Division 512 Rulemaking: Groundwater Regulation for the Malheur Lake Administrative Basin

Oregon Water Resources Department

Rules Advisory Committee Meeting

January 24, 2024

Welcome and Introductions

Agenda Review & Meeting Guidelines

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Ground Rules

- You are here to express your viewpoint.
- Treat others respectfully.
- If online, remain muted when not speaking.
- If online, use “raise hand” feature to indicate that you would like to speak.
- If in-person, raise hand to indicate that you would like to speak.
- RAC only participates in RAC meeting and Public only participates in comment period.

RAC Operating Guidelines

RAC Role

- Attend and participate in meetings at the horseshoe or online.
- Provide input/advice and help the Department consider various perspectives.

Public Role

- Listen only during the presentations and RAC discussions from the audience or online.
- Provide input/advice during the designated comment time.

Department Role

- Facilitate meetings.
- Foster collaboration.
- Consider RAC and public feedback.
- Draft final rules.

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Meeting Agenda

1:00 - 1:20	Welcome and Introductions
1:20 – 1:40	What Does Halting Decline Mean?
1:40 – 2:10	Regulation Sidebars
2:10 – 2:50	Subarea Conversations
2:50 to 3:05	Public Comment
3:05 – 3:15	Break
3:15 – 4:15	PTW Discussion
4:15 – 4:45	Fiscal Impact Statement
4:45 – 5:00	Public Comment

Goal of Today's Meeting

- Clarify what the static water level trend of no decline means
- Discuss regulatory sidebars OWRD must follow
- Build a shared understanding for the need of subareas
- Discuss the methodology for developing the Permissible Total Withdrawal (PTW)
- Begin discussion of the Fiscal Impact Statement

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Overview of Rulemaking Process For Division 512

- Rulemaking Advisory Committee RAC # 1
- Develop Initial Draft Rules
- **Rules Advisory Committee RAC(s) #2 - #8**
- Public Comment Period & Hearing(s)
- Staff Recommendation & Commission Decision

Rulemaking Timeline

April 25, 2023

RAC Number 1

August 2023 – May 2024

RAC Number 2– 8

August 2024 – October 2024

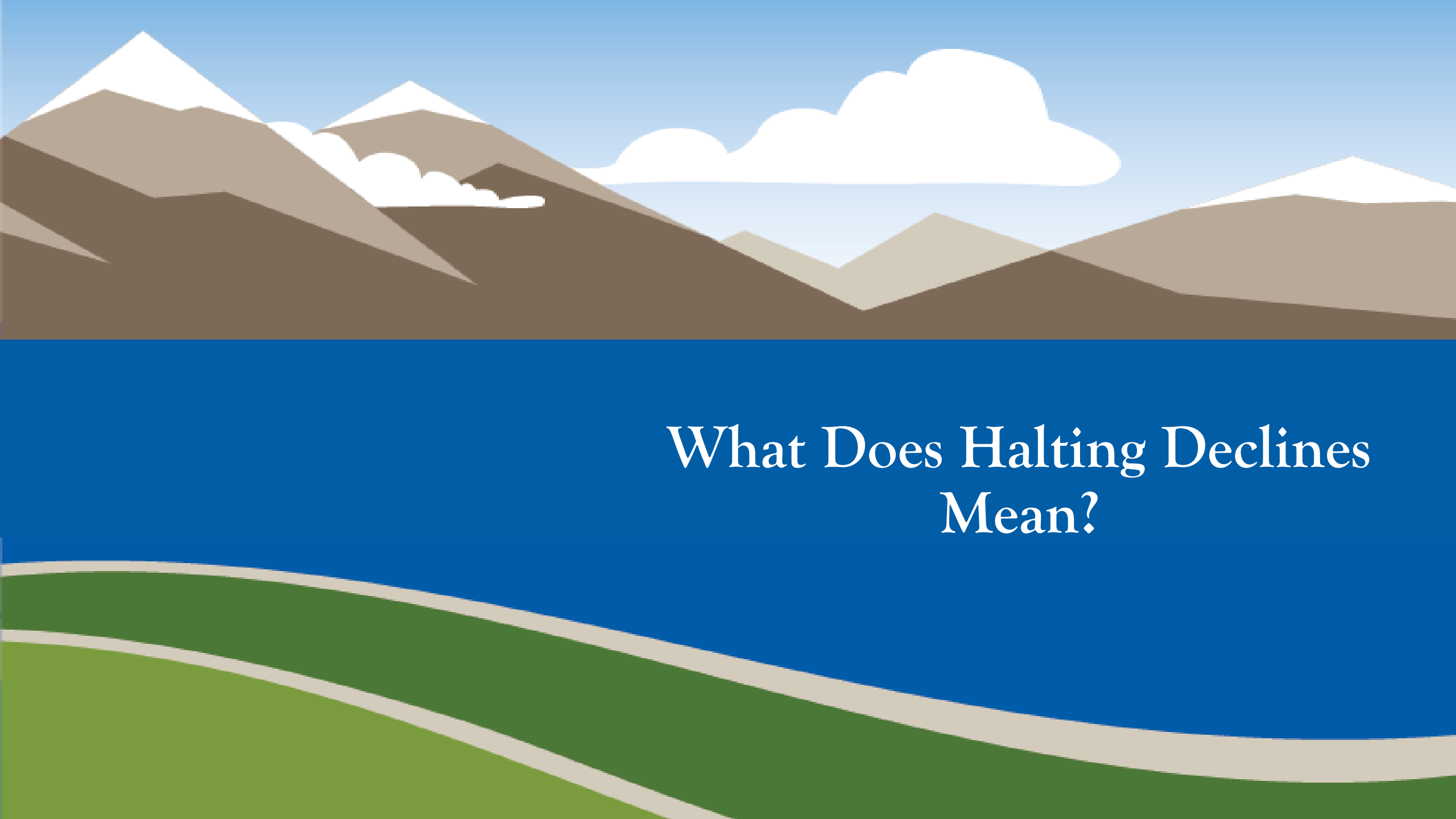
Public Comment

October - December 2024

Draft Staff Report

December 2024

WRC Adoption



What Does Halting Declines Mean?

What does halting declines mean?

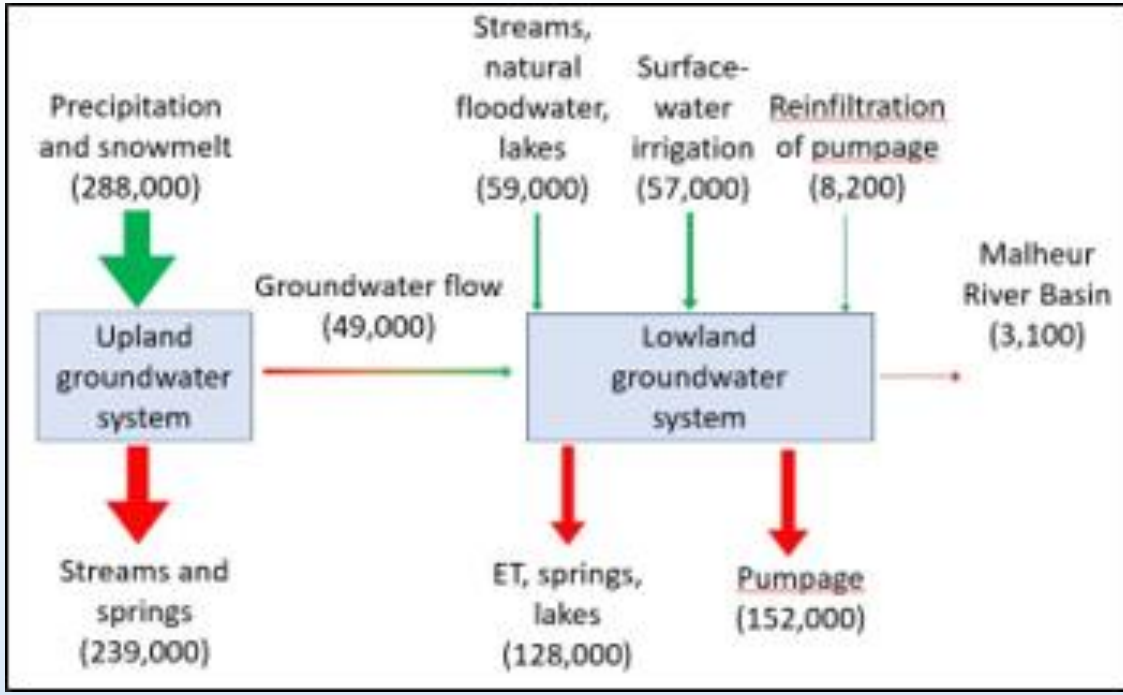
The goal of this work is to stabilize groundwater levels

- There are many ways to say this:
  - Halting declines
  - Achieving a target water level trend of 0 (no decline)
  - Reducing usage so that groundwater level declines due to pumping slow and stabilize overtime
  - Stabilizing groundwater levels resulting in a new condition where changes in groundwater levels are due to climatic changes

What does halting declines mean?

