2023 Integrated Water Resources Strategy (IWRS) Work Session

OREGON
WATER RESOURCES DEPARTMENT

Water Resources Commission

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Item G, November 16, 2023

OREGON WATER RESOURCES DEPARTMENT

Work Session Agenda

Agenda

- IWRS Project Team update
- Vision & Call to Action
- Framework and organizational structure
- One-page Action Summaries
- Questions & Discussion
- Next Steps

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IWRS Project Team Update

IWRS Project Team

Team Activities

August

- Discuss outreach & engagement findings, propose new structure
- Begin review & update 2017 narrative

September & October

- Review & update 2017 narrative
- Develop one-page action summaries

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Vision & Call to Action

Attachment 1

Oregon's 2023 Integrated Water Resources Strategy - Draft 1

Water Challenges Across Oregon

Oregon faces a number of water challenges that impact the quality and quantity of water for instream and out-of-stream needs, including:

- Climate change and associated increases in temperature, wildfire, drought, damaging floods, and harmful algal blooms;
- A half century of underinvestment in our water resources;
- Our changing population and associated development – growing in some areas, shrinking in others; and
- Too much demand for too little water for in-stream and out-of-stream uses.

Importance of Water

Water is essential to our ecosystems, communities, economies, health and safety, and cultural and spiritual values.

- 48 percent of the state's economic output depends on water; $228 billion annually
- Water supports the employment of 44 percent of Oregon workers
- Irrigated agriculture contributes $7.3 billion a year to Oregon's economy
- $2.2 billion per year is spent directly on freshwater recreation
- Salmon fishing and seafood processing contributes $23.5 million per year in economic output

Vision

To address changes in climate and population dynamics, Oregonians will take care of our water to ensure we have enough clean water for our people, our economy, and our environment, now and for future generations. Oregonians will invest strategically in partnerships and planning, data and research, and water management and stewardship for instream and out-of-stream across all regions to support resilient communities, vibrant local economies, and a healthy environment for all who live here.

Call to Action

We must both act now and plan for the long term, otherwise we will place the safety of our communities, the health of our people and environment, and Oregon's economic future at risk. How we choose to care for our water will determine if we pass a legacy of clean and sustainable water to future generations. A coordinated effort of immediate actions and thoughtful planning for the future are needed. The IWRS outlines the actions needed to understand and meet Oregon's instream and out-of-stream water needs, to create a foundation for coordinated action and funding.

The 2023 Integrated Water Resources Strategy proposes actions for improving our understanding of Oregon's water resources and meeting our instream and out-of-stream needs, including water quantity, water quality, and ecosystem needs, in the following categories:

Funding

Oregon must invest now to secure our water future

Partnerships and Planning

All Oregonians must work together and plan for our water future

- Land Use Planning
- Hazard Mitigation Planning and Extreme Events
- Education
- Coordination and Collaboration
- Place-Based Efforts

Data and Research

Oregon needs foundational information to make wise decisions and pursue innovation

- Water Quality and Quantity Information
- Define Out-of-Stream Water Needs
- Define Instream and Ecosystem Water Needs

Water Management and Stewardship

Oregon must secure its water future through active management and stewardship of its resources

- Healthy Ecosystems
- Clean Water
- Water Use and Management
- Water Infrastructure
- Water and Energy

IWRS Vision

Review Previous Vision Statements

- 2012 IWRS
- 2017 IWRS
- 100-Year Water Vision

IWRS Vision

2012 Vision

"A statewide IWRS will bring various sectors and interests together to work toward the common purpose of maintaining healthy water resources to meet the needs of Oregonians and Oregon's environment for generations to come" - WRC

"Fifty years from now, our vision is to see, everywhere in our state, healthy waters, able to sustain a healthy economy, environment, and cultures & communities"

-2010 Policy Advisory Group

IWRS Vision

2017 Vision

"Water is a finite resource with growing demands; water scarcity is a reality in Oregon. Water-related decisions should rest on a thorough analysis of supply, the demand/need for water, the need for increasing efficiencies and conservation, and alternative ways to meet these demands."

-2016 Policy Advisory Group

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IWRS Vision

100-Year Water Vision

To address changes in climate and population dynamics, Oregonians will take care of our water to ensure we have enough clean water for our people, our economy, and our environment, now and for future generations. Oregonians will invest strategically in infrastructure and ecosystems across all regions to support resilient communities, vibrant local economies, and a healthy environment for all who live here.

IWRS Vision

100-Year Water Vision – Revised for IWRS

To address changes in climate and population dynamics, Oregonians will take care of our water to ensure we have enough clean water for our people, our economy, and our environment, now and for future generations. Oregonians will invest strategically in partnerships and planning, data and research, and water management and stewardship for instream and out-of-stream needs across all regions to support resilient communities, vibrant local economies, and a healthy environment for all who live here.

