been used by ODFW to inform the designation of Conservation Opportunity Areas (COAs) described in the Oregon Conservation Strategy (FIND CITATION TO CONFIRM). "[COAs] help focus conservation efforts and financial investment is specific areas to increase the likelihood of long-term success over larger landscapes." (OCS webpage)

The ODFW flow restoration priority watersheds are identified in Figures 1 to 18, attachment of OAR 690-077.

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
P1 Have a instream flow/fish priority stream assessment (where, timing, etc.) available to interested water users. Recommendation for ODFW.	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
P1							

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:** WRD/ODFW would like more clarity about what is meant by this.

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

Oregon Plan for Salmon and Watersheds, https://www.oregon.gov/owrd/pages/mgmt_opsw.aspx

Oregon Conservation Strategy (OCS) http://www.oregonconservationstrategy.org/overview/

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: Q. Implement OAR Division 410, sub-basin conservation plans including setting efficiency standards

SPREADSHEET REFERENCE #: 13

ASSIGNED: Kimberley / WRD

BACKGROUND/ISSUE STATEMENT: 690-410-060 - Conservation and Efficient Water Use - (1) Policy -- The elimination of waste and improving the efficiency of water use are high priorities...Programs to eliminate waste shall be implemented. In addition, improving the efficiency of water use through implementation of voluntary conservation measures.... Priority shall be given to developing subbasin conservation plans and providing public assistance in areas of known over-appropriation of surface water and groundwater and of water quality problems. (2) Principles -- Programs to achieve the policy in section (1) of this rule shall be guided by the following principles: (a) Water users shall construct, operate and maintain their water systems in a manner which prevents waste and minimizes harm...; (b) Major water users and suppliers shall prepare water management plans under the guidance of schedules, criteria and procedures which shall be adopted by rule. The plans shall evaluate opportunities for conservation and include a quantification of losses of water from the systems, an evaluation of the effectiveness and costs of alternative measures to reduce losses, and an implementation schedule for all feasible measures. During the planning processes, consideration shall be given to the environmental impacts from and time needed for implementation of system modifications. The Department shall assist water users and suppliers in the preparation of the water management plans; (c) The Commission shall encourage and facilitate the development of subbasin conservation plans throughout the state by local advisory committees. Subbasin conservation plans shall include measures to assist water users in eliminating waste, other methods to improve water use efficiency in the subbasin, funding proposals to implement the measures and procedures to protect water dedicated to instream uses from further diversion. Priority shall be given to ...areas where water supplies are not sufficient to meet demands. The Commission shall adopt rules to guide formation of broad-based committees, the preparation of subbasin plans, and the submittal of plans to the Commission for approval; (d) When wasteful practices are identified in water management plans and subbasin conservation plans, the Commission shall adopt rules prescribing statewide and subbasin standards and practices that ensure beneficial use without waste. The rules shall recognize that conditions vary for different parts of the state and for different uses; (e) A conservation element shall be developed and included in each basin plan when a major plan review and update is performed; (f) The collection, analysis and distribution of information on water use and availability are necessary... The ability to measure flows at authorized points of diversion is essential to the management of water and the elimination of waste; (g) The Commission shall support public education programs, research and demonstration projects to increase citizen and water user awareness of water conservation ...; and (h) The Commission shall support programs to provide economic assistance to water users to implement desired conservation measures...

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
Q1 Direct WRD to fully implement OAR 690-410-060: OAR 690-410-060 contains important tools to ensure the elimination of waste including but not limited to: i.e. (1) develop sub basin conservation plans and provide public assistance in areas of known over-appropriation of surface water and groundwater and water quality problems, (2) set basin specific efficiency standards and practices for irrigation/agriculture, (3) update basin plans to require a conservation element.	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
Q1							

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:**. These rules have not been modified since they were adopted in 1990. This policy has not been fully implemented, or evaluated in recent years; therefore, it would be helpful to know what the barriers were to implementation. Staffing resources changed after adoption of the policy, so the Department would need to conduct to determine what resources exist or would be needed to implement these policies.

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: R. Tax Incentives to incentivize conservation

SPREADSHEET REFERENCE #: 19

ASSIGNED: Julie

BACKGROUND/ISSUE STATEMENT: Need more research: Believe that energy efficient rebates are not taxed/considered income and there are state tax incentives for making energy efficient change

Tax credits for water efficiency measures – Measures that reduce water use while maintaining the benefits water provides- has been shown to be a cost effective and flexible tool to adapt to drought as well as to address longstanding water challenges in ~~California~~ Oregon (Pacific Institute).