Managing using a Water Budget

- A water budget is in balance pre-development (no pumping)
- If managing to the water budget then no pumpage can occur without causing groundwater level declines or reducing natural groundwater discharge (ET, springs, lakes, seeps)



What does halting declines mean?

Benefits of Managing to the Water Level Trend

- Required by statute (ORS 537.525)
- Can be directly measured and data is readily available
- Straightforward to monitor and gauge success
- Reflects local conditions
- Water levels can be confirmed by third parties (trained well owner, agent, USGS, etc.)

Regulation Sidebars

Regulation Sidebars

<u>What we heard from RAC members</u>

- The rules should provide the community:
  - Flexibility and creativity
- We need to define what regulation sidebars OWRD needs to follow.

Regulation Sidebars

Key Take Aways:

- WRD intends to achieve stable groundwater levels through a target water level trend of 0 decline (considering climatic changes/trends)
- ORS 537.735 – defines what WRD can do within a CGWA
- The adoption of the 512 rules by the commission does not immediately result in curtailment orders.
- An understanding of how the Permissible Total Withdrawal (PTW) will be allocated

Regulation Sidebars

Management Bucket

Voluntary Bucket

Regulation Sidebars

Management Bucket

Under the Management Bucket

- Boundaries (subareas)
- PTW
- Basin conditions review
- Permit decline conditions
- Curtailment through contested case
- Timing of curtailment

Regulation Sidebars

Stable groundwater levels

- Declining groundwater levels are not sustainable
- WRD intends to achieve stable groundwater levels through a target water level trend of 0 decline

Regulation Sidebars

Critical Groundwater Area Statutes (CGWA)

ORS 537.735 states rules for a CGWA **must:**

1. Define the boundaries of the CGWA
2. Contain a provision requiring a periodic review of the conditions of the CGWA at least once every 10 years

ORS 537.780(2(a)) - If the rules are restricting water use, then a review of the rules must occur at least once every 3 years

Regulation Sidebars

Division 10: Critical Groundwater Area Rules

690-010-0130: clarifies how the boundaries can be defined

1. By physical natural boundaries, hydrological conditions, or recharge or discharge areas
2. Administratively
3. Subareas can be defined for management purposes

Regulation Sidebars

Critical Groundwater Area Statutes

ORS 537.735 CGWA rules can contain the following corrective control provisions:

1. Closing the CGWA to further appropriation
2. Establishing a Permissible Total Withdraw (PTW)
3. We can reject any water right application received during or at the start of the rulemaking process

*this is not all the corrective control provisions available to the Department

Regulation Sidebars

Critical Groundwater Area Statutes

ORS 537.742 – Contested Case for a CGWA

- Groundwater use can only be curtailed after a contested case process as specified in statute and the Division 10 rules.
- Any curtailment of groundwater use must be supported by substantial evidence.
- **The adoption of the 512 rules by the Commission will not immediately result in curtailment orders.**

Regulation Sidebars

Regulation Sidebars for Allocating the PTW

- The doctrine of prior appropriation generally requires allocating water in full to the to senior right holders first

Regulation Sidebars

Regulation Sidebars for Allocating the PTW

Total Volume Allocated by PTW: 1500 Acre-ft/yr (example)			
GW User	Water Right Year	Duty (Acre-ft/yr)	Allocated Duty
#1	1971	500	500
#2	1983	500	500
#3	1992	400	400
#4	1995	500	100
Cut off Line			
#5	1998	500	0

Regulation Sidebars

What we cannot do:

1. Adjust the PTW without a rulemaking (ORS 537.735: 10-year evaluation)
2. We can't write an if/then statement in rule
3. Implement curtailment without a contested case

Regulation Sidebars

Voluntary Bucket

Under the Voluntary Bucket

- Flexibility and creativity
- Voluntary Agreements can be made between subareas
- Water market options within a voluntary agreement – temporary transfers will be considered
- In Rule we can give flexibility for the voluntary agreements provided it meets the PTW

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Regulation Sidebars

Voluntary Agreements

ORS 537.745 – Agreement between groundwater users within the same groundwater reservoir

- In Harney county voluntary agreements can happen between subareas because they are all the same groundwater reservoir
- Temporary transfer within voluntary agreements

OWRD Funding Opportunities

Groundwater Funding Programs to Assist the Community

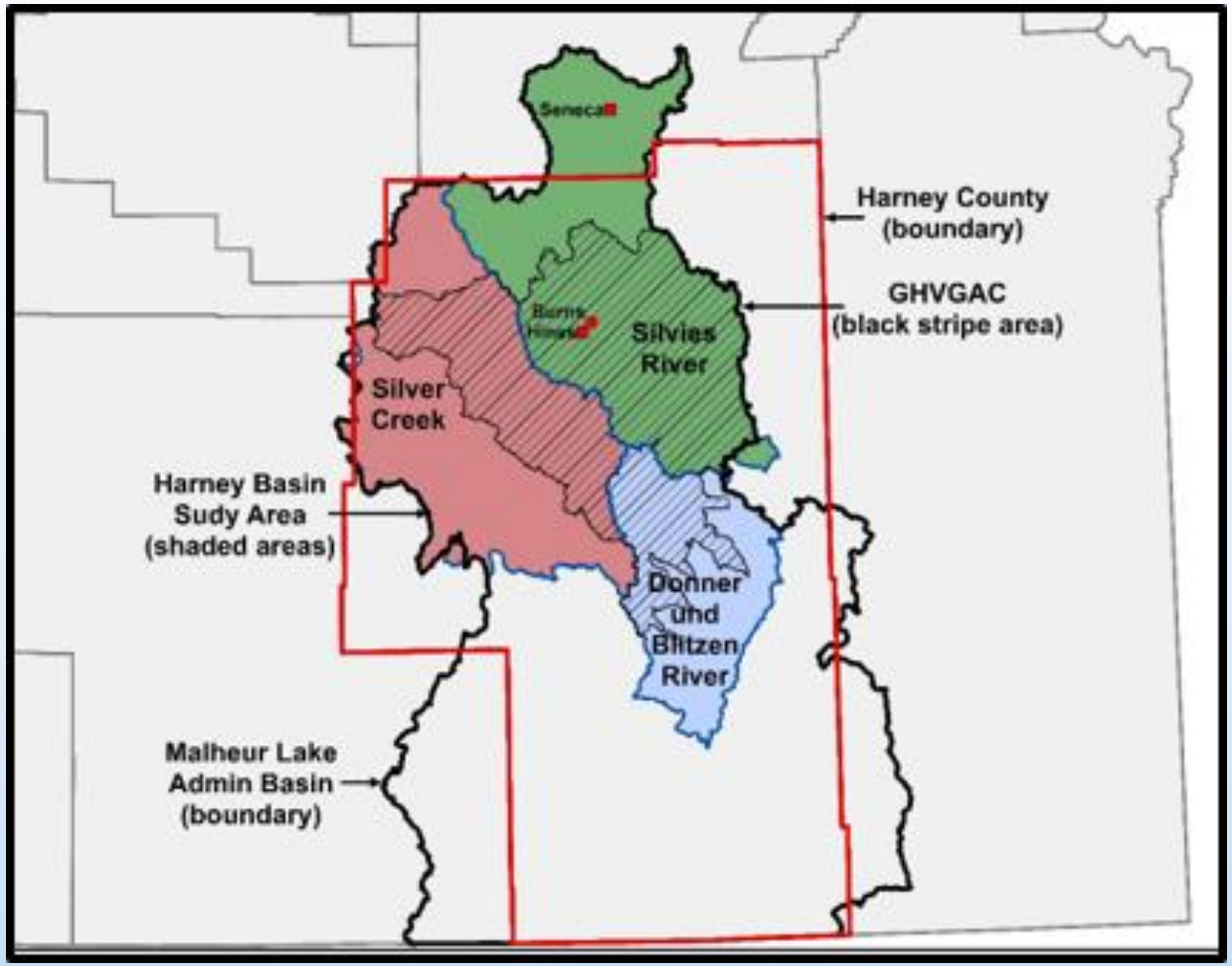
- Harney Valley Conservation Reserve Enhancement Program (CREP) - Contact Graham Thomas graham.k.thomas@water.oregon.gov for more information
- Harney Domestic Well Fund (Launch Meeting March 6th after the Division 512 RAC) - Contact Alexandria Scott alexandria.i.scott@water.oregon.gov for more information

