A. Background on House Bill 4113 (2016)

Drought is not an abnormal occurrence in Oregon, with notable droughts in the 1930s, 1976-77, 1992, 2001-02, and 2015. In 2015, Oregon experienced severe-to-extreme drought across the entire state, resulting in 25 counties receiving a drought declaration – more than any other year since 1992, when a statewide declaration was issued.

In 2015, Oregon experienced severe to extreme drought conditions across the entire state, according to the U.S. Drought Monitor. The 2015 drought was prompted by warmer than normal temperatures, record-low snowpack, and, in some parts of the state, below normal spring and summer precipitation. The result was record low to near-record-low streamflows in most parts of the state. The Governor declared drought in 25 of Oregon's 36 counties, the most since 1992, when a statewide drought declaration was issued.

Water is important to Oregon's ecosystems, communities, and economy. In most areas of the state, surface water is no longer available for new uses in summer months. Groundwater supplies are also limited in some areas. Although Oregon often has the reputation as a wet state, the availability of surface water depends greatly on the location and timing of precipitation. Precipitation varies depending on location, and also between seasons. Precipitation typically occurs between the months of October and May; however, peak demands for water generally occur in the summer. Rainfall is essential for coastal areas where snowpack is not a significant contributor to streamflows.

As shown by the 2015 drought, Oregon, like much of the Northwest, is highly dependent on temperature-sensitive springtime snowpack to meet competing water demands. Predicted changes in climate are expected to result in increased temperatures, declining snowpack, and earlier spring snowmelt, likely leading to more frequent droughts like the one seen in 2015. Meanwhile, population growth, longer growing seasons, and warmer temperatures are likely to increase demands for water for instream purposes as well as out-of-stream purposes.

The 2015 drought highlighted the need to develop solutions to meet our instream and out-of-stream water resources needs now and into the future. Such efforts have been underway for several years, with the 2015 Oregon Legislature providing more than $50 million in funding to plan for, evaluate, and implement water resources projects (such as water conservation, reuse, storage, etc). However, the effects of drought are far-reaching – impacting agriculture, communities, fish, wildlife, and recreation – and water resource projects take time to plan, develop, and implement. As the State invests in helping communities meet long-term water needs, the State also needs to ensure that it has effective tools to immediately respond to drought as it is occurs.

As a result, House Bill 4113 (2016) established a task force to review the State's existing drought response tools, identify potential gaps, and make recommendations on tools and information needed to ensure that the State is prepared to respond to drought in the future.

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Specifically, House Bill 4113 directed the Task Force to research and evaluate potential tools to prepare for or deal with drought emergencies. The bill further provided that the Task Force may also consider drought response tools, as well as needed information and data as outlined below:

- Evaluate the sufficiency of existing tools to address short-term drought response needs and recommending additional tools to address short-term drought response needs;
- Identify options to minimize the impact of drought on agricultural, municipal, fish and wildlife, and other interests;
- Identify tools to assist small water providers in developing water management, conservation or efficiency plans and in anticipating drought risks and responses.
- Identify the data and resources necessary for anticipating drought and drought impacts on the economy, communities and the environment;
- Recommend improvements in information sharing necessary for enabling the public, water users and recreational in-stream users to understand drought conditions and to assist in efforts to mitigate or adapt to drought.

B. Task Force Membership

In accordance with House Bill 4113, the Oregon Legislature appointed four task force members:

Richard Kosesan, Water for Life, appointed by Senate Minority Leader
Mary Anne Nash, Oregon Farm Bureau, appointed by House Minority Leader
Representative Ken Helm, appointed by Speaker of the House
Senator Arnie Roblan, appointed by Senate President

In addition, the Governor appointed eleven members to the Task Force:

JR Cook	Industrial	Northeast Oregon Water Association
Suzanne DeLorenzo	Municipal	Clackamas River Water
Brett Golden	Conservation	Deschutes River Conservancy
Jason Green	Municipal	Oregon Association of Water Utilities
Rodney Park	Agriculture	Parks Nursery
Kimberley Priestley	Conservation	WaterWatch of Oregon
Eric Quaempts	Tribal	Confederated Tribes of the Umatilla Indian Reservation
Robert Rees	Conservation	Association of Northwest Steelheaders
Daniel Shoun	County	Lake County Commissioner
Julie Smitherman	Municipal	City of Ashland
April Snell	Irrigation Districts	Oregon Water Resources Congress

Senator Roblan and Representative Helm were appointed to serve as Co-Chairs by unanimous vote of the other members of the Task Force.