- Water Conserving Equipment or System
  - Drones for examining crops, soil and searching for leaks – http://www.mailtribune.com/news/20160903/drones-help-california-farmers-save-every-drop-of-precious-water
  - Smart Irrigation Controllers – weather based and soil moisture based controllers
  - Flow control and smartphone application for managing water use on crops
  - Water Management Systems – https://www.youtube.com/watch?v=V5WiD8ZPSNk
  - Rainwater Harvesting system – A system that is designed to provide for the collection of rainwater or snowmelt from the rooftop of a building and is capable of storing the rainwater or snowmelt for future use.
  - Graywater Systems
  - Pipe irrigation canals to reduce water loss from seepage and evaporation

Water Efficiency Rebate/Incentive should not be considered taxable income

- http://www.bewaterwise.com/pdf/Water_Conservation_Rebates_Taxes.pdf
- http://igin.com/article-5154-water-rebates-to-be-taxed-as-income.html
- http://hwd.com/wp-content/uploads/2015/12/Copier@HelixWater-org_20151211_101201-003.pdf

Water Tax Credit Example

- http://www.harvesth2o.com/incentives.shtml
- https://www.azdor.gov/Portals/0/Brochure/565_Deleted.pdf

Water Efficiency Rebate/Incentive should not be considered taxable income

- http://www.bewaterwise.com/pdf/Water_Conservation_Rebates_Taxes.pdf
- http://igin.com/article-5154-water-rebates-to-be-taxed-as-income.html
- http://hwd.com/wp-content/uploads/2015/12/Copier@HelixWater-org_20151211_101201-003.pdf

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
R1 Either providing tax incentives and/or not taxing water related rebates as income	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
R1							

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:** Perhaps the recommendation is to consider

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: S. Updated Plumbing Codes and Water Efficient Fixtures

SPREADSHEET REFERENCE #: 21

ASSIGNED: Julie

BACKGROUND/ISSUE STATEMENT:

Other states have updated their plumbing codes for new infrastructure in recent years.

According to the IWRS (pg 50)
"New building construction or remodeling existing facilities is a great opportunity to integrate water and energy conservation into the design process. Oregon has statewide mandatory building codes in 11 different specialty areas, including plumbing and energy. The codes are based on national model codes and are updated on three-year cycles. They establish minimum requirements for all commercial and residential construction in the state.

To provide guidance to local jurisdictions on water conservation, the State of Oregon Building Codes Division (BCD) approved Statewide Alternative Methods (SAMs) for rainwater harvesting (applicable to both commercial and residential construction as well as potable and non-potable uses) and for the use of graywater for toilet flushing. The Division also published a series of *Oregon Smart Guides* for consumers, two of which focus on rainwater harvesting and water conservation systems.

The Building Codes Division…[also has] the Oregon Residential Reach Code and the Oregon Commercial Reach Code, that offer an optional set of construction standards for achieving greater energy efficiency in buildings that are newly constructed, reconstructed, altered or repaired for residential and commercial buildings."

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
S1 Review Building Codes to identify and implement changes necessary to improve water use efficiency for new development.	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
S1							

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:**

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

http://www.ncsl.org/research/environment-and-natural-resources/water-efficient-plumbing-fixtures635433474.aspx

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: T. Incentives for Agriculture or Districts to Do WMCPs / Forfeiture[KP1]

SPREADSHEET REFERENCE #: 24, 25

ASSIGNED: SNELL, PRIESTLEY, NASH

BACKGROUND/ISSUE STATEMENT: Discuss Incentives Provides by Lisa

There is a lack of incentives for irrigation districts or agriculture to voluntarily participate in the WMCP program

A right is considered to be forfeited and subject to cancellation if the right has not been used in the previous 5 years. This "use it or lose" it approach to water rights is a historic and foundational carryover from common law and prior to a permitting system, in which individuals were required to diligently put the right to use, or it would be lost.

Forfeiture was intended to ensure that water would be put to a beneficial use; however, it may have the unintended consequence of causing water users to fear that their right would be forfeited if they did not put it to use in its entirety, discouraging conservation. Changes made to Oregon Law tried to address this concern and encourage conservation by providing that a right could not be lost to forfeiture if the water right holder was otherwise, ready, willing and able to put the water to use, or that if the water is not available, this does not count as non-use for the purposes of forfeiture. Instream leases are also a tool to "stop" the forfeiture clock.

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
T1. Potential options could include Increased assistance for agricultural entities who wish to complete a WMCP. Look at removing or modifying forfeiture requirements within irrigation districts (and similar entities) that manage water, similar to tools municipal water suppliers have. Tool could be tied WMCP's which would further incentivize entities to complete one.	
T2: There is widespread misunderstanding of Oregon's forfeiture law, which does not allow for partial forfeiture as long at the user is ready, willing and able to put water to use. There is also not widespread knowledge of the instream leasing program. Proposal--Increase education on this subject via watershed councils, website, etc.	
T3: Develop a WMPC light program whereby Districts at least outline drought triggers and conservation opportunities they could employ in times of drought to help with proactive measures.	
T4 – Safe Harbor - Information contained in approved Ag WMCP's cannot be used against entity (that submits plan) in court proceedings (including but not limited to protests and contested case hearings)	
T5 – Giving preference for grant funding to applicants that have a WMCP in place - For funding programs, provide additional priority (higher points/score) to Agricultural water suppliers (and similar public entities) with approved WMCP's; or to individual water users within boundaries of entity with approved plan.	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
T1							

STAFF NOTES AND NEXT STEPS:

DRAFT IDEAS FOR DISCUSSION 9.26.16

1. **Staff Notes:**.

