OREGON
WATER RESOURCES DEPARTMENT

Groundwater Allocation Notice of Proposed Rulemaking:

Pre-Hearing, Information Only Session

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Groundwater Section Manager

April 4, 2024

Groundwater Development Primer

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Key Groundwater Concept

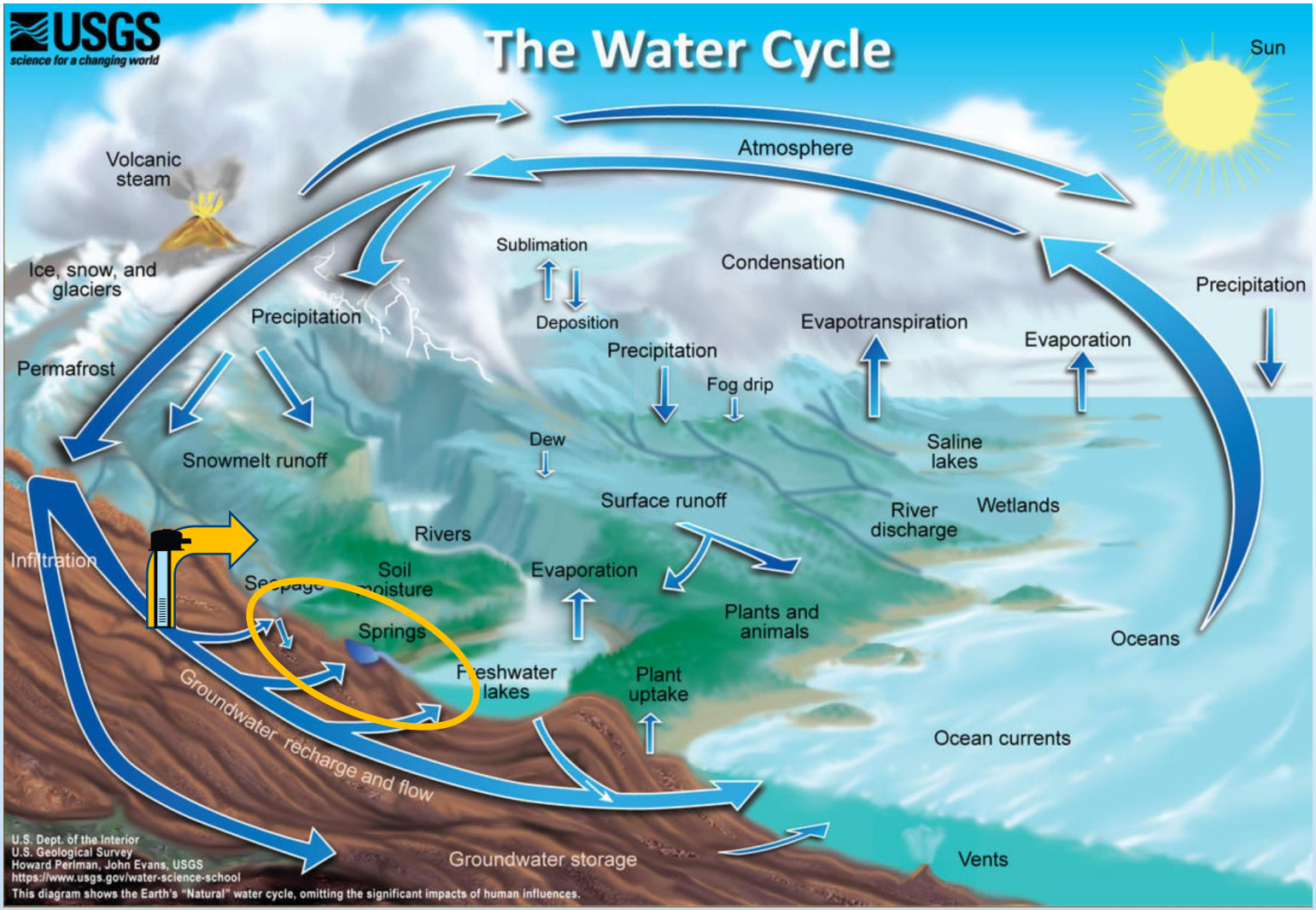

Figure Source: USGS (https://www.usgs.gov/special-topics/water-science-school/science/fundamentals-water-cycle)

