Oregon
Kate Brown, Governor

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MEMORANDUM

TO: Water Resources Commission

FROM: Dwight French, Water Right Services Administrator
Lisa Jaramillo, Transfer and Conservation Section Manager
Sarah Henderson, Flow Restoration Program Coordinator

DATE: Agenda Item J, December 3, 2021
Water Resources Commission

Deschutes Basin Groundwater Mitigation Program Five-Year Legislative and Administrative Report

I. Introduction

During this informational report, staff will present the final draft of the combined Five-Year Legislatively and Administratively Required Evaluation of the Deschutes Basin Groundwater Mitigation Program for the years 2015-2019, as required by Oregon Revised Statute (ORS) 540.155 and Oregon Administrative Rules (OAR) Chapter 690, Division 505.

II. Background

On September 13, 2002, the Commission adopted the Deschutes Basin Ground Water Mitigation Rules and the Deschutes Basin Mitigation Bank and Mitigation Credit Rules. These rules implement Senate Bill 1033 (1995), House Bill 2184 (2001), House Bill 3494 (2005), and House Bill 3623 (2011). The rules provide for mitigation of impacts to scenic waterway flows and senior water rights, while allowing additional appropriations of groundwater in the Deschutes Groundwater Study Area (Appendix 1 in Attachment 1). The mitigation program rules allow an additional 200 cubic feet per second (cfs) of new groundwater use, referred to as the allocation cap.

The key goals of the Deschutes Basin Groundwater Mitigation Program are to:

- Maintain flows for scenic waterways and senior water rights, including instream water rights;
- Facilitate restoration of flows in the middle reach of the Deschutes River and related tributaries; and
- Sustain existing water uses and accommodate growth through new groundwater development.

The Department is required to provide evaluations of the mitigation program every five years. The five-year evaluations are included in a combined report in Attachment 1. The primary goal of these evaluations is to identify how streamflows are responding to additional groundwater use and implementation of the mitigation program.

The Legislative report is required by ORS 540.155 to evaluate the mitigation program to identify whether any regulatory and statutory changes could be made to improve the program to address and mitigate for injury to existing water rights and spring systems and offset measurable reductions of scenic waterway flows. It also includes program impacts on other water users of the Deschutes River Basin, the potential timing of mitigation, identification of zones of impact, a review of impacts on the headwaters of the Metolius River and other key reaches of the Metolius River system, potential timing of federal, state, and local storage improvements, and additional elements and prior issues raised by stakeholders.

The Administrative report is required by OAR 690-505-0500(2) to evaluate the mitigation program and includes the assessment of: the allocation cap status and whether the 200 cfs restriction should be lifted or otherwise modified through subsequent public rulemaking; mitigation activity; zones of impact; streamflow monitoring; and the effectiveness of mitigation projects and mitigation credits that involve time-limited instream transfers, instream leases, and allocations of conserved water from canal lining and piping projects.

III. Discussion

To assist in the development of this report, the Department solicited stakeholder input on July 16, 2020. In response, the Department received comments from:

- Central Oregon Cities Organization
- Oregon Department of Environmental Quality (DEQ)
- John Short, Bend, Oregon
- Oregon Department of Fish and Wildlife (ODFW)
- Oregon Farm Bureau
- Deschutes County Farm Bureau
- Crook-Wheeler County Farm Bureau
- Jefferson County Farm Bureau
- Clyde Snow LLC on behalf of Shanda Asset Management, LLC
- WaterWatch of Oregon
- Nunzie Gould, Bend, Oregon

A draft report was circulated to stakeholders on July 27, 2021. Additional feedback on the draft report was received from:

- Central Oregon Landwatch
- Clyde Snow LLC on behalf of Shanda Asset Management, LLC
- Central Oregon Cities Organization
- Deschutes Basin Water Collaborative
- Oregon Department of Environmental Quality
- Deschutes River Conservancy
- George Wuerthner, Bend, Oregon

- Jim Powell, Bend, Oregon
- League of Women Voters of Deschutes County
- Oregon Department of Fish and Wildlife
- Oregon Farm Bureau
- Deschutes County Farm Bureau
- Crook-Wheeler County Farm Bureau
- Jefferson County Farm Bureau
- WaterWatch of Oregon
- Yancy Lind, Bend, Oregon

In addition, the Department solicited input from and has conferred with The Confederated Tribes of the Warm Springs of Oregon (CTWS), a federally-recognized Indian tribe and successor in interest to the Indian signatories of the Treaty with the Tribes of Middle Oregon, June 25, 1855, 12 Stat. 963. CTWS, along with the federal government and the State of Oregon, is a party to the Confederated Tribes of the Warm Springs Reservation Water Rights Settlement Agreement, dated November 17, 1997, and amended effective May 16, 2002 (WRSA). Among other things, the WRSA recognizes the Tribe's sovereign status and provides for the cooperative management of the water resources of the Deschutes Basin. The Department will continue a sovereign-to-sovereign dialogue with CTWS regarding management of those resources, including the Deschutes Basin Groundwater Mitigation Program.

The draft report was also shared with the Groundwater Advisory Committee (GWAC) on August 24, 2021. GWAC did not provide feedback on the draft report.

IV. Conclusion

The Department's review of the program suggests that there are improvements that can be made such as: partnering with ODFW and DEQ to better understand the impacts to springs and spring complexes to which the mitigation program may contribute to, and the possibility of changes to the administrative rules for holders of undeveloped existing groundwater permits issued after July 19, 1995, but prior to the adoption of the mitigation program. In addition, the Department is planning to begin discussions in 2022 with stakeholders about the possibility of modifying the allocation cap.

The water management issues in the Deschutes Basin are complex; municipal, instream, irrigation, and recreation interests all have a stake in successful outcomes. The Department's Mitigation Program is just one of the many efforts in the basin to address water imbalances. While the Department intends to continue conversations with stakeholders and CTWS to explore these opportunities for improvement, it also recognizes that many of the comments and concerns provided extend beyond the scope of what the Mitigation Program can accomplish, and may be best addressed through other venues and initiatives such as the Deschutes Basin Water Collaborative and efforts to develop and implement a basin-wide water management plan.

Attachments:

1. Deschutes Basin Groundwater Mitigation Program Five-Year Legislatively and Administratively Required Report – Final Draft

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2021 – FINAL DRAFT

REVIEW OF THE DESCHUTES BASIN GROUNDWATER MITIGATION

OREGON

WATER RESOURCES DEPARTMENT

5 YEAR REVIEW

STATE OF OREGON

2021 - DRAFT

REVIEW OF THE DESCHUTES BASIN GROUNDWATER MITIGATION

5 YEAR REVIEW

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STATE OF OREGON

OREGON
WATER RESOURCES DEPARTMENT

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I. Executive Summary

Background: Surface water flows in the Deschutes River and many of its tributaries are protected with scenic waterway designations and/or instream water rights. In addition, there are hundreds of existing surface water diversions for various uses, including irrigation and municipal use. In the 1990's, a groundwater study completed by U.S. Geological Survey, in cooperation with the Oregon Water Resources Department (OWRD); The Confederated Tribes of the Warm Springs Reservation of Oregon (CTWS); the City of Bend; City of Redmond; City of Sisters; Deschutes and Jefferson counties; the U.S. Environmental Protection Agency; the U.S. Bureau of Reclamation and other Deschutes Basin partners, identified significant hydraulic connection between groundwater and surface water within the Deschutes Groundwater Study Area (DGWSA). This connection means that groundwater uses within the DGWSA impact streamflows and existing surface water rights at short timescales.

Deschutes Mitigation Program: The Deschutes Groundwater Mitigation Program (Mitigation Program) was established to provide a set of tools that applicants for new groundwater rights within the DGWSA can use to mitigate for their impacts on surface water flows in order to obtain new groundwater permits. This program allows for the development of new groundwater uses that would likely not otherwise be allowed by requiring the purchase of mitigation credits or implementation of a mitigation project. The Mitigation Program is authorized under Oregon Revised Statutes (ORS) 537.746 and 2005 Oregon Laws Chapter 669, as amended by 2011 Oregon Laws Chapter 694. The key goals of the Groundwater Mitigation Program are to:

- Maintain flows for State Scenic Waterways and senior water rights, including instream water rights;
- Facilitate restoration of flows in the middle reach of the Deschutes River and related tributaries; and
- Sustain existing water uses and accommodate growth through new groundwater development.

Combining the Five Year Reports: ORS 540.155 directs OWRD to report to the Legislative Assembly every five years on the outcomes of the Mitigation Program. In addition, Oregon Administrative Rules (OAR) 690-505 requires an administrative five-year evaluation report on the mitigation program. To improve efficiency, OWRD has combined the two reports into one document for the years 2015-2019.

In developing this report, OWRD is required to consider:

- Program impacts on other water users of the Deschutes River Basin;
- Potential timing of mitigation;
- Identification of zones of impact;
- Review of impacts on the headwaters of the Metolius River and other key reaches of the Metolius River system;
- Potential timing of federal, state and local storage improvements
- Other issues raised by stakeholders;
- Allocation cap status and whether the 200 CFS restriction should be modified;
- Mitigation activity;
- Identification of regulatory and statutory changes that may improve the Mitigation Program in order to address and mitigate injury to existing water rights and spring systems and to offset measurable reductions of scenic waterway flows;

- Zones of impact;
- Streamflow monitoring; and
- Effectiveness of mitigation projects and mitigation credits.

Feedback from Stakeholders: To evaluate the Mitigation Program and develop the report, OWRD solicited feedback on the Mitigation Program from over sixty Deschutes Basin stakeholders. The first solicitation was sent via email on July 16, 2020. Initial feedback received from stakeholders was incorporated into the first draft of the report. OWRD then provided an opportunity for stakeholders to comment on the first draft of the report, sent via email on July 27, 2021.

All initial feedback received in response to the first solicitation is included as Attachments 1-9 of this report. All feedback received in response to the subsequent request for comment on the first draft of the report is included as Attachments 10-23 of this report.

The feedback received and concerns raised about the Mitigation Program related to the following topics:

- The allocation cap
- Zonal mitigation and impacts
- Water accounting and impacts of climate change
- Impacts to springs
- Impacts during the non-irrigation season (release of stored water instream)
- Permits issued prior to adoption of the mitigation rules
- Exempt wells

OWRD also presented the first draft of the report to the OWRD Groundwater Advisory Committee on August 24, 2021.

An updated draft was provided to the OWRD's Commission for review at the December 3, 2021, Oregon Water Resources Commission meeting. The public had an opportunity to comment on the report before the Water Resources Commission. Oral comments were provided at the meeting by XXXXXX, XXXXXX, XXXXX. Concerns and issues raised are outlined in the report.

Conclusion and Next Steps: Generally, the Mitigation Program has worked well and met the key goals of the program. Through mitigation, the scenic waterway and instream water right flows have been maintained and, in some areas, improved. The benefits of the program are significant in some key areas where chronic low flows historically occurred, such as in the Deschutes River below Bend, Crooked River below Smith Rock, Whychus Creek below the Three Sisters Irrigation District diversion and Tumalo Creek below the Tumalo Irrigation District Diversion.

OWRD continues to explore possible improvements to the Mitigation Program with the Oregon Department of Fish and Wildlife (ODFW), the Oregon Department of Environmental Quality (DEQ), CTWS, and with stakeholders. As discussed in the report, improvements can be made to the program. Broadly speaking, some specific actions OWRD can take to improve the Mitigation Program include:

- Consider the issue of modifying the allocation cap in 2022.

- Explore the feasibility of making changes to the administrative rules to require holders of existing groundwater permits that were issued after July 19, 1995, but before adoption of the Mitigation Program, to provide mitigation when seeking an extension of time on undeveloped portions of their permit(s).
- Work towards a more complete understanding of how the mitigation program has been implemented and whether changes to the program are necessary to improve protection of local water resources, or if those protections are outside the scope of the mitigation program. Partner with ODFW and DEQ to jointly secure funding for a study aimed at these issues.

OWRD staff intend to continue conversations with ODFW, DEQ, CTWS, and stakeholders on issues outlined above as well as other issues raised in the report as part of this evaluation to identify opportunities for improving the Mitigation Program.

The water management issues in the Deschutes Basin are complex – municipal, instream, irrigation, and recreation interests all have a stake in successful outcomes. OWRD's Mitigation Program is just one of the many efforts in the basin to address water imbalances. As outlined in this report, there are a variety of opportunities to improve the Mitigation Program. While OWRD intends to continue conversations with stakeholders to consider these opportunities for improvement, it also recognizes that many of the comments and concerns provided extend beyond the scope of what the Mitigation Program can accomplish and may be best addressed through other venues and initiatives, such as the Deschutes Basin Water Collaborative and efforts to develop and implement a basin-wide water management plan.