Racquel Rancier, Senior Policy Coordinator, and Lanaya Blakely, Research Assistant, provided primary staff support to the Task Force on behalf of the Oregon Water Resources Department (OWRD).

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C. Task Force Decision-Making

The Task Force met XX times.

Ideas were incorporated into a draft report for review of the members and to provide an opportunity for further discussion before a vote. A majority of the Task Force (8 members) was required to approve recommendations; however, the Task Force strove to reach consensus. As a result, votes of the task force are recorded in this report and it is noted where task force members dissented from a recommendation made by the majority of the task force. Nothing in this report should be construed to represent the opinions of Task Force members' affiliated organizations.

D. Task Force Recommendations and Interface with Oregon's Statewide Water Plan

Oregon's Integrated Water Resources Strategy goes beyond drought, outlining actions to help the State improve understand of our water resources and meet current and future instream and out-of-stream needs. For example, the Strategy includes recommendations (see #1a, 1b, 1c) on the need for groundwater and surface water data to support water management and water right permitting decisions. The Strategy also includes recommended actions to assist with climate adaptation and resiliency (5b), improve water conservation and efficiency (10a), improve access to storage (10b), encourage water reuse (10c), and develop additional instream protections (11a).

The Strategy is required to be updated every 5 years, with the next update due in 2017. Executive Order 15-09 directed the Department to include drought resiliency in the 2017 Update. In early 2016, the Department appointed a Policy Advisory Group to provide information and advice on gaps in the IWRS, such as the need to address extreme events, including drought. Some issues identified by Task Force members, particularly issues relating to longer-term actions, may be referred to the Policy Advisory Group for further consideration.

I. Introduction to Oregon's Drought Response and Mitigation Plans

In the early 1980s, (verify and cite reference) professionals urged State's to adopt drought plans. These early plans were primarily focused on responding to emergencies caused by drought. Oregon adopted its Drought Annex, which is a component of the States' Emergency Operations Plan.

In the 199Xs?, 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. (REF SEE PPT 70) (verify and cite references)

Like most responses to emergencies, all levels of government may have a role in responding to drought. Drought is unlike other natural disasters that typically have a clear beginning and ending point (such as

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earthquakes, tsunamis, and floods); it is often called a slow-moving disaster, because impacts are widespread and take time to develop and accumulate over months to years. Like other natural disasters, Oregon's response framework is contained in two primary documents: the Drought Annex to the State Emergency Operations Plan and the Statewide Natural Hazards Mitigation Plan.

Drought Annex

The Drought Annex, last updated in 2015, outlines the process for the issuance of a Drought Declaration by the Governor for a particular area. The Governor can issue a declaration that a "severe, continuing drought exists, or is likely to exist" triggering Water Resources Department authorities pursuant to Oregon Revised Statutes Chapter 536. Activation of tools under Chapter 536 will be discussed in more detail below. The Governor may also issue a declaration of a state of emergency under ORS Chapter 401, triggering the more traditional emergency response activities.

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. The Drought Readiness Council will review information provided by the county and data about conditions from the Water Supply Availability Committee to ensure that a declaration is warranted. The Drought Readiness Council also considers impacts on the ground that may require a response. 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.

The Drought Annex outlines the various responsibilities of State agencies when a State Drought Declaration has been issued for a geographic area. For example, the Drought Annex provides that XX agency will do XZ, while XY agency is responsible for YY.

The Drought Annex is classified as a "Response Plan" and does not provide information on actions that can be taken to anticipate drought or reduce risks, vulnerabilities, and impacts prior to a drought occurring. While it provides an overview of potential sectors affected by drought, the Annex does not attempt to identify specific areas that are likely to have challenges during a drought response so that State resources can be targeted.