OREGON WATER RESOURCES DEPARTMENT

2023 Draft Framework

Oregon's 2017 Integrated Water Resources Strategy

A framework for improving our understanding of Oregon's water resources and meeting our instream and out-of-stream needs, including water quantity, water quality, and ecosystem needs

(1) Understand Water Resources Today

Further Understand Limited Water Supplies & Systems
(groundwater, surface water, and their interaction)

Improve Water Quality & Quantity Information

Further Understand Our Water Management Institutions

Understanding Water Resources / Supplies / Institutions

- 1.A Conduct additional groundwater investigations
- 1.B Improve water resource data collection & monitoring
- 1.C Coordinate inter-agency data collection, processing, and use in decision-making

OBJECTIVES

CRITICAL ISSUES

RECOMMENDED ACTIONS

(2) Understand Instream and Out-of-Stream Needs

Further Define Out-of-Stream Needs / Demands
(i.e., diverted water)

Further Define Instream Needs / Demands
(i.e., left-in-place water)

Understanding Oregon's Out-of-Stream Needs/Demands

- 2.A Regularly update long-term water demand forecasts
- 2.B Improve water-use measurement & reporting
- 2.C Determine unadjudicated water right claims
- 2.D Authorize the update of water right records with contact information
- 2.E Regularly update Oregon's water-related permitting guide

Understanding Oregon's Instream Needs/Demands

- 3.A Determine flows needed (quality & quantity) to support instream needs
- 3.B Determine needs of groundwater dependent ecosystems

(3) Understand the Coming Pressures That Affect Our Needs and Supplies

Economic Development | **Water & Energy** | **Climate Change** | **Extreme Events**

Population Growth | **Water & Land Use** | **Water-Related Infrastructure** | **Education & Outreach**

Water & Energy

- 4.A Analyze the effects on water from energy development projects & policies
- 4.B Take advantage of existing infrastructure to develop non-traditional hydroelectric power
- 4.C Promote strategies that increase/integrate energy & water savings

Climate Change

- 5.A Support continued basin-scale climate change research efforts
- 5.B Assist with climate change adaptation & resiliency strategies

Extreme Events

- 5.5A Plan and prepare for drought resiliency
- 5.5B Plan and prepare for flood events
- 5.5C Plan and prepare for a Cascadia subduction earthquake event

Economic Development & Population Growth
(See Actions 2A and 3A)

Water & Land Use

- 6.A Improve integration of water information into land use planning (and vice versa)
- 6.B Improve state agency coordination
- 6.C Encourage low-impact development practices and green infrastructure

Water-Related Infrastructure

- 7.A Develop and upgrade water and wastewater infrastructure
- 7.B Encourage regional (sub-basin) approaches to water and wastewater systems
- 7.C Ensure public safety/dam safety

Education and Outreach

- 8.A Support Oregon's K-12 environmental literacy plan
- 8.B Provide education and training for Oregon's next generation of water experts
- 8.C Promote community education and training opportunities
- 8.D Identify ongoing water-related research needs

OBJECTIVES

CRITICAL ISSUES

RECOMMENDED ACTIONS

(4) Meet Oregon's Instream and Out-of-Stream Needs

Place-Based Efforts | **Water Management & Development**

Healthy Ecosystems | **Public Health** | **Funding**

Place-Based Efforts

- 9.A Continue to undertake place-based integrated, water resources planning
- 9.B Coordinate implementation of existing natural resource plans
- 9.C Partner with federal agencies, tribes, and neighboring states in long-term water resources management

Water Management & Development

- 10.A Improve water-use efficiency and water conservation
- 10.B Improve access to built storage
- 10.C Encourage additional water reuse projects
- 10.D Reach environmental outcomes with non-regulatory alternatives
- 10.E Continue the water resources development program
- 10.F Provide an adequate presence in the field
- 10.G Strengthen water quantity & water quality permitting programs

Healthy Ecosystems

- 11.A Improve watershed health, resiliency, and capacity for natural storage
- 11.B Develop additional instream protections
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- 11.D Protect and restore instream habitat and habitat access for fish and wildlife
- 11.E Develop additional groundwater protections

Public Health

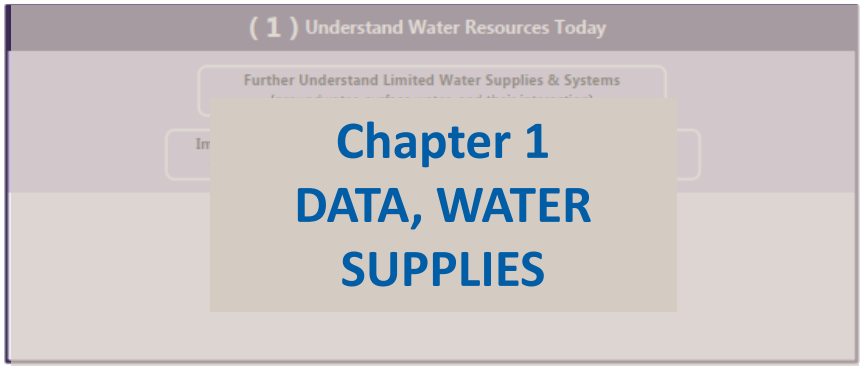
- 12.A Ensure the safety of Oregon's drinking water
- 12.B Reduce the use of and exposure to toxics and other pollutants
- 12.C Implement water quality pollution control plans

Funding

- 13.A Fund development and implementation of Oregon's IWRS
- 13.B Fund water resources management activities at state agencies
- 13.C Invest in local or regional water planning efforts
- 13.D Invest in feasibility studies for water resources projects
- 13.E Invest in implementation of water resources projects