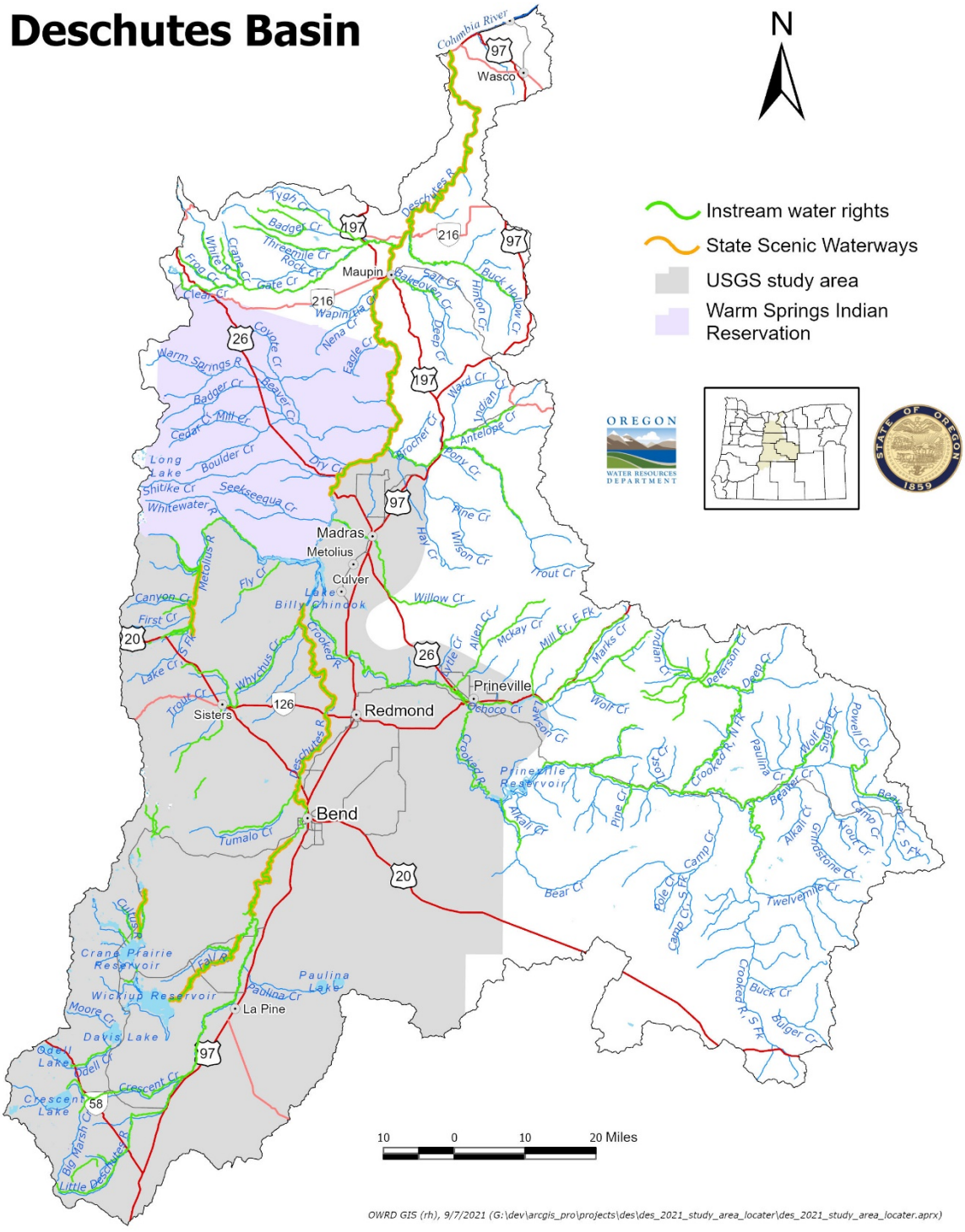

Figure 1: Deschutes Basin Groundwater Study Area

II. Introduction

A groundwater study of the Deschutes Basin above Lake Billy Chinook was conducted in the late 1990's by the U.S. Geological Survey (USGS) in cooperation with the Oregon Water Resources Department (OWRD); The Confederated Tribes of the Warm Springs Reservation of Oregon (CTWS); the City of Bend; City of Redmond; City of Sisters; Deschutes and Jefferson counties; the U.S. Environmental Protection Agency; the Bureau of Reclamation and other Deschutes Basin partners.

The groundwater study concluded that there is significant hydraulic connection between groundwater and surface water in the area now referred to as the Deschutes Groundwater Study Area (DGWSA) (Figure 1). This means that groundwater withdrawals within this area affect surface water flows in the Deschutes River and its tributaries within short timescales, and, as a result, OWRD must manage groundwater and surface water together.

Flows in the Deschutes River and many of its tributaries are somewhat protected by instream water rights; however, flows set by instream water rights are not always met due to the junior priority dates of most instream rights relative to out of stream water rights.

The Deschutes River is also a designated State Scenic Waterway. Consistent with the Oregon Revised Statute (ORS) 390.835 of the State Scenic Waterway Act, new groundwater use permits located within or above a state designated scenic waterway can be issued only when they do not individually or cumulatively measurably reduce scenic waterway flows or when the effects are mitigated. Measurable reduction is either one percent of the average daily flows or one cubic foot per second (CFS), whichever is less. For the Deschutes River, the amount of measurable reduction allowed is one (1.0) CFS. The groundwater permits issued above the scenic waterway have met the threshold for a measurable reduction.

Since flows for instream water rights and scenic waterways are not always met and additional groundwater use would further reduce scenic waterway flows, OWRD may not approve new groundwater permits in the DGWSA unless the impact of the new withdrawal is mitigated with a similar amount of water being put instream.

The Deschutes Groundwater Mitigation Program (Mitigation Program) provides a set of tools that applicants for new groundwater permits within the DGWSA can use to establish mitigation and, thereby, obtain new permits from OWRD. This program is implemented under Oregon Administrative Rules (OAR) Chapter 690, Divisions 505, 521, and 522. The original rules were adopted in 2002. For purposes of the Mitigation Program, Division 505 defines "mitigation" as "a means to moderate the impacts to surface water flows from a groundwater appropriation by obtaining mitigation credits or by providing for implementation of a mitigation project that results in mitigation water."

In 2005, Oregon Laws Chapter 669 affirmed that the primary administrative rules for the Mitigation Program (Divisions 505 and 521) satisfy the requirements relating to mitigation under the Scenic Waterway Act (ORS 390.805 to 390.925), Instream Water Right Act (ORS 537.332 to 537.360), and the Groundwater statutes (ORS 537.505 to 537.795), and authorized the program through January 2, 2014. In 2011, Oregon Laws Chapter 694 extended the program's sunset to January 2, 2029. ORS 540.155 requires reporting to the Legislative Assembly every five years on the outcomes of the Mitigation Program.

As discussed later in this report, the Mitigation Program has been successful in meeting the key goals of the program. Through mitigation, scenic waterway and instream water right flows have been maintained on a yearly basis and, in some chronic low-flow areas, have been improved. The benefits of the program have been significant in some areas, such as in the Deschutes River below Bend, Crooked River below Smith Rock, and Whychus Creek below the Three Sisters Irrigation District diversion. As a result of the program, approximately 56 CFS of instream flow has been permanently restored to the Deschutes River and its tributaries.

The water management issues in the Deschutes Basin are complex – municipal, instream, irrigation, and recreation interests all have a stake in successful outcomes. OWRD's Mitigation Program is just one of the many efforts in the basin to address water imbalances. As outlined in this report, there are a variety of opportunities to improve the Mitigation Program. While OWRD intends to continue conversations with stakeholders to explore these opportunities for improvement, it also recognizes that many of the comments and concerns provided extend beyond the scope of what the Mitigation Program can accomplish and may be best addressed through other venues and initiatives, such as the Deschutes Basin Water Collaborative and efforts to develop and implement a basin-wide water management plan.

III. Reporting Requirements

The Department is required to develop a report on the Deschutes Mitigation Program annually under ORS 537.746 and OAR 690-505-0500(3) and to report to the Legislative Assembly every five years under ORS 540.155. In addition, the Department's OAR 690-505-0500(2) rules require reporting every five years to the Commission. To improve reporting efficiency, the Department has combined the OAR 690-505 Administrative and ORS 540.155 Legislative five-year reviews, resulting in a report on the years 2015-2019.

A. ORS 540.155 Legislative Review

ORS 540.155 directs OWRD to report to the Legislative Assembly every five years on outcomes of the Mitigation Program for the DGWSA.

The statute requires that the report include a summary of:

- Program impacts on other water users in the Deschutes River Basin;
- Potential timing of mitigation;
- Identification of zones of impact;
- Review of impacts on the headwaters of the Metolius River and other key reaches of the Metolius River system;
- Potential timing of federal, state and local storage improvements;
- Identification of regulatory and statutory changes that may improve the Mitigation Program in order to address and mitigate injury to existing water rights and spring systems and to offset measurable reductions of scenic waterway flows; and
- Other issues identified by stakeholders.

B. OAR 690-505 Administrative Review

OAR 690-505-0500(2), requires a five-year evaluation of the Deschutes Basin Groundwater Mitigation Rules and associated mitigation to determine whether the 200 CFS allocation cap restriction should be modified through subsequent public rulemaking. It also requires evaluation of the effectiveness of mitigation projects and mitigation credits that involve time-limited instream transfers, instream leases and allocations of conserved water from canal lining and piping projects, as well as the general zones of impact identified by the Department.

The OAR 690-505 five-year review must address the following topics:

- Allocation cap status and whether the 200 CFS restriction should be modified;
- Mitigation activity;
- Zones of impact;
- Streamflow monitoring; and
- Effectiveness of mitigation projects and mitigation credits.

IV. Engagement and Process for Developing the Report

In development of this report, on July 16, 2020, OWRD solicited input from a variety of stakeholders via email on the Mitigation Program. These stakeholders included over sixty different state, federal, and county agencies, irrigation districts, watershed councils, cities, water companies, consultants, restoration partners and many others. Feedback was received from:

- Central Oregon Cities Organization; (Attachment 1)
- Oregon Department of Environmental Quality (DEQ); (Attachment 2)
- John Short, Bend, Oregon; (Attachment 3)
- Oregon Department of Fish and Wildlife (ODFW); (Attachment 4)
- Oregon Farm Bureau; (Attachment 5)
- Deschutes County Farm Bureau; (Attachment 5)
- Crook-Wheeler County Farm Bureau; (Attachment 5)
- Jefferson County Farm Bureau; (Attachment 5)
- Clyde Snow LLC on behalf of Shanda Asset Management, LLC; (Attachment 6)
- WaterWatch of Oregon; (Attachment 8) and
- Nunzie Gould, Bend, Oregon; (Attachment 9).

OWRD then shared the first draft report by email on July 27, 2021, requesting additional feedback from stakeholders and CTWS. The stakeholders included over sixty different state, federal, and county agencies, irrigation districts, watershed councils, cities, water companies, consultants, restoration partners and many others. OWRD also presented the first draft report to the OWRD Groundwater Advisory Committee on August 24, 2021. Feedback on the first draft report was received by the following and can be found in Attachments 10-23 in the report:

- Central Oregon Landwatch; (Attachment 10)
- Clyde Snow LLC on behalf of Shanda Asset Management, LLC; (Attachment 11)
- Central Oregon Cities Organization; (Attachment 12)

- Deschutes Basin Water Collaborative; (Attachment 14)
- Oregon Department of Environmental Quality (DEQ); (Attachment 15)
- Deschutes River Conservancy; (Attachment 16)
- George Wuerthner, Bend, Oregon; (Attachment 17)
- Jim Powell, Bend, Oregon; (Attachment 18)
- League of Women Voters of Deschutes County; (Attachment 19)
- Oregon Department of Fish and Wildlife (ODFW); (Attachment 20)
- Oregon Farm Bureau; (Attachment 21)
- Deschutes County Farm Bureau; (Attachment 21)
- Crook-Wheeler County Farm Bureau; (Attachment 21)
- Jefferson County Farm Bureau; (Attachment 21)
- WaterWatch of Oregon; (Attachment 22) and
- Yancy Lind, Bend, Oregon; (Attachment 23)

In addition, OWRD solicited input from, and has conferred with, The Confederated Tribes of the Warm Springs of Oregon (CTWS), a federally-recognized Indian tribe and successor in interest to the Indian signatories of the Treaty with the Tribes of Middle Oregon, June 25, 1855, 12 Stat. 963. CTWS, along with the United States of America and the State of Oregon, is a party to the Confederated Tribes of the Warm Springs Reservation Water Rights Settlement Agreement, dated November 17, 1997, and amended effective May 16, 2002 (WRSA). Among other things, the WRSA recognizes the Tribe's sovereign status and provides for the cooperative management of the water resources of the Deschutes Basin. OWRD will continue a sovereign-to-sovereign dialogue with CTWS regarding management of those resources, including the Deschutes Basin Groundwater Mitigation Program. The initial letter requesting a sovereign-to-sovereign discussion is contained in Attachment 7 and the second letter is contained in Attachment 13.

An updated draft was provided to the OWRD's Commission for review at the December 3, 2021, Oregon Water Resources Commission meeting. The public had an opportunity to comment on the report before the Water Resources Commission. Oral comments were provided at the meeting by XXXXXX, XXXXXX, XXXXX.

OWRD developed this report using the feedback provided by the CTWS and stakeholders listed above, as well as OWRD technical and local staff input.

All initial feedback provided in response to the first solicitation is included as Attachments 1-9 at the back of this report.

All feedback provided in response to the subsequent request for comment on the first draft of the report is included as Attachments 10-23 at the back of this report.

V. Structure of the Mitigation Program

The Deschutes Groundwater Mitigation Program provides a set of tools that groundwater permit applicants can use to establish new groundwater uses within the DGWSA while mitigating impacts on surface water. The key goals of the Mitigation Program are to:

- Maintain flows for State Scenic Waterways and senior water rights, including instream water rights;
- Facilitate restoration of flows in the middle reach of the Deschutes River and related tributaries; and
- Sustain existing water uses and accommodate growth through new groundwater development.

The amount of new groundwater use that can be approved under the Mitigation Program is currently limited to a total of 200 CFS, often referred to as the allocation cap. Once the allocation cap limit is met, no additional permits can be issued without the Water Resources Commission modifying its rules and adjusting the cap.

Mitigation is provided through completion of a mitigation project. Generally, mitigation has been established by the conversion of existing consumptive use surface water rights to instream non-consumptive use. Mitigation established under the Mitigation Program is permanent or temporary in nature; therefore, OWRD must maintain an accounting record of new groundwater permits and associated mitigation with links between the groundwater permits and their source of mitigation.

Most mitigation for new groundwater use has come from the conversion of out-of-stream uses, such as irrigation, to instream use through a temporary instream lease or permanent instream transfer. Mitigation for a new groundwater permit must be provided for the life of that permit and subsequent water right certificate.