Subarea Conversation

Subarea Conversation

Larger Subareas

- Last RAC we heard a want to have larger subareas



Subarea Conversation

Pros for Larger Subareas

- Larger area for transfers
- Would mean more users to engaged in the process
- Fewer boundary lines – less conflict

Cons for Larger Subareas

- More **acres** impacted with curtailment to achieve necessary reductions in use in areas with higher decline rates
- More **users** impacted with curtailment to achieve necessary reductions in use in areas with higher decline rates
- Greater variability in groundwater response to reduction
- Harder to gauge success of groundwater reductions

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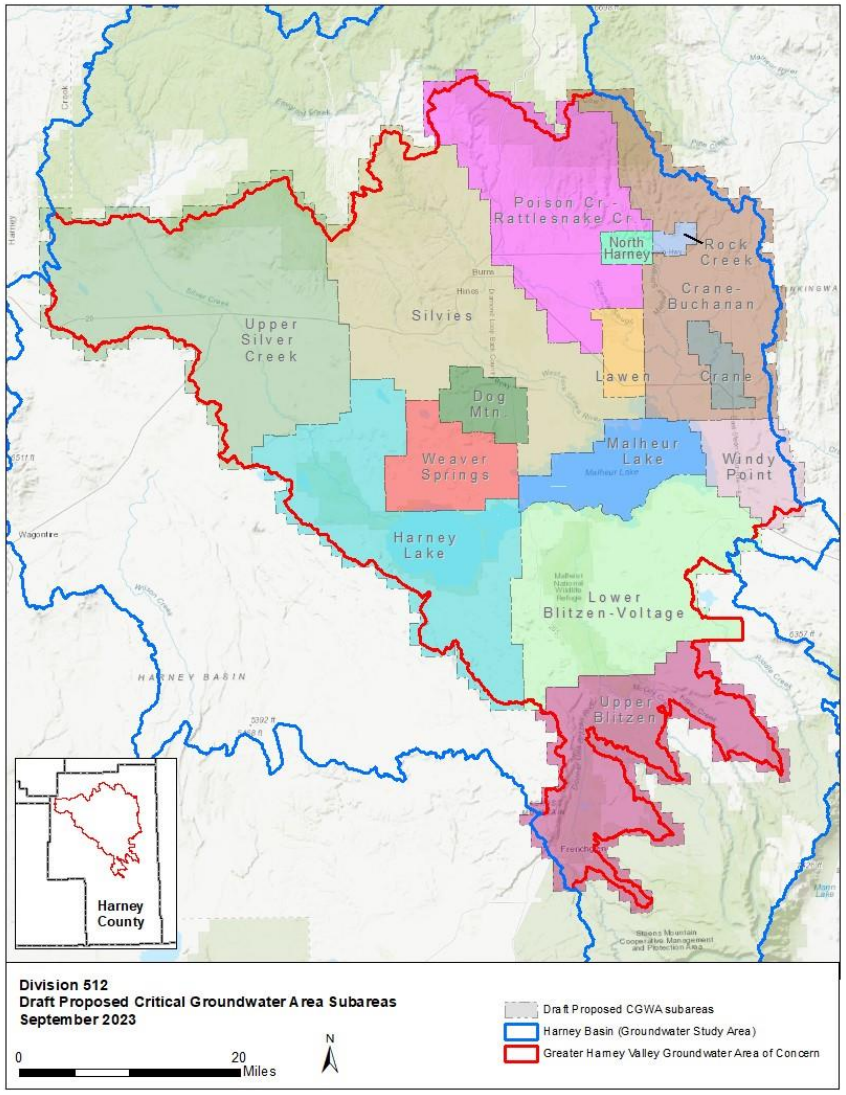
Harney Basin Critical Groundwater Area Proposed Subareas



15 Subareas:

1. Upper Silver Creek
2. Harney Lake
3. Weaver Springs
4. Dog Mountain
5. Silvies
6. Poison Creek – Rattlesnake Creek
7. North Harney
8. Rock Creek
9. Crane – Buchanan
10. Crane
11. Lawen
12. Malheur Lake
13. Windy Point
14. Lower Blitzen – Voltage
15. Upper Blitzen