Oregon's 2017 Integrated Water Resources Strategy

A framework for improving our understanding of Oregon's water resources and meeting our instream and out-of-stream needs, including water quantity, water quality, and ecosystem needs



OBJECTIVES

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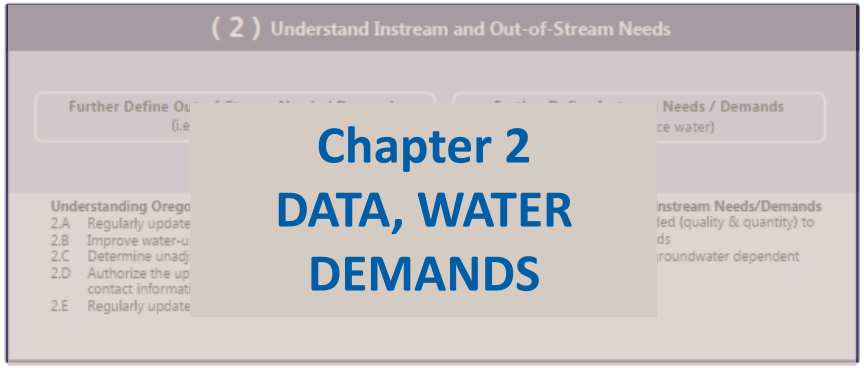
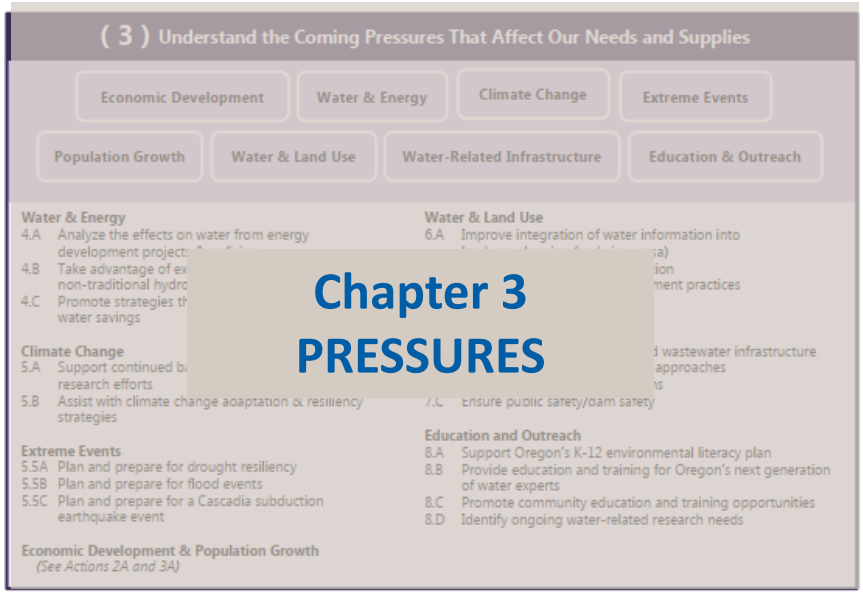
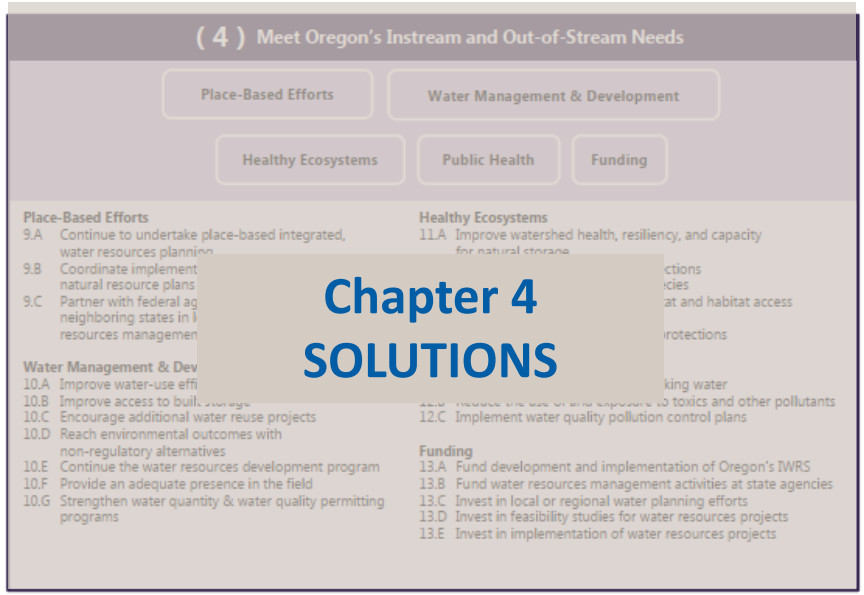