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

TOPIC TITLE: U. Allow management agreements such as forbearance agreements to count as use for the purpose of forfeiture

SPREADSHEET REFERENCE #: 29

ASSIGNED: Golden/Kosesan

BACKGROUND/ISSUE STATEMENT:

Contractual agreements have emerged as flexible tools to restore stream flows without temporarily or permanently changing a water right. Under a voluntary or contractual agreement to restore instream flow, a water user forgoes the use of all or part of their water right (a forbearance agreement) or agrees to maintain a minimum flow in a waterway by altering their water use as necessary (a minimum flow agreement).

As an example of this type of agreement, a non-profit organization may pay the most upstream landowner on a tributary to not divert water for or deliver water to 40 acres of their 80 acres of historically irrigated land. The next downstream water user diverts water 2 miles downstream, ensuring 2 miles of instream benefit from the agreement.

These agreements provide flexibility to all parties to the agreement, but they potentially increase the risk of forfeiture of a water right under ORS 540.610. As noted in a recent review of state instream flow laws,

> See pg. 61 - "Nevertheless…*[W]ater* rights holders' concerns about forfeiture or abandonment were reported to us as a barrier to forbearance agreements. One solution to this issue might simply be experience —the more irrigators who enter into forbearance agreements without compromising their water rights, the more other irrigators will be willing to do the same…. There are, however, some states that have taken extra steps to protect water rights in connection with short-term decisions not to irrigate. New Mexico, for example, allows irrigators to agree not to divert water and register their rights in a recognized Water Conservation Program, which protects that right from forfeiture. Colorado has recently adopted a similar provision. Washington allows water rights holders to temporarily donate their rights to the water trust program, leave the water instream, and be protected from forfeiture or abandonment. Another step that would potentially facilitate these deals would be statements of policy through new statutes, rules, or simply agency guidance that make clear that the rules of forfeiture or abandonment do not apply to decisions to temporarily suspend irrigation in order to enhance streamflows."[3]

http://waterinthewest.stanford.edu/sites/default/files/WITW-WaterRightsLawReview-2015-FINAL.pdf

See background on forfeiture above. Three states currently offer alternatives to protect water rights associated with these types of agreements from forfeiture. Colorado law provides some protection to water users participating in conservation programs. New Mexico allows water users to develop water conservation plans and voluntarily leave water instream without risk of forfeiture. Washington allows water users water users to temporarily place (or remove) their water rights in trust with the state with very little administrative burden and no risk of forfeiture.

Currently, fear of forfeiture may prevent water rights holders from entering into management agreements to restore instream flow. Allowing water users to register these types of agreements with the Oregon Water Resources Department, whether through an abbreviated version of a Water Conservation and Management Plan or as stand-alone agreements, could greatly increase flexibility in meeting drought needs while reducing the risk of forfeiture.

PROPOSALS FOR CONSIDERATION:

[3] Szeptycki, L.F., J. Forgie, E. Hook, and P. Womble. 2015. Environmental Water Rights Transfers: A Review of State Laws. Stanford, CA: Stanford University's Water in the West. pp 61. Available at http://waterinthewest.stanford.edu/sites/default/files/WITW-WaterRightsLawReview-2015-FINAL.pdf.

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
U1 Allow management agreements, such as forbearance agreements to be registered with the Department and to count that these agreements as "use" for the purposes of forfeiture if the purpose is to put water instream. While the water would not be protected from other downstream users from diversion, the provision would encourage water right holders to allow for water to stay instream. Allowing contractual agreements to restore instream flow to meet beneficial use requirements. Allowing water users to register these types of agreements with the Oregon Water Resources Department, whether through an abbreviated version of a Water Conservation and Management Plan or as stand-alone agreements, could greatly increase flexibility in meeting drought needs while reducing the risk of forfeiture.	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
U1			X				

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:** 15 years has to pass since the non-use before that right is no longer subject to forfeiture, if it is again put to use. What kind of evidence would be necessary to demonstrate an actual agreement is in place? Does this proposal anticipate that WRD would be entering into these agreements, or that they would be third party agreements? Would there be a limit as to how many years such an arrangement would be allowed?

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: V. Add instream use to any water rightcertificate

SPREADSHEET REFERENCE #: 30

ASSIGNED: Golden/Snell

BACKGROUND/ISSUE STATEMENT:

The proposed change would allow water rights holder to add instream use to an existing water right. As summarized in a recent review of state instream flow laws[BG2],

> ee pg 14 " Two states (California[BG3] and Texas) explicitly allow water rights holders to "stack" two uses (instream and diversionary) onto the same water right, and . *These states* give *water right holders* the flexibility to decide every year how to allocate water between the uses, including how much water to leave in stream. Conservation groups in California are currently beginning to use so-called permissive dedications, because they give water rights holders flexibility on a year-to-year basis to change how they apportion their right, without going back to the state for approval of any change.[4]

http://waterinthewest.stanford.edu/sites/default/files/WITW-WaterRightsLawReview-2015-FINAL.pdf Under this proposed change, a water right holder would submit a transfer application to OWRD. The application would specify an instream use and place of use to be added to the water right. The application would undergo the same review and public process requirements as any other transfer application submitted per ORS 540.520. Following a Final Order approving the application, the applicant would notify OWRD prior to the irrigation season if the applicant would like their water right to remain instream during that season.