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Key Groundwater Concept

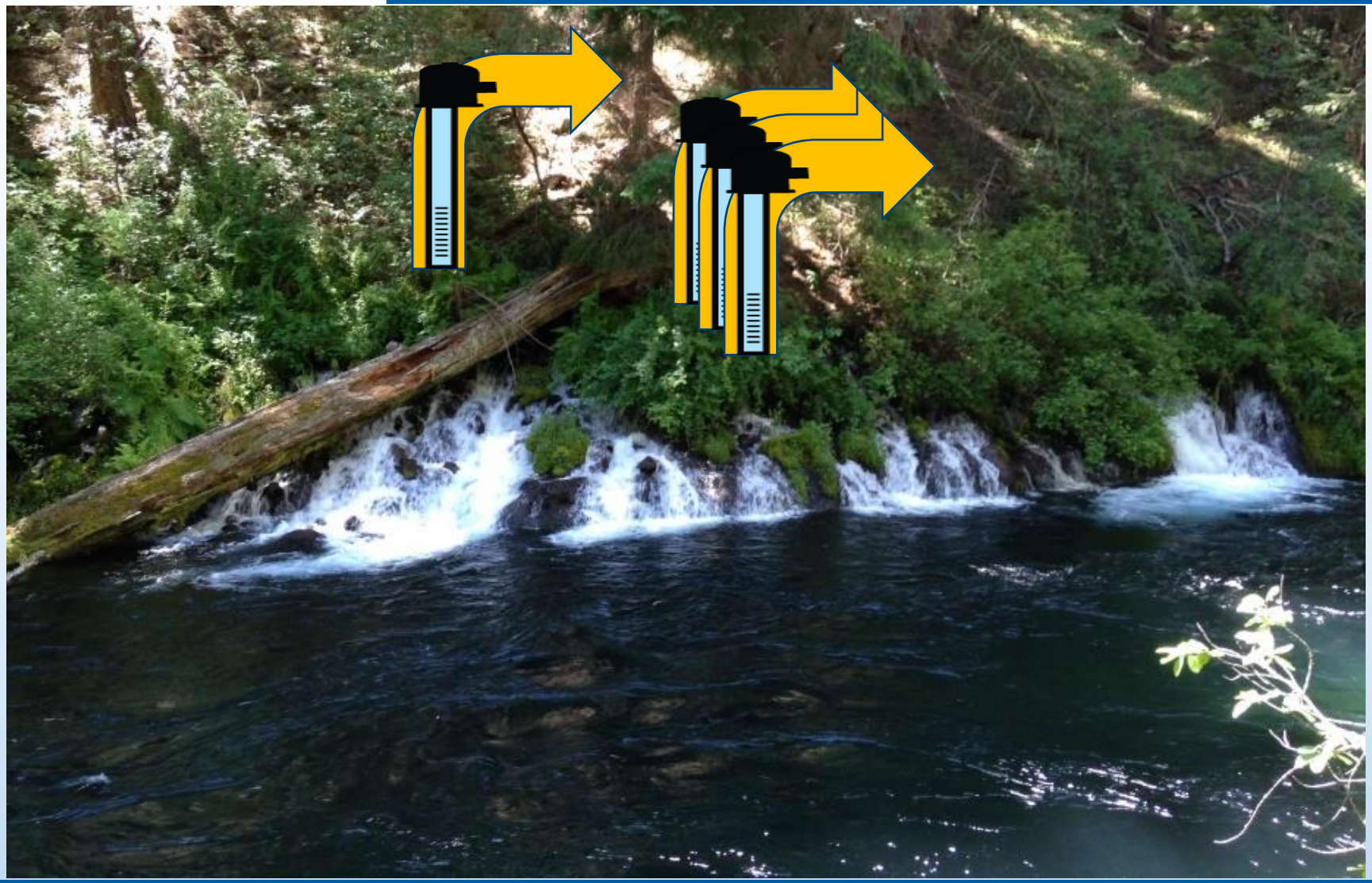

Photo: OWRD, Unnamed spring discharging to the Metolius River

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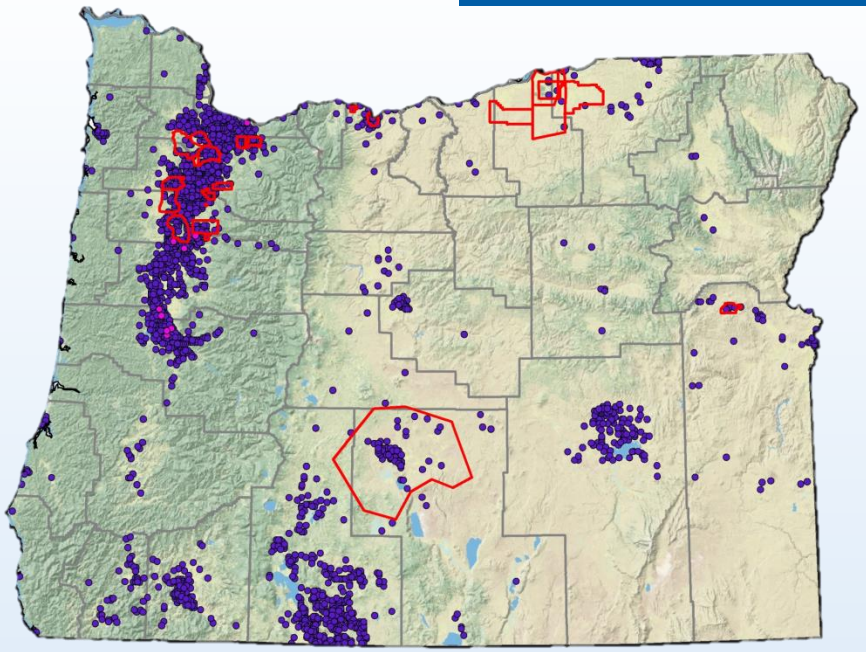
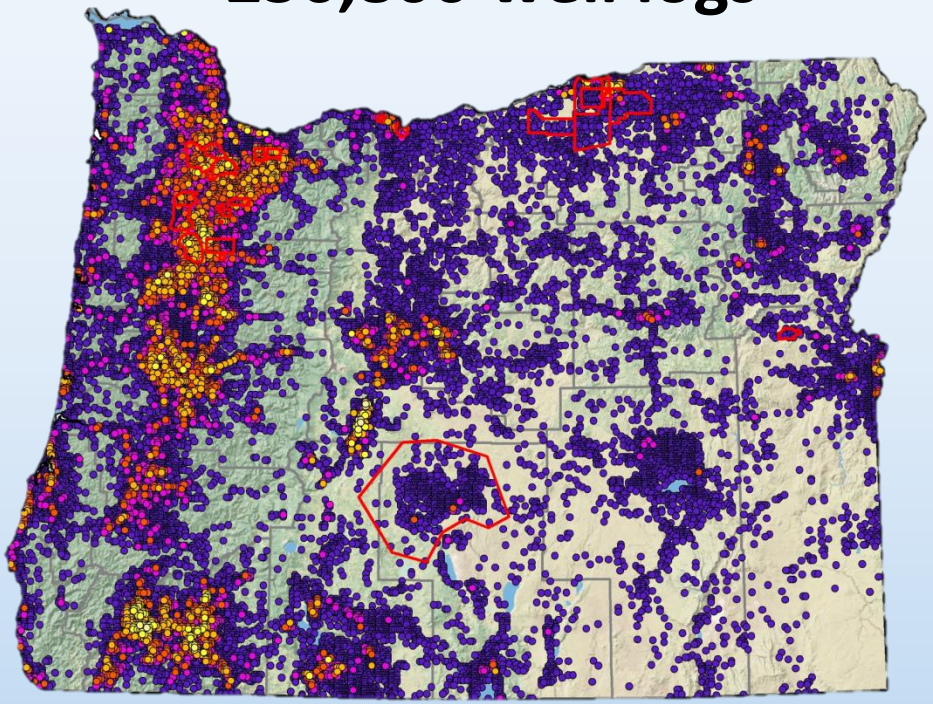
Groundwater Development