OBJECTIVES

CRITICAL ISSUES

RECOMMENDED ACTIONS



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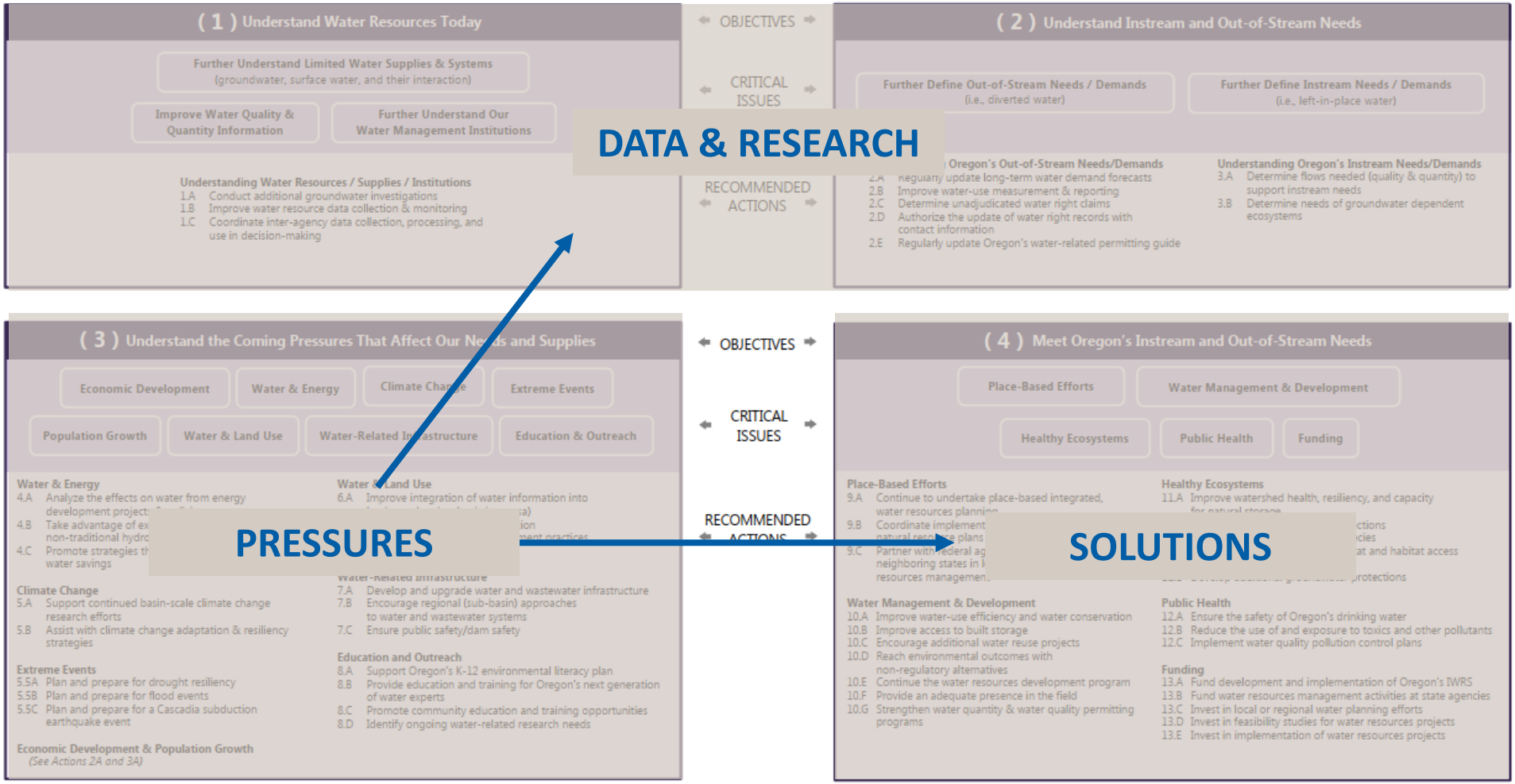

(3) Understand the Coming Pressures That Affect Our Needs and Supplies

Economic Development | **Water & Energy** | **Climate Change** | **Extreme Events**

Population Growth | **Water & Land Use** | **Water-Related Infrastructure** | **Education & Outreach**

Water & Energy

4.A Analyze the effects on water from energy development projects and policies

4.B Take advantage of existing infrastructure to develop non-traditional hydroelectric power

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Climate Change

5.A Support continued basin-scale climate change research efforts

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Economic Development & Population Growth

(See Actions 2A and 3A)

Water & Land Use

6.A Improve integration of water information into land use planning (and vice versa)

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Water-Related Infrastructure

7.A Develop and upgrade water and wastewater infrastructure

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8.A Support Oregon's K-12 environmental literacy plan

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Considerations by IWRS Team

- Are issues under objective 3 to "understand coming pressures" future concerns?
- Can agencies and the public easily find actions they care about?
- Funding is needed for all objectives, but is located under objective 4 "meet Oregon's instream and out-of-stream needs"
- Does organizing by objective still work?

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Draft 2023 IWRS Framework

- Minimal additions / deletions
- Re-organize by “types” of actions
  - Funding
  - Partnerships & Planning
  - Data & Research
  - Management & Stewardship
- Locate similar actions closer to one another
- Make it easier to find actions
- Add one new critical issue: Coordination & Collaboration

Funding

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Improve Water Quality & Quantity Information

Further Understand Our Water Management Institutions

Understanding Water Resources / Supplies / Institutions
- 1.A Conduct additional groundwater investigations
- 1.B Improve water resource data collection & monitoring
- 1.C Coordinate inter-agency data collection, processing, and use in decision-making

OBJECTIVES

CRITICAL ISSUES

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OBJECTIVES

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Place-Based Efforts | **Water Management & Development**