This change would allow water right holders to respond to and mitigate for the impacts of drought conditions with a low administrative burden to both OWRD and the water right holder. Instream leases, whether under ORS 537.348 or drought authorities, require an annual administrative process. This change would simplify that annual process.

As noted in Topic O, many streams experience extremely low flows prior to a formal drought declaration during drought years. Expedited instream leasing following a drought declaration doesn't eliminate the low flows experienced prior to the drought declaration. This proposed change would allow water right holders to project and respond more rapidly to drought conditions prior to a drought declaration.

http://www.waterboards.ca.gov/waterrights/board_decisions/adopted_orders/orders/2011/wro2011_0001.pdf

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
V1 Allow instream use as one of multiple designated water uses on a single water right,	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
V1	X		X				

[4] Szeptycki, L.F., J. Forgie, E. Hook, and P. Womble. 2015. Environmental Water Rights Transfers: A Review of State Laws. Stanford, CA: Stanford University's Water in the West. pp 18. Available at http://waterinthewest.stanford.edu/sites/default/files/WITW-WaterRightsLawReview-2015-FINAL.pdf.

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:** The Department would need to be able to know in advance in order to understand what use to protect instream. The sideboards and parameters on the use would need to be in the order in order to prevent injury or enlargement. Staff would need to determine how it would assess future transfers of the same right. If the user fails to notify the Department, does that constitute non-use?

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: W. Groundwater Recharge

SPREADSHEET REFERENCE #: 35

ASSIGNED: WRD

BACKGROUND/ISSUE STATEMENT: http://water.usgs.gov/coop/products/availability/gw_storage_recharge.html

Groundwater recharge is viable in some areas of Oregon and the Department has rules governing this activity (OAR 690-350). However, this is typically a short term (generally season to season) drought planning tool as control of underground storage is limited. The Department determines annual carryover storage on a case by case basis given site specific data collected during the artificial recharge project.

SB 1069 grants are available to support feasibility studies of potential artificial groundwater recharge projects. Construction may be supported by the 839 grant program.

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
W1 Groundwater recharge – Recharging groundwater through ponds, farmland, etc. Some areas doing this to increase streamflows and cool the water. Other areas doing this for aquifer recharge for later pumping.	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
W1							

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:**

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: X. Conduct more scientific studies evaluating instream flow needs with climate change

SPREADSHEET REFERENCE #: 46

ASSIGNED: ODFW, GOLDEN, STAFF

BACKGROUND/ISSUE STATEMENT:

Make sure that with climate change and other conditions that the instream water rights are based on current science of what water is available in a given stream reach and with what fish need during key times

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
X1 Conduct more scientific studies evaluating instream flow needs with climate change	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
X1							

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:**

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: Y. Need to anticipate and Mitigate versus Respond

SPREADSHEET REFERENCE #: 54

ASSIGNED: WRD and consult with Rod

BACKGROUND/ISSUE STATEMENT:

Emergency preparedness for drought concept.

Most of the tools appear to be available only during the times of a declared drought by a public entity. A prior evaluation of steps to take during times of normal precipitation would allow a more thorough and balanced discussion of the consequences of various actions or non-actions.

Oregon's Drought Annex and Drought Response tools are intended to be utilized once an area is in drought. These programs are the "safety net," but are not adequate, like any type of emergency response, to fully mitigate all impacts. In recognition of this, in the early 1990s, theories on preparing for drought began to shift from "response" to "mitigation," prompting some states to adopt drought "Mitigation Plans." The literature identified the following key components of drought preparedness: (1) data collection for monitoring, early warning, and prediction, (2) assess risk, vulnerability, and impacts, (3) prepare and implement response strategies, and (4) develop and carry out mitigation actions.[5]

Many of these steps are included in other actions. Oregon's statewide Natural Hazard Mitigation Plan, as well as local Hazard Mitigation Plans or Drought Contingency Plans, are intended to assist in preparing for and taking proactive actions to make an area more resilient to drought.

From a broader perspective, Oregon is supporting four place-based planning pilots across the state that have a broader focus than drought, but that are trying to understand their water resources, understand the demands and challenges on those resources, and then identify potential solutions to meet their instream and out-of-stream water supply needs.

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
Y1 An action plan, created before a drought, would enable a better response with the consequences of each action to be evaluated and known before hand. What seems to be missing is an overall process to balance the issues PRIOR to a drought.	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term

[5] (Wilhite, D. A. (2011). Breaking the hydro-illogical cycle: progress or status quo for drought management in the United States. *European Water*, *34*, 5-18.
Wilhite, D. A. (2011). Breaking the hydro-illogical cycle: progress or status quo for drought management in the United States. *European Water*, *34*, 5-18. *(verified page 11&12, three key elements of drought mitigation plan)*
Schwab, J. C. (2013). Planning and Drought. *Planning Advisory Service Report*, (574). (*verified, page 66)*
Sivakumar, M. V., Stefanski, R., Bazza, M., Zelaya, S., Wilhite, D., & Magalhaes, A. R. (2014). High level meeting on national drought policy: summary and major outcomes. *Weather and climate Extremes*, *3*, 126-132. *(verified page 2)*

Y1							

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:**

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

If something similar to the steps adopted for Oregon's Goal 5 were put into place, there would be frame work for this evaluation.