1955
4,660 well logs

2016
256,800 well logs



Density of Water Well Logs per 640 Acres

1 - 16	(<= 1 well / 40 acres)
17 - 32	(<= 1 well / 20 acres)
33 - 64	(<= 1 well / 10 acres)
65 - 128	(<= 1 well / 5 acres)
129 - 256	(<= 1 well / 2.5 acres)
257 - 320	(<= 1 well / 2.0 acres)
>320	(<= 1 well / 1.0 acres)

Counties

Ground Water Restricted Areas

Source: OWRD

Need for Rulemaking

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Impacts of Over-Allocation

- drying up of wells or increased pumping costs
- reduced streamflow
- curtailment of rights that people have invested in
- deterioration of water quality

Photo: Crooked River, nearly dry

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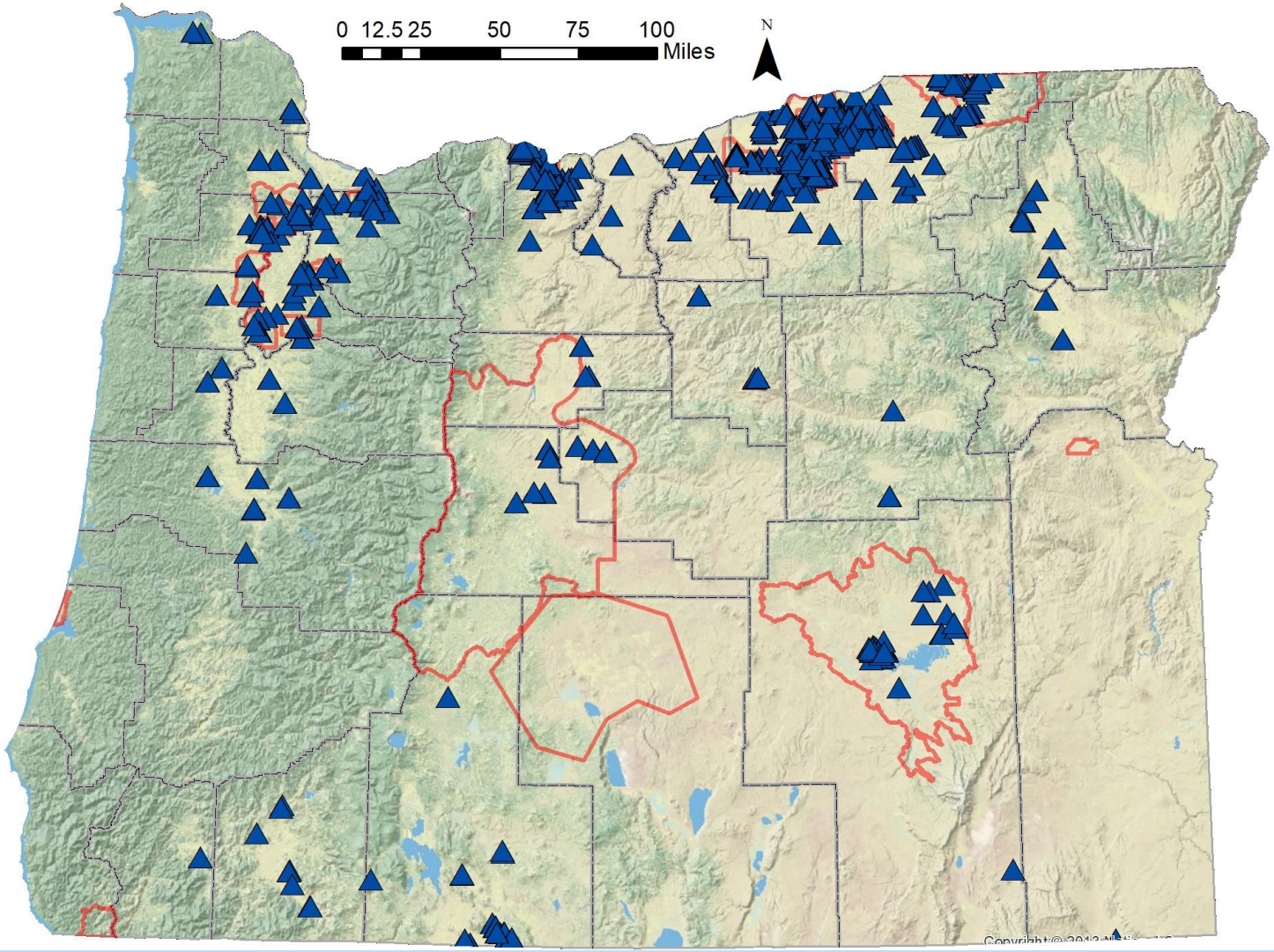
Signs of Over-Allocation

Excessively Declined Water Levels

(>50 ft from highest known)