Healthy Ecosystems | **Public Health** | **Funding**

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Partnerships & Planning

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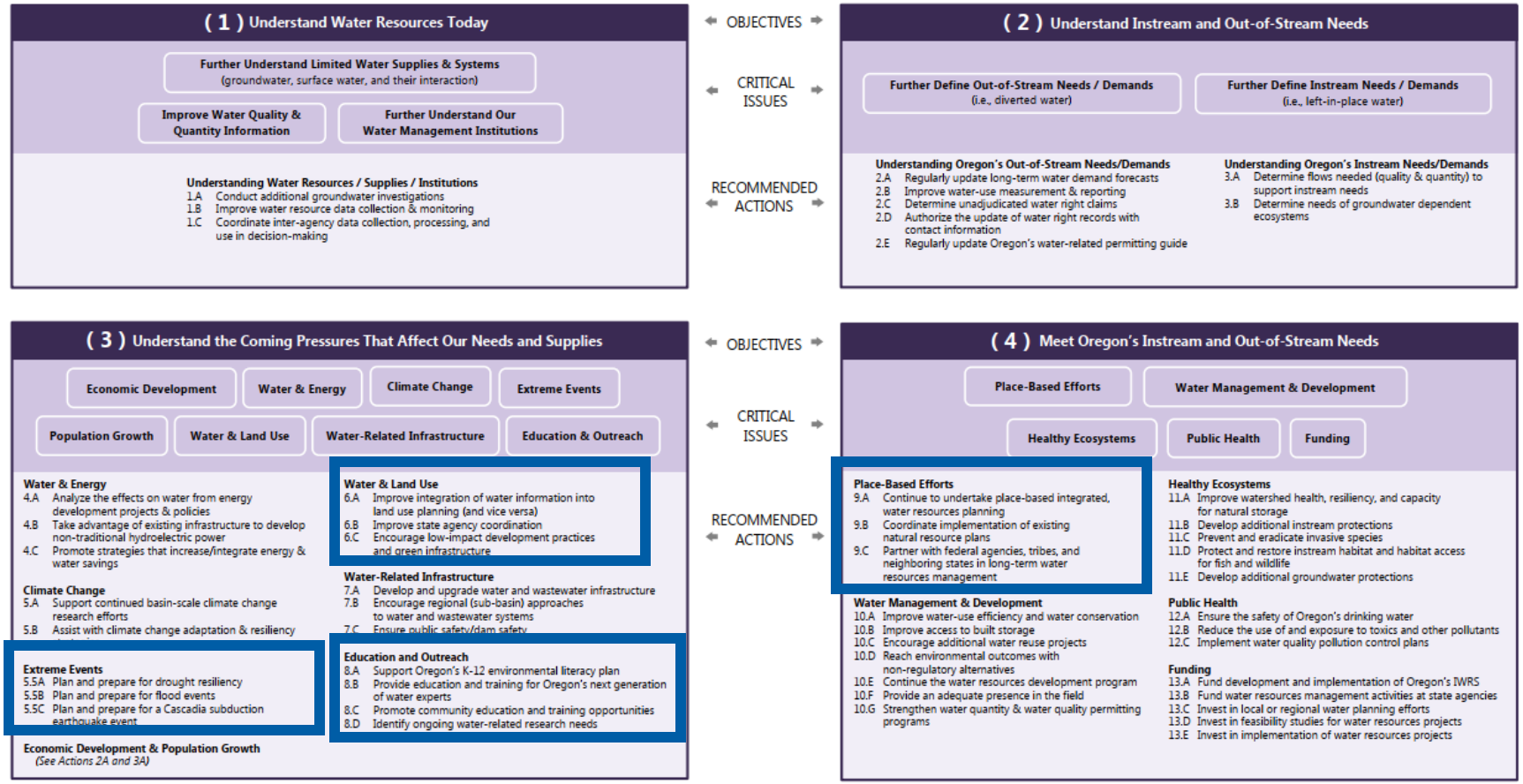

Data & Research

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OBJECTIVES

CRITICAL ISSUES

RECOMMENDED ACTIONS

(4) Meet Oregon's Instream and Out-of-Stream Needs

Place-Based Efforts | **Water Management & Development**

Healthy Ecosystems | **Public Health** | **Funding**

Place-Based Efforts
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Funding
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- 13.E Invest in implementation of water resources projects