Oregon's Natural Hazards Mitigation Plan

Oregon's Natural Hazards Mitigation Plan is managed by the Department of Land Conservation and Development, working with a number of other state agencies involved in response and mitigation. While State's are not required to develop these plans, they are required in order to qualify for certain Federal Emergency Management Agency (FEMA) programs. OWRD staff assist with the development of the plan, which is now on a five-year update schedule.

The mission of the plan is to create a disaster resilient Oregon. The plan seeks to conduct a risk assessment by: (1) characterizing hazards – both past events and future probability, (2) assessing vulnerabilities, including who is most impacted by drought and what communities and sectors are most affected, and (3) analyzing the impacts of drought. The risk assessment is intended to lead to a better understanding of the hazard and where mitigation actions should be directed. Mitigation actions are steps that can be taken to reduce the potential losses or impacts from future hazards.

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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. The Hazard Mitigation further outlines actions that need to be taken to make Oregon more resilient to drought; however, there are not sufficient resources to carry out all recommended actions at this time.

> "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

Excerpts of recommendations from the Natural Hazards Mitigation Plan are included below:

- 39 - Add real-time telemetry at existing gaging stations
- 77 & 105 - Develop an improved method for identifying most vulnerable communities to drought and related impacts
- 79 - Continue to refine the hazard description
- 80 - Continue to refine exposure, vulnerability, and losses
- 81 - Continue to refine priorities, and those at greatest risk
- 85 - Provide support for development and update of local and state hazard mitigation plans.
- 86 - Improve and sustain public information and education programs aimed at mitigating the damage caused by natural hazards
- 87 - Provide technical assistance and funding to local governments to evaluate the need and opportunities for inter-tie projects in Local Natural Hazards Mitigation Plans.
- 97 - Expand the state's stream gaging network. Seek stable funding for the operation, and maintenance of stream gages.
- 98 - Better coordinate, fund, and publicize programs to reduce the abundance of juniper trees in arid landscapes across Oregon.
- 105 - Implement the improved methodology for gathering data and identifying the communities most vulnerable to drought and related impacts.

Table 3-1, starting on pg. 1016

DOES THE TASK FORCE WANT TO HIGHLIGHT AND AFFIRM ANY RECOMMENDATIONS THAT ARE INCLUDED IN THE HAZARD MITIGATION PLAN? <LIKELY WOULD GO IN OTHER SECTIONS AS APPROPRIATE.>

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II. Evaluation of Existing Tools

A. Oregon's Drought Response Tools

Overview of Tools

Oregon's existing drought response tools are outlined below. <WRD WILL ADD MORE DETAIL TO THIS SECTION>

Emergency Water Use Permits

An approved emergency water use drought permit allows a water user to temporarily replace water not available under an existing water right. The most common drought permit allows the use of groundwater as an alternative to an existing surface water right. A well-prepared application generally takes approximately ten business days to process. Emergency water use permits are issued through an expedited process and are valid for one year or the term of the drought declaration, whichever is shorter.

Temporary Transfer

A water user can apply to change the type of use, place of use, or the location of the diversion under an existing water right. A temporary drought transfer takes place under an expedited process, and is in effect for the duration of the drought declaration or up to one year, whichever is shorter.

Temporary Instream Lease

Once approved, a water user can convert all or a portion of a water right to an instream use for a period of one year or the term of the drought declaration, whichever is shorter.

Temporary Substitution

Any person holding both a primary right originating from a surface water source and a supplemental right from a groundwater source may apply to temporarily use the supplemental right instead.

Special Option Agreements

A water-right holder can enter into an agreement that authorizes the use of water at locations, from points of diversion, and for uses other than those described in the water right. Typically, the agreement remains in place until terminated by the parties, and provides additional water-supply options in times of drought.

Temporary Exchange of Water

The Water Resources Commission can approve a temporary exchange of existing rights, such as using stored-water instead of a direct-flow surface-water right.

Human Consumption or Stock Water Use Preference

The Water Resources Commission has authority to grant a temporary preference to water rights for human consumption and/or stock watering uses. The preference is given over other uses regardless of the

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priority date (seniority) of water rights associated with the other uses. In order for the preference to go into effect, the Water Resources Commission must approve temporary rules instituting the preference.