Source: OWRD

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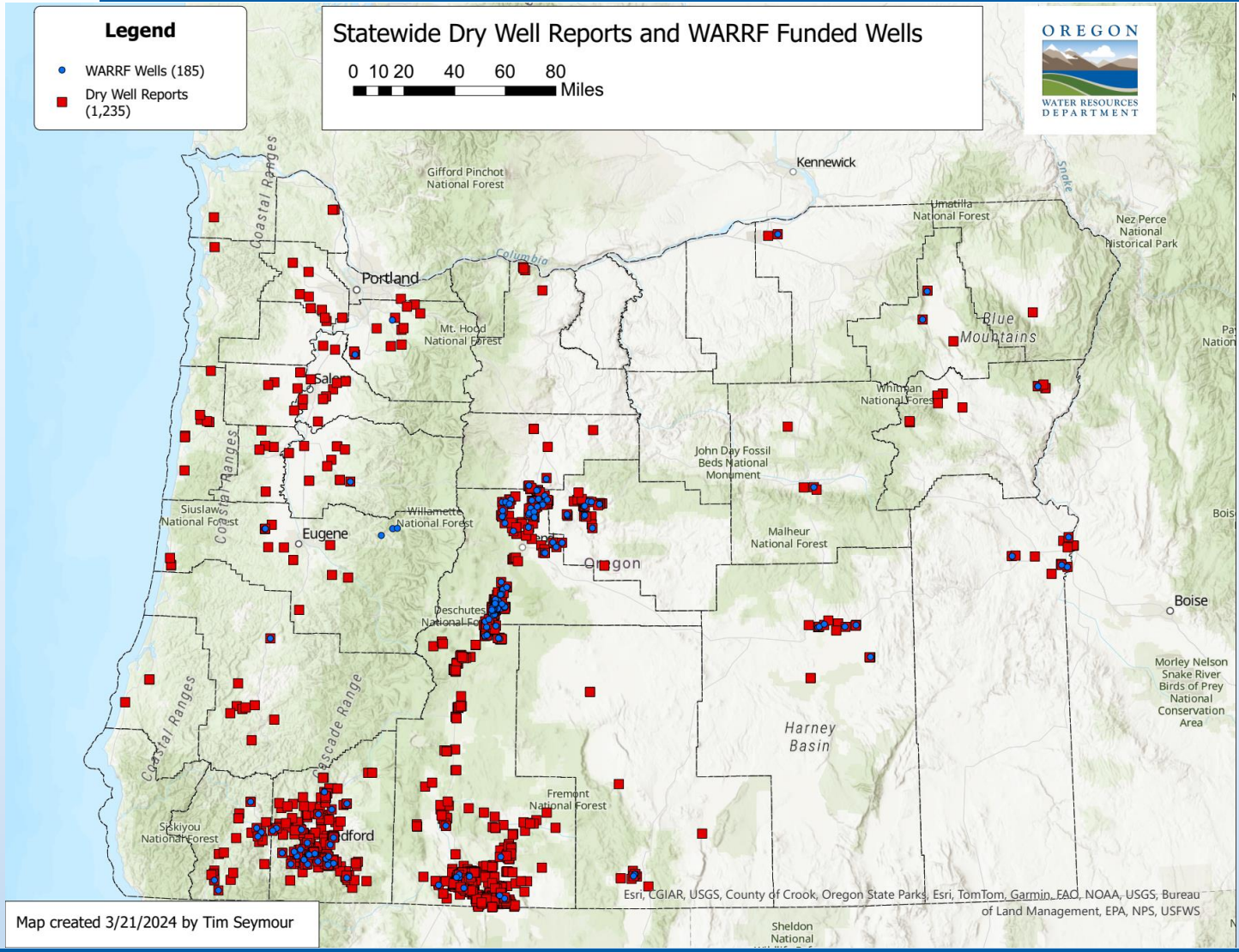
Signs of Over-Allocation

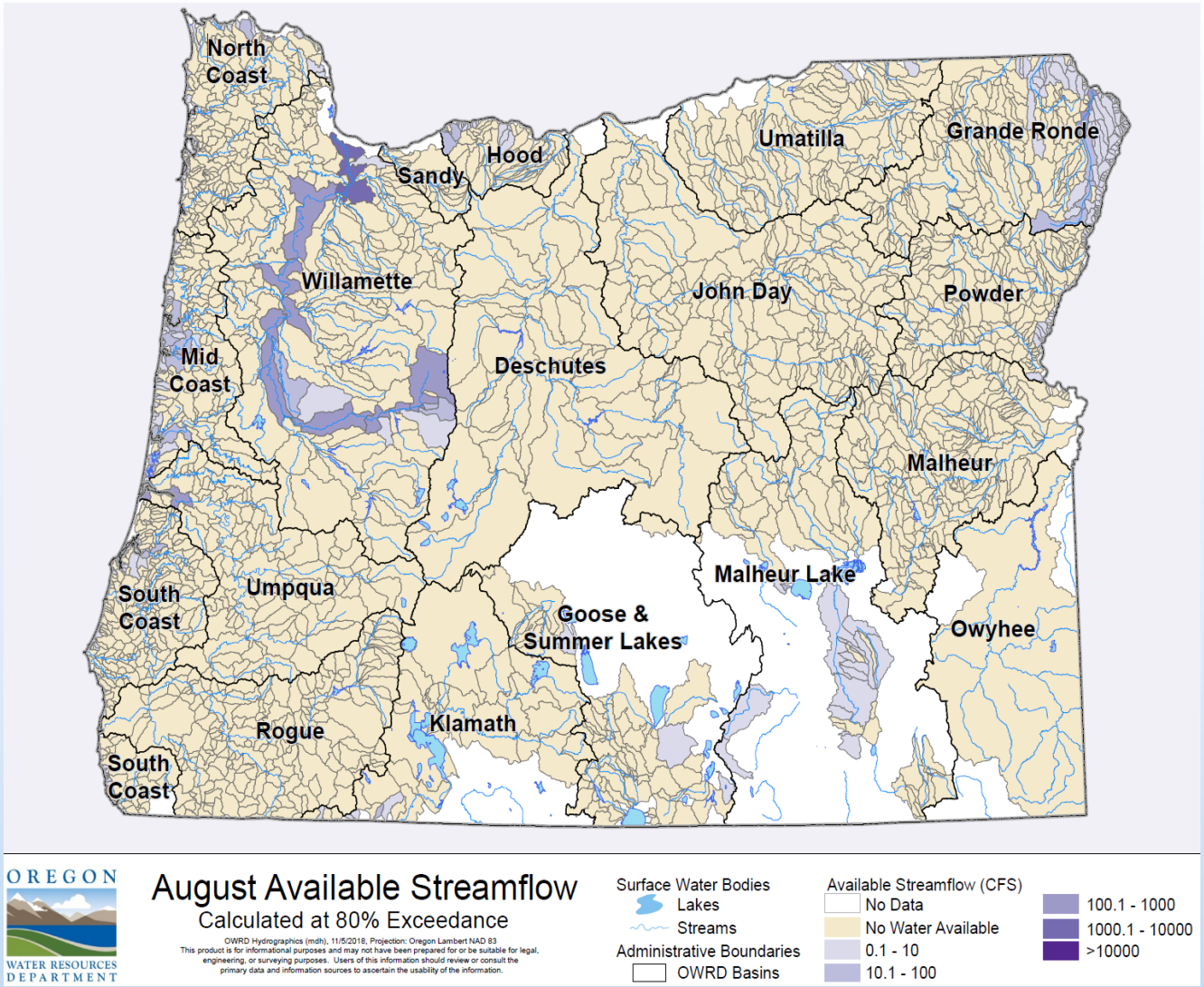
- Dry Well Reports
- State-supported deepening or repair (WARRF)