Management & Stewardship

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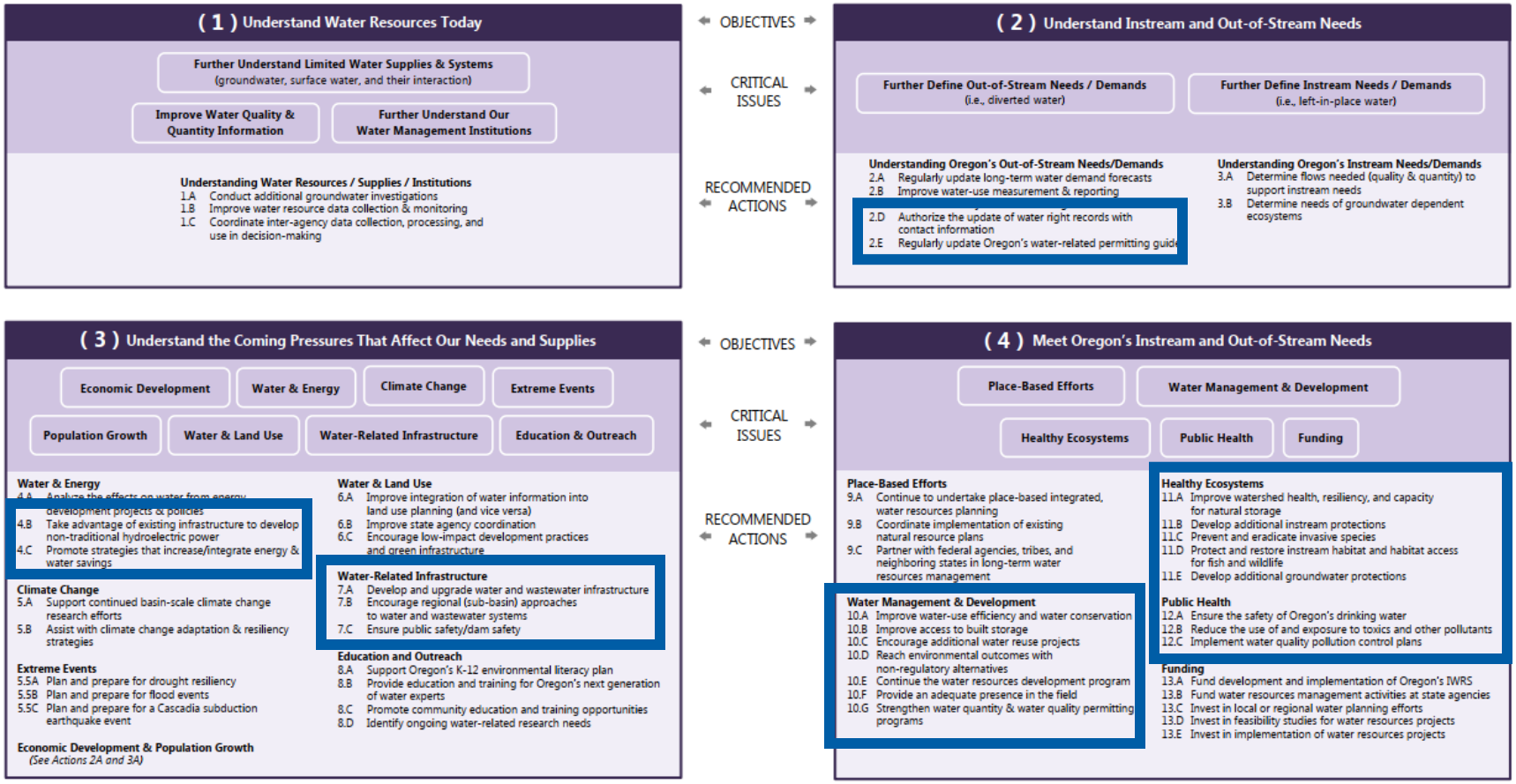

Attachment 2

Oregon's 2023 Integrated Water Resources Strategy Framework and Actions - 10/2023

Focusing on: Climate change, population growth, land use change, economic impacts, and energy demand

Partnerships and Planning

Education
2A [8C] - Promote Community Education and Training Opportunities
2B [8A] - Support Implementation of K-12 Environmental Literacy Plan
2C [8B] - Provide Career Training for the Next Generation of Water Experts

Coordination and Collaboration [new]
3A [9C] - Partner with Federal Agencies, Tribes, and Neighboring States in Long-Term Water Resources Management
3B [6B] - Improve State Agency Coordination
3C [9B] - Coordinate Implementation of Existing State and Local Plans
3D [new] - Lead Meaningful Community Engagement

Place-Based Efforts
4A [9A] - Continue to Undertake Place-Based Planning

Land Use Planning
5A [6A] - Improve Integration of Water Information into Land Use Planning (& Vice-Versa)
5B [6C] - Encourage Low Impact Development Practices and Green Infrastructure

Hazard Mitigation Planning and Extreme Events
6A [5.5A] - Plan and Prepare for Drought and Wildfire Resiliency
6B [5.5B] - Plan and Prepare for Flood Events
6C [5.5C] - Plan and Prepare for a Cascadia Subduction Earthquake and Tsunami Event

Note: 2017 IWRS numbering is shown in **[brackets]**.

Identified Actions Address These Strategy Goals and Objectives:

Goal 1: Improve Understanding of Oregon's Water Resources
- Understand Water Resources Today
- Understand Instream and Out-of-Stream Needs
- Understand Coming Pressures That Affect Needs and Supplies

Goal 2: Meet Oregon's Water Resources Needs
- Meet Oregon's Instream and Out-of-Stream Needs

Data and Research

Water Quality and Quantity Data Needs
7A [1B] - Improve Water Resource Data Collection and Monitoring
7B [1C] - Improve Inter-Agency Data Coordination
7C [1A] - Conduct Additional Groundwater Studies
7D [5A] -Support continued Basin-scale Climate Change Research
7E [8D] - Identify Ongoing Water-Related Research Needs and Partnerships

Define Out-of-Stream Water Needs
8A [2A] - Regularly Update Out-of-Stream Long-Term Water Demand Forecasts
8B [2B] - Improve Water-Use Measurement and Reporting