Requiring Development and Implementation of Curtailment or Conservation Plans

<Need to add description. Add discussion of WMCP requirements. >

Discussion on Existing Tools

Drought Declarations

Geographic Area - <Discuss Current drought declarations done on county basis typically. Pros and cons> <Task Force should consider if they want a recommendation related to this.

Purposes of Drought Declaration and Definition of Drought - <Discuss the difference between a drought declaration and drought conditions, as well as differences in the need for state assistance. Discuss that there are many definitions of drought. Timing considerations of drought declarations. Linking drought declarations to the federal drought index?>

Prevent unintended consequences – <Discuss concerns over sustaining the resource for senior users over the long-term versus the short-term use? Need to minimize use of some tools unless there is a true emergency.> What considerations does the task force want to highlight?

Use of Tools

What needs to be done to improve use of the tools? Or is the goal not to have to use the tools (safety net?) Timing of drought declarations impact on use of tools?

Curtailment/Conservation Plans

- <Inconsistencies in plans for entities within the same basin. Differences in conservation/curtailment triggers. Not all entities have plans developed.> Challenges for small systems discussed in other section.

Equity issues with existing tools.

<Need to more feedback from task force if interested in including >

Task Force Recommendations

Unanimous Agreement

-

Majority

-

DISCUSSION DRAFT

III. Additional tools to address short-term drought response needs and minimize the impacts of drought

A. Minimizing Impacts of Drought (non-sector specific)

Discussion

Funding for Drought Response

Emergency response projects, related to piping, pumps, etc
<Discuss the criteria for Washington States' Emergency Response Fund and other states examples. Funding sources. Considerations. >

Support for water use regulation and enforcement
Need for more Watermasters

Funding needed at various levels, including for planning.

- Drought response, outreach and mitigation staffing at WRD
- Helping Local Communities Leverage Federal Funding

Conservation

- Implement OAR Division 410, sub-basin conservation plans including setting efficiency standards
- Improve infrastructure to eliminate water loss from leaks
- Modification to Allocation of Conserved Water Program
- Enforce Against Waste

Groundwater Credits

Groundwater "credit" system for not using water to bank it for drought. Similar to Washington Odessa program

Measurement and reporting

This is already a recommended action of the IWRS. <Are there items the task force wants to highlight in this report regarding this specific to drought, or is this an item for longer-term to put into referral to PAG? SEE IWRS 2b. Improve water use measurement & reporting.

Forfeiture or Abandonment

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. This provision 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. 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

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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.

There was some discussion about removing the forfeiture provisions in the law. Another option discussed was to allow management agreements, such as forbearance agreements to be registered with the Department and to count that as "use" for the purposes of forfeiture. 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. <Does the task force need more information on what other states have done?>

Task Force Recommendations

Unanimous Agreement

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Majority

B. Minimizing Impacts of Drought (municipal)

Discussion

- Incentivize conservation actions, such as implementing inclining rate structure to encourage water savings, tax incentives, WaterSense fixtures, EPA WaterSense Program
- See other section on small water providers.

Task Force Recommendations

Unanimous Agreement

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Majority

C. Minimizing Impacts of Drought (agriculture)

Discussion

Note that many of existing drought tools are used primarily by agriculture. There is a lack of incentives for irrigation districts or agriculture to voluntarily participate in the WMCP program. <Discuss current incentive noted by Lisa> Potential options could include giving preference for grant funding to applicants that have a WMCP in place; and providing regulatory flexibility or safe harbor for agriculture.

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Task Force Recommendations

Unanimous Agreement

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Majority

D. Minimizing Impacts on Instream Needs

Discussion

- Instream acquisitions / leasing water
- Make ODFW temperature dependent fishing restrictions standard practice during drought
- EMAILED IDEA FROM TF MEMBER: Fishing Regulations: Any areas designated by EPA or Oregon DEQ as "thermal refugia" should remain be closed to fishing when temperatures meet or exceed 20C at all times, drought or not.
- Add instream use to any certificate (2 western states), would increase ability to quickly respond to drought.