Source: OWRD

Signs of Over-Allocation

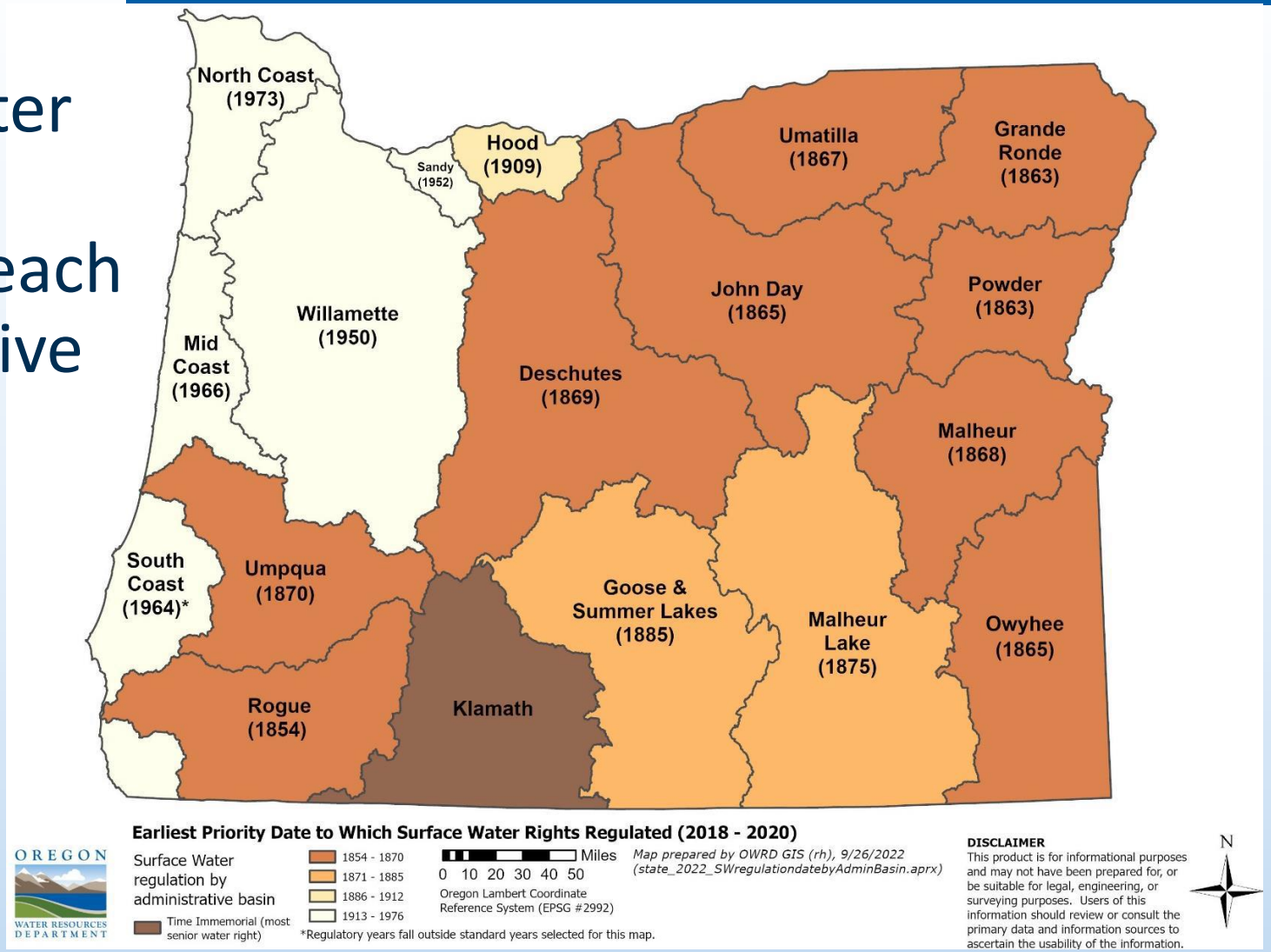
Surface Water Availability in August



Source: OWRD

Signs of Over-Allocation

Surface Water Regulation (earliest in each Administrative Basin)



Source: OWRD

Groundwater Allocation Rulemaking

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Rulemaking Objective

Update groundwater allocation rules to be more sustainable and protective of existing water right holders, both instream and out-of-stream.