Define Instream and Ecosystem Water Needs
9A [3A] - Determine Flows Needed (Quality and Quantity) to Support Instream Needs
9B [3B] - Determine Needs of Groundwater Dependent Ecosystems
9C [4A] - Analyze the Effects on Water from Energy Development Projects and Policies

Management and Stewardship

Healthy Ecosystems
10A [11A] - Improve Watershed Health, Resiliency, and Capacity for Natural Storage
10B [11B] - Develop Additional Instream Protections
10C [11C] - Prevent and Eradicate Invasive Species
10D [11D] - Protect and Restore Instream Habitat and Habitat Access for Fish and Wildlife
10E [11E] - Develop Additional Groundwater Protections

Clean Water
11A [12A] - Ensure the Safety of Drinking Water
11B [12B] - Reduce the Use of and Exposure to Toxics and Other Pollutants
11C [12C] - Implement Water Quality Pollution Control Plans

Water Use and Management
12A [2C] - Determine Unadjudicated Water Rights Claims
12B [10A] - Improve Water-Use Efficiency and Water Conservation
12C [10B] - Improve Access to Built Storage
12D [10C] - Encourage Water Reuse Projects
12E [10D] - Reach Environmental Outcomes with Non-Regulatory Alternatives
12F [10F] - Provide Adequate Field Staff
12G [10G] - Strengthen Water Quantity and Water Quality Permitting Programs

Water Infrastructure
13A [7A] - Maintain, Upgrade or Decommission Water and Wastewater Infrastructure
13B [7B] - Encourage Regional (Sub-Basin) Approaches to Water and Wastewater Systems
13C [7C] - Support Dam Safety Program
13D [new] - Utilize Natural Infrastructure

Water and Energy
14A [4B] - Use Existing Infrastructure to Develop Non-Traditional Hydroelectric Power
14B [4C] - Promote Strategies that Increase/Integrate Energy and Water Savings

Funding

1A [13A] - Fund Development and Implementation of Oregon's Integrated Water Resources Strategy
1B [13B] - Fund Water Resources Management Activities at State Agencies
1C [13C-E] - Invest in Planning, Feasibility Studies, and Water Resource Project Implementation

ORS 536.220 REQUIREMENTS

Section 3

(a) WRD shall **develop an IWRS to implement** the **state water resources policy** specified in subsection (2) of this section. The department shall design the strategy to meet Oregon's **in-stream and out-of-stream** water needs.

(b) WRD shall work in close **cooperation** with the **DEQ and ODFW** to develop the integrated state water resources strategy in **consultation with other** state, local and federal agencies, with other states, with Indian tribes, with stakeholders and with the public.

(c) WRD, in close **cooperation** with the **DEQ** and the **ODFW**, shall **develop data** on an ongoing basis **to forecast Oregon's in-stream and out-of-stream water needs**, including but not limited to in-stream, underground water, human consumption and water supply needs, for the **purpose of developing and updating the IWRS**.

OREGON WATER RESOURCES DEPARTMENT

ORS 536.220 REQUIREMENTS

(d) The integrated water resources strategy shall **describe** the following:

(A) Oregon's **in-stream and out-of-stream water needs**, including but not limited to ecosystem services, water quality and water supply needs.
(B)Objectives of the strategy.
(C)Actions that are designed **to achieve** the objectives of the strategy.
(D)Plans related to the challenges presented by **climate change**.
(E) Provisions to ensure **communication and partnership with key stakeholders**.
(F)Specific functions and roles to be played by state agencies, including but not limited to ODA, ODF, DHS, BIZOR, DLCD, OWEB, OPRD, and DSL.
(G) Public **policy options** and **recommendations**.
(H) Relevant strategy factors, including but not limited to **population growth and land use** change.
(I) Recommendations of the WRD regarding the continuous monitoring of climate change effects on Oregon's water supply and regarding water user actions that are necessary to address climate change.

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One-page Action Summaries

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IWRS Action Summaries

2017 IWRS Recommended Action and Example Actions

Recommended Action 3.A
Determine Flows Needed (Quality and Quantity) to Support Instream Needs

Examples of how to implement this action:

- Prioritize and install gages in additional locations to monitor the status of instream flows and water rights
- Identify basins with listed species and install monitoring equipment to help characterize the suite of flows through these basins
- Conduct instream needs studies, such as base flow studies and elevated flow requirements or prescriptions
- Pursue a consistent, model-based framework for characterizing long-term instream demand and integrate projections of future climate for planning purposes
- Develop models/studies to quantify the economic, social, and cultural value of instream uses
- Support state agency instream flow efforts and programs (e.g., ODFW, ODEQ, OPRD)