To paraphrase:

1. Identify ~~potential land~~ uses on or near each resource site and any conflicts that might result
2. Analyze economic, social, environmental, and energy (ESEE) consequences of such conflicts
3. Decide whether the resource should be fully or partially protected, and justify the decision
4. Adopt measures ~~such as zoning to put that policy into effect~~ to reduce, mitigate or avoid conflicts of water usage.

https://www.oregon.gov/LCD/pages/goal5explan.aspx

Goal 5 is a broad statewide planning goal that covers more than a dozen resources, including wildlife habitats, historic places, and aggregate (gravel). It was originally adopted by LCDC in 1974. Goal 5 and related Oregon Administrative Rules (Chapter 660, Divisions 16 and 23) describe how cities and counties are to plan and zone land to conserve resources listed in the goal.

Goal 5 and its rules establish a five-step planning process for Oregon's cities and counties:

1. Inventory local occurrences of resources listed in Goal 5 and decide which ones are important
2. Identify potential land uses on or near each resource site and any conflicts that might result
3. Analyze economic, social, environmental, and energy (ESEE) consequences of such conflicts
4. Decide whether the resource should be fully or partially protected, and justify the decision
5. Adopt measures such as zoning to put that policy into effect

This five-step Goal 5 process was established by rules adopted in 1982, and revised in 1996. The revisions tailored the process to the individual resources covered by the Goal.

For some resources, the revisions give local governments a choice: use new expedited procedures, or follow the standard five-step process. The rules for the new procedures (OAR 660, Division 23) replace the old rules in Division 16 except for cultural (archeological) resources.

An important element of the revised Goal 5 rules is the 'safe harbor' for local governments. A safe harbor is a special

provision that ensures compliance with Goal 5. For riparian areas, wetlands, and wildlife habitats, a city or county can choose the safe harbor or follow the five-step process. The standard process gives a local government more flexibility, but also takes more work and heightens the risk of litigation.

An example of a 'safe harbor' is found in the rule provisions for riparian corridors. The rules specify that along a major waterway, a local government *may* adopt a setback that prohibits development within 75 feet of the waterway's bank. If it does that, the local government will automatically comply with Goal 5's requirement for protection of that particular resource.

The government doesn't need to do any elaborate studies to justify its decision, and its risk of litigation is lessened. If the local government wants to use something other than a 75-foot setback, it may. But in developing an alternative to the safe harbor, it would have to complete the standard Goal 5 process, which would take more work.

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: Z. Drought declarations tools – Conservation or Curtailment Plans

SPREADSHEET REFERENCE #: 5, 6, 23

ASSIGNED: WRD Staff / Kimberely/April re: AgWMCP

BACKGROUND/ISSUE STATEMENT:

ORS 536.780 allows the Water Resource Commission, "upon a finding that a severe or continuing drought is likely to occur," to direct individual state agencies and political subdivisions to prepare "a water conservation or curtailment plan or both." ORS 536.720(2) allows the Governor, after a declaration that a severe, continuing drought exists, or is likely to exist, to order individual state agencies and political subdivisions within any drainage basin or subasin to implement, within a time certain following the declaration, a water conservation or curtailment plan, or both, approved under ORS 536.780. In addition, some entities have developed curtailment plans as part of their Water Management and Conservation Plans.

Existing drought statutes allow for Governor and/or WRC to order state agencies or political subdivisions (which includes municipalities and districts) to develop curtailment/conservation plans, including direction to undertake activities to prevent waste. There was some discussion by the task force about the role of curtailment and conservation plans in drought. One member noted that voluntary conservation efforts had been very effective. Some task force members noted that there are inconsistencies in plans for entities within the same basin and differences in conservation/curtailment triggers; this can cause confusion amongst the public that are within these areas. In addition, not all entities have plans developed, particularly small systems which are discussed in another section.

PROPOSALS FOR CONSIDERATION (number each, fill out table below for each #):

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
Z1; Governor and/or WRC should utilize this authority to include, at a minimum, municipal/quasi-municipal providers and districts, as well as state agencies.	
Z2; Require WMCPs: Governor could present to the Commission and request that, for any such entity without a WMCP, it require these plans to be produced.	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
Z1							
Z2							

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:**

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: ZA. Enforce against waste ([KP4]

SPREADSHEET REFERENCE #: 16

ASSIGNED: WRD

BACKGROUND/ISSUE STATEMENT: Statute, rule and permit conditions all require that water be used beneficially without waste. Standard permit condition language: This permit is for the beneficial use of water without waste. The water user is advised that new regulations may require the use of best practical technologies or conservation practices to achieve this end. See also OAR 690-410.