Photo: OWRD, Hibbard Spring, Harney Basin

Allocation in Statute

ORS 537.621(2)(a), the "four-part test":

- Use is allowed in the basin
- Water is available
- Existing rights will not be injured
- Meets additional Commission standards and rules

…and (2)(b) Other public interest criteria in statutory policy can be addressed as needed

Photo: OWRD, well pumping to irrigation ditch in the Klamath Basin

Water is Available if…

Current Rules:

Requested source is available if not over-allocated:

- Allocate up to the full annual recharge volume
- Avoid short-term, acute impacts to surface water; while allowing long-term and cumulative impacts

Proposed Rules:

Requested source is available only if:

- Groundwater level trends are Reasonably Stable
- Hydraulically connected surface water is available for further appropriation
- Aquifer physically capable of producing the requested rate

Reference: OAR 690-008, -009, -300, -400; https://www.oregon.gov/owrd/programs/GWWL/GW/Pages/Groundwater-Rulemaking.aspx

GW Allocation Rulemaking

Extensive Public Involvement:

- Commission agenda items – since December 2021
- GWAC engagement - 8 meetings since March 2022
- Public outreach – 5 meetings in Fall 2022
- RAC meetings – 8 meetings since April 2023
- RAC technical information sessions – 2 meetings in January 2024
- Additional outreach and meetings as requested

All rulemaking information and public meeting recordings are available on the Department's website.

RAC Roster

47th Ave Farms
Anderson Perry & Associates
Applied Economics, OSU
Association of Oregon Counties
Atmospheric Science, OSU
Central Oregon Cities Organization
Citizen-at-Large
Confederated Tribes of the Umatilla Indian Reservation
Deschutes River Conservancy
Dunn Carney/Oregon Cattlemen's Association
Environmental Law, Willamette University
Exempt Well User
Grown Rogue
GSI Water Solutions
Jefferson County Commission
Klamath Irrigation District
Klamath Tribes
League of Oregon Cities
Northwest Groundwater Services
Oregon Association of Nurseries
Oregon Environmental Council
Oregon Farm Bureau
Oregon Lakes Association
Oregon Water Resources Congress
Pacific Hydro-Geology, Inc.
Rancher
Seven Hills Winery
The Nature Conservancy
Verde
WaterWatch