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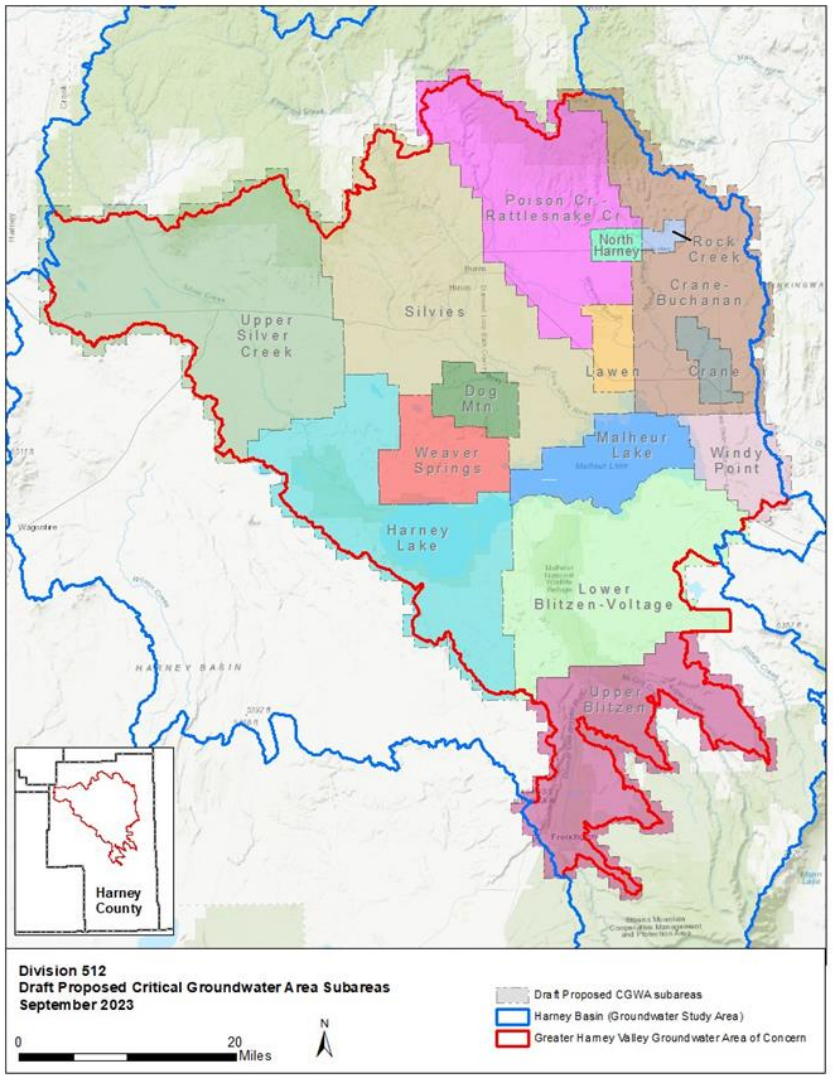
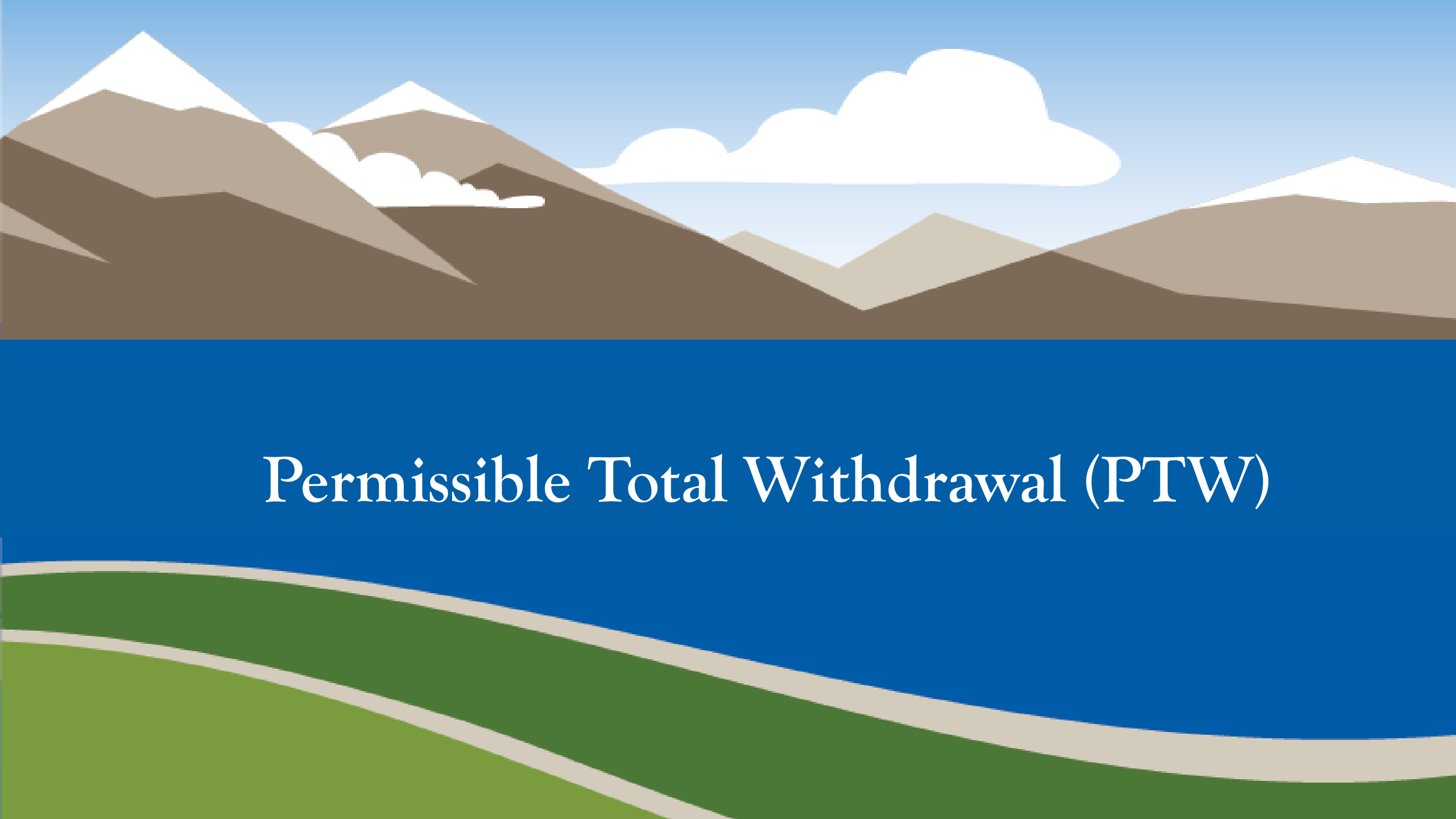
Subarea Conversation



Benefits of the 15 Subarea Approach

1. Allows for targeted/strategic reductions
2. Limits the impact of reductions
3. Will stabilize groundwater level trends more quickly
4. Limit negative impacts of transfers



Permissible Total Withdrawal (PTW)

Permissible Total Withdrawal (PTW)

PRESENTATION OUTLINE:

- What is PTW?
- Determining PTW
- PTW values by subarea

Permissible Total Withdrawal (PTW)

What is PTW?

The total volume of groundwater allowed to be pumped within a subarea of the critical groundwater area annually.

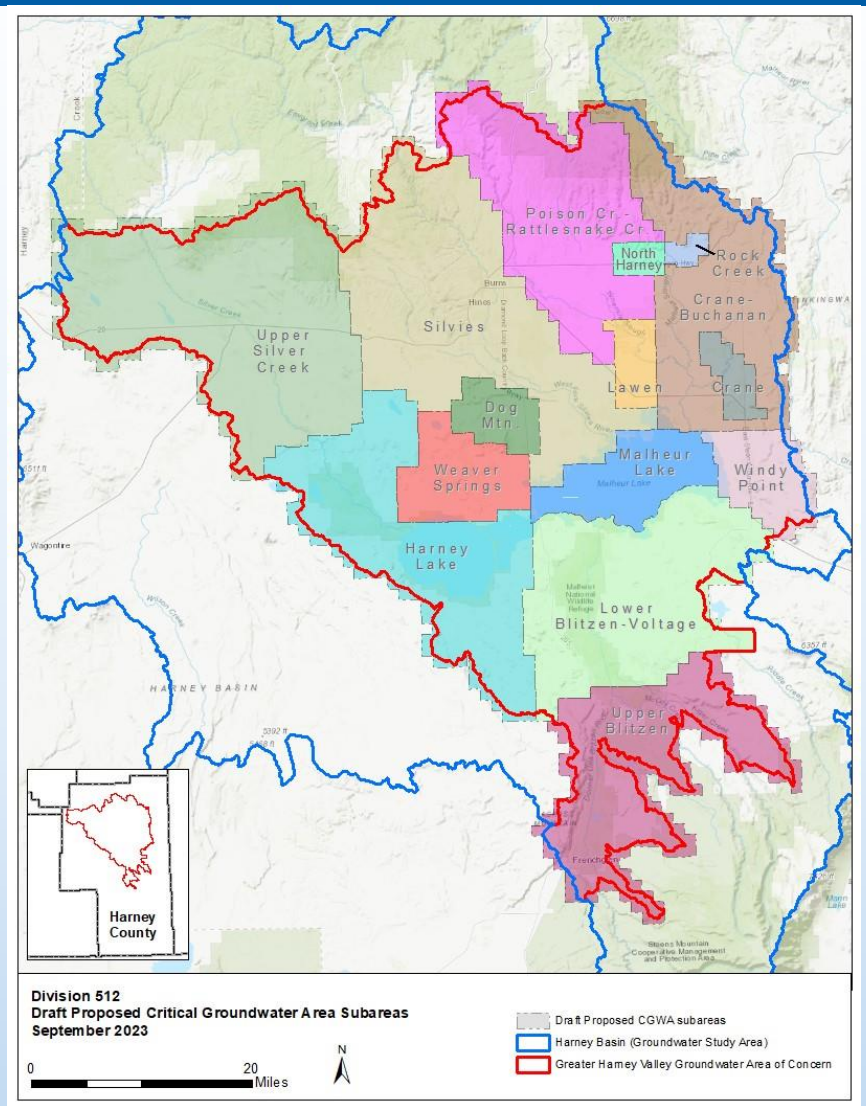
Note:

- Target Water Level Trend – no decline
- PTW is the volume of groundwater that can be pumped with no groundwater level decline

Permissible Total Withdrawal (PTW)