690-400-0010 (16) "Waste" means the continued use of more water than is needed to satisfy the specific beneficial uses for which a right was granted. The need for water shall be based on using the technology and management practices that provide for the efficient use of water considering:

(a) The economic feasibility of use of the technology and management practices by the water user;
(b) The environmental impacts of making modifications;
(c) The available proven technology;
(d) The time needed to make modifications;
(e) Local variations in soil type and weather; and
(f) Relevant water management plans and subbasin conservation plans.

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
ZA1 Governor direction to WRD to actively enforce against waste and fund extra water masters to do this: Direct WRD to enforce against waste, including regulation of wasteful use and imposing civil penalties. Fund seasonal water masters to actively enforce against waste. No statutory changes are needed; the following can all be achieved under existing authority of the Governor and/or WRD.	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
ZA1							

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:**. See the definition above.

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: ZB. Require WMCP Implementation before funding

SPREADSHEET REFERENCE #: 22

ASSIGNED: SNELL, PRIESTLEY

BACKGROUND/ISSUE STATEMENT:

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
ZB1 Full compliance of WMCP a pre-requisite to state funding: Make full compliance with WMCP, including hitting target leak rate (10 or 15%, depending on plan and stage of plan) a prequisite for qualifying for water project funding (e.g. 1069, etc.) unless that funding request is specifically and strictly for reducing leak rate or accomplishing other meaningful conservation.	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
ZB1							

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:**. Which state funding programs? WRD programs or broader?

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: ZG. Fishing Regulations during drought

SPREADSHEET REFERENCE #: 31

ASSIGNED: ODFW/WRD

BACKGROUND/ISSUE STATEMENT:

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
ZG1 Establish proactive emergency regulation temperature triggers for fishing closures during drought, including protective triggers for thermal refugia. Details to be developed by ODFW.	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
ZG1							

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:**. ODFW working on information.
2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: ZH. Emergency minimum flows for fish

SPREADSHEET REFERENCE #: 32

ASSIGNED: PRIESTLEY, NASH

BACKGROUND/ISSUE STATEMENT: Similar to California's emergency regulations to protect minimum flows for salmon and steelhead, provide for curtailment of diversions in certain streams when insufficient flows are available to protect sensitive, threatened or endangered species. The basic structure of the CA directive is as follows:

a. Voluntary cooperative agreements to maintain emergency minimum flows for listed fish. b. If voluntary plans do not cover a significant percentage of the water diverted in the basin, then mandatory minimum emergency flows for listed fish. c. Curtailment of diversions to meet minimum emergency flows. Flows vary by season and include some pulse flows.d. Curtailment orders suspended if the identified listed fish are not present and/or there is a change in hydrologic conditions.

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
ZH1 Similar to California's regulations, set emergency minimum flows for fish on streams of significant ecological value.	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
ZH1							

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:**. Forbearance agreements have been utilized in the Lostine River to voluntarily achieve a minimum flow. This is a non-regulatory program through a third party.

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES: For further information on how the CA regulations work go to the following link:
http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/milldeerantelope.shtml#newinformation

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: ZC. Water Use Measurement and Reporting

SPREADSHEET REFERENCE #: 47

ASSIGNED: Priestley

BACKGROUND/ISSUE STATEMENT: Water use measurement and reporting is the cornerstone of effective water management. Irrigation Districts and Cities are required to report water use. Most new permits require water measurement and reporting. However, there are thousands of water diversions statewide that are not measuring water use. Widespread measurement would help the WRD and water users better manage water during times of drought, and also build resiliency against drought. Benefits of measurement include, but are not limited to:

- Providing a tool for ensuring compliance with water rights.
- Supplying information for water resource planning and management.
- Informing water users how much water they are using, and
- Helping to better manage a limited natural resource.
- Protects the senior rights of diverters in accordance with their relative priorities;
- Provides for efficient management and use of water during times of shortage

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
ZC1- Governor direction to WRD/WRC to use existing authorities to require measurement and reporting of surface water diversions, groundwater and reservoirs (i.e. including but not limited to ORS 540.310, ORS 540.330, ORS 540.435. ORS 537.665).	
- Governor and/or WRC set near term deadlines for full implementation of all three tiers of the WRC's 2000 Strategic Water Use Measurement Plan (tier one-significant diversions in priority basins, tier two—significant diversions statewide, tier three-all diversions).	
- Provide additional funds to the Measurement Revolving Fund.	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
ZC1							

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:**. WRD needs to confirm tiers. My recollection is that tier 1 was sigpod's with permit conditions requiring measurement. Tier 2 was sig significant diversions in priority WABS, and tier three was significant diversions statewide. These programs are focused on surface water diversions. This is also

2. **Notes on Feedback/Next Steps**:

DRAFT IDEAS FOR DISCUSSION 9.26.16
CITATIONS AND/OR OTHER REFERENCES:

CA: http://www.waterboards.ca.gov/waterrights/water_issues/programs/measurement_regulation/#Benefits

WRC Water Measurement Strategy, 2000: https://www.oregon.gov/owrd/docs/reports/priority_wab_report03-2007.pdf

WA: http://www.ecy.wa.gov/programs/wr/measuring/measuringhome.html

See also KPM #8, various WRC updates

ORS 540.310,

Ditches and canals
- headgates • measuring devices • flumes along lines of ditches

(1) The owner of any ditch or canal shall maintain to the satisfaction of the Water Resources Commission a substantial headgate at the point where the water is diverted. It shall be of such construction that it can be locked and kept closed by the watermaster.