Task Force Recommendations

Unanimous Agreement

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Majority

IV. Tools to assist small water providers in developing water management, conservation or efficiency plans and in anticipating drought risks and responses.

Discussion

Overview of small system challenges: < 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.

Possible solutions discussed

<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; >

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Task Force Recommendations

Unanimous Agreement

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Majority

V. Data and resources necessary for anticipating drought and drought impacts on the economy, communities and the environment;

Discussion

Assessment of Vulnerabilities and Impacts

According to (REF AB pgs 12-13), data on vulnerabilities and impacts can help to target response efforts. Colorado's (verify) Drought Mitigation and Response Plan provides an example of how other State's have directed response efforts based on impacts and vulnerabilities. (Include reference). 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?

Assess drought impacts, risks and vulnerabilities in order to better understand, prepare, and recover from drought. 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.

Groundwater, Streamflow and Snow Data

• Increase stream flow and groundwater measurement and recording
• Increase the number of sampling locations to ensure data is representative of local conditions, specifically snow survey location
• Gather more groundwater data and increase analysis to better understand Oregon's aquifers, especially the size, replenishment rates and sources.
• Conduct more scientific studies evaluating instream flow needs with climate change

Drought Forecasting

• Improve drought forecasting

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Task Force Recommendations

Unanimous Agreement

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Majority

VI. Improvements in information sharing for the public and water users to understand drought conditions

Discussion

Outline 2015 Response actions. 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. Need for outreach and public information sharing. Statewide presence and coordination to prevent unintended consequences and share lessons learned. <Highlight other state's investments such as California? Highlight Ashland's campaign?>

Developing a communications tool box

• 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.
• WaterSense is easy to communicate
• Translating scientific reports so that individuals can better understand how to use the information within each sector
• Developing technical "how to" education materials, including videos for all sectors. Example: Tree die offs due to lack of watering.

Task Force Recommendations

Unanimous Agreement

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Majority

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VII. Mitigating and Adapting to Drought: Long-Term Water Supply and Resiliency

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In addition to drought response and mitigation, some task force members noted that there is a need to consider longer-term strategies for drought resiliency. Topics below were mentioned in the meetings; however, they are already part of a recommended action of the Integrated Water Resources Strategy. Given that the charge of the task force was more focused on short-term response and intermediate mitigation strategies, ideas for longer-term solutions were tabled to pass along to the Policy Advisory Group of the Integrated Water Resources Strategy, which is more focused on the drought resiliency and mitigation. [Questions for Task Force – Do you want to endorse, advocate for, etc. any of these? Are these issues that require funding, staff resources, or policy changes that warrant bringing it to the attention of the WRC, GNRO, Oregon Legislature? Are there items to consider or suggest be included in the IWRS workplan?]

Topics for further consideration by the Policy Advisory Group include:

- 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).
    - 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
- 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.
    - See 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].
- Match water use with land use goals. Some members noted the challenge of providing water to an ever-increasing population, preserving agricultural land, and providing water in small rural communities. It was suggested by at least one member, that there needs to be more interconnection between water and land use planning.
    - Recommended Action 6A Improve Integration of Water Information into Land Use Planning (& vice-versa). [See IWRS discussion page 60].
- EMAILED IDEA FROM TF MEMBER: Require 100' no till buffers on each side of perennial streams on all lands designated for Exclusive Farm Use. These lands would be set aside to help achieve proper stream function and to protect fish and aquatic life. These stream buffers would also assist landowners in achieving compliance with state water quality standards as well as meeting provisions of Agricultural Water Quality Management Plans *

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- EMAILED IDEA FROM TF MEMBER: Dischargers that choose to land apply their wastewater instead of treating it to meet Clean Water Act requirements and discharging it to Oregon streams must be required to replace that volume of water that comprises instream flow with other sources.
- EMAILED IDEA FROM TF MEMBER: Fishing Regulations: Any areas designated by EPA or Oregon DEQ as "thermal refugia" should be closed to fishing when temperatures meet or exceed 20C at all times, drought or not.
- NEW IDEA FROM TF MEMBER: 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.

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