Key Issue 1: Defining Reasonably Stable Groundwater Levels

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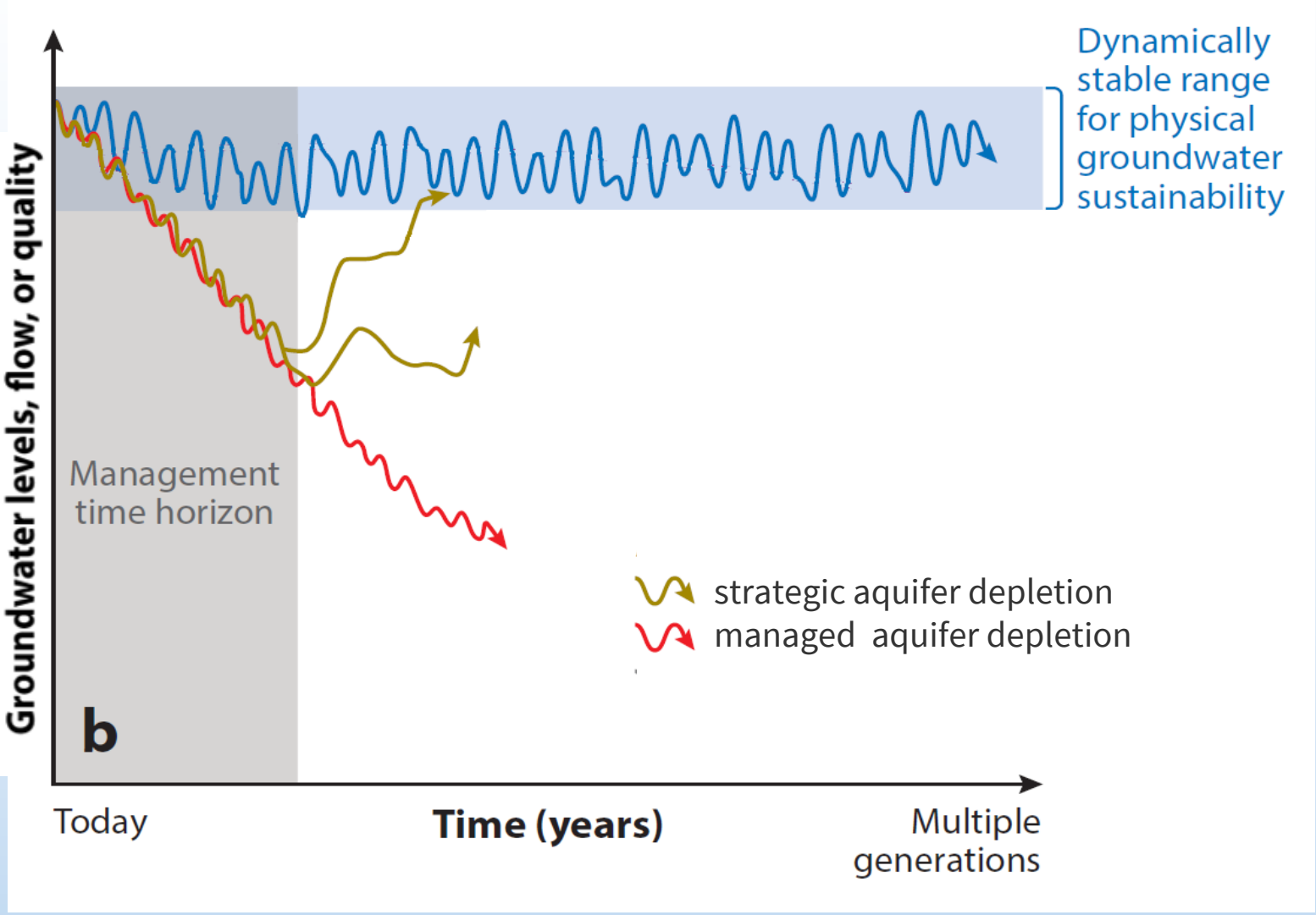
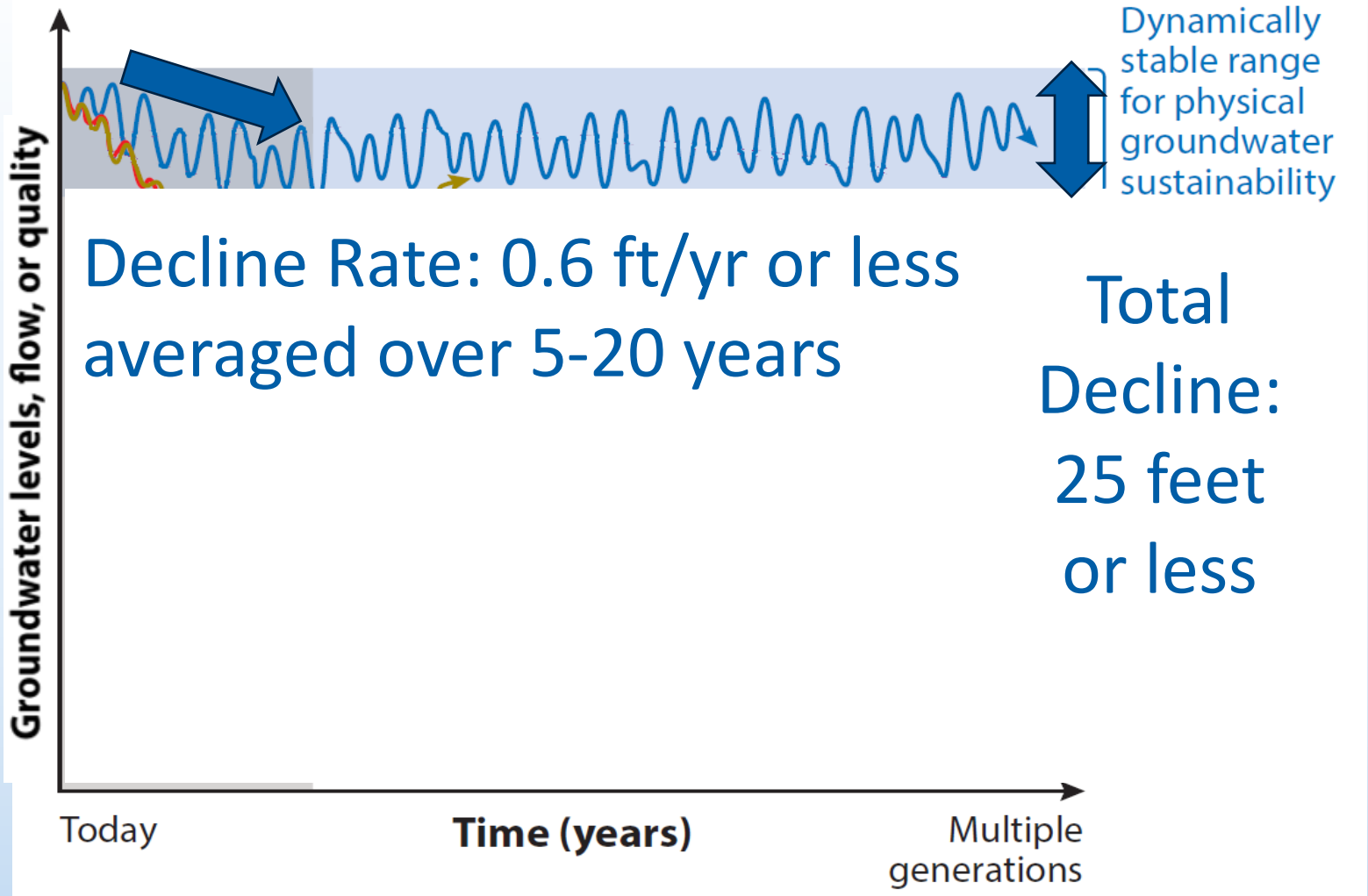
Reasonably Stable Groundwater Levels Science-Based Framework



Excerpted and modified from: Gleeson and others, 2020, Annual Review of Earth and Planetary Science, 48, 431-63 (Figure 2b). Available at: https://www.annualreviews.org/doi/10.1146/annurev-earth-071719-055251

Reasonably Stable Groundwater Levels Data-Driven Threshold Definitions



Decline Rate: 0.6 ft/yr or less averaged over 5-20 years

Total Decline: 25 feet or less

Excerpted and modified from: Gleeson and others, 2020, Annual Review of Earth and Planetary Science, 48, 431-63 (Figure 2b). Available at: https://www.annualreviews.org/doi/10.1146/annurev-earth-071719-055251

Reasonably Stable Groundwater Levels Proposed - OAR 690-008-0001(9)

- Water level declines no more than 0.6 ft/yr or 25 ft total
- From highest known water level
- Water level must be available:
  - From the aquifer; can be from a neighboring well
  - 5 years of data minimum
  - Final data point within the past 5 years

Additional Considerations:

- Highest known water level can be set below human-caused water level rises
- Assume reasonably stable if no prior development
- Basin rules can re-define
  - Impacts to dry wells, ecosystems, and long-term sustainability must be assessed

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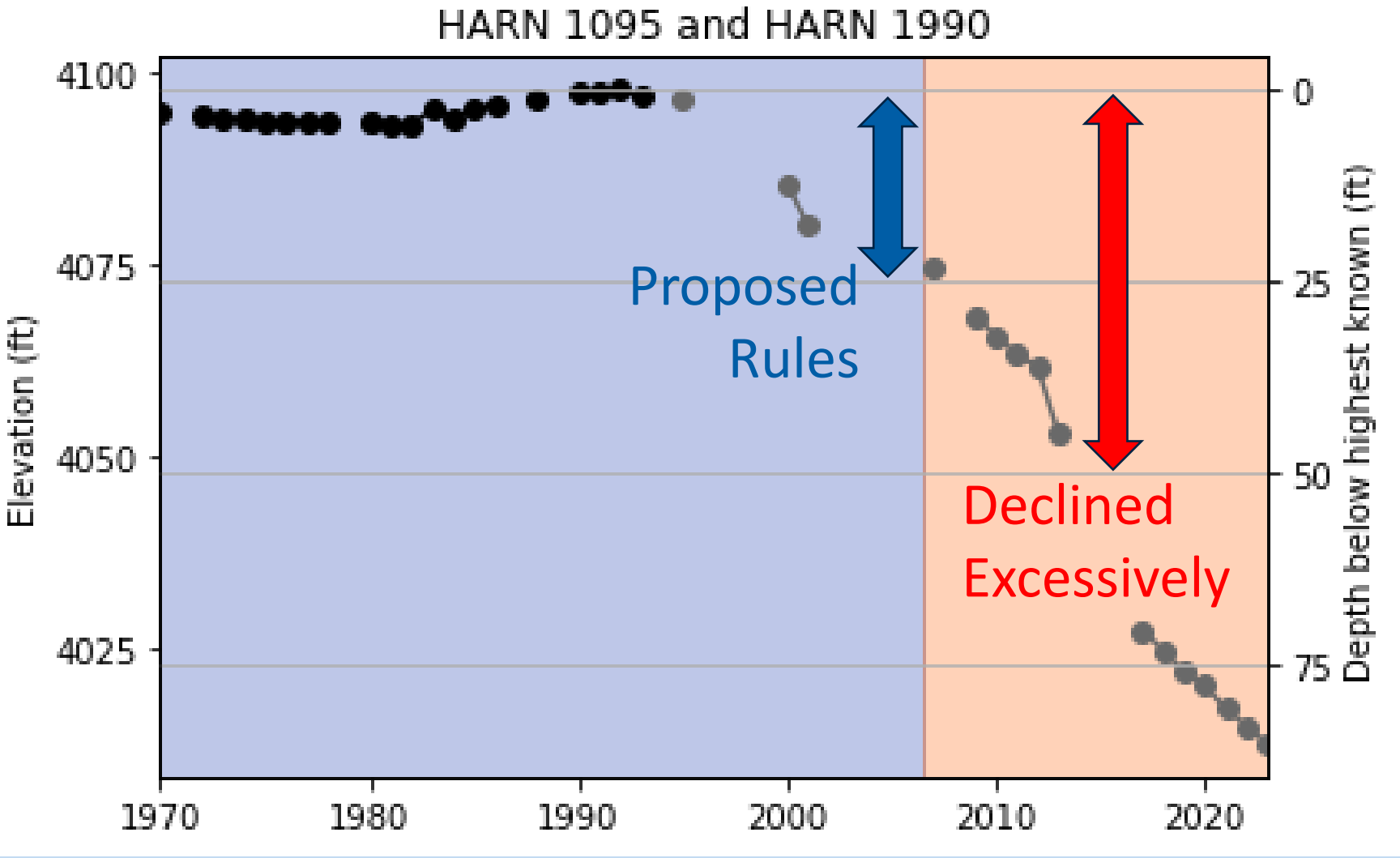
Reasonably Stable Groundwater Levels Harney Basin Example



Source: OWRD

Impacts of Not Maintaining Reasonably Stable Groundwater Levels

Domestic Dry Wells:

- 1,235 dry well complaints since July 2021
- Average cost to deepen a well is $26,500
- $9M+ in public investments; ongoing demand

State-Wide Risk (all water wells):

- Up to 15,000 wells at risk of going dry given a water level drop of 25 feet
- Up to 55,000 wells at risk of going dry given a water level drop of 50 feet

Key Issue 2: Redefining Potential for Substantial Interference (PSI) with Surface Water

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Streamflow in August comes from Groundwater

Photo: OWRD, Eagle Creek in late-August

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Groundwater Contributes Flow

Photo: OWRD, Sprague River

Groundwater – Surface Water Interference

Potential for Substantial Interference (OAR 690-009-0040)

- If hydraulically connected
- Over the proposed period of use
- Then the potential for substantial interference exists
- Actual substantial interference exists if…

Substantial Interference (OAR 690-008-0001)

… the surface water source:

- Is already over-appropriated
- Is withdrawn or restrictively classified
- Is regulated off to satisfy senior rights
- Has an unmet instream right during any period of the year

Implications

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Meeting Future Needs

Existing Options:

- Conservation
- Aquifer Storage/Recharge
- Water Re-use
- Transfers

Potential New/Future Opportunities:

- Mitigation programs
- Market based approaches
- Outcomes from basin and regional planning

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Benefits to Existing Users

- Increases certainty for existing users
- Fewer dry wells
- Lower pumping costs
- Preserved water quality
- Consistent with prior appropriation doctrine
- Reduces future conflict

What's Next

Next Steps

- Multiple public hearings held around state
  - Bend - April 4, 2024
  - LaGrande – April 18, 2024
  - Central Point – May 16, 2024
  - Salem (including online option) – May 21, 2024

Information Only Session Time: 5:30 p.m. to 6:30 p.m.
Hearing Time: 7:00 p.m. to 9:00 p.m.

- Written Comments accepted March 1 – May 31, 2024
- Evaluation of comments June – July, 2024
- Presentation to Water Resources Commission for adoption in September 2024

More Info Online

Today's information session will be posted online, with other information about our rulemaking:

https://www.oregon.gov/owrd/programs/GWWL/GW/Pages/Groundwater-Rulemaking.aspx

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