(2) The owner shall construct and maintain, when required by the commission, suitable measuring devices at such points along the ditch as may be necessary to assist the watermaster in determining the amount of water that is to be diverted into the ditch from the stream, or taken from it by the various users.

(3) When necessary for the protection of other water users, the commission may require flumes to be installed along the line of any ditch. [Amended by 1985 c.673 §84]

ORS 540.330,

Reservoirs
- measuring devices • effect of noncompliance

(1) Any owner or manager of a reservoir, located across or upon the bed of a natural stream, shall construct and maintain, when required by the Water Resources Commission, a measuring device below, and one above, the reservoir on each stream or source of supply discharging into the reservoir, to assist the watermaster in determining the amount of water to which appropriators are entitled and thereafter diverting it for their use.

(2) If any owner or manager of a reservoir located across the bed of a natural stream neglects or refuses to put in a measuring device after 10 days notice by the commission, the watermaster may open the sluicegate or outlet of the reservoir, and it shall not be closed, under penalties of the law for changing or interfering with headgates, until the requirements of the commission as to such measuring devices are complied with. [Amended by 1985 c.673 §86]

ORS 540.435.

Installation of totalizing measuring device
- annual water use report • hearing • effect of failure to comply with order

(1) In addition to any other authority of the Water Resources Commission to order installation of a measuring device, if the commission finds accurate water use information necessary because of serious water management problems created by ground water decline, unresolved user disputes or frequent water shortages, the commission by rule may

require a water right owner using any surface or ground water source within the state to install a totalizing measuring device and to submit annually a water use report.

(2) Before the commission implements any requirements under subsection (1) of this section the commission shall:

(a) Cause a hearing to be conducted in the affected area to determine whether a serious management problem exists; and

(b) Allow any affected person an opportunity to present alternative methods or devices that could be used to provide the information necessary to manage the water resource or to alleviate the water management problem.

(3) The watermaster may prohibit the diversion or use of water by anyone who has failed to comply with a commission rule or order requiring installation of measuring devices or submission of a water use report. [1987 c.649 §7]

ORS 537.665

Investigation of ground water reservoirs

- defining characteristics and assigning names and numbers

(1) Upon its own motion, or upon the request of another state agency or local government, the Water Resources Commission, within the limitations of available resources, shall proceed as rapidly as possible to identify and define tentatively the location, extent, depth and other characteristics of each ground water reservoir in this state, and shall assign to each a distinctive name or number or both as a means of identification. The commission may make any investigation and gather all data and information essential to a proper understanding of the characteristics of each ground water reservoir and the relative rights to appropriate ground water from each ground water reservoir.

(2) In identifying the characteristics of each ground water reservoir under subsection (1) of this section, the commission shall coordinate its activities with activities of the Department of Environmental Quality under ORS 468B.185 in order that the final characterization may include an assessment of both ground water quality and ground water quantity.

(3) Before the commission makes a final determination of boundaries and depth of any ground water reservoir, the Water Resources Director shall proceed to make a final determination of the rights to appropriate the ground water of the ground water reservoir under ORS 537.670 (Determination of rights to appropriate ground water of ground water reservoir) to 537.695 (Conclusive adjudication).

(4) The commission shall forward copies of all information acquired from an assessment conducted under this section to the central repository of information about Oregons ground water resource established pursuant to ORS 468B.167 (Ground water resource protection strategy). [1955 c.708 §14; 1985 c.673 §60; 1989 c.833 §58]

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: ZD. Upland forest management

SPREADSHEET REFERENCE #: 52

ASSIGNED: ODF/OWRD

BACKGROUND/ISSUE STATEMENT: The role of upland forest management to increase water yield and quality. Some members noted the importance of the source of waters, such as the management of forests for water quality and water quantity, as well as the need to manage lands to reduce fire risk and impacts of fire on water systems.

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
ZD1	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term
ZD1							

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes:**. Long-term. Is this something to consider for the IWRS PAG? Or to affirm support of IWRS Recommended Action 11A – Improve Watershed Health, Resiliency, and Capacity for Natural Storage. [See IWRS discussion page 99] Action 5B – Assist with Climate Change Adaptation and Resiliency Strategies [See IWRS discussion page 57] Hazard Mitigation Plan 98 - Better coordinate, fund, and publicize programs to reduce the abundance of juniper trees in arid landscapes across Oregon.

2. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES:

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: ZE. Land Use and Water Resources

SPREADSHEET REFERENCE #: 53

ASSIGNED: Rod and WRD

BACKGROUND/ISSUE STATEMENT:

An item to be considered as a part of an overall statement.