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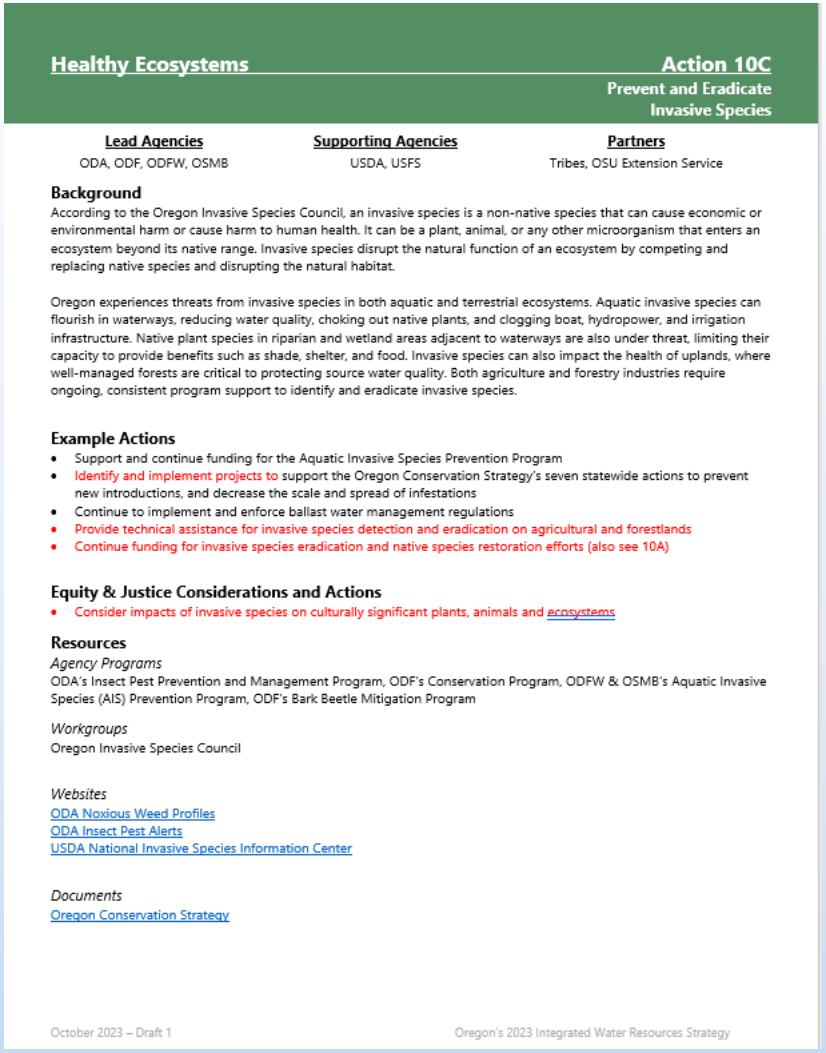
Draft IWRS Action Summaries

2023 IWRS Proposed Action Summary

- Who
- Why
- Example actions
- Equity/Justice considerations
- Resources
- Drafts, subject to change



Healthy Ecosystems — **Action 10C**
Prevent and Eradicate Invasive Species

Lead Agencies	Supporting Agencies	Partners
ODA, ODF, ODFW, OSMB	USDA, USFS	Tribes, OSU Extension Service

Background

According to the Oregon Invasive Species Council, an invasive species is a non-native species that can cause economic or environmental harm or cause harm to human health. It can be a plant, animal, or any other microorganism that enters an ecosystem beyond its native range. Invasive species disrupt the natural function of an ecosystem by competing and replacing native species and disrupting the natural habitat.

Oregon experiences threats from invasive species in both aquatic and terrestrial ecosystems. Aquatic invasive species can flourish in waterways, reducing water quality, choking out native plants, and clogging boat, hydropower, and irrigation infrastructure. Native plant species in riparian and wetland areas adjacent to waterways are also under threat, limiting their capacity to provide benefits such as shade, shelter, and food. Invasive species can also impact the health of uplands, where well-managed forests are critical to protecting source water quality. Both agriculture and forestry industries require ongoing, consistent program support to identify and eradicate invasive species.

Example Actions

- Support and continue funding for the Aquatic Invasive Species Prevention Program
- Identify and implement projects to support the Oregon Conservation Strategy's seven statewide actions to prevent new introductions, and decrease the scale and spread of infestations
- Continue to implement and enforce ballast water management regulations
- Provide technical assistance for invasive species detection and eradication on agricultural and forestlands
- Continue funding for invasive species eradication and native species restoration efforts (also see 10A)

Equity & Justice Considerations and Actions

- Consider impacts of invasive species on culturally significant plants, animals and ~~ecosystems~~

Resources

Agency Programs
ODA's Insect Pest Prevention and Management Program, ODF's Conservation Program, ODFW & OSMB's Aquatic Invasive Species (AIS) Prevention Program, ODF's Bark Beetle Mitigation Program

Workgroups
Oregon Invasive Species Council

Websites
ODA Noxious Weed Profiles
ODA Insect Pest Alerts
USDA National Invasive Species Information Center

Documents
Oregon Conservation Strategy

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Questions & Discussion

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Questions

Vision & Call to Action

1. Is the visualization helpful? Are there changes you want to see? Do you have feedback for the draft text?

Framework

2. The draft shows actions grouped by similar action type rather than by objective. What feedback do you have on the re-organization of information?

Future IWRS Narrative/Document & Action Summaries

3. Do you have any feedback on the draft Action Summary sheets or the IWRS format?

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IWRS Vision

100-Year Water Vision – Revised for IWRS

To address changes in climate and population dynamics, Oregonians will take care of our water to ensure we have enough clean water for our people, our economy, and our environment, now and for future generations. Oregonians will invest strategically in partnerships and planning, data and research, and water management and stewardship for instream and out-of-stream needs across all regions to support resilient communities, vibrant local economies, and a healthy environment for all who live here.

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