Determining PTW:

- High priority subareas (6)
  - Implement the “hydrograph approach”
    1. Determine when declines began
    2. Determine prior pumpage
    3. PTW=pumpage prior to declines
- Lower priority subareas (9)
  - Implement 2018 pumpage limit
  - Enforce permit decline conditions
  - Encourage voluntary reductions

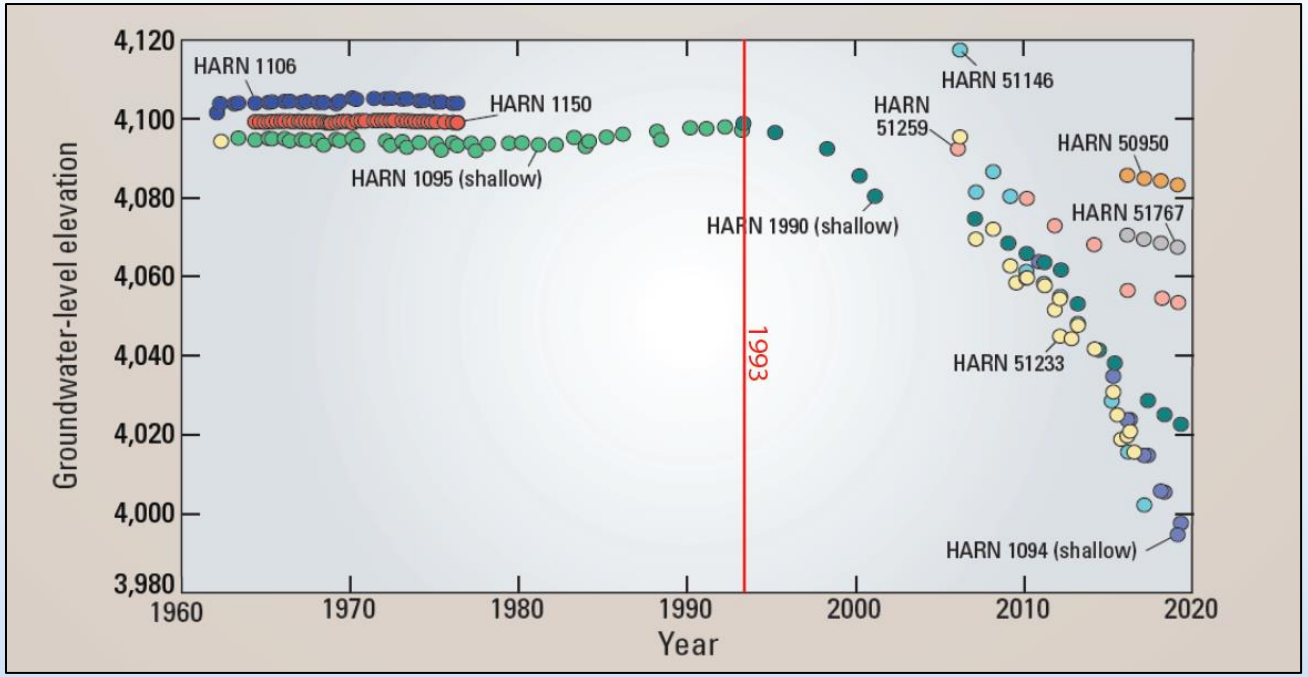


Permissible Total Withdrawal (PTW)

Determining PTW – the hydrograph approach:

Weaver Springs Subarea:

- Continuous groundwater level monitoring 1960s-Current
- Groundwater levels stable through 1993
- Clear inflection point when declines began
- Pumpage with no decline prior to 1993

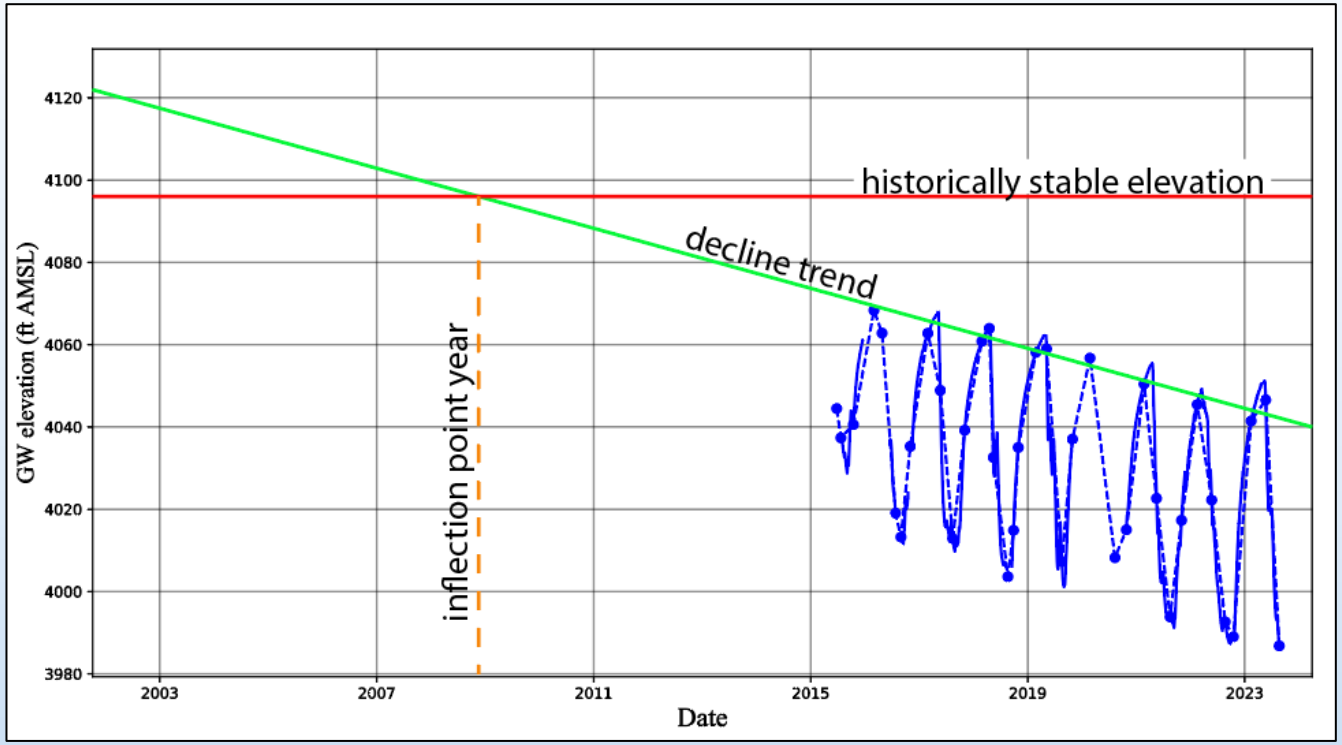


Permissible Total Withdrawal (PTW)

Determining PTW – the hydrograph approach:

Remaining 5 High Priority Subareas:

- Groundwater level monitoring discontinuous, does not capture the inflection point.
- Project back the overall decline rate for individual wells
- Requires specifying the historically stable elevation

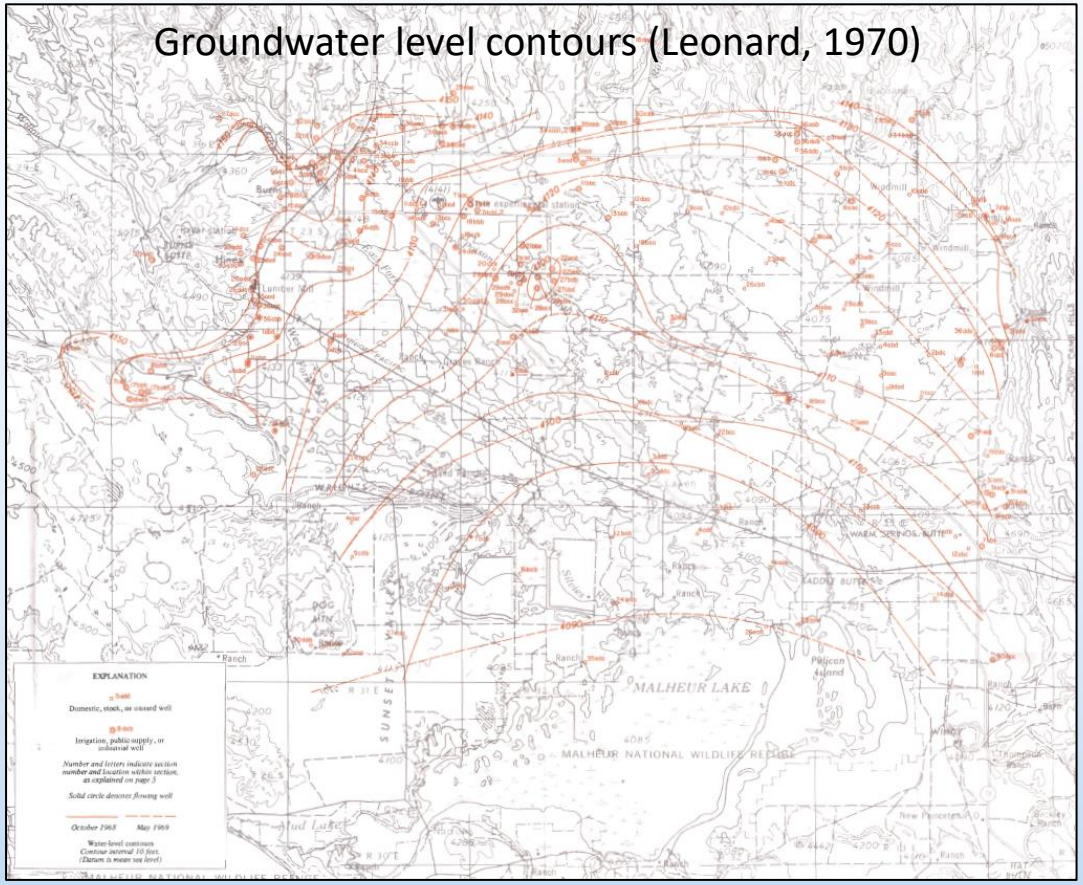


Permissible Total Withdrawal (PTW)

Determining PTW – the hydrograph approach:

Remaining 5 High Priority Subareas:

- Historically stable elevation
- Identified from May 1969 groundwater level contours of Leonard, 1970
- Represents conditions prior to development of significant declines in the basin

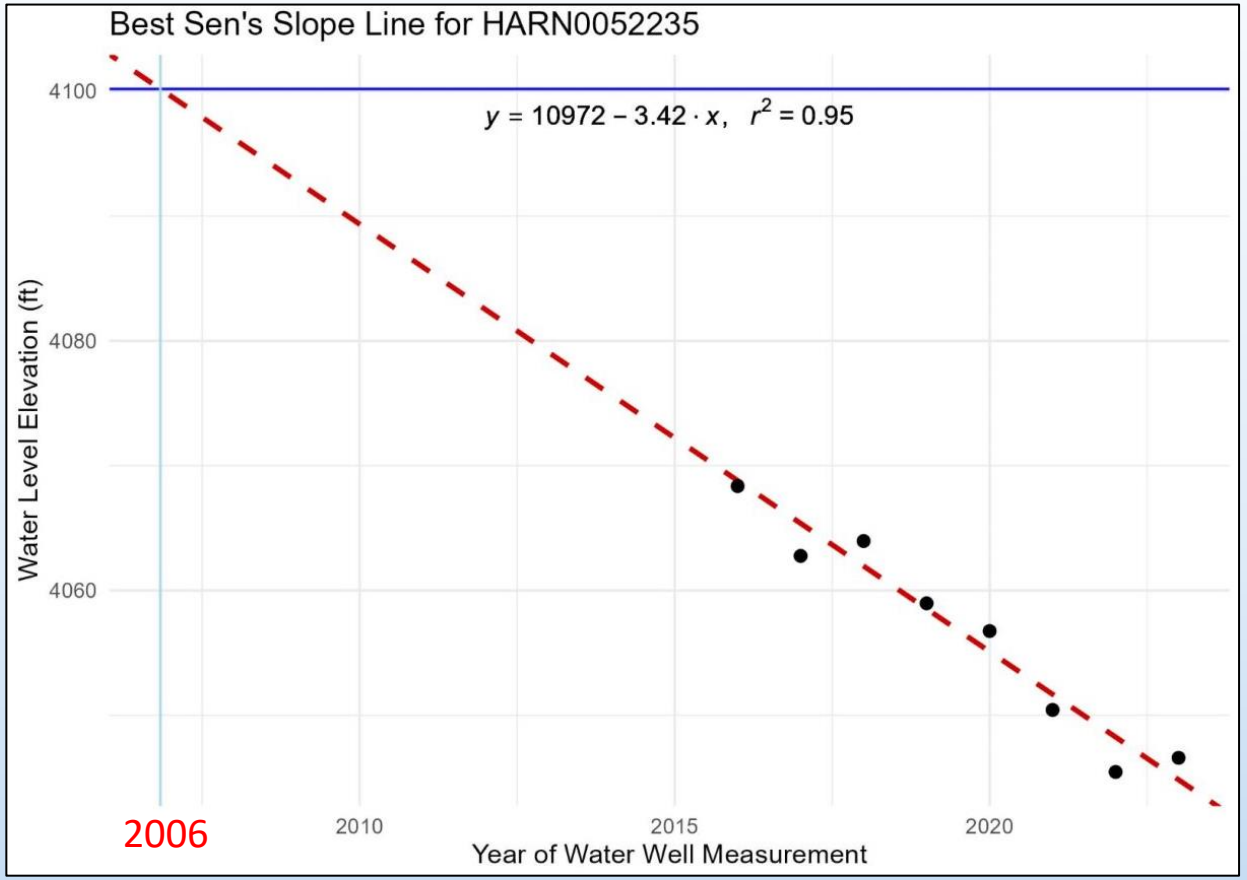


Permissible Total Withdrawal (PTW)

Determining PTW – the hydrograph approach:

Remaining 5 High Priority Subareas:

- Project back the decline trend for all representative wells in a subarea
- Identify year of intercept (inflection point) with target elevation for each well
- Evaluate all intercept years within a subarea



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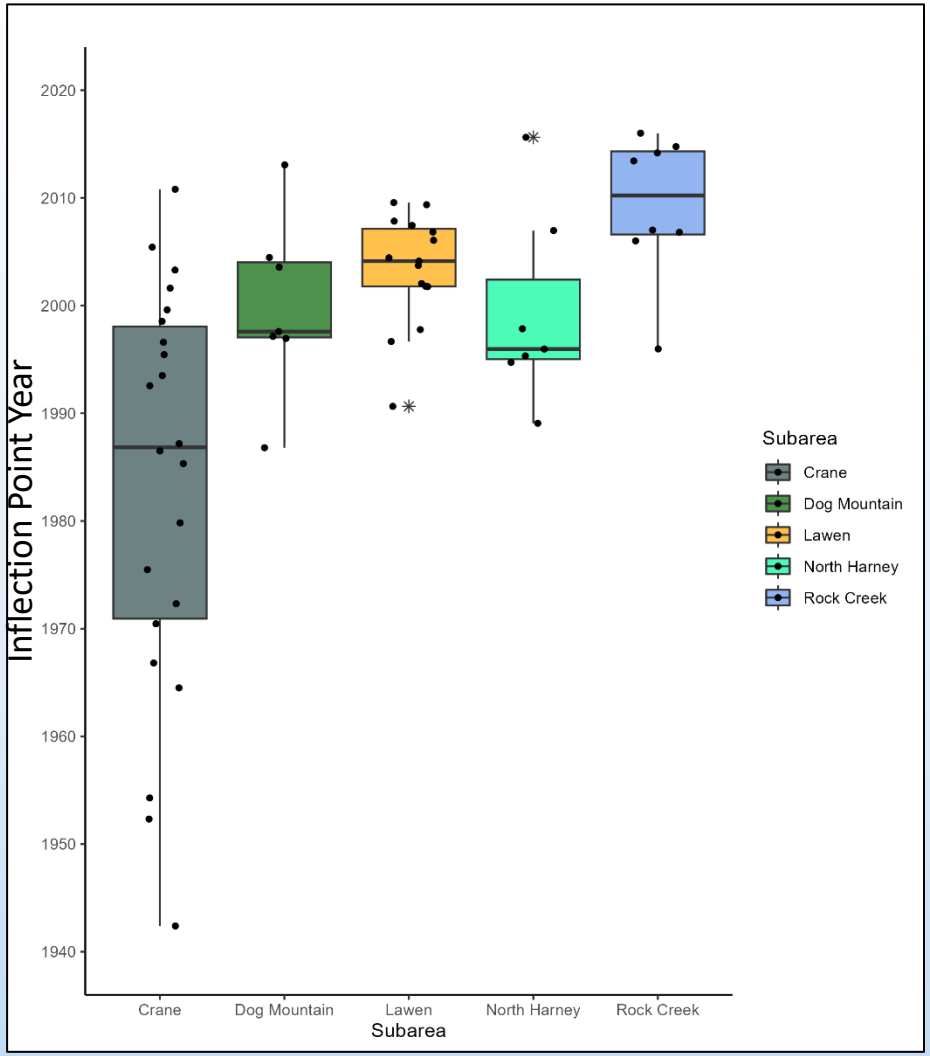
Permissible Total Withdrawal (PTW)



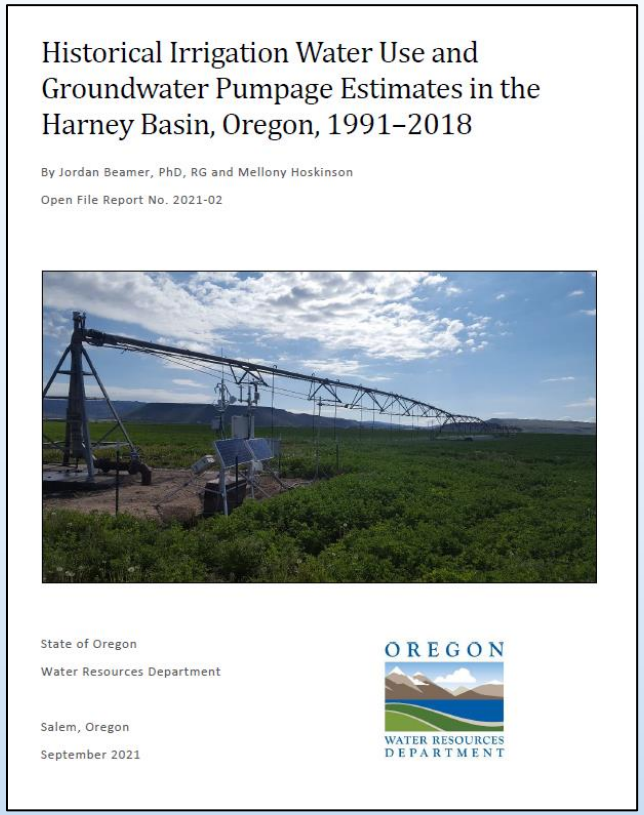
Subarea	1st Q	Median	Mean	3rd Q
Crane (n=22)	1971	1987	1983	1998
Dog Mountain (n=7)	1997	1998	2000	2004
Lawen (n=15)	2002	2004	2003	2007
North Harney (n=7)	1995	1996	1999	2002
Rock Creek (n=8)	2007	2010	2009	2014

Permissible Total Withdrawal (PTW)

Determining PTW – the hydrograph approach:

Pumpage Estimates:

- Pumpage estimates for the year identified are compiled from published reports
- Field-scale satellite-based pumpage estimates 1991-2018
- Water right based estimates 1930-1990 by decade



Historical Irrigation Water Use and Groundwater Pumpage Estimates in the Harney Basin, Oregon, 1991–2018

By Jordan Beamer, PhD, RG and Mellony Hoskinson

Open File Report No. 2021-02

State of Oregon

Water Resources Department

Salem, Oregon

September 2021

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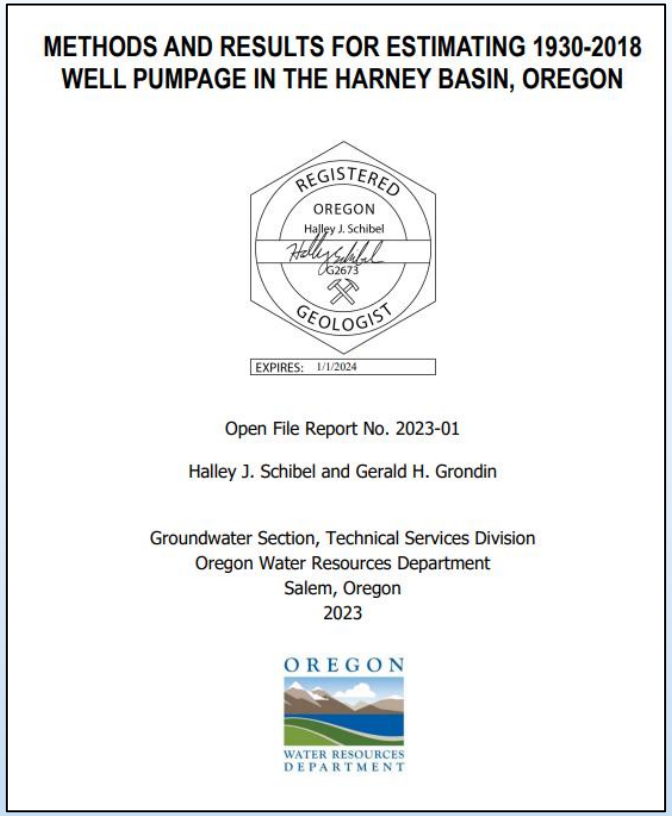

METHODS AND RESULTS FOR ESTIMATING 1930-2018 WELL PUMPAGE IN THE HARNEY BASIN, OREGON

REGISTERED OREGON Halley J. Schibel 02673 GEOLOGIST

EXPIRES: 1/1/2024

Open File Report No. 2023-01

Halley J. Schibel and Gerald H. Grondin

Groundwater Section, Technical Services Division
Oregon Water Resources Department
Salem, Oregon
2023

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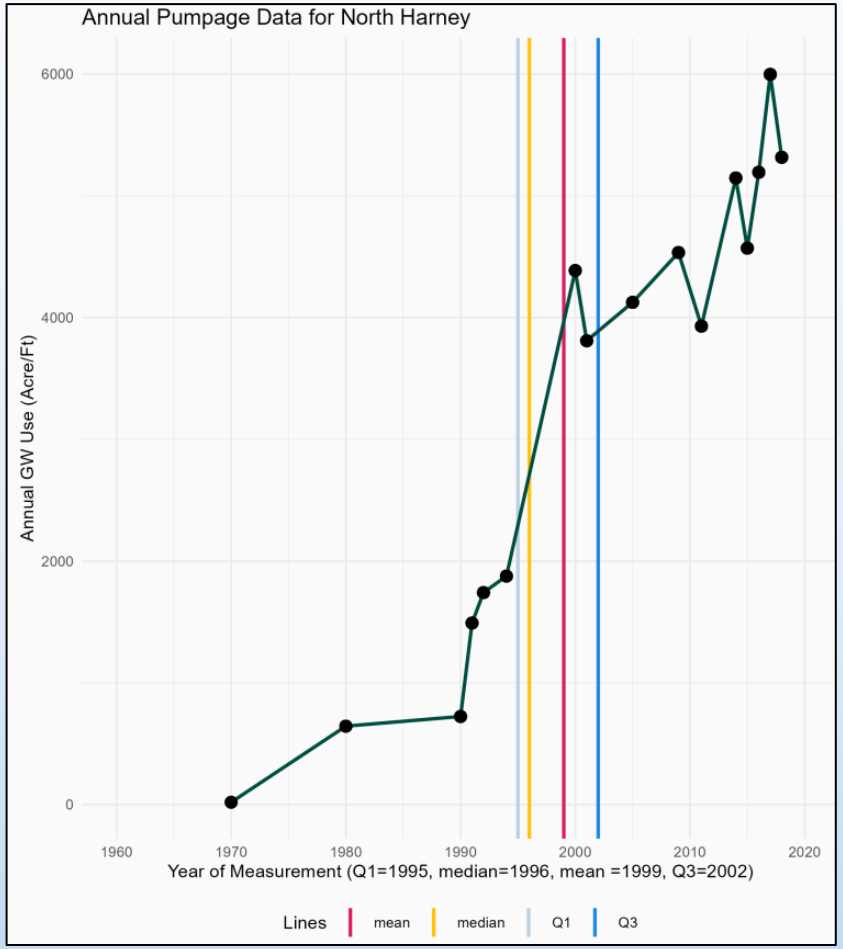
Permissible Total Withdrawal (PTW)

Determining PTW – the hydrograph approach:

Pumpage History:

- Annual pumpage prior to onset of declines is permissible
- Set PTW as the highest annual pumpage prior to onset of declines



Permissible Total Withdrawal (PTW)

Determining PTW – the hydrograph approach:

Summary of the hydrograph approach:

1. Determine when declines began in each subarea
    - Either Directly from the hydrograph (Weaver Springs)
    - Or by projecting back decline rates to historically stable elevations
        - Historically stable elevations derived from May 1969 contours
2. Determine prior pumpage
    - Identify the maximum annual pumpage prior to onset of declines
        - This is the volume of pumpage that can occur annual without causing declines
3. PTW = pumpage prior to declines

Permissible Total Withdrawal (PTW)

RAC Questions and Feedback

Questions or feedback on process and methods for PTW

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Permissible Total Withdrawal (PTW)

PTW by Subarea – Lower Priority Subareas:

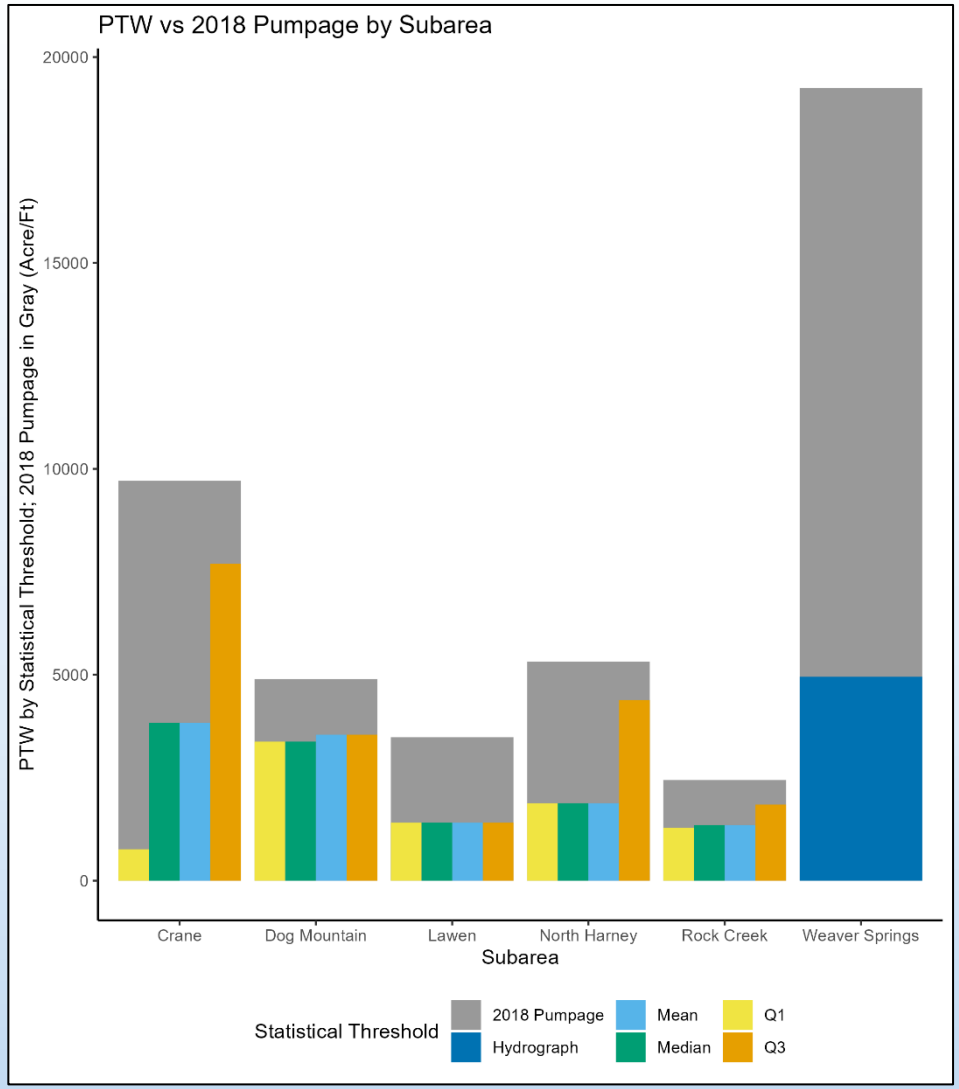
- PTW = 2018 pumpage in acre-feet

subarea	2018 pumpage (ac-ft)	PTW (ac-ft)
Crane - Buchanan	17,717	17,717
Harney Lake	910	910
Lower Blitzen - Voltage	13,648	13,648
Malheur Lake	0	0
Poison Creek - Rattlesnake Creek	13,812	13,812
Silvies	13,641	13,641
Upper Blitzen	68	68
Upper Silver Creek	20,382	20,382
Windy Point	9,118	9,118

Permissible Total Withdrawal (PTW)

PTW by Subarea – High Priority Subareas:

subarea	2018 pumpage (ac-ft)	threshold	PTW (ac-ft)	% curtailed from 2018
Crane	9,700	Q1	800	92
Crane	9,700	median	3,800	61
Crane	9,700	mean	3,800	61
Crane	9,700	Q3	7,700	21
Dog Mountain	4,900	Q1	3,400	31
Dog Mountain	4,900	median	3,400	31
Dog Mountain	4,900	mean	3,500	29
Dog Mountain	4,900	Q3	3,500	29
Lawen	3,500	Q1	1,400	60
Lawen	3,500	median	1,400	60
Lawen	3,500	mean	1,400	60
Lawen	3,500	Q3	1,400	60
North Harney	5,300	Q1	1,900	64
North Harney	5,300	median	1,900	64
North Harney	5,300	mean	1,900	64
North Harney	5,300	Q3	4,400	17
Rock Creek	2,400	Q1	1,300	46
Rock Creek	2,400	median	1,400	42
Rock Creek	2,400	mean	1,400	42
Rock Creek	2,400	Q3	1,800	25
Weaver Springs	19,200	hydrograph	5,000	74
*values rounded to the nearest 100				



Permissible Total Withdrawal (PTW)

RAC Questions and Feedback

Fiscal Impact

Fiscal Impact

What is a Fiscal Impact Statement?

- The Fiscal Impact Statement details how the proposed rules will economically impact state agencies, units of local government and members of the public.
- The RAC assists OWRD with providing information to draft this statement.

Fiscal Impact

Information that we have gathered so far

- Business Case study for the economic value of water
- USDA Census of Agriculture – new census comes out some time in February
- Oregon Department of Employment data

Information still coming

- PSU Economic Study

Fiscal Impact

Questions for the RAC

1. What is the value of an acre-foot of water?
2. What is the revenue for each type of crop grown in Harney basin?
3. Do the revenue numbers change based on where you are growing your crop in the basin?
4. What is the minimum amount of water needed for a new crop?

Questions or Comments?

Public Comment

Next Steps/ Wrap up

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Summary and Next Steps

- Next RAC: RAC #6, March 6, 2024.
- Location: Harney County Community Center.
- Time: 1 pm to 5 pm.

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Thank You