The connection between land use and water, while outside the scope of the Drought Task Force (DTF), is part of the discussion of drought. Measures should be taken to providing for the long term health of the agricultural systems in order to fulfill the public policy interest of Oregon's land uses. This applies in rural lands as well as those lands adjacent to population centers.

ORS 215.243(4)

4)Exclusive farm use zoning as provided by law, substantially limits alternatives to the use of rural land and, with the importance of rural lands to the public, justifies incentives and privileges offered to encourage owners of rural lands to hold such lands in exclusive farm use zones. [1973 c.503 §1]

"….justifies incentives and privileges….." is where the case can be made to assuring agricultural interests will have the resources necessary, ie water, in times of drought.

Simply stated if Oregonians want a large part of Oregon to remain EFU, then farmers need the water resources to be successful or there will be pressure to convert the land to other uses. (In the urban areas when land is zoned for high density, it is assumed sewer, water, transportation, etc. will be provided to make it happen. Why do we not assume the same thing for ag. lands?)

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
ZE1 Better link land use and water resources.	

STAFF NOTES AND NEXT STEPS:

1. **Staff Notes**.
    a. Long-term. Is this something to consider for the IWRS PAG? Or to affirm support of Recommended Action 6A Improve Integration of Water Information into Land Use Planning (& vice-versa). [See IWRS discussion page 60].

2. **Notes on Feedback/Next Steps**:

DRAFT IDEAS FOR DISCUSSION 9.26.16
CITATIONS AND/OR OTHER REFERENCES:

https://www.oregon.gov/LCD/docs/goals/goal3.pdf

Oregon's Statewide Planning Goals & Guidelines

GOAL 3: AGRICULTURAL LANDS OAR 660-015-0000(3) To preserve and maintain agricultural lands. Agricultural lands shall be preserved and maintained for farm use, consistent with existing and future needs for agricultural products, forest and open space and with the state's agricultural land use policy expressed in ORS 215.243 and 215.700.

http://www.oregonlaws.org/ors/215.243

215.243[1]

Agricultural land use policy

The Legislative Assembly finds and declares that:

(1)Open land used for agricultural use is an efficient means of conserving natural resources that constitute an important physical, social, aesthetic and economic asset to all of the people of this state, whether living in rural, urban or metropolitan areas of the state.
(2)The preservation of a maximum amount of the limited supply of agricultural land is necessary to the conservation of the states economic resources and the preservation of such land in large blocks is necessary in maintaining the agricultural economy of the state and for the assurance of adequate, healthful and nutritious food for the people of this state and nation.
(3)Expansion of urban development into rural areas is a matter of public concern because of the unnecessary increases in costs of community services, conflicts between farm and urban activities and the loss of open space and natural beauty around urban centers occurring as the result of such expansion.
(4)Exclusive farm use zoning as provided by law, substantially limits alternatives to the use of rural land and, with the importance of rural lands to the public, justifies incentives and privileges offered to encourage owners of rural lands to hold such lands in exclusive farm use zones. [1973 c.503 §1]

DRAFT IDEAS FOR DISCUSSION 9.26.16

TOPIC TITLE: ZF. Reuse

SPREADSHEET REFERENCE #: 55

ASSIGNED: WRD

BACKGROUND/ISSUE STATEMENT:

From page 90 of the IWRS

"Specific water reuse activities depend on the water treatment and resulting quality. More reuse activities can occur with higher-quality water. As treatment technologies improve and public awareness of water reuse benefits increase, more innovative and urban uses of water will become more common. Reusing water can provide many benefits to both water quantity and quality. Water quality can be improved by the reduction of discharged treated effluent (e.g., a municipality recycles treated wastewater by using it to irrigate a park). It can also provide a benefit to water quantity by reducing the demand on drinking water sources (e.g., using non-potable water—instead of drinking water—for toilet flushing). In general, recycled water places fewer demands on freshwater, leaving more water instream or for other uses.

Finding More Reuse Opportunities

Oregon should continue to encourage water reuse activities throughout the state. This can be done, in part, by conducting a statewide assessment of the potential for additional water reuse, matching the water quality of reclaimed water to appropriate end uses. Such an assessment could determine the potential for water reuse to fulfill current and future water needs, while taking into consideration potential impacts on streamflow and water quality.

Water reuse could also be advanced by ensuring that Oregon has the right policies and regulations in place to facilitate water reuse, giving due consideration to the protection of instream flow, water quality, public health, and drinking water sources. Oregon should also consider providing financial or technical incentives for increased water reuse for municipal, industrial, and agricultural uses."

PROPOSALS FOR CONSIDERATION:

Proposal # and Description	Legislation /Admin/ Budget/Staff/Other
ZF1	

Proposal #	I – Evaluate Existing; Recommend New	II. Mitigate on – Ag, Mun, Other	III. Mitigate on Fish and Wildlife	IV. Small systems	V. Data	VI. Info.	VII. Long-Term

STAFF NOTES AND NEXT STEPS:

Staff Notes:. Long-term. Is this something to consider for the IWRS PAG? Or to affirm support of Recommended Action 10.C Encourage Additional Water Reuse Projects

4. **Notes on Feedback/Next Steps**:

CITATIONS AND/OR OTHER REFERENCES: