Agenda Item H – Informational Report

OREGON
WATER RESOURCES DEPARTMENT

Groundwater Allocation Project Update – Public Outreach Meetings Summary

Justin Iverson, Groundwater Section Manager

November 18, 2022

Background

- OWRD is developing a groundwater allocation policy, to culminate in rulemaking, that is more sustainable and protective of senior users.

- In September and October 2022, OWRD convened five facilitated public outreach meetings to seek input on reimagining the groundwater allocation decision-making process.

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Public Outreach Meetings

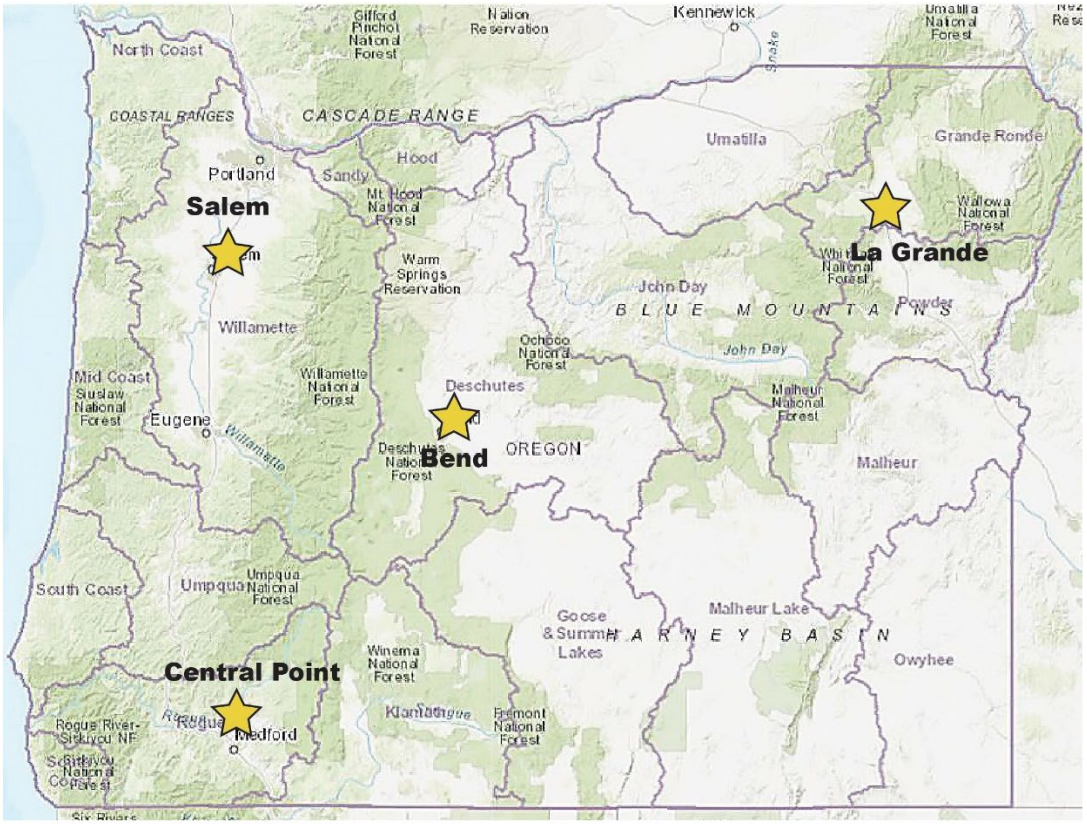

Figure 4. Map of Oregon depicting administrative water basins and cities where outreach meetings occurred.

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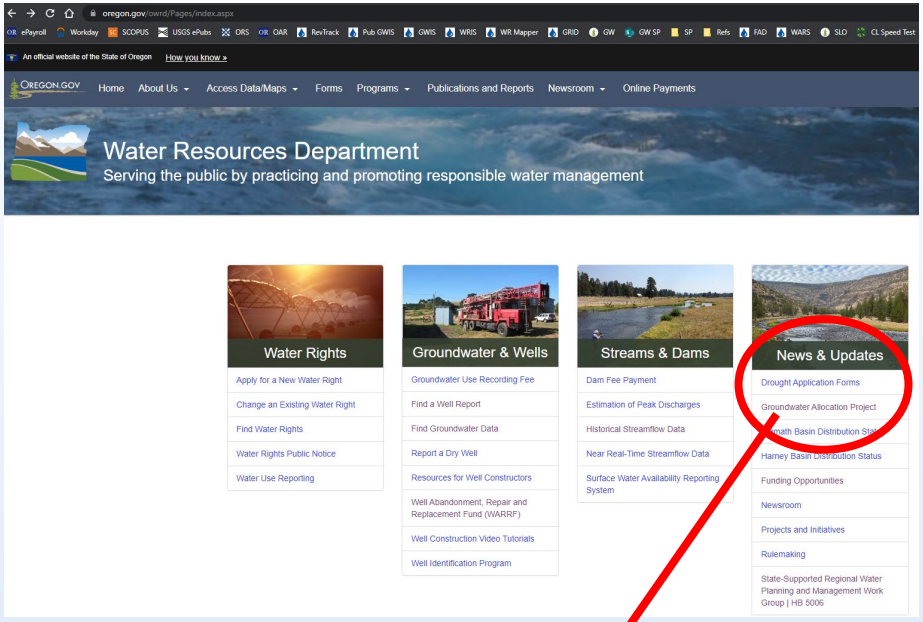
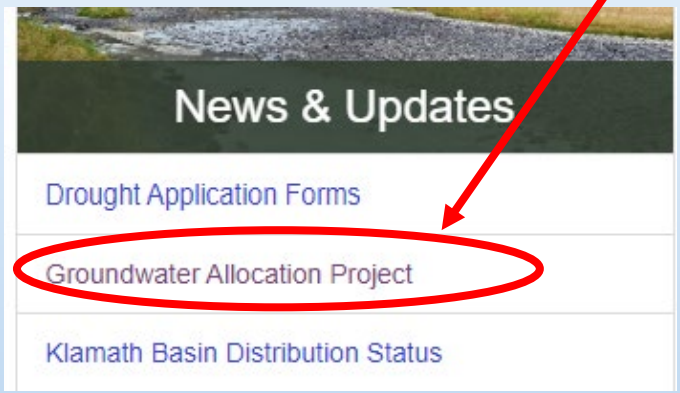
Outreach Meeting Agenda

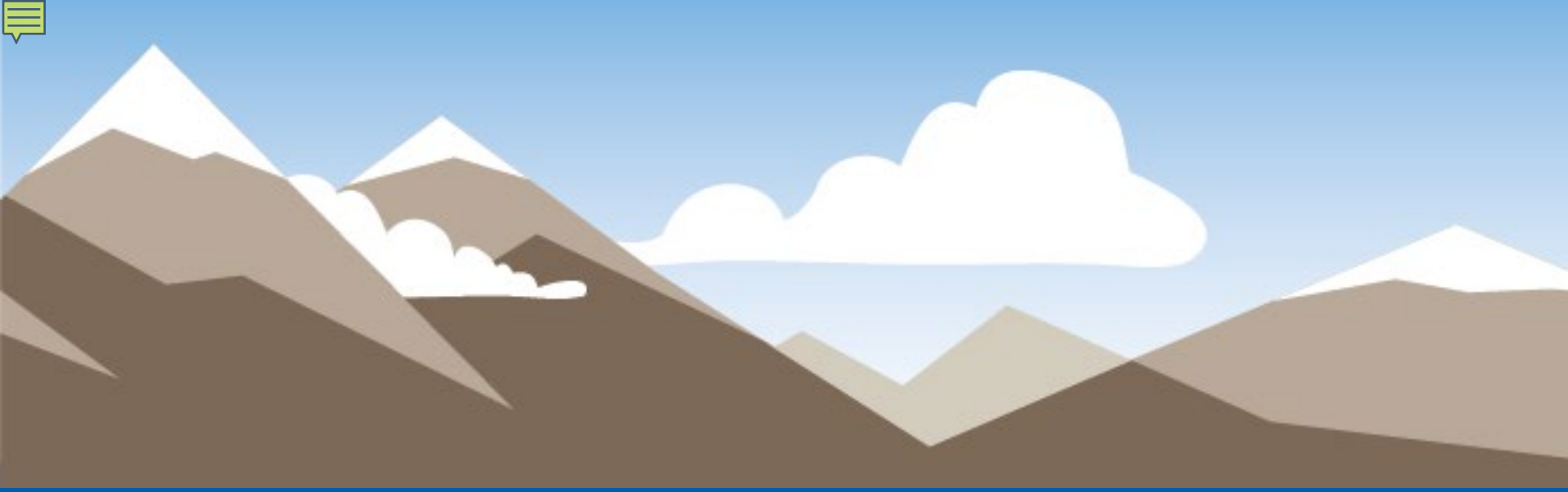
Time	Topic
5:30	Venue opens
6:00 p.m.	Welcome and Introductions
6:10 p.m.	Oregon's groundwater allocation process
6:45 p.m.	Public Input Session • Clarifying Questions • Share your Ideas
7:50 p.m.	Next Steps
8:00 p.m.	Adjourn

Today's Presentation Roadmap

- Key Groundwater Concepts
- Allocation Issues and Potential Solutions
- Input Summary and Survey Responses
- Next Steps







Key Groundwater Concepts

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Section Roadmap

- What is Groundwater
- Groundwater in the hydrologic cycle
- The source of groundwater to wells

Photo: OWRD, Unnamed spring discharging to Metolius River

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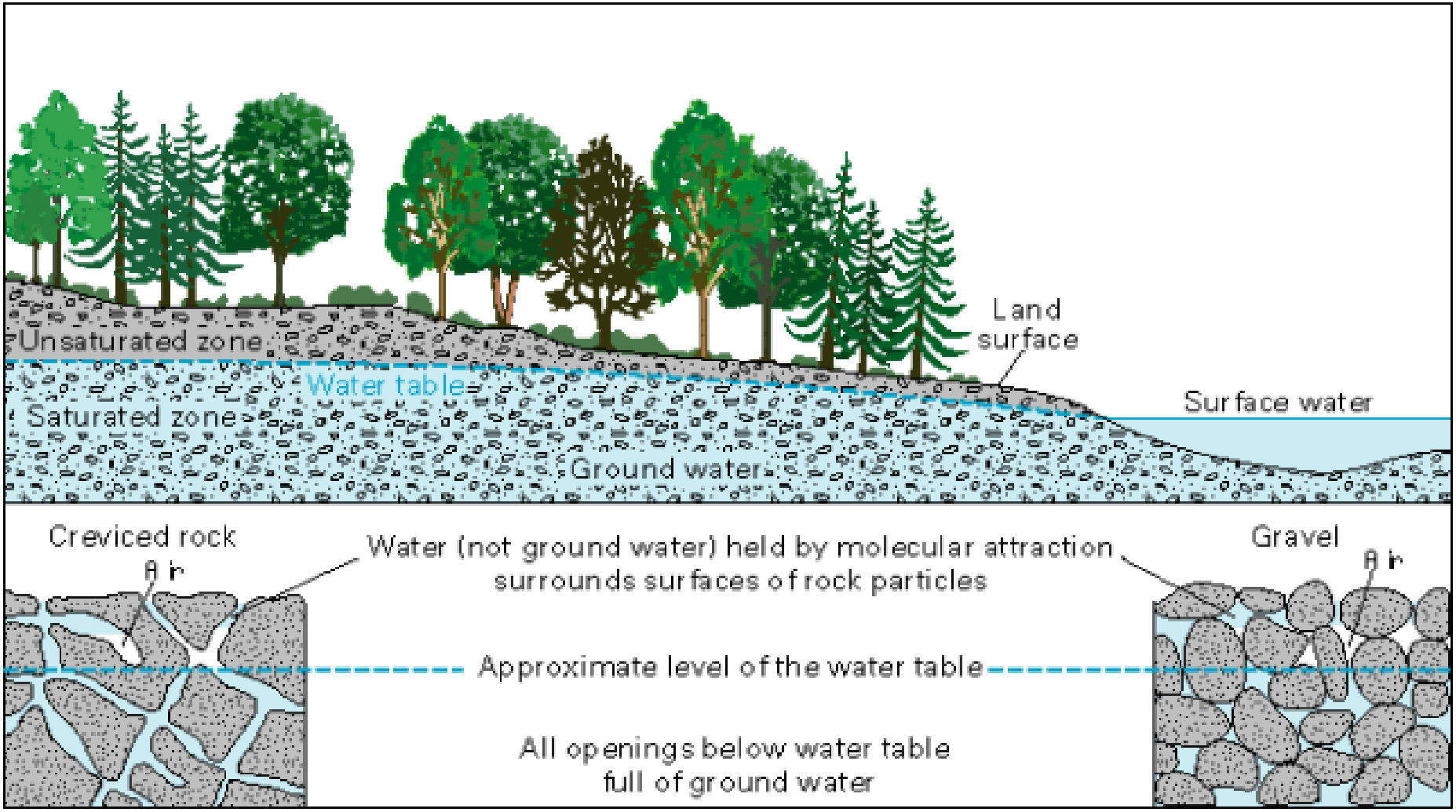
What is Groundwater?



Source: USGS (http://water.usgs.gov/edu/earthgwaquifer.html)

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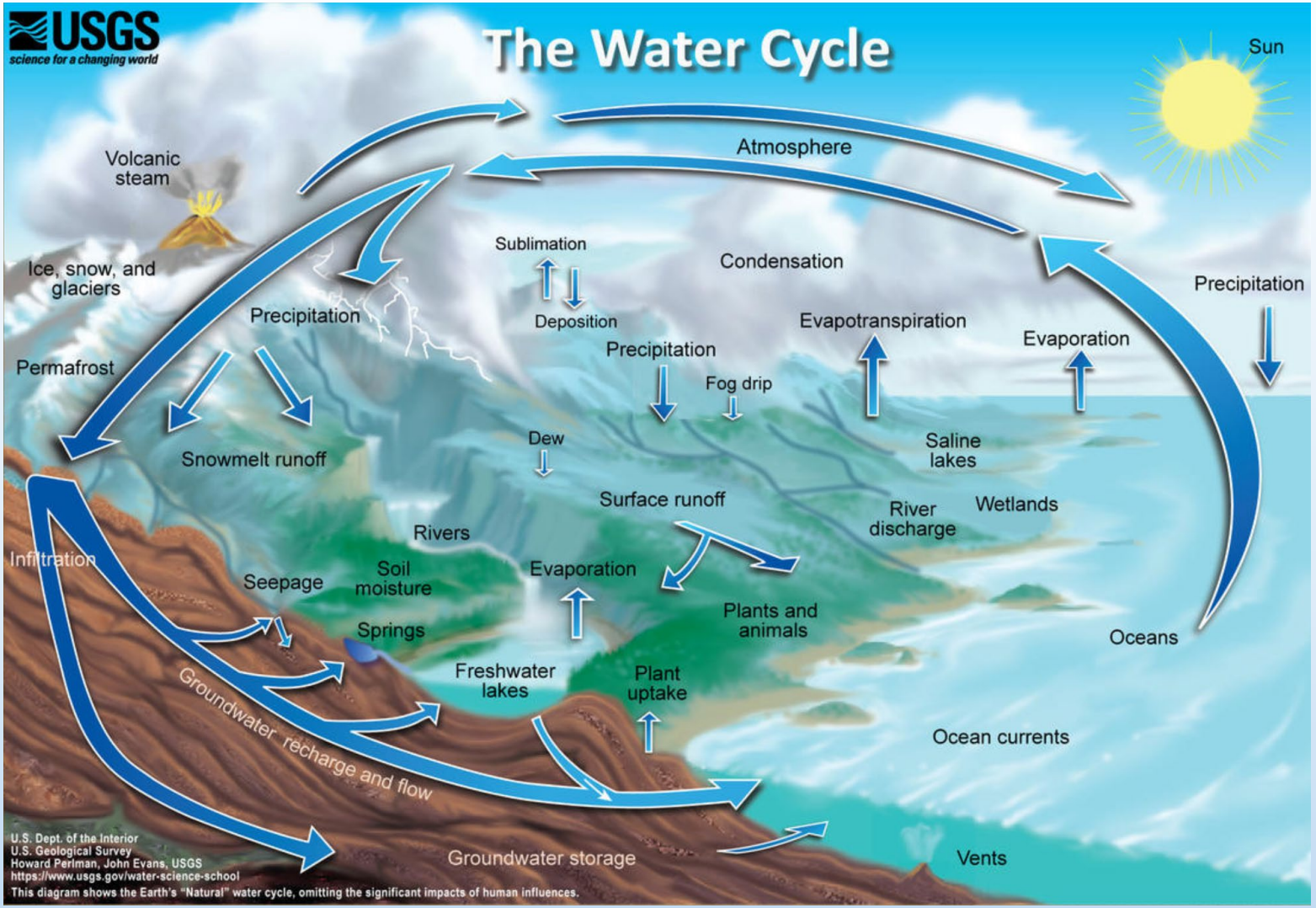
Groundwater in the Water Cycle



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

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Groundwater to Surface Water

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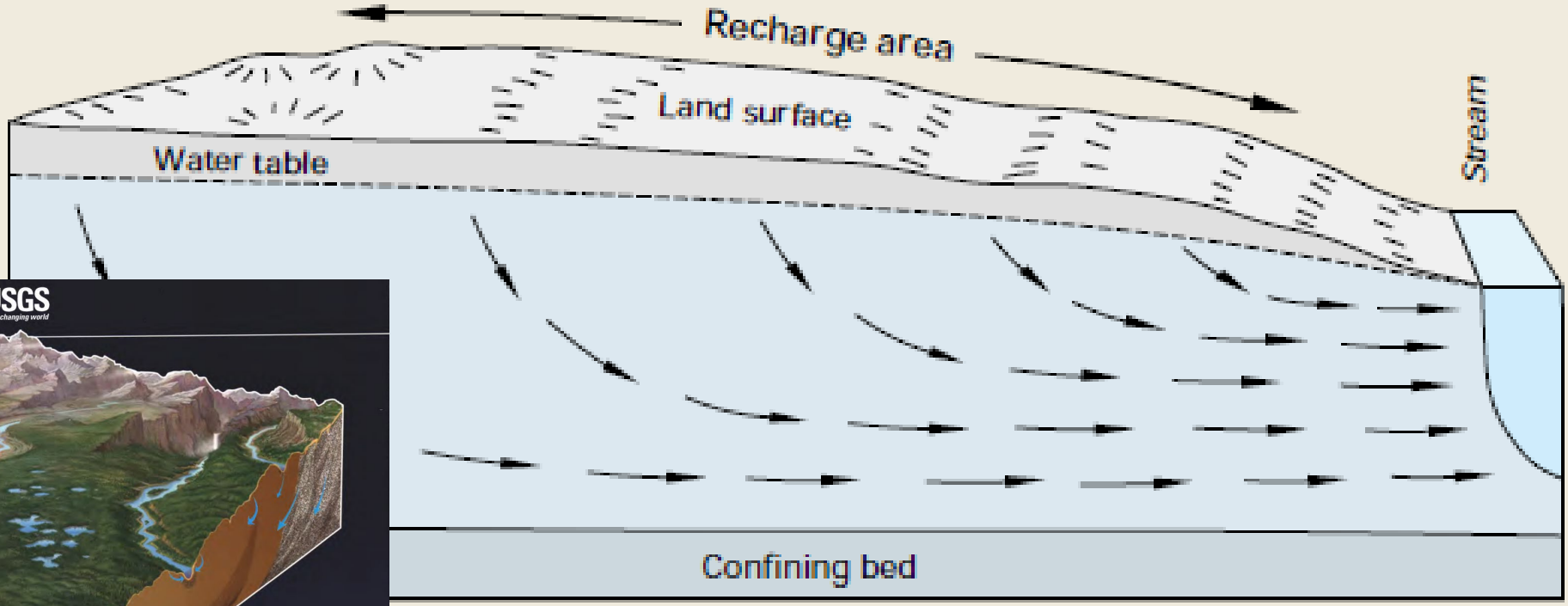

Source: USGS Circular 1139, Groundwater and Surface Water: A Single Resource

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Baseflow is Groundwater

Photo: OWRD

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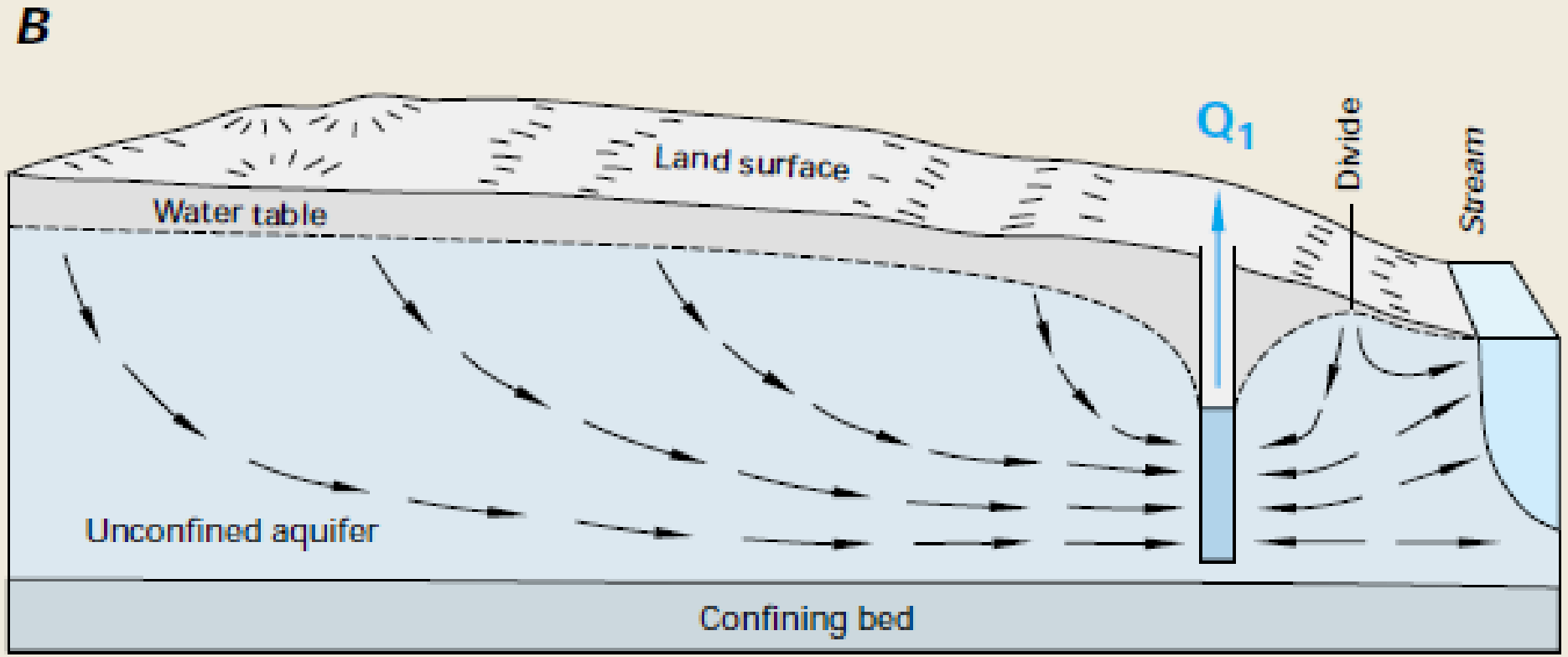
Groundwater From Wells



Source: USGS Circular 1139, Groundwater and Surface Water: A Single Resource

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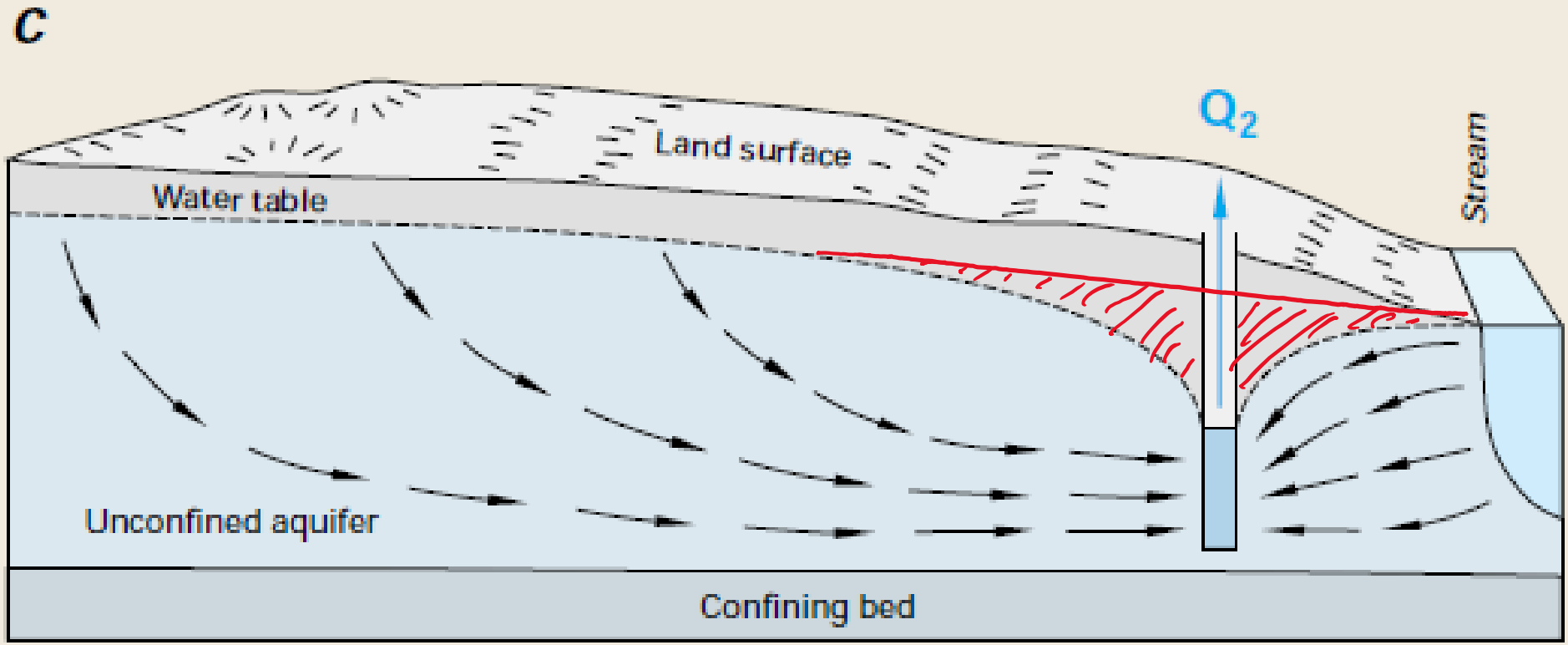
Streamflow Capture



Groundwater removed from storage (drained pore space) at early pumping time.

Source: USGS Circular 1139, Groundwater and Surface Water: A Single Resource

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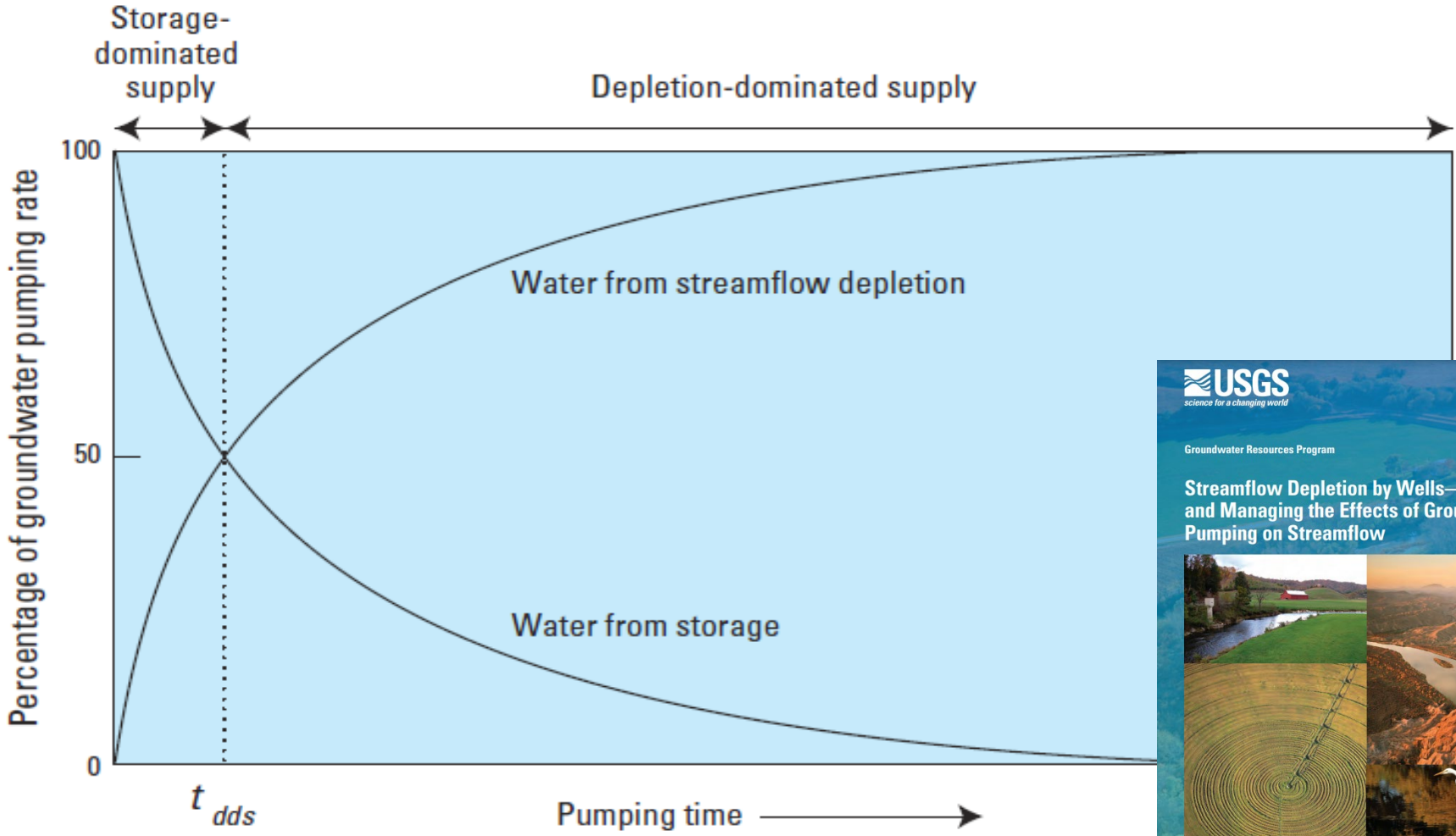
The Source of Water to Wells



Source: Barlow, P.M., and Leake, S.A., 2012, Streamflow depletion by wells—Understanding and managing the effects of groundwater pumping on streamflow: U.S. Geological Survey Circular 1376, 84 p. (Also available at *http://pubs.usgs.gov/circ/1376/*.)

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Groundwater From Wells

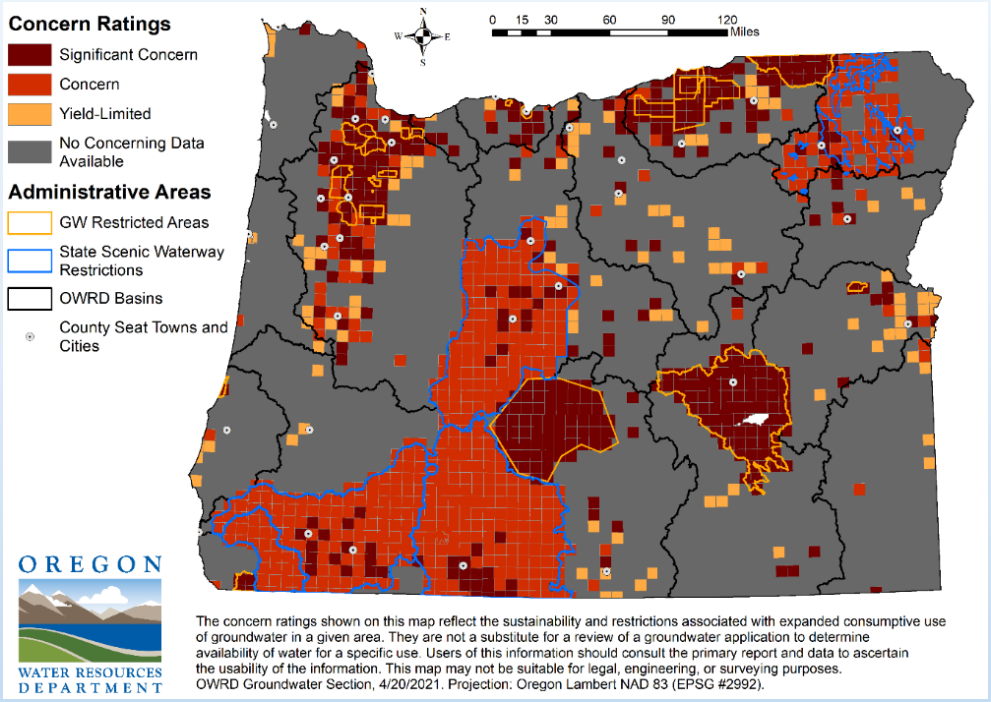
"From the standpoint of groundwater conservation and statutory or other regulation, the following point should be emphasized: <u>All water discharged by wells is balanced by a loss of water somewhere.</u>"

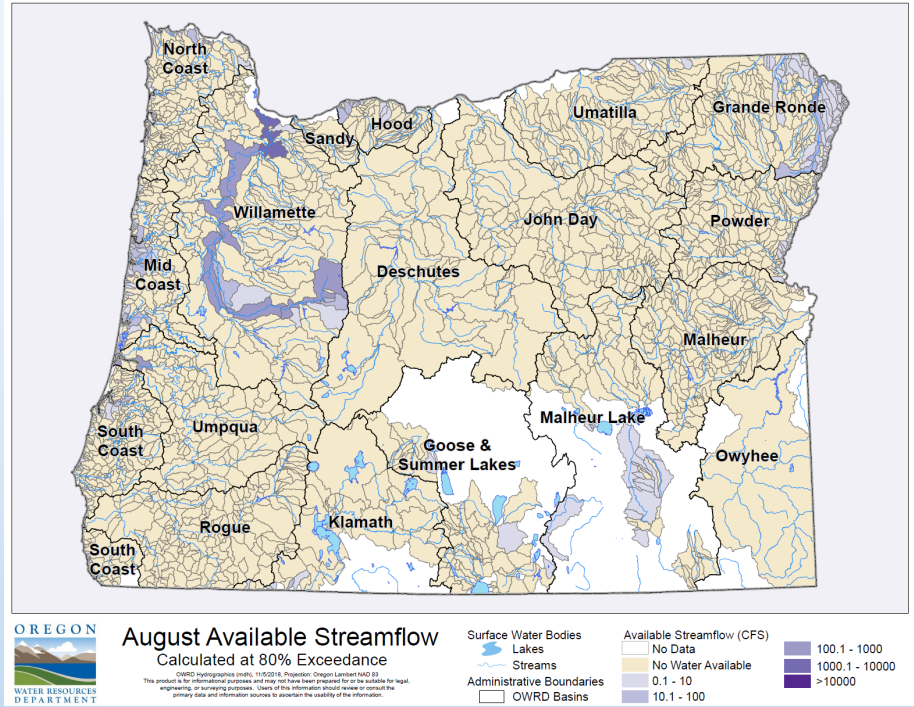
- C.V. Theis, 1940: The Source of Water Derived From Wells

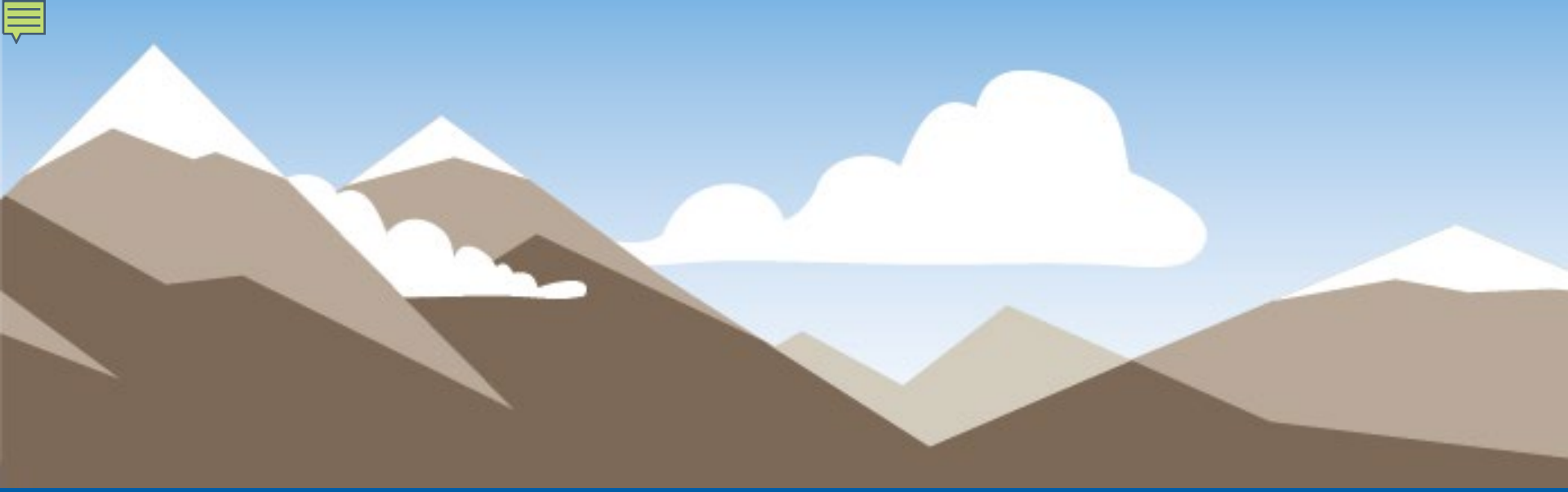
Source: Theis, C.V., The Source of Water Derived From Wells; Essential Factors Controlling the Response of an Aquifer to Development. First published by the American Society of Civil Engineers in its Civil Engineering magazine (p. 277-280), Available online at *https://water.usgs.gov/ogw/pubs/Theis-1940.pdf*

New Groundwater Allocation has Impacts

Groundwater allocation over the past 65+ years has contributed to reduced surface water baseflow and groundwater level declines; both at the expense of existing users.







Allocation Issues and Potential Solutions

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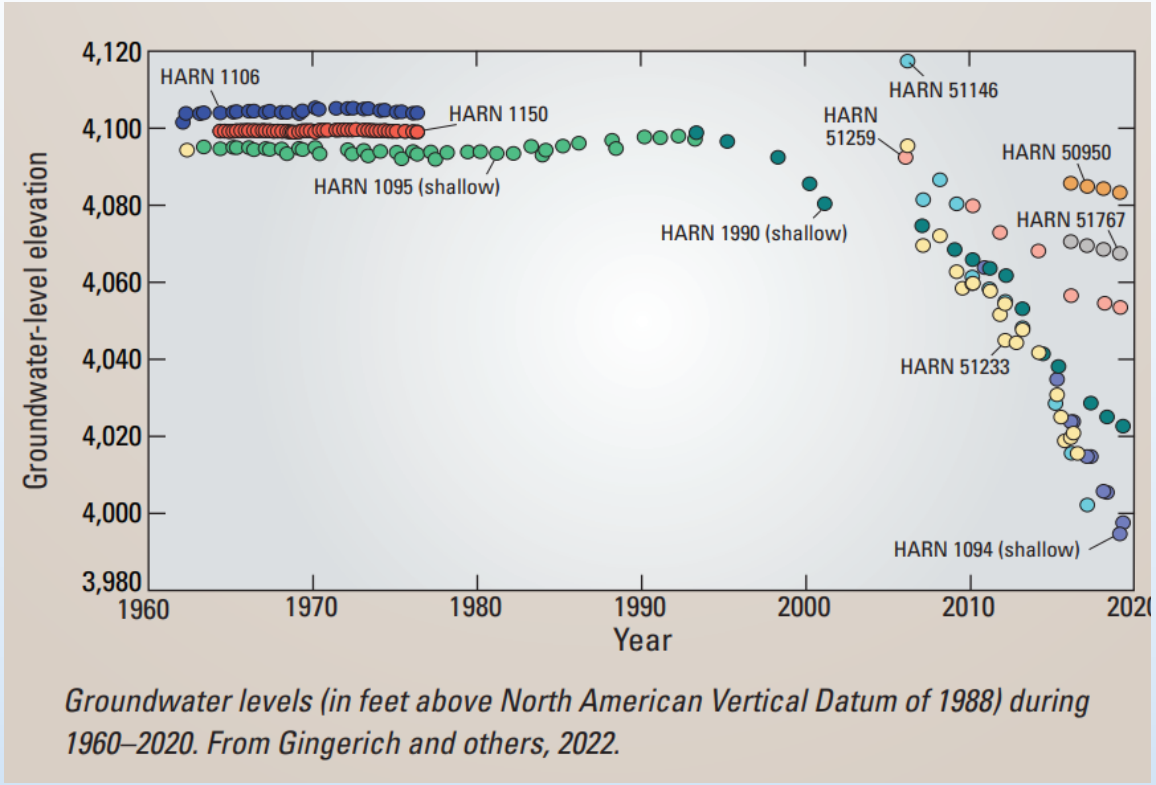
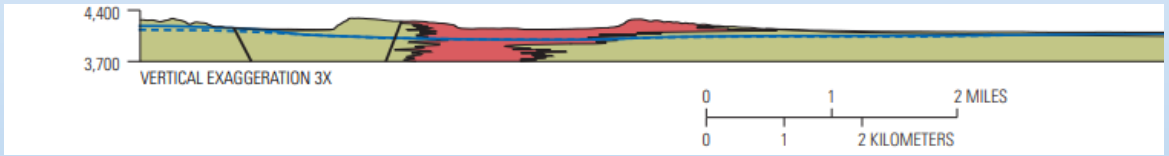
Section Roadmap

- Issues arising from existing allocation process
- Initial ideas for updating the allocation process



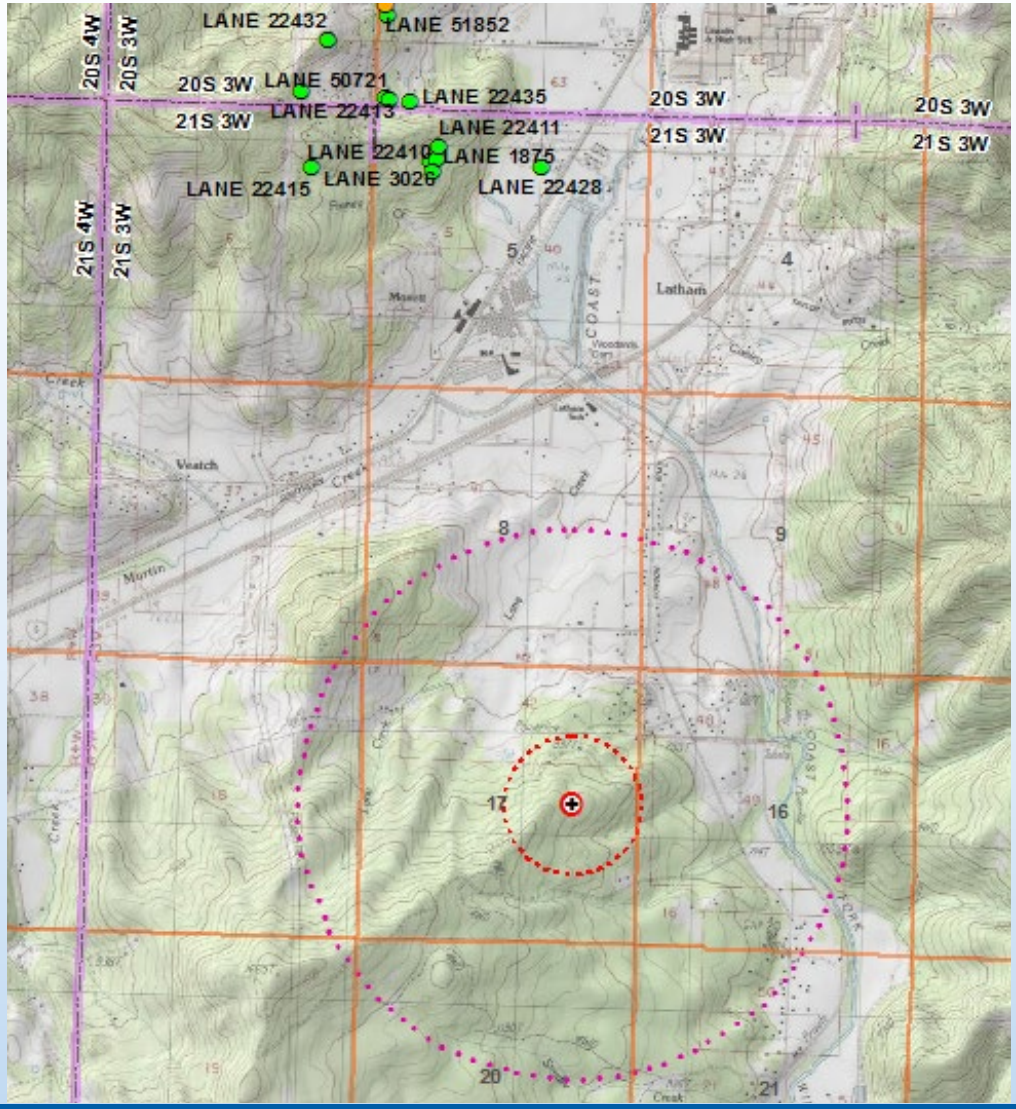
Groundwater levels (in feet above North American Vertical Datum of 1988) during 1960–2020. From Gingerich and others, 2022.



Source: USGS (Gingerich, S.B., Garcia, C.A., and Johnson, H.M., 2022, Groundwater resources of the Harney Basin, southeastern Oregon: U.S. Geological Survey Fact Sheet 2022–3052, 6 p., https://doi.org/10.3133/fs20223052)

Existing Allocation Process

- Short-term, acute impacts to surface water are avoided, while cumulative impacts have likely developed over the longer term
- Data must exist to indicate over-appropriation



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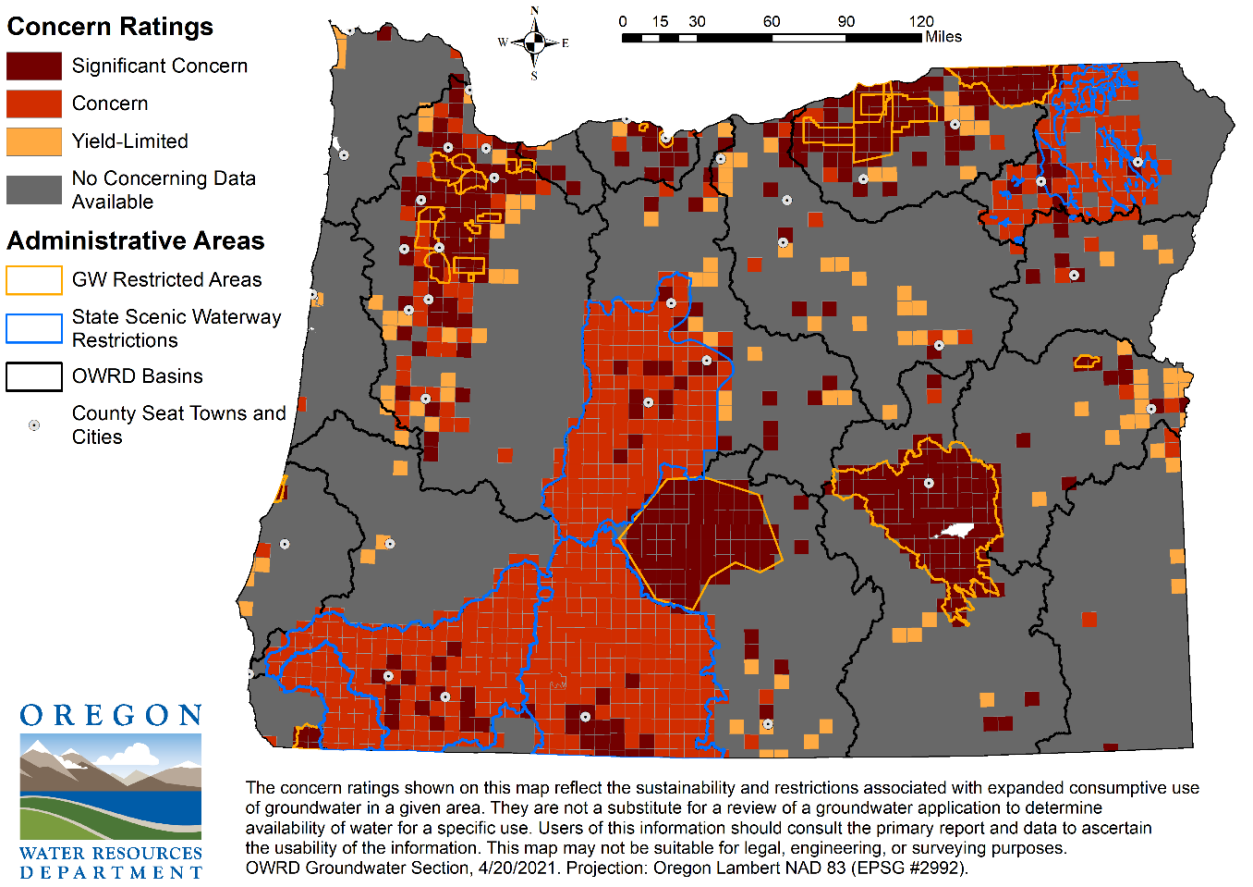
Existing Allocation Process



- More than 70% of groundwater applications result in a permit
- Approx. 80% of applications in "Areas of Concern" receive permits

Source: OWRD, June 2021 Commission staff report presents map details and data (bit.ly/owrd-wrc-june21-itemh)

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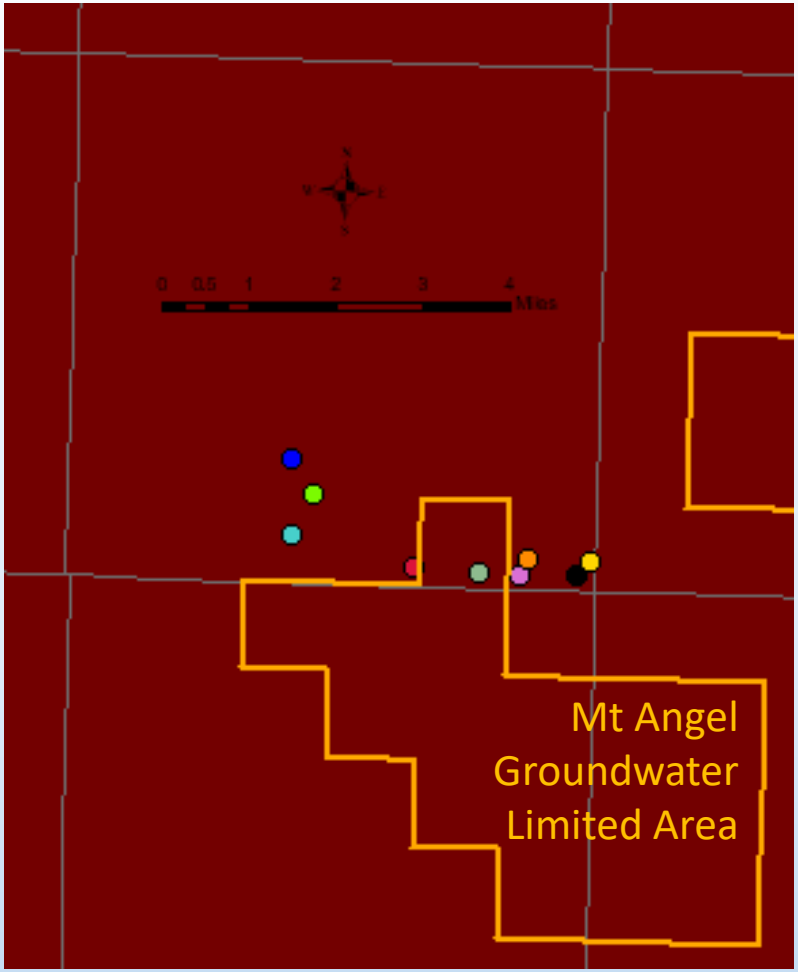
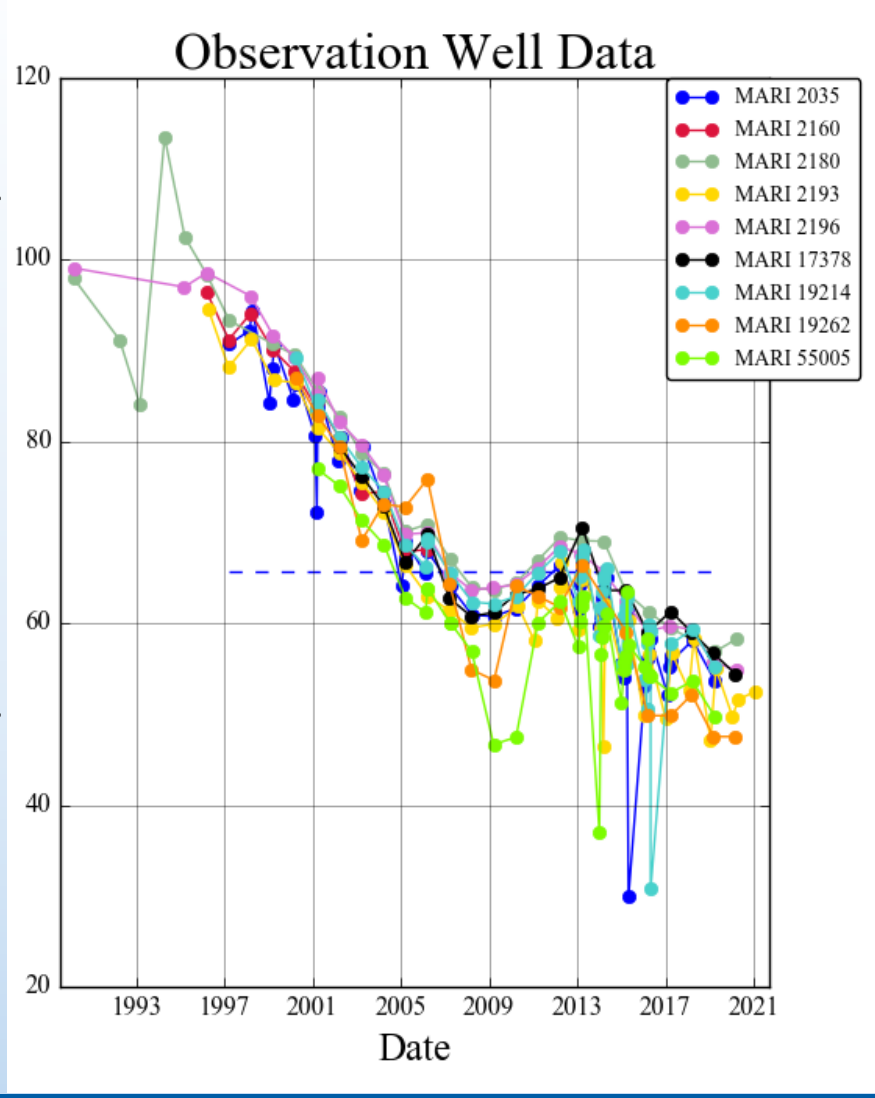
Storage – Reasonably Stable





Source: WRC June 3, 2021 presentation, Item H – Groundwater Resource Concerns

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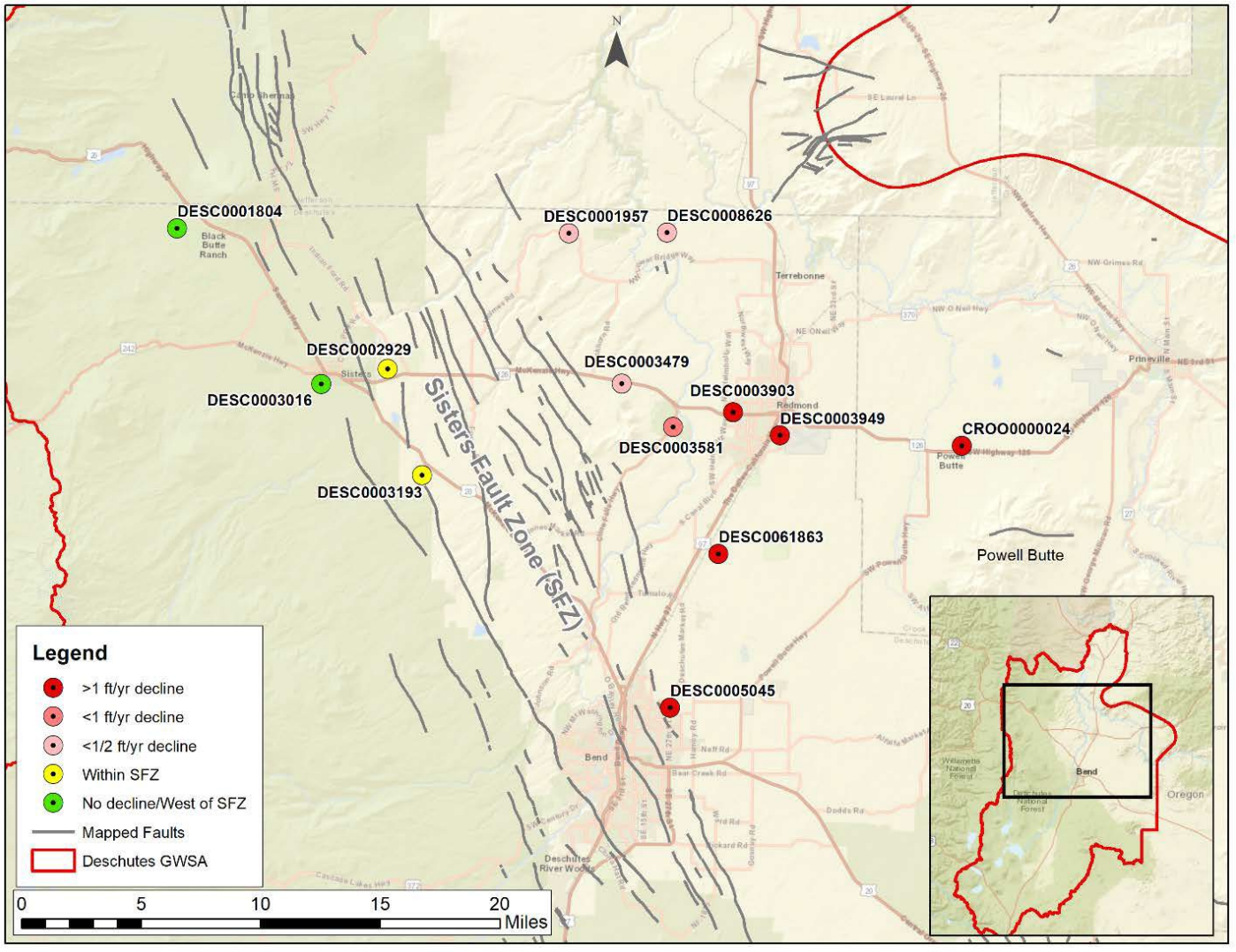
Storage – Reasonably Stable



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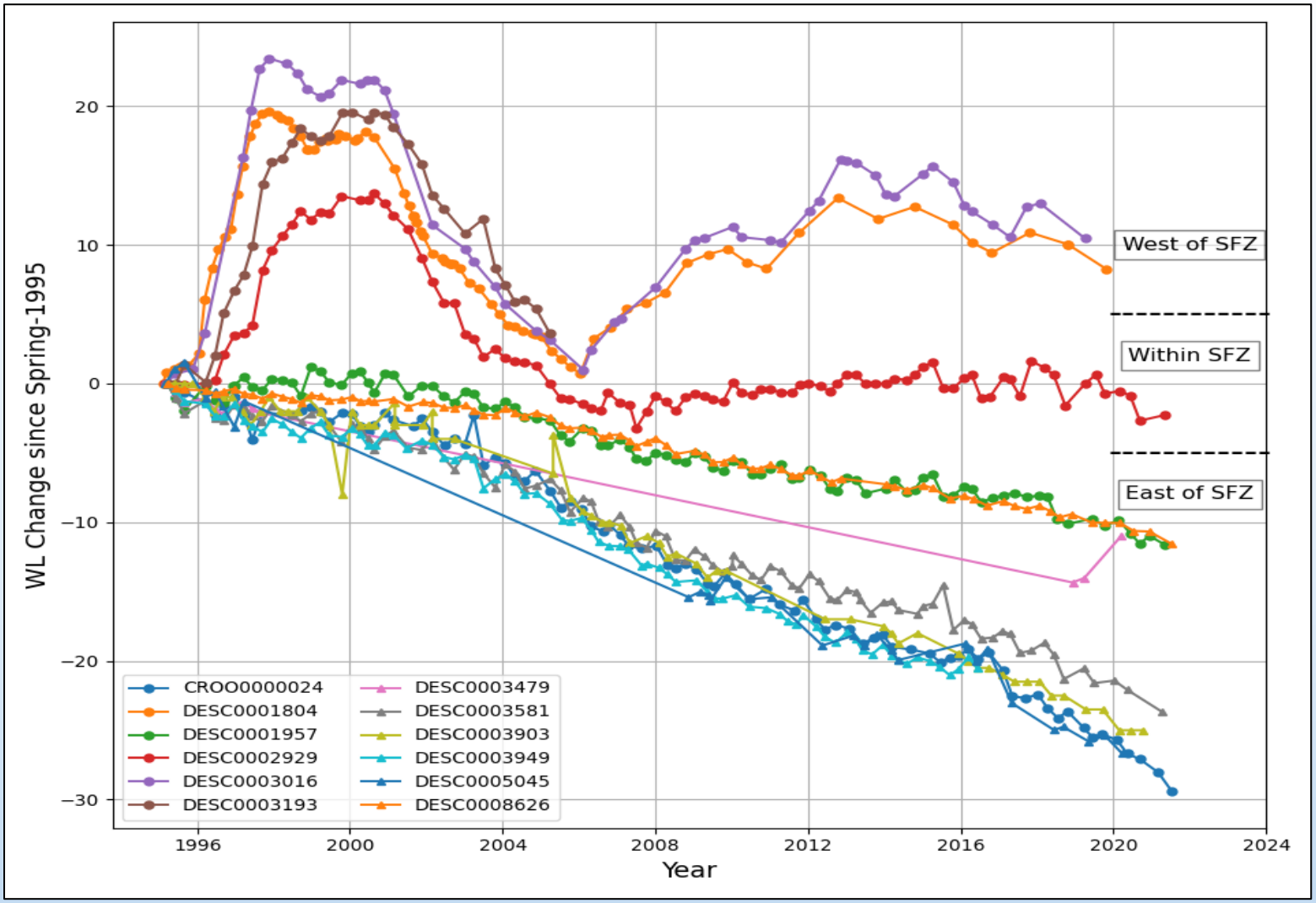
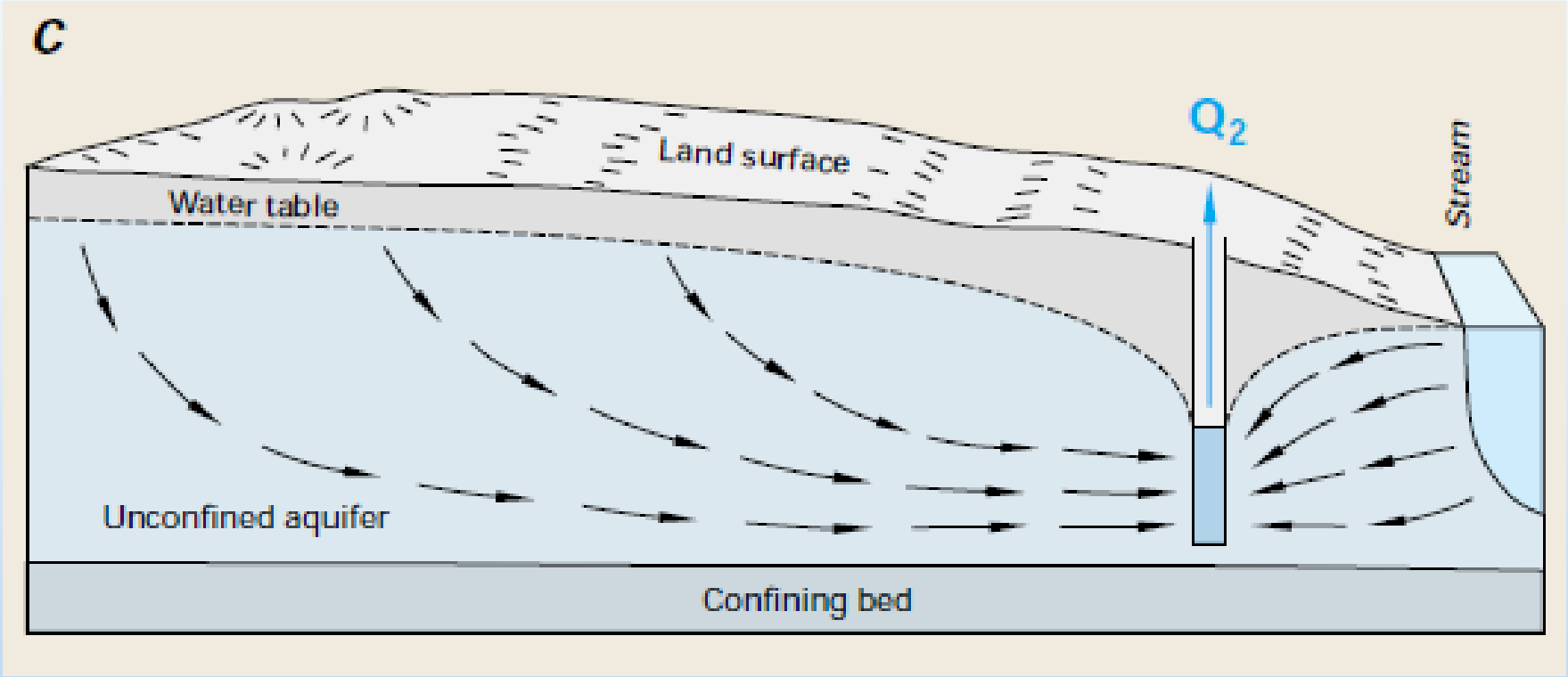
Storage – Reasonably Stable



Source: OWRD Memo in response to a Technical Assistance Request from the Deschutes Basin Water Collaborative Groundwater Mitigation Technical Committee : Groundwater mitigation program purpose and groundwater level trends, dated 8/30/2021

Capture – SW Availability

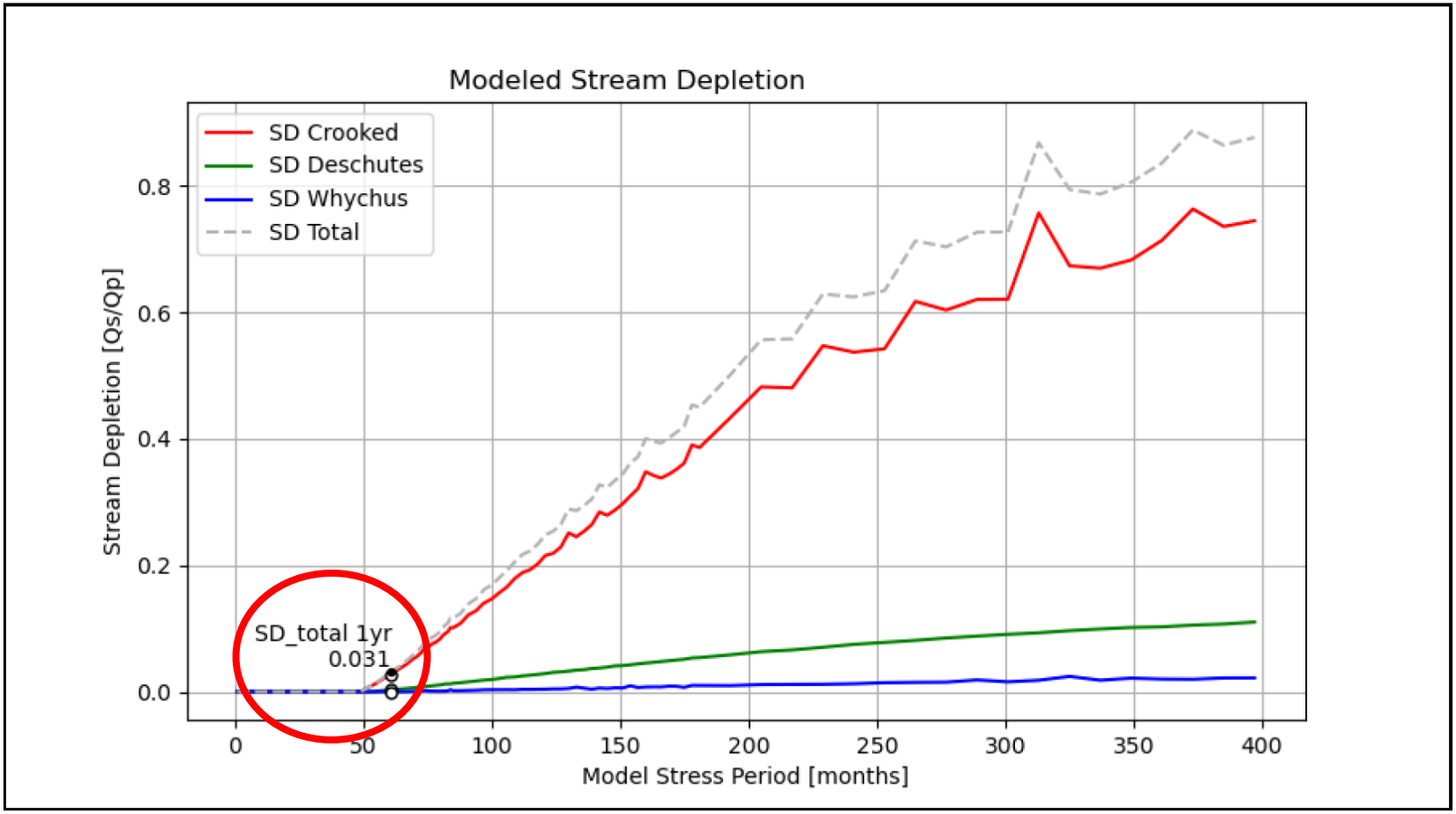
Over-appropriation defined in Div 400(11)(a)"(B) … or results in the further depletion of already over-appropriated surface waters."



Souce: USGS Circular 1139, Groundwater and Surface Water: A Single Resource

Capture – SW Availability

Figure 1: Stream-depletion curve, pumping starts at month 49 and continues at a constant rate for 29 years until the end of the model scenario (month 397).



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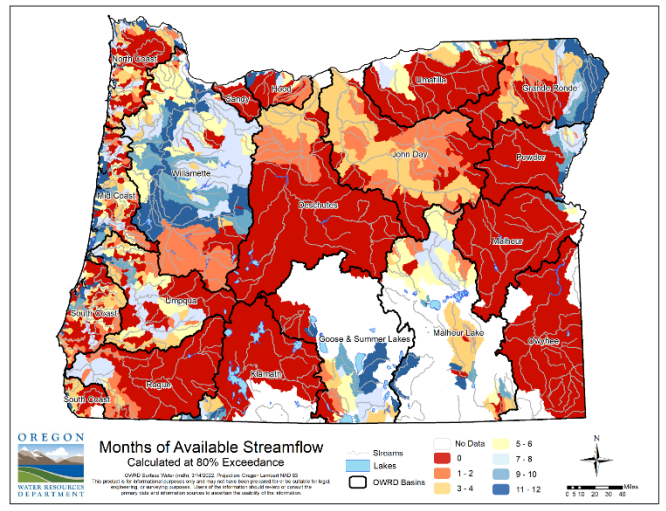
Capture – SW Availability



Source: OWRD

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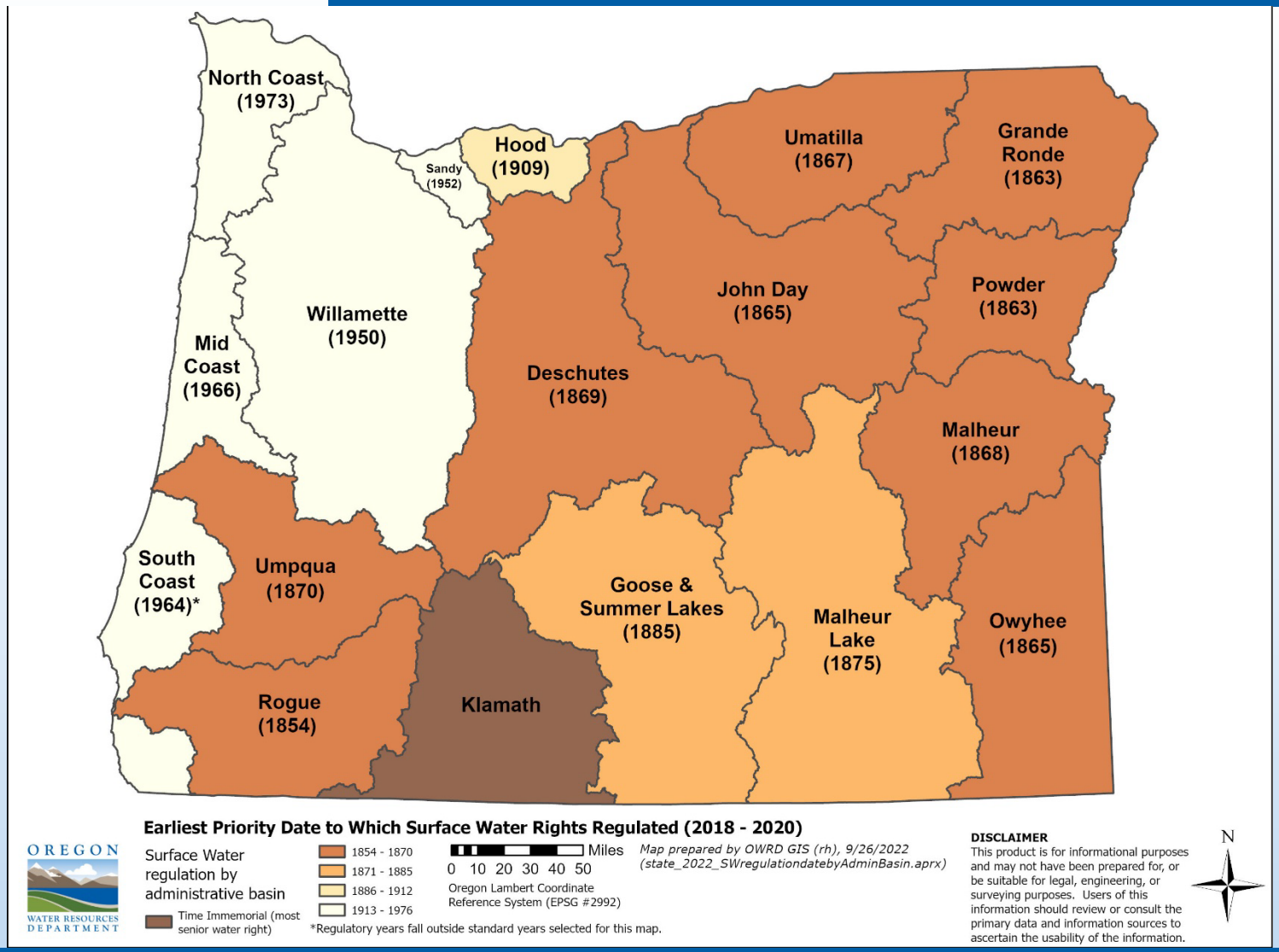
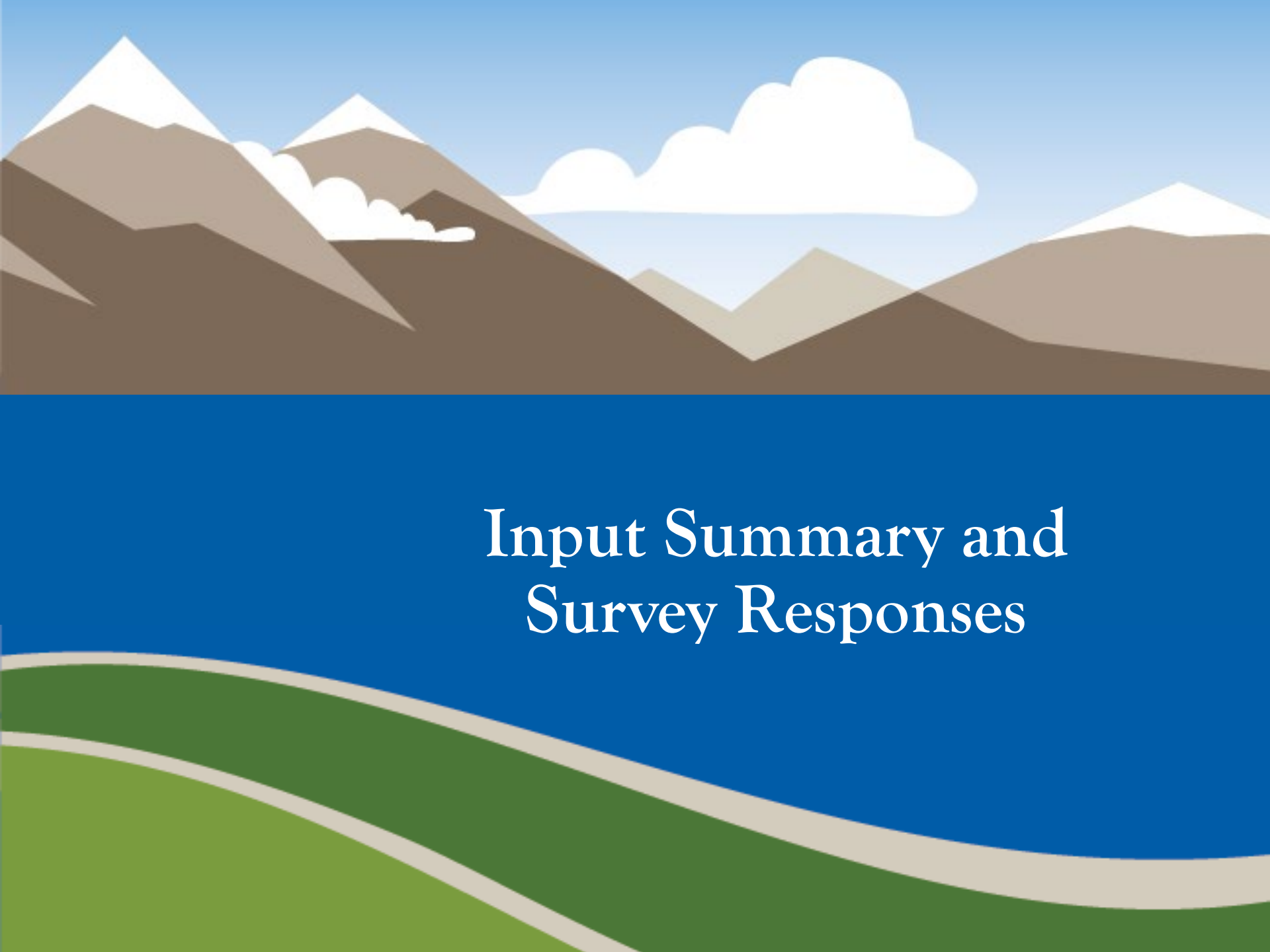
Capture –Regulation History



Source: OWRD



Input Summary and Survey Responses

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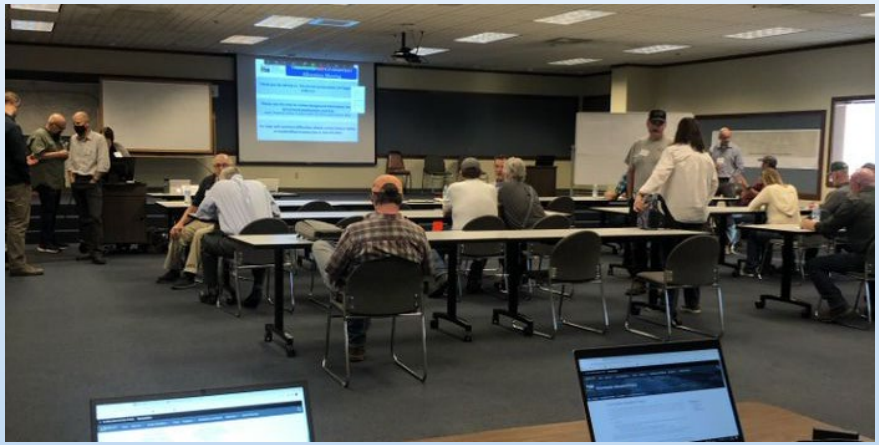
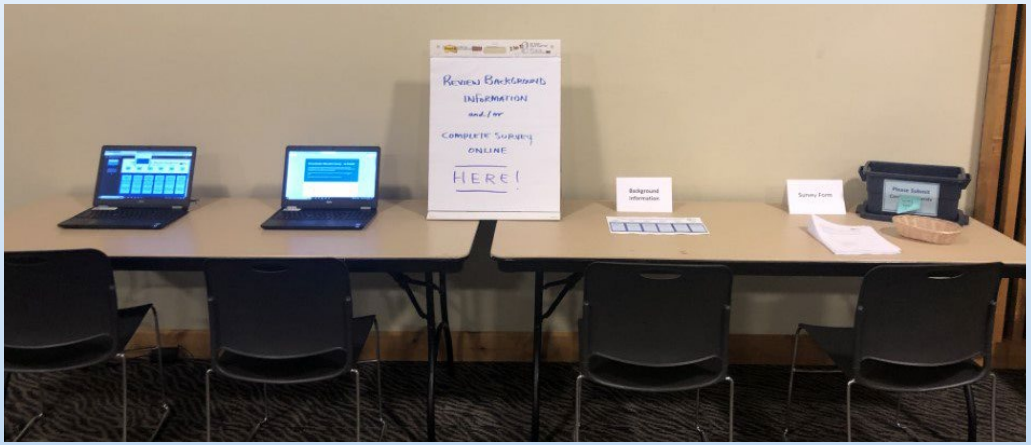
Meeting Input and Feedback

- Feedback sought in multiple ways:
  - During public meetings - questions answered; oral and written comments collected; written surveys collected
  - After the meetings - online surveys and written comments collected (through Oct 25th)
  - Accepted phone and email feedback





Input Summary - Hopes

- Transparent rulemaking process
- Diverse representation of interests and geographies on RAC
- More one-page summaries of issues and process steps

Consider:

- Public impacts
- Statewide interests
- Local conditions
- Vulnerable communities
- Rural communities
- Fish, wildlife, GDEs, in-stream rights

Input Summary - Concerns

- Statewide Rules vs Local Variations that affect impacts of GW development
- *Exempt Use vs Permitted Use in the future
- *Apps currently pending (won't be affected by new rules)
- Need for Legislative action, not just rule making
- Deschutes Mitigation Program is
  - Working, don't change
  - Not working, change
- Drought/short term permits

Input Summary – Data and Info

- Minimal data, and
- Default decision where impact "cannot be determined"

- Gather more groundwater level data (obs wells)
- Consider climate change projections
- Create data and information communication tools (maps, real-time data)

Input Summary – Bonus

Support/Develop:

- Water conservation and efficiency
- Artificial groundwater recharge
- Defined mitigation program(s)

Survey Responses - Criteria

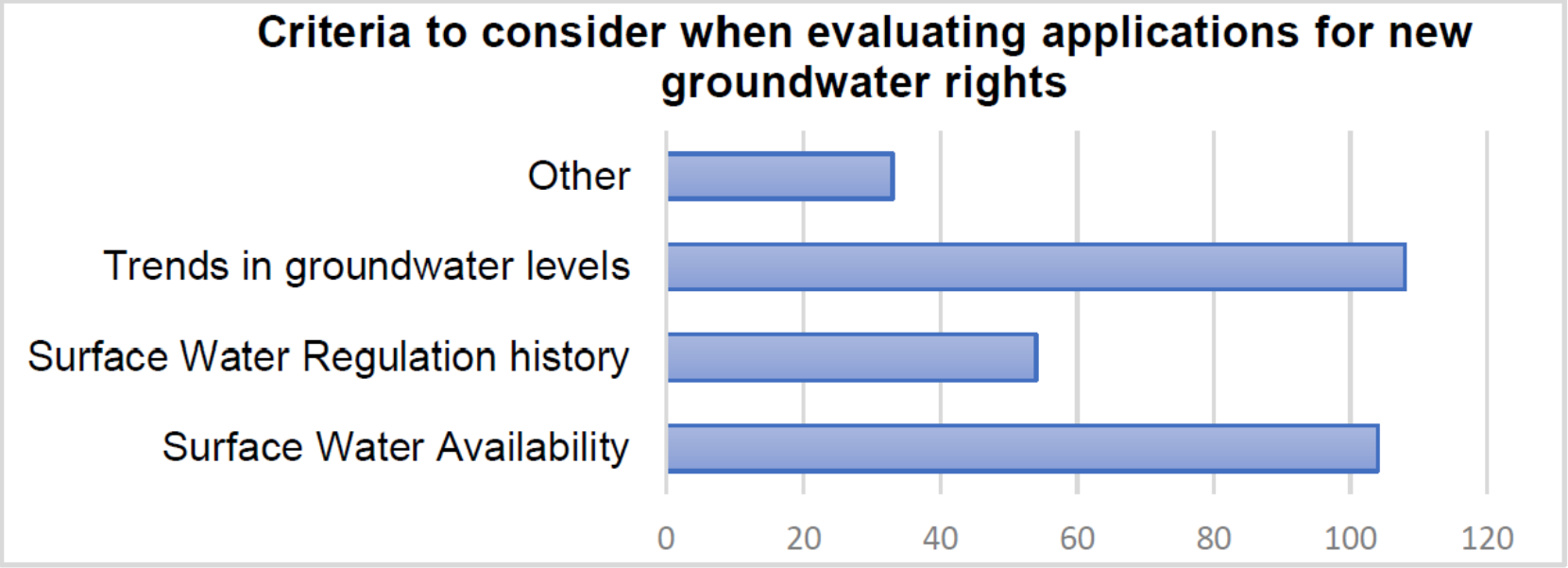


Figure 5. Criteria the Department should consider when evaluating applications for new groundwater rights survey question results.

110 survey respondents to this question

Survey Responses - Timeframe

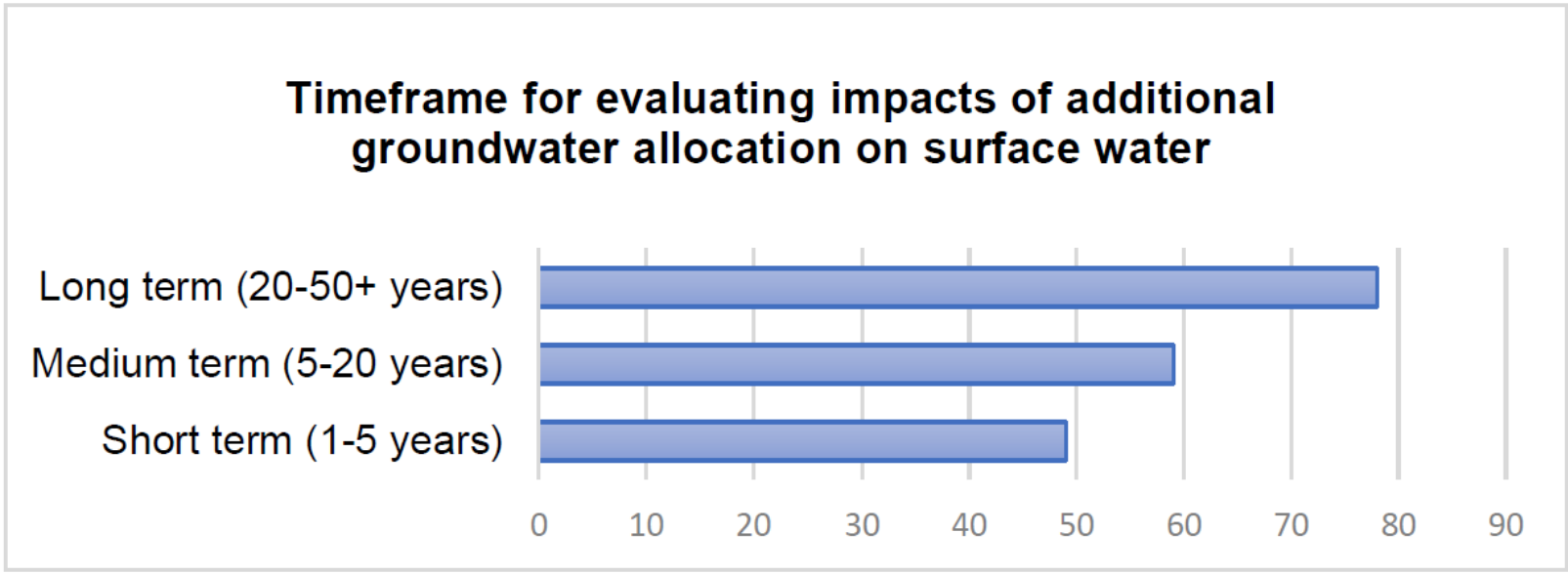


Figure 6. Timeframe for evaluating impacts of additional groundwater allocation on surface water survey question results.

111 survey respondents to this question

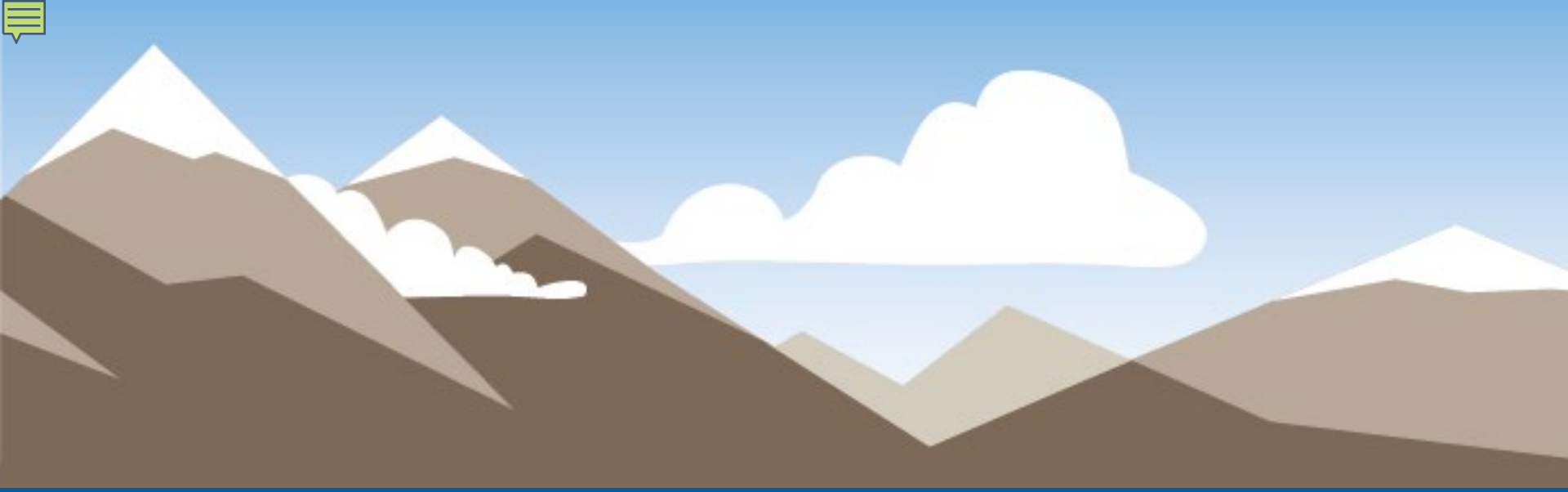
Survey Responses - Other

Consider Climate Change?

- Majority “Yes”
- Some “No”

How to deal with Insufficient Information?

- Most said “decline” (apply precautionary principle) or request "more information" from applicant
- Others said “issue”



Next Steps

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Next Steps

Updated Rulemaking Timeline

- Develop draft rules taking public input into account
- Continue consultation/discussion with GWAC
- Appoint RAC in Spring 2023
  - Multiple RAC meetings anticipated
- Proposed adoption September/October 2023


Thank you.