Overall, for each year the Mitigation Program has been in place, there has been sufficient mitigation water available to mitigate for groundwater permits issued under the program. However, in certain areas, sufficient supplies of mitigation water may not always be available to satisfy the mitigation needs of all pending groundwater use requests due to the location of the applications.

Stakeholder Comments: Feedback from Central Oregon Cities Organization expresses the importance of OWRD not losing sight of the goals of the Mitigation Program when reviewing the program and considering potential changes, and urges OWRD to be mindful of the fact that the program is to provide for mitigation of impacts to scenic waterway flows and senior water rights, while allowing additional qualifying appropriations of groundwater.

OWRD Response: OWRD concurs with the importance of keeping the goals of the Mitigation Program a primary focus. One way OWRD strives to achieve these goals is through implementation of its administrative rules (OAR Chapter 690, Divisions 505, 521 and 522) which:

- Require mitigation for all new groundwater permits in the DGWSA;
- Identify tools for providing mitigation water through either a mitigation project or by obtaining mitigation credits from an established mitigation project;

- Establish a system of mitigation credits which may be used to mitigate for new groundwater permits;
- Provide the process to establish mitigation banks; and
- Provide for adaptive management through annual evaluations and review of the Mitigation Program every five years.

VI. Allocation Cap Status

To limit the amount of impact on surface water flows, the mitigation program established a 200 CFS cap on the amount of water that may be allocated to new groundwater use. The allocation cap restriction may only be lifted or modified by the Commission if the Department's evaluation of the mitigation program demonstrates that scenic waterway and instream water right flows are being met on at least an equivalent or more frequent basis as compared to long-term, representative base-period flows (1966 to 1995).

The CFS amount deducted from the 200 CFS cap is the amount of water (in CFS) allowed in the final orders approved by the Department. Final orders set a five-year deadline for the applicant to provide the required mitigation. Once they meet their mitigation obligation, the Department issues the groundwater permit. If the mitigation is not provided by the deadline, the final order expires and the CFS is added back into the cap.

All actions that would allow CFS to be added back into the cap are:

1. Rates associated with offsets pursuant to 690-505-0610(8);
2. Rates associated with applications withdrawn after final order issuance pursuant to 690-505-0620;
3. Portions of rates approved by a final order issued under 690-505-0620, but not included in a water right permit that is issued following satisfaction of the mitigation requirement;
4. Rates associated with expired final orders pursuant to 690-505-0620(2);
5. Portions of rates associated with permits issued pursuant to 690-505-0620 and subsequently cancelled;
6. Rates associated with certificates issued pursuant to 690-505-0620 and subsequently canceled; and
7. Rates associated with the portion of use originally authorized under a permit issued pursuant to 690-505-0620, but not included in a subsequent certificate.

Since the adoption of the rules in September 2002 through the end of 2019, there have been approximately 261 groundwater applications submitted to the Department within the Deschutes Basin Groundwater Study Area totaling approximately 328.90 CFS; however, approximately 159.65 CFS was added back to the cap for various reasons (outlined above), so the total allocated CFS remains under the 200 CFS cap.

Figure 2 below shows the status of all the applications that have been received and the total amount of CFS per action. These actions include the active and pending applications as well as the cancelled, expired, withdrawn, rejected, misfiled, and denied.

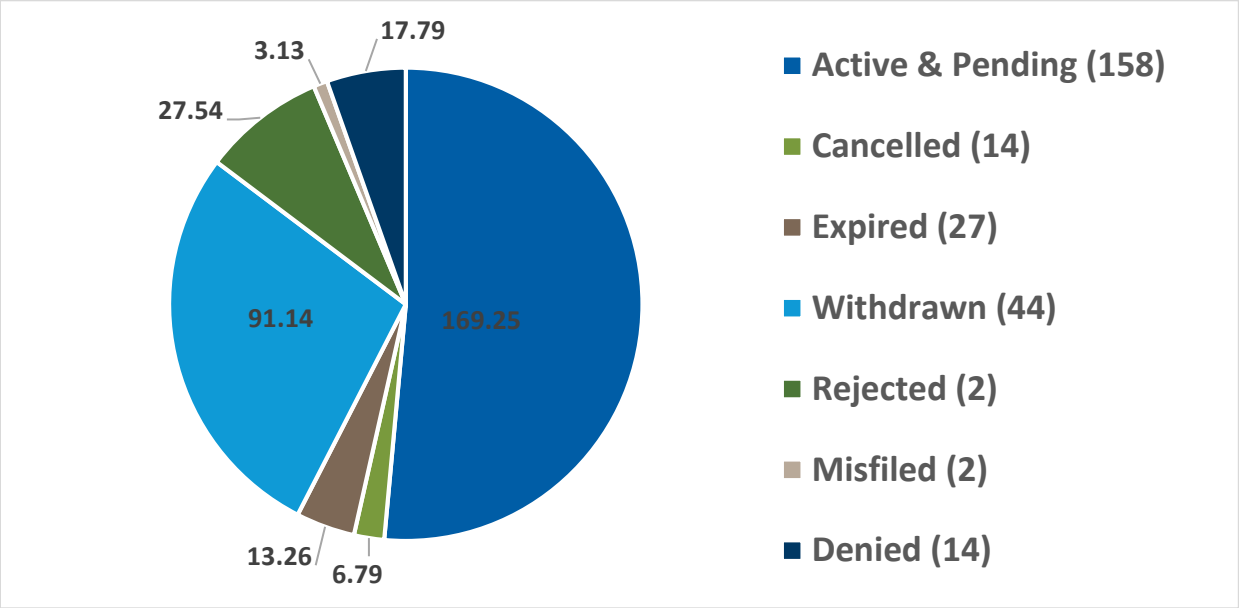

Figure 2: Total CFS & Number of Applications Submitted by end of 2019

Since adoption of the Mitigation Program rules in September 2002 and through the end of 2019, OWRD had issued 121 new groundwater permits with associated mitigation, totaling 154.50 CFS of water. In addition to the 154.50 CFS allocated, there was 7.45 CFS in pending applications with approved final orders (i.e., awaiting mitigation; permit not yet issued) and approximately 10.87 CFS associated with additional pending applications. If all applications pending as of December 31, 2019, were to move forward as proposed, there would be approximately 20.08 CFS left under the 200 CFS allocation cap (see Figure 3).

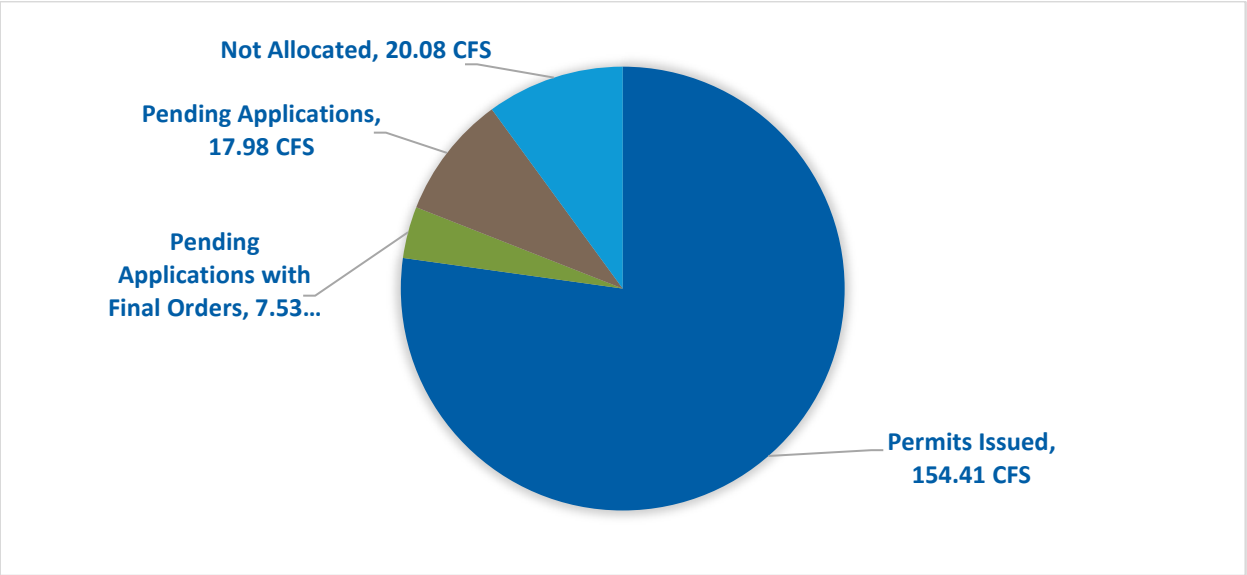

Figure 3: Potential Distribution of Mitigation Under the 200 CFS Allocation Cap as of the End of 2019

Figure 4 shows the different types of uses for approved groundwater permits that obtained mitigation under the program; the majority being irrigation, quasi-municipal and municipal uses. This figure also shows the number of applications that were submitted by type of use.

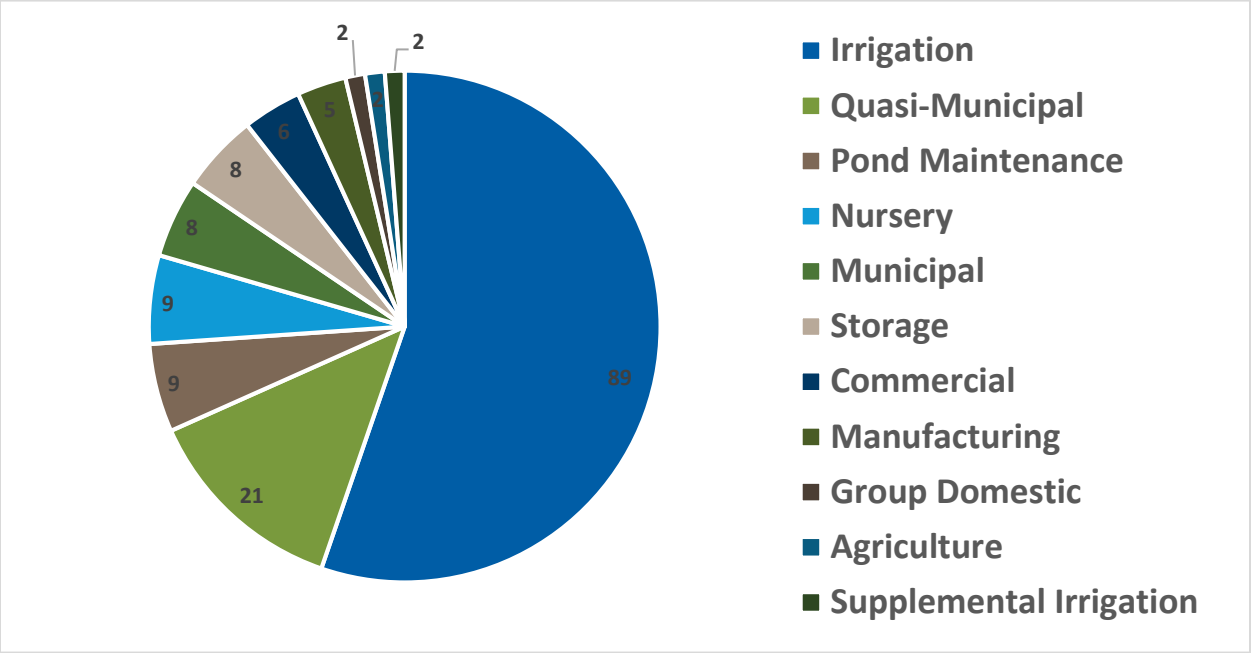

Figure 4: Types of Uses for Permits Issued that Required Mitigation & Number of Applications Submitted by Type of Use

Figure 5 shows that the majority of the CFS that has been allocated from the cap is municipal and quasi-municipal uses.

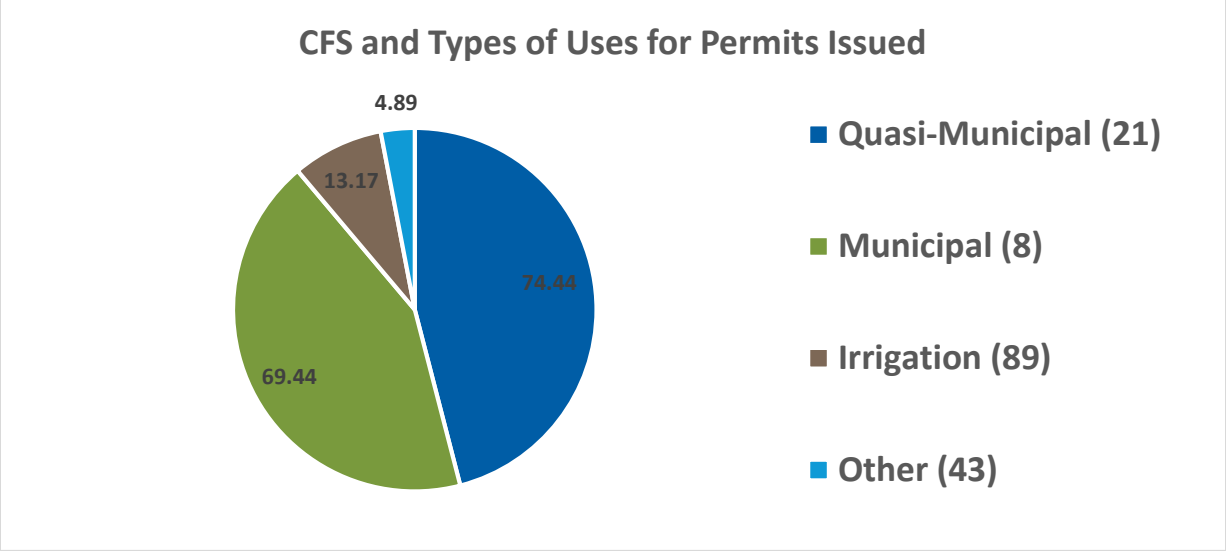

Figure 5: Types of Uses and CFS for Permits Issued that Required Mitigation & Number of Applications Submitted by Type of Use

Figure 6 shows the different types of uses of pending groundwater applications requiring mitigation; the majority being irrigation. This figure also shows the number of pending applications by type of use.

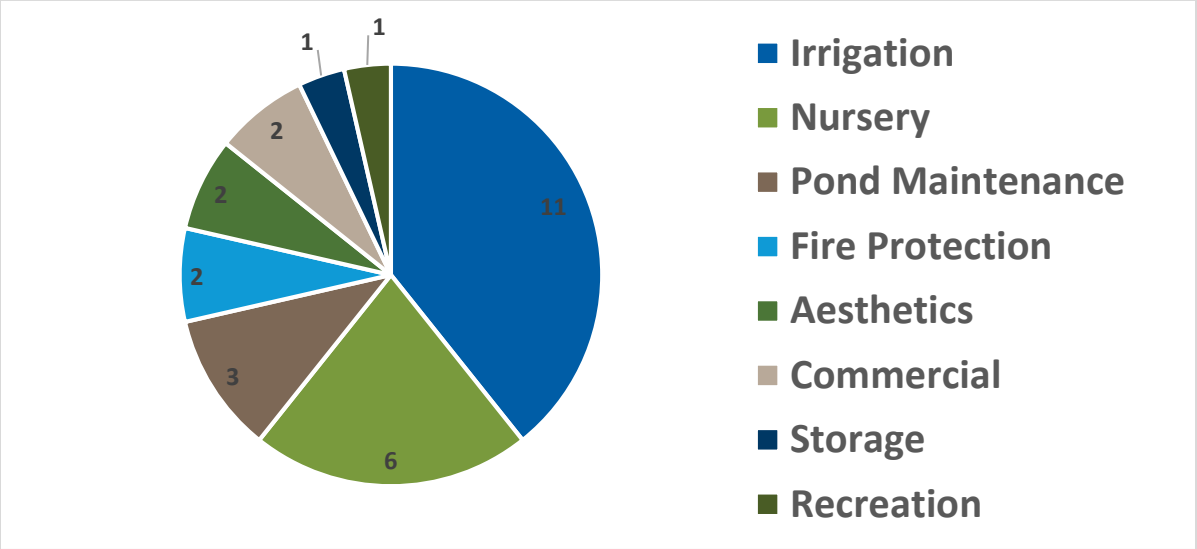

Figure 6: Types of Uses for Applications Pending at the End of 2019 Requiring Mitigation & Number of Pending Applications by Type of Use

Stakeholder Comments: ODFW, DEQ, WaterWatch of Oregon and an individual commenter (Nunzie Gould), have suggested that the 200 CFS allocation cap should not be raised at this time. ODFW identified that until such time as issues associated with groundwater impacts outside of the irrigation season can be addressed, the cap should not be adjusted. WaterWatch of Oregon further suggested that all issues should be resolved before consideration of raising the allocation cap, including the incorporation of recent groundwater study work that has found groundwater level declines in the basin. Central Oregon Cities Organization has suggested that modifying the allocation cap needs to be discussed very soon.

Deschutes River Conservancy suggests the status of room under the cap and the concerns with the program, including the need for long term and reliable mitigation, timing of increased groundwater withdrawals and impacts on springs, etc. should be resolved in conjunction with or prior to additional discussions about the cap.

Central Oregon Landwatch has suggested that the demand for permits and applications under the cap be included as additional criteria for evaluating the cap. The League of Women Voters of Deschutes County have suggested that the Department needs to work on a resolution for the allocation cap, which will be necessary to address the 2029 sunset of the program.

OWRD Response: The Department is aware that several stakeholders in the basin are concerned with the status of the 200 CFS allocation cap and would like the Department to begin work immediately to explore the feasibility of lifting the cap. The allocation cap has been in place under the Mitigation Program for over 19 years. As discussed in the "Allocation Cap" section of this report, the quantity of water (CFS) allocated under the cap fluctuates up and down from year to year as a result of various administrative actions (i.e., denial, cancellation, expiration, withdrawal, etc.) which add back previously

deducted CFS to the cap. Assuming all applications and final orders pending as of December 31, 2019, moved forward as proposed, there would have been approximately 20.08 CFS left under the 200 CFS allocation cap. Once the cap limit is met, no additional permits can be issued without the Water Resources Commission modifying its rules and adjusting the cap. While it may appear an adequate amount of water is still available under the allocation cap as of the end of year 2019, the Department in looking ahead acknowledges the current status of the cap as of November 5, 2021, is at 18.32 CFS remaining unallocated (no final orders, permits or pending applications). Therefore, the Department intends to explore the issue of modifying the allocation cap in 2022.

VII. Program Impacts on Other Water Users of the Deschutes River Basin

A. Overview of the Basin and Water Rights

Much of the mainstem Deschutes River and its tributaries are protected by scenic waterway designations and instream water rights. There are also hundreds of existing surface water rights on the Deschutes River and its tributaries for out of stream uses, such as irrigation and municipal uses.

The Deschutes Basin contains numerous small agricultural communities as well as some of the fastest growing cities in the state. While the economy in some areas has shifted toward service industries and tourism, farming and ranching remain important. Land use in the Deschutes Basin is characterized by numerous smaller, privately held parcels alongside larger areas owned and managed by federal, state and tribal agencies.

The Basin's economy relies heavily upon abundant, clean water. Surface water is fully appropriated resulting in an increased reliance on groundwater as a source for future appropriation. Groundwater users include municipalities, irrigation districts, commercial developments, industry, homeowners' associations, other private water providers and landowners, and water right permit exempt users.

B. Injury to Other Water Rights

OWRD does not have evidence or information suggesting that the mitigation program has resulted in injury to surface water rights, as evaluated on an annual basis. Injury occurs when one or more existing water rights, including instream water rights, are unable to use the quantity of water to which they are legally entitled as a result of a change in use by another existing water right or a new use. The Department cannot approve a mitigation project if it results in injury.

Stakeholder Comment: WaterWatch suggest that the mitigation program is, in fact, resulting in "negative" impacts on flows in the shoulder and winter months, therefore injury is occurring. The program should be a real time analysis, not evaluated on an annual basis.

OWRD Response: From the beginning of the Deschutes Mitigation Program, it was determined that the program should be structured in such a way so that it was a manageable system for OWRD to track and maintain. OWRD considered the goals of the Mitigation Program, the Deschutes Groundwater Mitigation Flow Model, and the base period flows (1996-1995) and created sub-zones and consumptive use coefficients to keep the Deschutes Mitigation Program manageable. Seasonal uses were allowed to

generate credits that can then be purchased to mitigate for year-round uses. Seasonal differences between when mitigation credits increase streamflow and when mitigation debits decrease flow (from pumping impacts to groundwater discharge) would be difficult to address and keep the program simple and manageable. Furthermore, one of the goals of the program was to address chronic low flows resulting from surface water diversions during the irrigation season. The program does this as it is structured. Addressing this seasonal difference (i.e., Spreading out the credits during the winter season to address debits effects during the winter season) would lessen the benefits to chronic low summer flows and associated water quality issues. For most effected reaches (from debits), flow during the wintertime (and water quality) is not as low as during the irrigation season. OWRD will need to work with ODFW, DEQ and stakeholders to address this challenging issue.

The Water Resources Commission's rules governing mitigation in the DGWSA are intended to assure that new groundwater appropriations do not result in a measurable reduction in scenic waterway flows or injury to senior water rights, including instream water rights. OAR 690-505-0630 states that if a groundwater applicant satisfies the required mitigation obligations, OWRD may conclude that the proposed use will not substantially interfere with surface water rights, including instream water rights.

C. Property and Water Right Value

The Mitigation Program has created a potential market for some surface water rights, which may increase the value of those rights. No formal analysis of the effect of the mitigation program on property and water right values has been conducted or commissioned by OWRD. Groundwater users needing to provide mitigation can either complete their own mitigation project or obtain mitigation credits from a mitigation credit holder – an individual or entity that has completed a mitigation project. Surface water rights have either been leased for instream use through the Deschutes River Conservancy (DRC) Mitigation Bank or transferred permanently to instream use by individuals or entities needing mitigation for a new groundwater use or wanting to establish mitigation credits that can later be sold to groundwater users needing mitigation.

Stakeholder Comments: Comments from Oregon Farm Bureau, Deschutes County Farm Bureau, Crook and Wheeler County Farm Bureau, and Jefferson County Farm Bureau expressed concern related to removal of water rights from farmland as the cities look to irrigation water as a source to provide mitigation for municipal growth. They expressed concerns over reduced availability of irrigated farmland along with reductions in the value of farmland.

Deschutes River Conservancy states that the water has economic value in farming but also has great values instream in support of the local recreation, tourism economy and ecological health, which goes beyond agriculture and that balance should be a consideration.

Department Response: Figure 7 shows the annual trend of irrigated acreage converted (both temporarily and permanently) to instream use for mitigation purposes from irrigation districts as compared to the overall total number of irrigated acres with water rights converted to instream use for mitigation purposes. However, it is also important to note that under the mitigation program the majority of new groundwater rights have been issued for irrigation purposes, allowing for new irrigated acres to be developed. Without the program there would not be a venue to issue new groundwater rights in the Deschutes Groundwater Study Area.

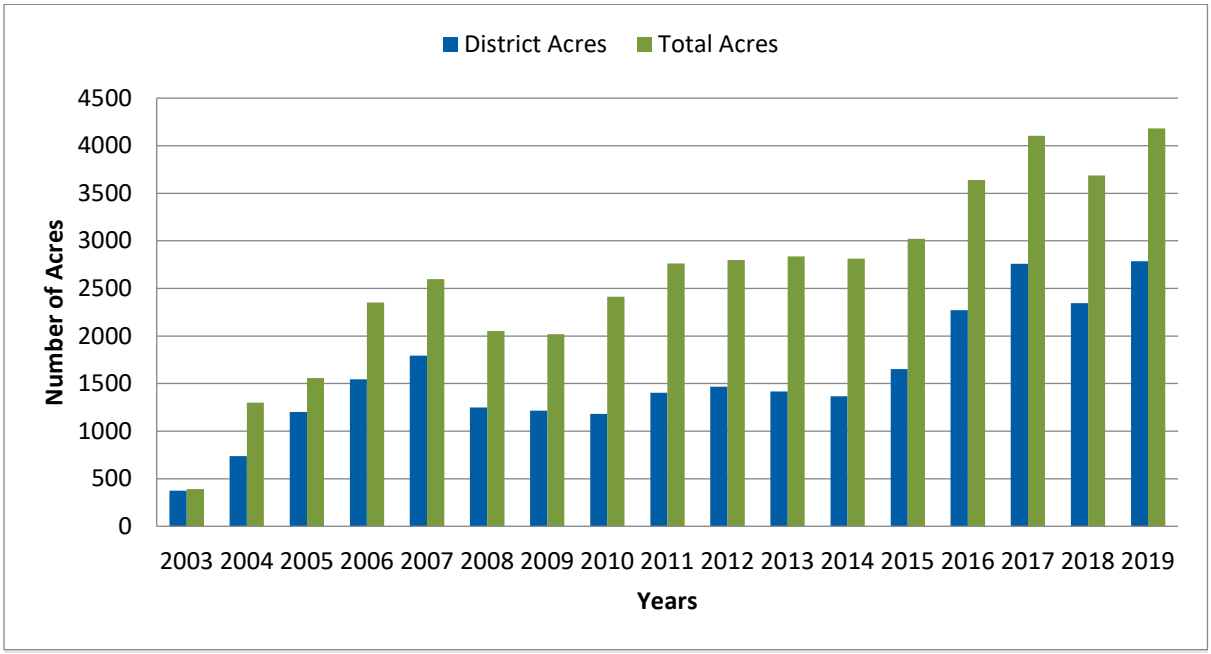

Figure 7: Irrigated Acres with Water Rights Converted to Instream Use for Mitigation - Irrigation District Acres in Comparison to All Acres

Figure 8 shows the location of the approved mitigation project points of diversions (red X's), these points signify the location of the legally protected temporary and permanent instream flows created for mitigation. A more detailed map is available for review if requested.

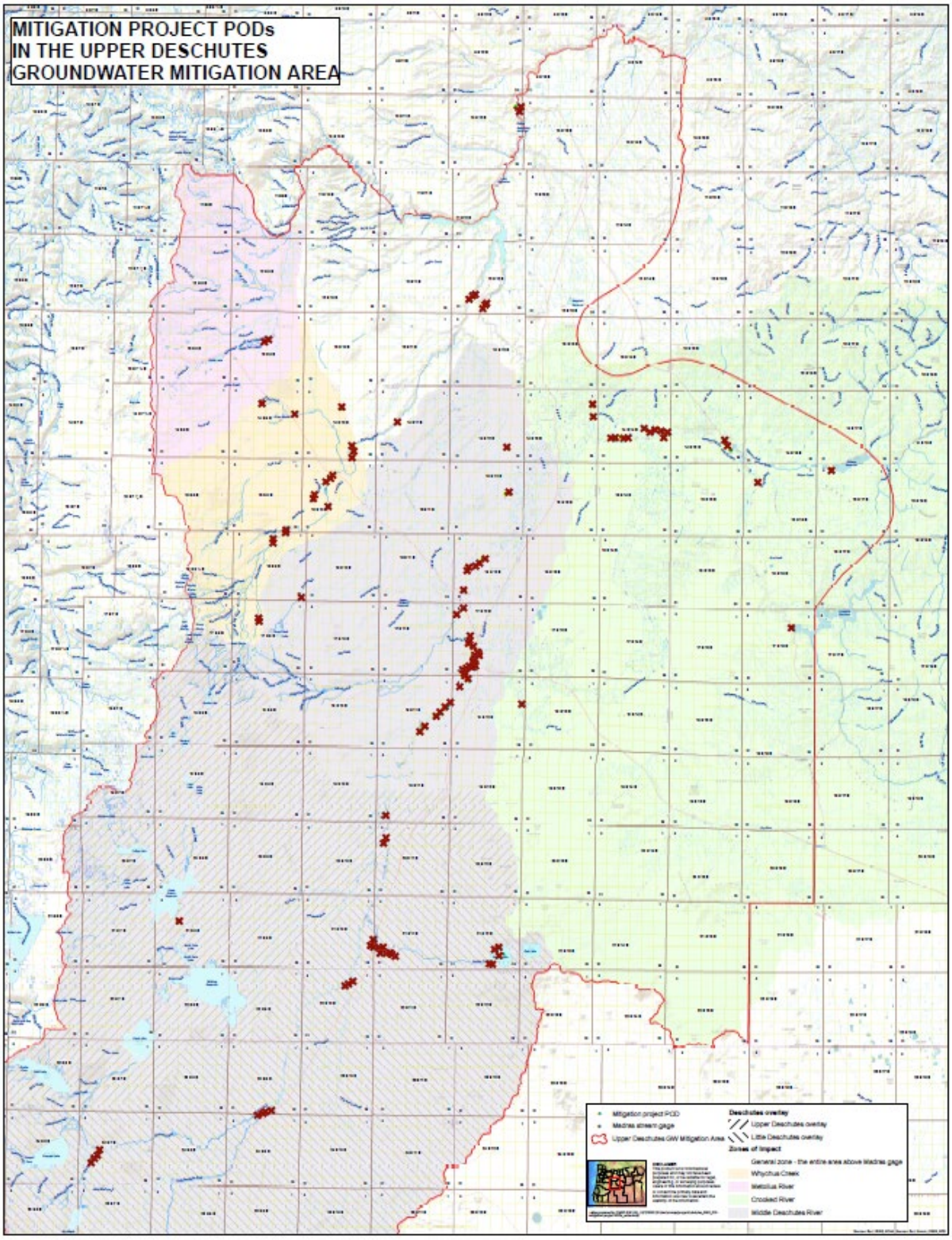

Figure 8: Mitigation Project POD's within the DGWSA

D. Cities and Other Water Providers

The cities of Bend, Prineville, Sisters, LaPine, Madras, Maupin, Redmond, Metolius, and Culver are within the DGWSA. There are also several private quasi-municipal water providers, including Terrebonne Domestic Water District, Avion Water Company, and Deschutes Valley Water District to name a few. Aside from water savings realized through implementation of water conservation measures, the cities' and water providers' primary water source for new and continued development in the DGWSA is groundwater. Without the Mitigation Program, municipal water providers (both public and private), may not be able to meet growing water demands.

For the majority of the cities and private water providers issued groundwater permits under the Mitigation Program, mitigation is being provided incrementally over a period of time as the water use is developed. In general, to obtain a groundwater permit, mitigation must be in place before the permit may be issued. However, municipal and quasi-municipal permit applicants may request to provide mitigation incrementally under an incremental development plan, which is on file with OWRD and may be modified upon request, provided they prepare and submit a Water Management and Conservation Plan to OWRD within 2 to 3 years of permit issuance. They are allowed to match the amount of mitigation provided to the rate of growth and need under the permit. Date ranges under plans currently on file with OWRD range from the smallest at 5 years to the longest at 50 years. Most are in the range of 20 to 30 years.

Figure 9 shows a comparison between the amount of water these water users are authorized to use at full permit development, the amount of water they were able to use based on how much mitigation they provided through 2019, and the amount of water they actually used during 2019. Overall, throughout the years, the entities with incremental development plans have provided more mitigation than was needed to mitigate for their actual water use. As of the end of 2019, there were 20 permits with incremental development plans.

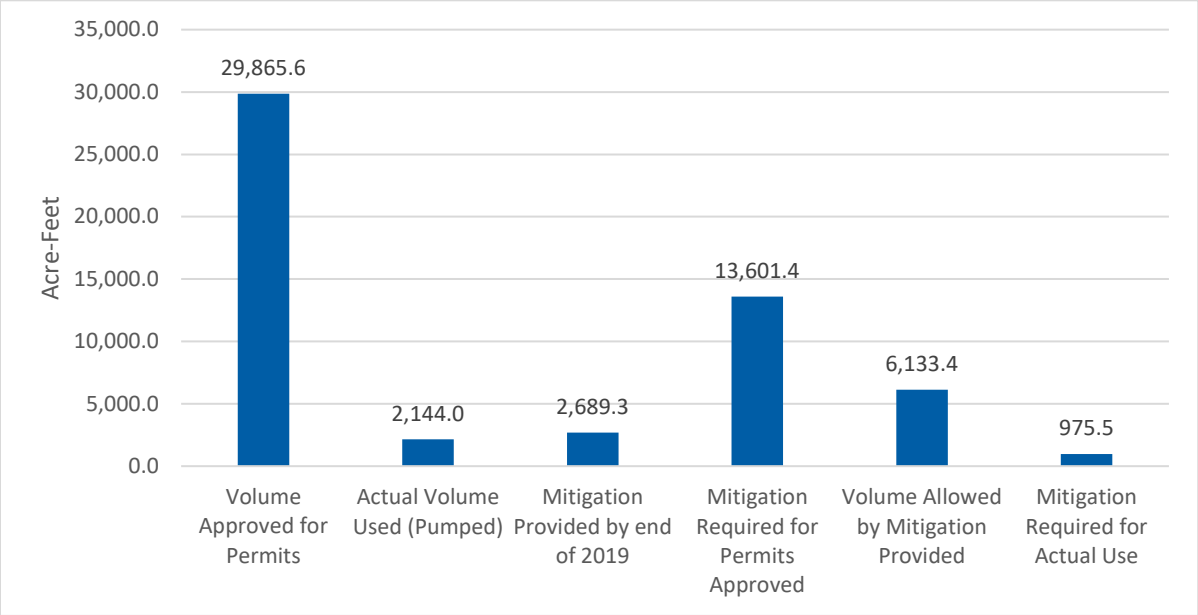

Figure 9 -Incremental Development Permits at End of 2019: Volume Approved, Required Mitigation, Mitigation Provided, and Actual Volume Used

The above Figure 9 does not include the 5100.0 AF of mitigation credits issued to the City of Prineville as identified in Water Right Certificate 94149 because they may only be used by the City of Prineville and cannot be conveyed to any other person or mitigation bank. These mitigation credits may be used to satisfy the mitigation obligation of a groundwater use found to impact surface water flows in the General and/or Crooked River Zones of Impact and are reported and managed on a water year schedule. As of the writing of this report, 404.0 AF of these mitigation credits are assigned to the City of Prineville for incremental groundwater permit.

The reason some of the municipal and quasi-municipal incremental permit holders have unassigned permanent credits are that they are holding them for current and future use, while others may not be as far along or have the ability or access to acquiring permanent supply depending on their zone of impact for instance.

E. Irrigation Districts

A large percentage of the mitigation water established temporarily on an annual basis and permanently in the DGWSA originates from water rights held by irrigation districts. Figures 10 and 11 show the amount of mitigation (in acre-feet) originating from irrigation districts as compared to the total amount of mitigation generated for use in the DGWSA.

For every temporary mitigation credit assigned to a groundwater permit, the Mitigation Bank is required to maintain another similar credit in reserve (for example: if there are 3000 credits available for use, 1500 credits are in use and 1500 are held for reserve.)

Permanent credits for use are allocated at a 1:1 ratio for consumptive groundwater use while a temporary credit for use is allocated at a 2:1 ratio for consumptive groundwater use due to the reserve credit requirement.

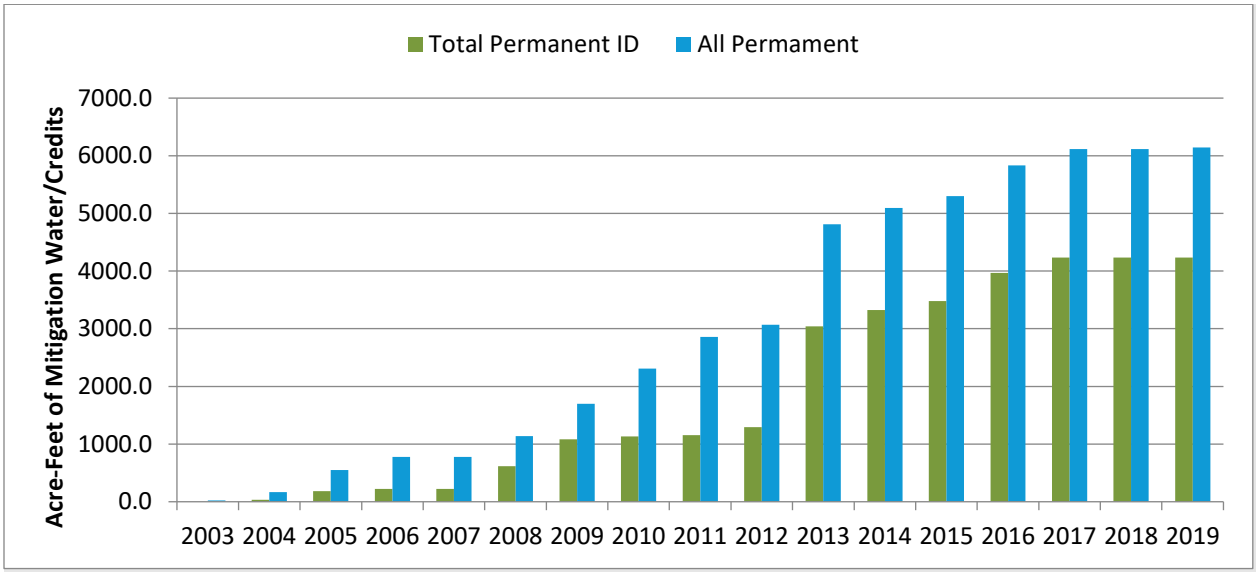

Figure 10: Permanent (Cumulative) Mitigation in Acre-Feet Provided by Irrigation District (ID) Versus All Permanent (Cumulative) Mitigation

Similar to Figure 9, the above Figure 10 does not include the 5100.0 AF of mitigation credits issued to the City of Prineville as identified in Water Right Certificate 94149 because they may only be used by the City of Prineville and cannot be conveyed to any other person or mitigation bank.

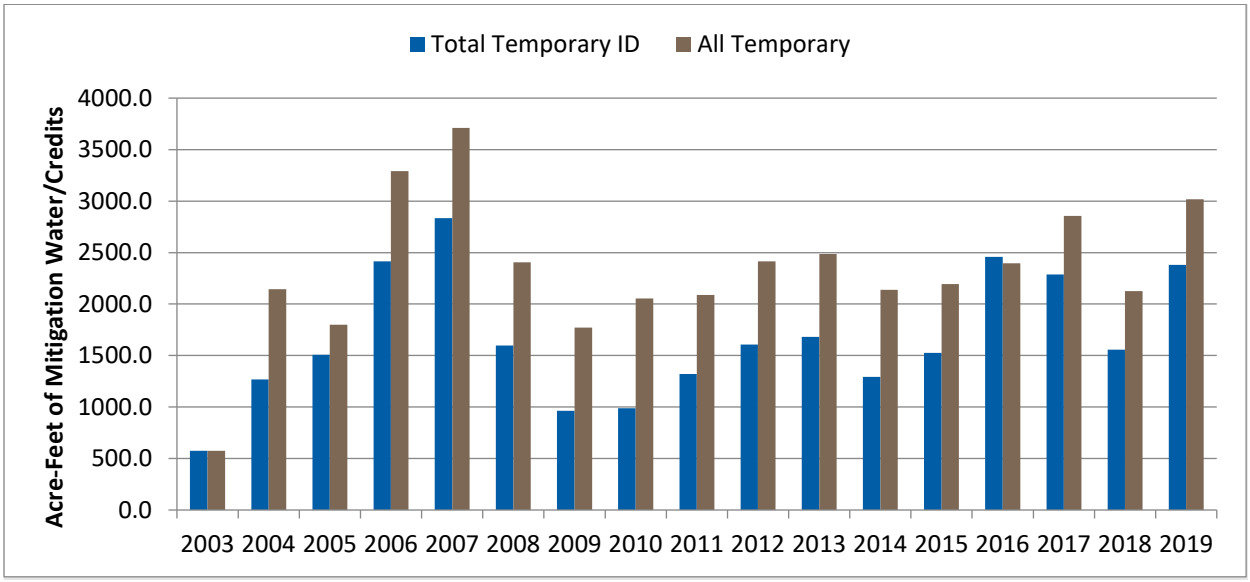

Figure 11: Temporary Annual Mitigation in Acre-Feet Provided by Irrigation District (ID) Versus All Temporary Annual Mitigation

F. Deschutes River Scenic Waterway, Instream Flows, and Fish and Wildlife Habitat

Most of the Deschutes River is a State Scenic Waterway. Under the State Scenic Waterway Act, the highest and best uses of the waters of the Deschutes River are recreation, fish and wildlife uses. In addition, the Deschutes River Basin above Pelton Round-Butte was once home to native runs of summer steelhead, Chinook salmon, sockeye salmon, and Pacific lamprey. Efforts have been underway to reestablish anadromous fish runs in the Upper Deschutes River sub-basin. Over the past decade, many organizations and agencies have been working in the Deschutes River Basin to restore natural streamflows and to improve water quality and aquatic habitat in the river and its main tributaries.

In 1998, when OWRD first initiated a process to address impacts of groundwater use on streamflows in the Deschutes Basin, summer flows in the Deschutes River during the irrigation season below Bend were often around 30 CFS. In the years leading up to the Mitigation Program, the irrigation districts, which divert water at or above the City of Bend, agreed to leave a minimum of 30 CFS in the Deschutes River. Photo 1 of the Deschutes River, below Bend, was taken in 2002 with flows at approximately 40 CFS.

Photo 1: Deschutes River below Bend in 2002 (Summer)

The Mitigation Program rules were adopted by the Water Resource Commission in September 2002. Currently, the minimum summer flows in the Deschutes River below Bend are around 130 CFS due, in part, to the mitigation program as well as other restoration efforts undertaken by basin partners. Since its inception, the Mitigation Program has helped restore and maintain flows in the Deschutes River and its tributaries. By the end of 2019, approximately 84 CFS was protected instream by permanent and temporary mitigation projects in the Deschutes River and its tributaries. Of that 84 CFS, approximately

56 CFS was established through permanent mitigation projects (instream transfers) and the rest were temporary mitigation projects (instream leases) (Figure 12).

To better clarify the permanent mitigation establishment, there is approximately: 38.0 CFS in the mainstem Deschutes River; less than 10.0 CFS in the Little Deschutes River; less than 5.0 CFS in the Whychus Creek; less than 4.0 CFS in the Crooked River; and smaller amounts within the Big March Creek, Crescent Creek, Lake Creek, Pole Creek, Three Creeks and Indian Ford Creek.

While approximately 28.0 CFS is established through temporary mitigation projects, it needs to be noted that temporary mitigation can be an unstable source of mitigation for zones of impact associated with tributaries to the Deschutes River because of the short supply coming from just a few individual leases.

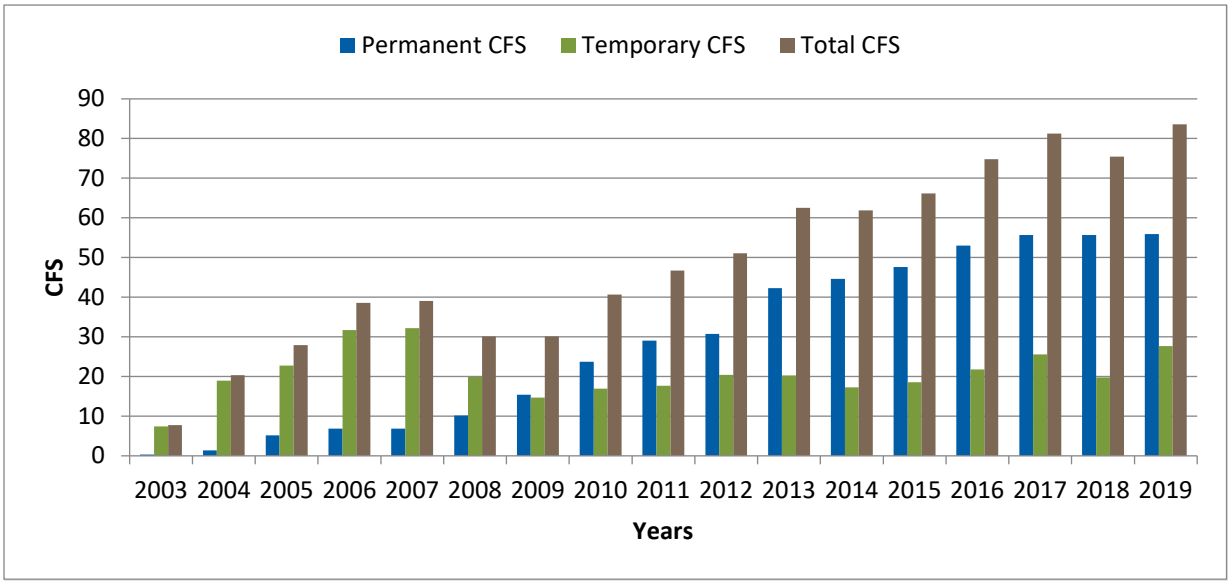

Figure 12: Quantity in CFS of Permanent (Cumulative) and Temporary (Annual) Water Protected Instream Resulting from the Mitigation Program through 2019

The primary source of mitigation has been the conversion of surface water irrigation rights to instream water rights, resulting in water being protected instream during the irrigation season. The beneficial uses of these new instream water rights, in addition to mitigation, are recreation, fish and wildlife habitat, and pollution abatement.

It is important to note that the Mitigation Program is not the only source of additional flows in the Deschutes River and its tributaries. There are many different organizations and agencies that are working to restore streamflows in the Deschutes Basin. A goal for flow restoration of the mainstem Deschutes River is to reach 250 CFS in protected instream flows, which is the amount requested in a protested instream water right application filed in 1996 by the Oregon Department of Fish and Wildlife. Additional flows in the Deschutes River, especially below Bend, have created opportunities for recreation where some activities were not previously possible during the summer months. Recreational activities, such as river floating, are now improved in reaches of the river that did not previously have

sufficient streamflows to support these activities. Recreational fishing has also improved as a result of the additional flows.

State Agency and Stakeholder Comments: While streamflows have improved during the summer months from the conversion of surface water irrigation rights to instream water rights, ODFW has expressed concern about the Mitigation Program's impacts on fish and other aquatic organisms' habitat during the portions of the year outside of the summer months and irrigation season, specifically through reduced streamflows. They have also identified that portions of the DGWSA are also home to the recently Endangered Species Act (ESA) listed Oregon spotted frog. According to ODFW, improvements to winter flows in the Upper Deschutes, below Wickiup Reservoir and on Crescent Creek, a tributary of the Little Deschutes River, are essential to the survival of the Oregon spotted frog and freshwater spring habitats in the upper basin. Instream flows provided under the Mitigation Program generally originate from seasonal uses, such as irrigation, and have instream periods between April 1 and October 31 which match the season of the originating use. ODFW expressed concern that new groundwater uses ultimately have a distributed impact (reduction) on streamflows over the entire year and that mitigation water (instream transfers from irrigation) is only provided during a portion of the year.

DEQ, Deschutes River Conservancy and WaterWatch expressed similar concerns related to when mitigation water is protected instream and when impacts are occurring. Impacts of additional groundwater use, especially for municipal and quasi-municipal uses, are expected to be distributed throughout the year whereas mitigation is mostly provided during the irrigation season.

Water Watch expressed the Department should take steps to ensure that mitigation projects provide water that is of senior enough priority that it will be protected instream in dry years.

Central Oregon Landwatch expressed OWRD should create higher sufficiency standard for the water rights to be used for mitigation. Only allow water right senior enough to be served 90% or better throughout the year as mitigation and allow historic use of the water rights to be a measure of sufficiency for mitigation.

ClydeSnow, LLC suggested incentivizing year-round mitigation projects to bring the mitigation program to the next level and address these issues.

League of Women Voters of Deschutes County suggested the Department work toward a resolution related to the timing and location of mitigation which will be necessary to address the sunset of the program.

OWRD Response: While new groundwater use may take anywhere from a few weeks to several decades to fully affect surface water flows depending on proximity to surface water and hydrogeologic conditions, the impact on surface water flows will eventually be fully realized as a decrease in streamflow over the course of the year (see Potential Timing of Mitigation section below for further details).

From the beginning of the Deschutes Mitigation Program, it was determined that the program should be structured in such a way so that it was a manageable system for OWRD to track and maintain. OWRD considered the goals of the Mitigation Program, the Deschutes Groundwater Mitigation Flow Model, and the base period flows (1996-1995) and created sub-zones and consumptive use coefficients to keep the Deschutes Mitigation Program manageable. Seasonal uses were allowed to generate credits that can

then be purchased to mitigate for year-round uses. Seasonal differences between when mitigation credits increase streamflow and when mitigation debits decrease flow (from pumping impacts to groundwater discharge) would be difficult to address and keep the program simple and manageable. Furthermore, one of the goals of the program was to address chronic low flows resulting from surface water diversions during the irrigation season when water quality problems such as stream temperature are at their worse. The program does this as it is structured. Addressing this seasonal difference (i.e., Spreading out the credits during the winter season to address debits effects during the winter season) would lessen the benefits to chronic low summer flows and associated water quality issues. Finally, most of the mitigation program does not affect the upper reaches below Wickiup reservoir where the spotted frog habitat is located. Additionally, the HCP (100s of cfs) flows dwarf the impacts from the mitigation programs (<10 cfs). For most affected reaches (from debits), flow during the wintertime (and water quality) is not as low as during the irrigation season. OWRD will need to work with ODFW, DEQ and stakeholders to address this challenging issue.

VIII. Potential Timing of Mitigation

As structured, mitigation water/credits (instream transfers and leases) are generally targeted to enhance streamflow and offset new groundwater use during the irrigation season, which is also the time period in which many stream reaches throughout the basin suffer from low flows and water quality issues that are detrimental to aquatic life. For example, streamflow for the Deschutes River below Bend has seen an increase in *median* summer streamflow from historic levels of around 35 CFS (1971-2000) to values of over 130 CFS in recent years resulting from, in part, instream transfers and leases associated with the Mitigation Program. Presently, the summer streamflow below Bend is managed according to instream water rights resulting from the Mitigation Program and flow restoration work by the Deschutes River Conservancy in partnership with the irrigation districts of Central Oregon. In summary, mitigation credits have primarily increased streamflow during the summer.

In contrast, the effects of new groundwater pumping results in decreases in groundwater discharge to streams, generally spread over a longer time period than just the irrigation season. The full impact on surface water may not be realized for several years (Gannett and others, 2001; Gannett and Lite, 2007; Gannett and others, 2017). Given the need to simplify the Mitigation Program and create a structure for management, additional groundwater pumping represented as mitigation debits is assumed to produce a decrease in groundwater discharge to streams and streamflow within the determined zone of impact in a manner that is uniformly distributed over the year. This takes into account the fact that pumping impacts tend to be spread out over a longer period of time.

As a result of the structure, mitigation debits are debited from streamflow uniformly over the course of the year, whereas mitigation credits are added to streamflow during the period in which the water is put instream. This means that seasonally credits and debits may not be equal, but that on an annual basis the program balances the quantity of debits and credits in each mitigation zone. The end result is that the mitigation program has resulted in increases in streamflow during the irrigation season; however, outside of the irrigation season, when streamflows are not augmented by mitigation water, the mitigation program will result in reduced streamflows just as if groundwater permits were issued without a mitigation program.

Stakeholder Comments: As noted in the previous section, several stakeholders have expressed concerns related to the timing of mitigation and impacts of new groundwater use on surface water flows.

OWRD Response: See discussion above and Department response in the prior section. OWRD will need to work with ODFW, DEQ, CTWS and stakeholders to address this challenging issue in the future.

IX. Identification of Zones of Impact

Part of mitigating for a proposed groundwater permit necessitates determining where the mitigation must be provided in order to protect scenic waterway flows and senior water rights downstream of the proposed point(s) of appropriation (i.e., well locations). The Mitigation Program rules (OAR Chapter 690, Division 505) divide the required location of mitigation into two areas – (1) in a general zone of impact, and (2) in a local zone of impact. Mitigation under the Mitigation Program is water that is legally protected instream and benefits the zone of impact in which a groundwater permit applicant is required to provide mitigation.

Groundwater users with permits issued under the mitigation program are required to provide mitigation within the appropriate zone of impact in the DGWSA identified by OWRD.

Below is a description of the zones of impact and the way that OWRD determines which zone(s) of impact will be affected by the proposed new use of groundwater.

A. General Zone of Impact

For mitigation in the General Zone of Impact (see Figure 13), the concept is that proposed wells in the general zone are developing water in the "regional aquifer" and their groundwater pumping impacts are on the regional groundwater discharge area near the confluences of the Deschutes, Crooked and Metolius Rivers. Within this confluence area, groundwater discharges to surface water mostly through large, discrete spring complexes.

Groundwater applicants identified by OWRD as needing to provide mitigation in the General Zone are required to provide mitigation that benefits streamflows in the lower reaches and confluence area of the Deschutes, Metolius, and Crooked Rivers. Instream flows for mitigation must originate upstream from the Madras Gage, located approximately at River Mile 100.1 on the mainstem Deschutes River. The Madras Gage is located at the lower end of the spring system discharging into the mainstem

Deschutes River. By providing mitigation upstream from this point, mitigation is targeted to offset any reduction in spring discharge from groundwater pumping.

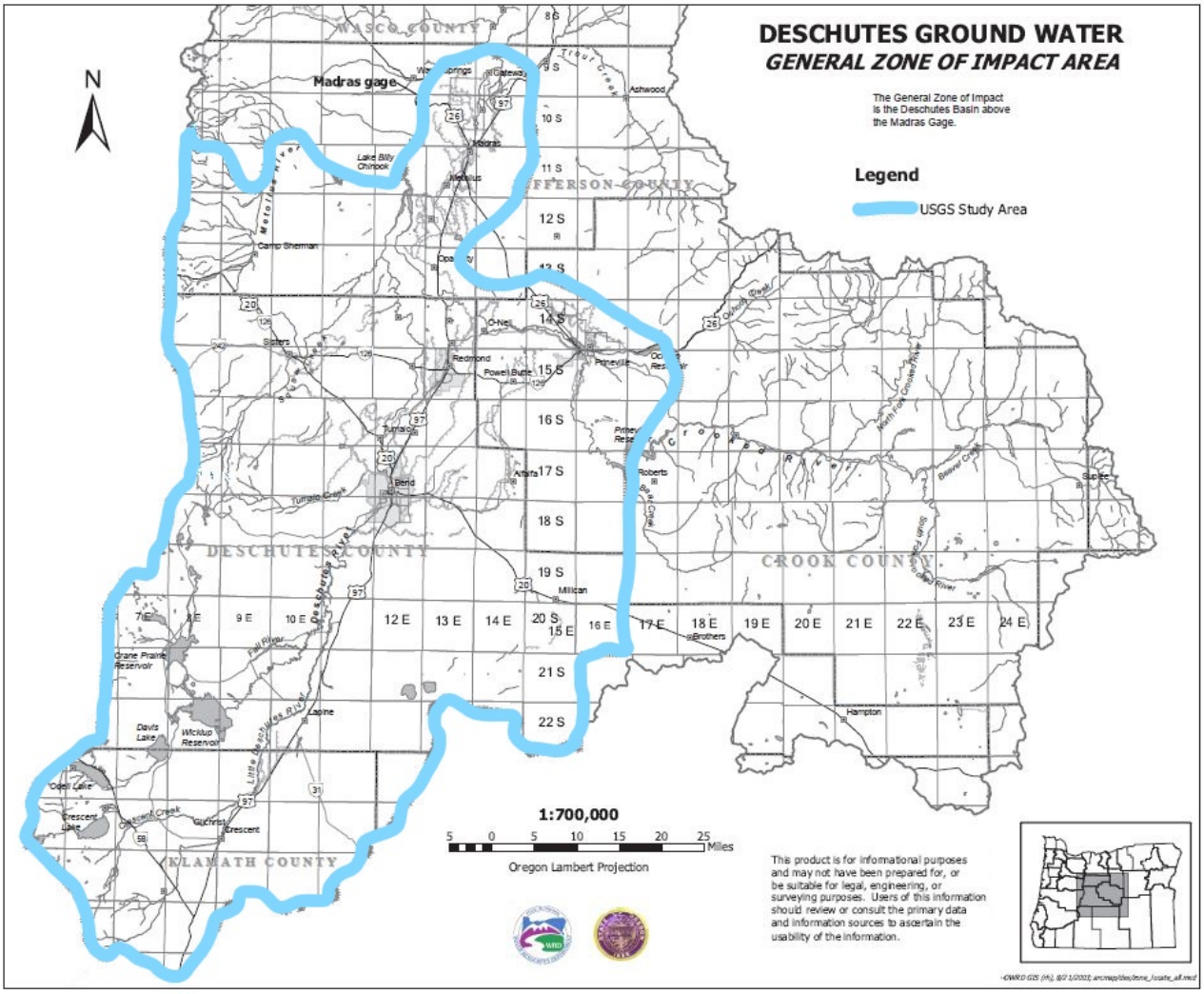

Figure 13: General Zone of Impact Map

B. Local Zones of Impact

For proposed wells determined by OWRD to have a localized impact on surface water, mitigation must be provided in a local zone of impact. The local zones of impact were identified and developed by OWRD as part of implementation of the Mitigation Program beginning in 2002. The goal in developing the local zones of impact was to target mitigation in the sub-basin and above (upstream of) stream reaches where impacts on streamflows by groundwater pumping would occur and where instream flows were not being met. Instream flows considered in the development of the zones of impact were flows established by State Scenic Waterway designation, instream water right applications filed by a state agency, including ODFW, and/or conversion of minimum perennial streamflows to instream water rights.

In development of the local zones of impact, consideration was given to:

- Locations where instream flows (instream water rights and/or scenic waterway flows) were not being met;
- Sub-basin boundaries as identified by surface water divides;
- General groundwater flow information and specific identification of where stream reaches receive large amounts of groundwater discharge.

The lower boundary (the point above which mitigation would need to be provided) for each zone of impact was identified by either of two means:

1. The lower boundary of the zone being below the lowest groundwater discharge area, or
2. The lower boundary of the zone being a point within a groundwater discharge area where instream flows are not met upstream from that point.

The local zones of impact identified by OWRD included Whychus Creek, Crooked River, Little Deschutes River, and the Metolius River sub-basin areas. The local zones also include the stretches of the Deschutes River above River Mile 125 (referred to as the Middle Deschutes) and above River Mile 185 (referred to as the Upper Deschutes).

A discussion of each local zone of impact is included below.

Middle Deschutes: The Middle Deschutes Zone of Impact (Figure 14) encompasses the area of the Deschutes River and tributaries above River Mile 125, two miles upstream of the Whychus Creek confluence. Groundwater permit applications found to have an impact on surface water flows in this zone must provide mitigation that benefits instream flows within the Deschutes River and have instream reaches beginning upstream of River Mile 125.

Instream flows in this section of the Deschutes River are established by State Scenic Waterway designation and an instream water right application (IS-70695) filed by the Oregon Department of Fish and Wildlife (ODFW). Scenic Waterway instream flows range from 250 CFS to 500 CFS. Proposed instream flows associated with instream water right application IS-70695 are 250 CFS.

From approximately River Mile 138 downstream to River Mile 125, the river can gain over 170 CFS from groundwater discharge. Downstream from River Mile 125, instream flows, scenic waterway and instream water right applications are generally met. In contrast, instream flows are generally not met between River Mile 125 and River Mile 138. River mile 125 was selected as the lower boundary of this zone to target mitigation into this stretch of the Deschutes River, as a result mitigation projects are required to establish instream flows within a reach of the Deschutes River that is vulnerable to groundwater interference and where proposed instream flows are not satisfied. Mitigation projects (instream transfers and instream leases) developed in the Middle Deschutes Zone have resulted in instream flows that are protected in the Deschutes River in reaches that extend through River Mile 125 and downstream to Lake Billy Chinook (at approximately River Mile 120).

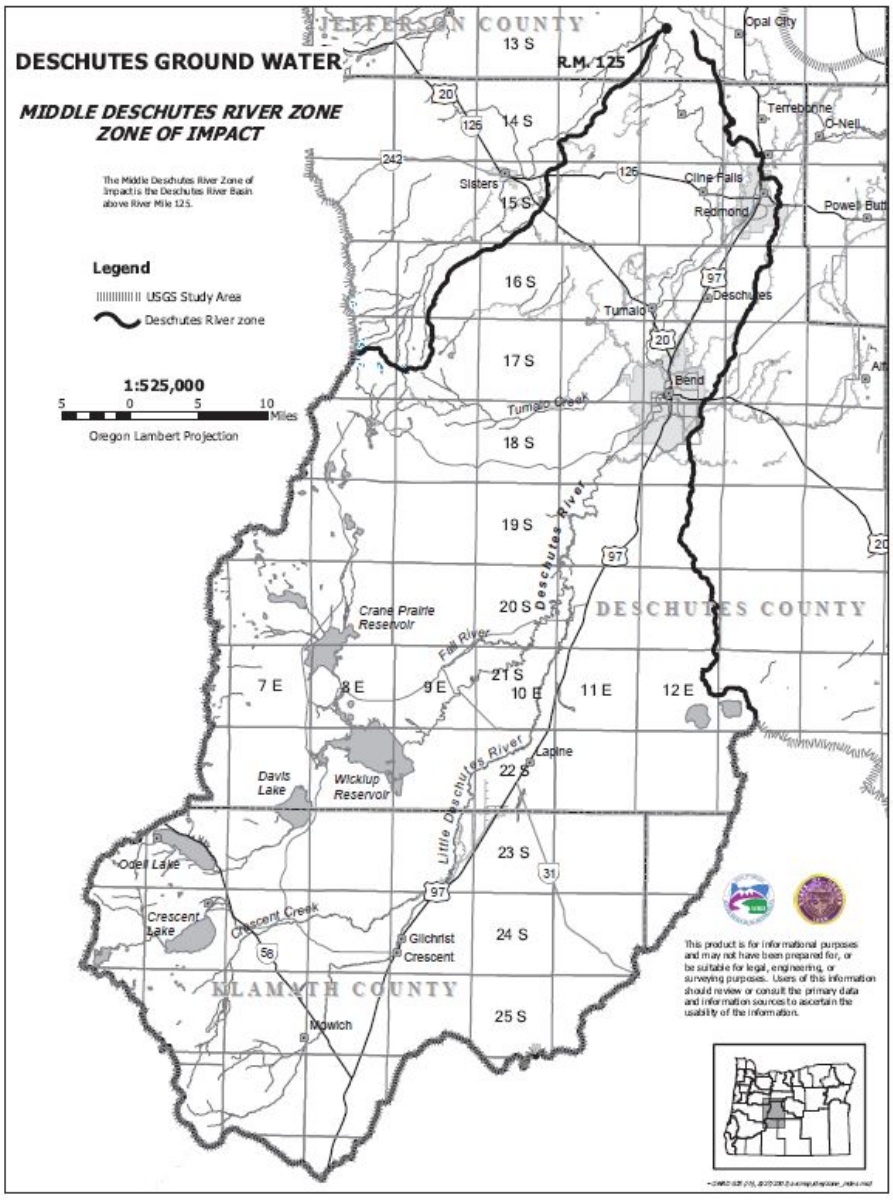

Figure 14: Middle Deschutes Zone of Impact Map

Whychus Creek: The Whychus Creek Zone of Impact (Figure 15) encompasses the area of the Whychus Creek sub-basin above River Mile 16 on Whychus Creek near Hinkle Butte. Groundwater permit applications found to have an impact on surface water flows in this zone must provide mitigation that benefits instream flows in Whychus Creek beginning upstream from River Mile 16. River Mile 16 is just downstream of a set of springs on the east side of McKinney Butte and is downstream of where the groundwater level become significantly deeper than surface water elevations of Whychus Creek, implying surface water is disconnected from groundwater downstream of this point.

Instream flows in this section of Whychus Creek were established under an instream water right application (IS-70753) filed by ODFW and authorized under Instream Certificate 73223. Instream flows range from 33 CFS to 50 CFS.

Instream flows upstream from River Mile 16 that continue downstream to the Alder Springs area are generally not met. However, groundwater use in this zone does not likely interfere with surface water flows in Whychus Creek between River Mile 16 and Alder Springs (River Mile 1.5) because groundwater levels are generally below surface water elevations. Groundwater use outside of this zone can impact flows in the groundwater discharge area at Alder Springs but flows in Whychus Creek in that area are sufficient to meet instream needs.

By using River Mile 16 as the lower boundary of the Whychus Creek Zone of Impact, new instream flows established by a mitigation project may be targeted to begin in or upstream of a section of Whychus Creek that is vulnerable to groundwater interference and where instream flow requirements are not being met. Mitigation projects (instream leases and instream transfers) that have been used to establish mitigation in the Whychus Creek Zone of Impact result in instream flows that begin upstream from River Mile 16 and, at a minimum, extend to the mouth of Whychus Creek, which includes the Alder Springs area.

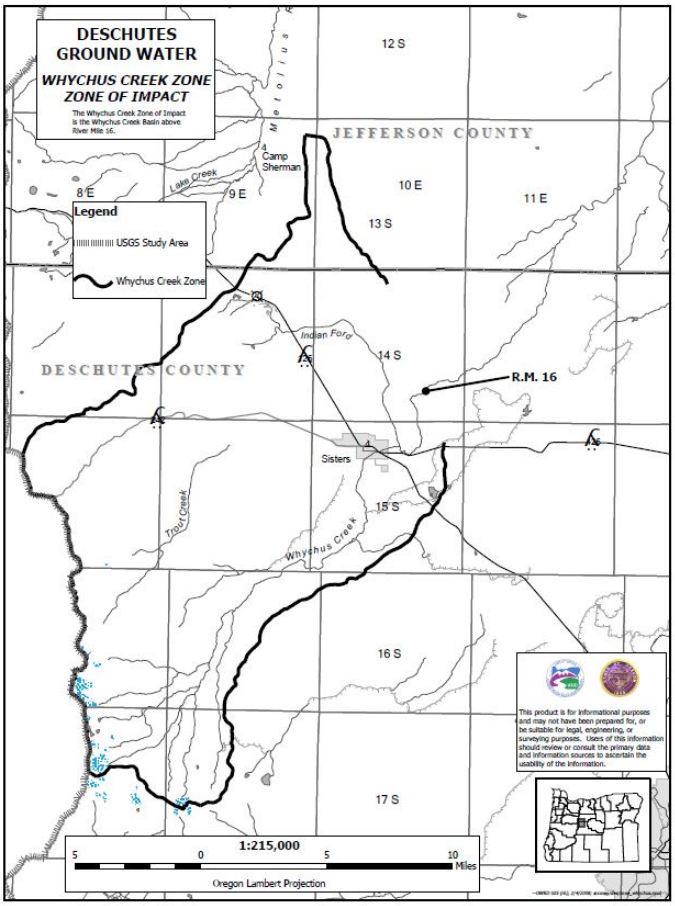

Figure 15: Whychus Creek Zone of Impact Map

Crooked River: The Crooked River Zone of Impact (Figure 16) encompasses the Crooked River sub-basin above River Mile 13.8 at Osborne Canyon on the Crooked River. Groundwater permit applicants found to have an impact on surface water flows in the Crooked River must provide mitigation that benefits instream flows in the Crooked River with instream reaches beginning upstream of River Mile 13.8.

The Crooked River from approximately River Mile 21 to the mouth (River Mile 0) is strongly influenced by regional groundwater discharge to surface water flows. In the stretch of the river between River Mile 6.7 (Opal Springs) and River Mile 13.8 (Osborne Canyon), the river can gain as much as 1000 CFS. There is a protested instream water right on the Lower Crooked River from Bowman Dam at River Mile 71 to the Crooked River arm of Lake Billy Chinook at River Mile 6. The protested instream flows under this application (IS-70354) filed by ODFW range from 75 CFS to 255 CFS. These protested instream flows are generally not met upstream of River Mile 13.8 but are generally met downstream of that point.

By using River Mile 13.8 as the lower boundary of the Crooked River Zone of Impact, mitigation projects are required to establish instream flows within a reach of the Crooked River that is vulnerable to groundwater interference and where protested instream flows are not satisfied. Mitigation projects (instream transfers and instream leases) developed in the Crooked River Zone have resulted in instream flows that are protected in the Crooked River in reaches that extend through River Mile 13.8 and downstream into the Crooked River arm of Lake Billy Chinook (at approximately River Mile 6).

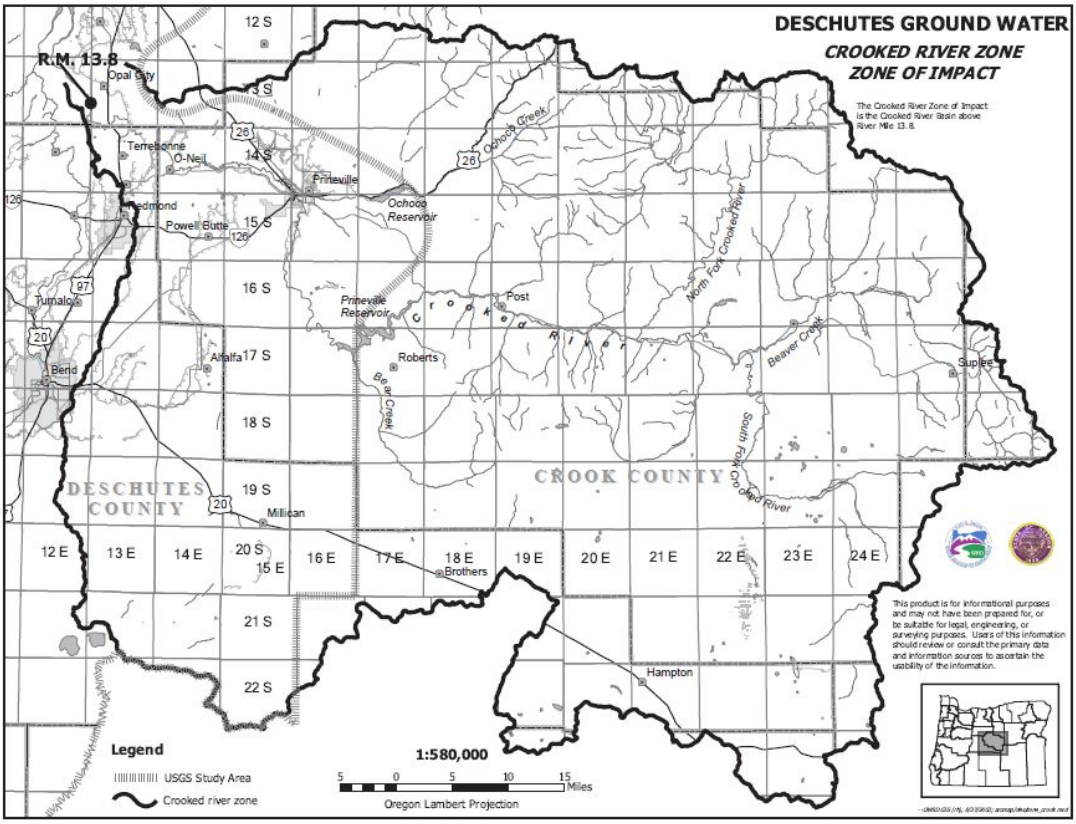

Figure 16: Crooked River Zone of Impact Map

Little Deschutes River: The Little Deschutes River Zone of Impact (Figure 17) encompasses the Little Deschutes River sub-basin above the mouth of the Little Deschutes River. Groundwater permit applicants found to impact surface water flows in this zone must provide mitigation that benefits instream flows in the Little Deschutes River beginning upstream from the mouth of the river.

The mainstem of the Little Deschutes River and several of its tributaries in the upper reaches are vulnerable to interference by groundwater use. The groundwater discharge reach on the Little Deschutes River extends from the confluence with Crescent Creek at approximately River Mile 54 downstream to the mouth of the Little Deschutes River.

In this section of the Little Deschutes River, instream flows are established by an instream water right application (IS-70757) filed by ODFW and authorized under Instream Certificate 73226. Instream flows under Certificate 73226 range from 74.5 CFS to 240 CFS. These instream flows are not met in the Little Deschutes River within the groundwater discharge area extending down to the mouth of the Little Deschutes River.

By using the mouth of the Little Deschutes River as the lower boundary of the Little Deschutes Zone of Impact, mitigation projects are required to establish instream flows within or above a reach of the Little Deschutes River that is vulnerable to groundwater interference and where instream flows are not being met. Mitigation projects (instream transfers and instream leases) developed in the Little Deschutes Zone have resulted in instream flows that begin within or upstream of the groundwater discharge area on the Little Deschutes River and extend at least to the mouth of the Little Deschutes River.

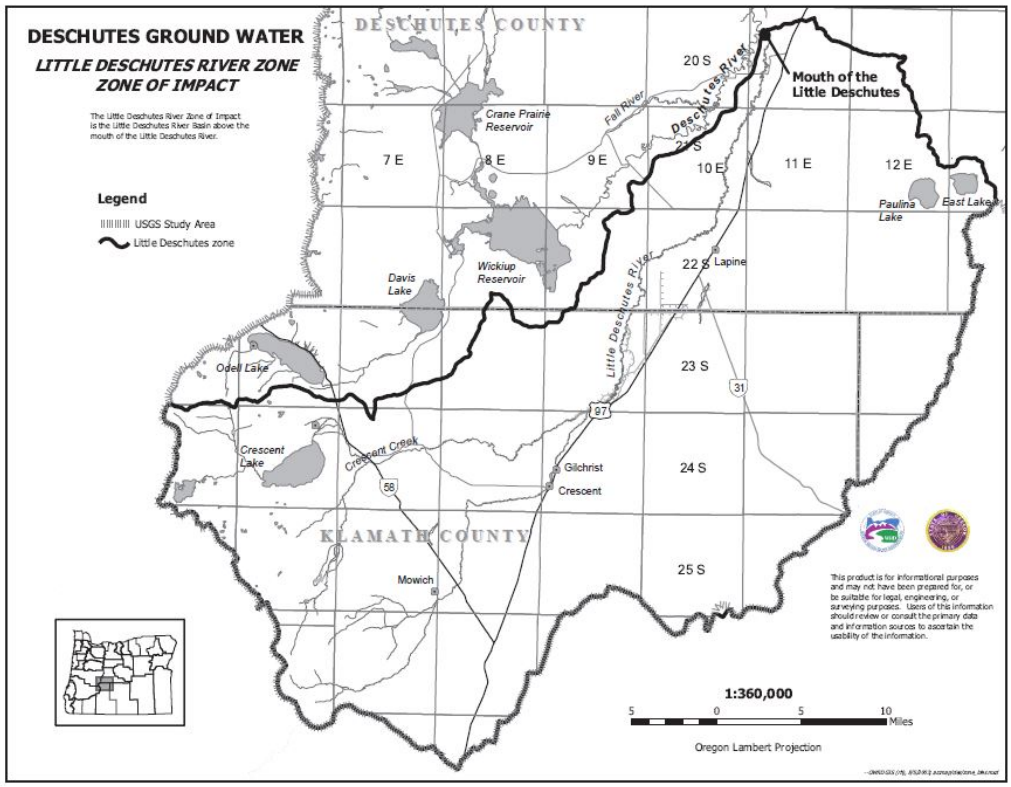

Figure 17: Little Deschutes River Zone of Impact Map

Upper Deschutes: The Upper Deschutes Zone of Impact (Figure 18) encompasses the Deschutes River sub-basin above River Mile 185. Groundwater permit applicants found to impact surface water flows in this section of the Deschutes River must provide mitigation that benefits flows with instream reaches beginning upstream from River Mile 185.

River Mile 185 is located on the mainstem Deschutes River a few miles downstream from its confluence with Spring River near Sunriver. Flows in a significant portion of the Deschutes River above River Mile 185 are influenced by groundwater discharge and thus vulnerable to interference by new groundwater use. River Mile 185 marks the approximate location where groundwater no longer appears to provide significant contributions to surface water flows.

Instream flows upstream from River Mile 185 are established by scenic waterway designation and conversions of minimum perennial streamflows to instream use. Scenic waterway instream flows range from 400 CFS to 500 CFS. Instream flows based upon minimum perennial streamflows range from 300 CFS (upstream from the confluence with the Little Deschutes River) to 400 CFS (downstream, between the confluence with the Little Deschutes River and the confluence with Spring River). These instream flows are not met in the Deschutes River upstream of River Mile 185. Nor are they met downstream from this point. However, as discussed above, the Deschutes River downstream from River Mile 185 is not significantly influenced by groundwater discharge and groundwater use will not likely affect flows in the Deschutes River downstream from River Mile 185 until the area of groundwater discharge in the Middle Deschutes Zone of Impact.

By using River Mile 185 as the lower boundary of the Upper Deschutes Zone of Impact, new instream flows established under a mitigation project may be targeted into a reach of the Deschutes River that is both vulnerable to groundwater use and where instream flows are not being met.

Mitigation projects for this zone have originated in the Little Deschutes Zone of Impact. The mouth of the Little Deschutes is located a few miles upstream from River Mile 185 on the mainstem Deschutes River. Mitigation projects (instream leases and instream transfers) with instream flows protected in instream reaches that extend past the mouth of the Little Deschutes and into the mainstem Deschutes River protect instream flows on the mainstem Deschutes in the Upper Deschutes Zone of Impact, downstream past River Mile 185 and down to Lake Billy Chinook at approximately River Mile 120.

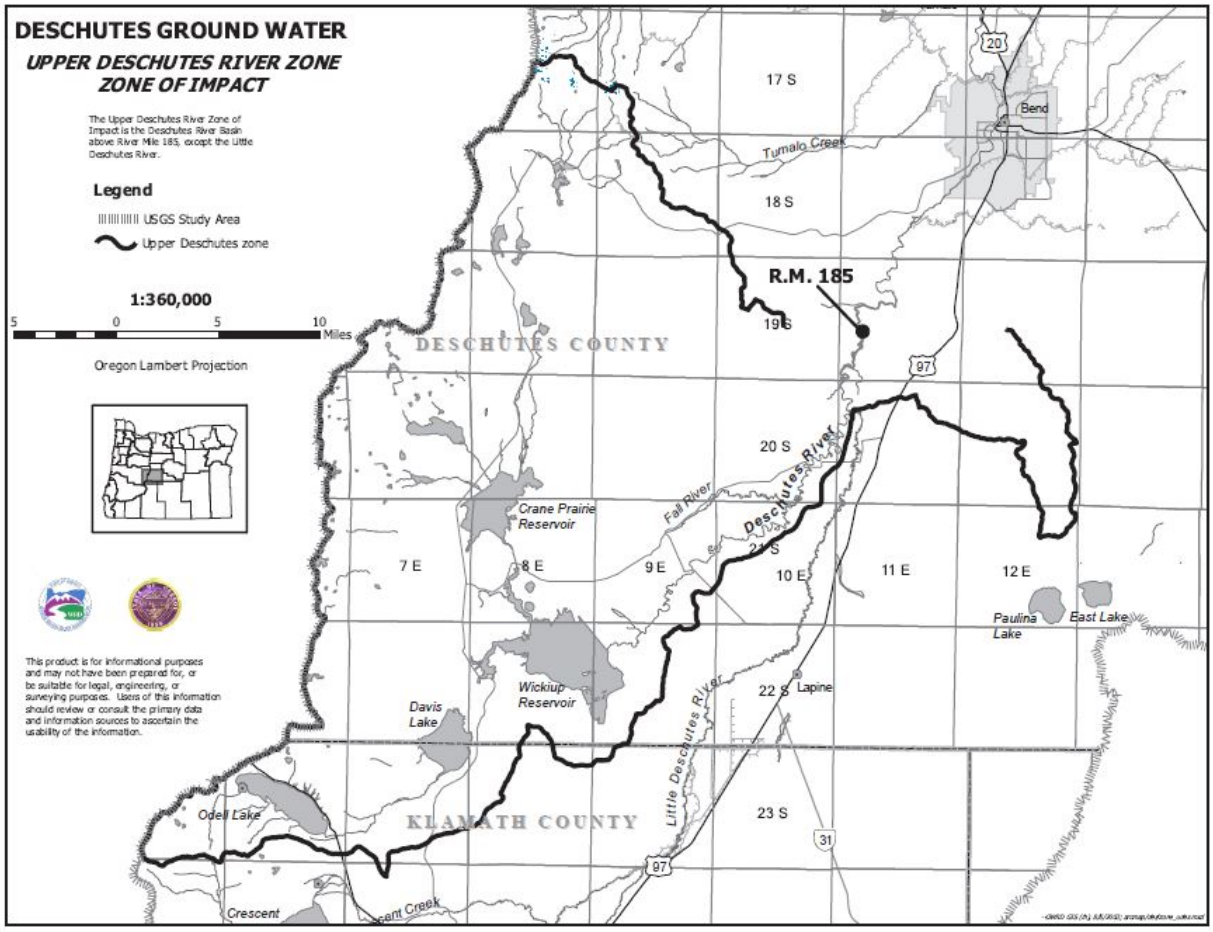

Figure 18: Upper Deschutes River Zone of Impact Map

Metolius River: The Metolius River Zone of Impact (Figure 19) encompasses the Metolius River sub-basin upstream from River Mile 28 on the Metolius River. Groundwater permit applicants needing to provide mitigation within this zone are required to provide mitigation that originates upstream from River Mile 28 to target mitigation into the reach of the Metolius River that is affected by groundwater use.

River Mile 28 is located at the confluence between the Metolius River and Jefferson Creek. This is the lowest point in the Metolius River sub-basin where there is significant groundwater discharge to surface water flows. Upstream from River Mile 28, streamflows in the Metolius River and many of its tributaries are heavily influenced by groundwater discharge and are vulnerable to interference by groundwater use. Downstream from River Mile 28, streamflows do not appear to be vulnerable to interference by groundwater use.

The Metolius River is a designated State Scenic Waterway with instream flows ranging from 250 CFS to 350 CFS. The Metolius River and several of its tributaries also have instream water rights. Instream flows, including scenic waterway flows, are met in the Metolius River sub-basin.

One mitigation project has been established in this zone of impact for the one permit that has been approved within this zone of impact. The mitigation project originated in the Metolius River zone of

impact. The instream reach protects flows in the South Fork of Lake Creek within the Metolius River Zone of Impact. The mitigation project concluded that the closest likely downgradient groundwater discharge area is the lower reaches of Lake Creek and tributary springs to the Metolius River.

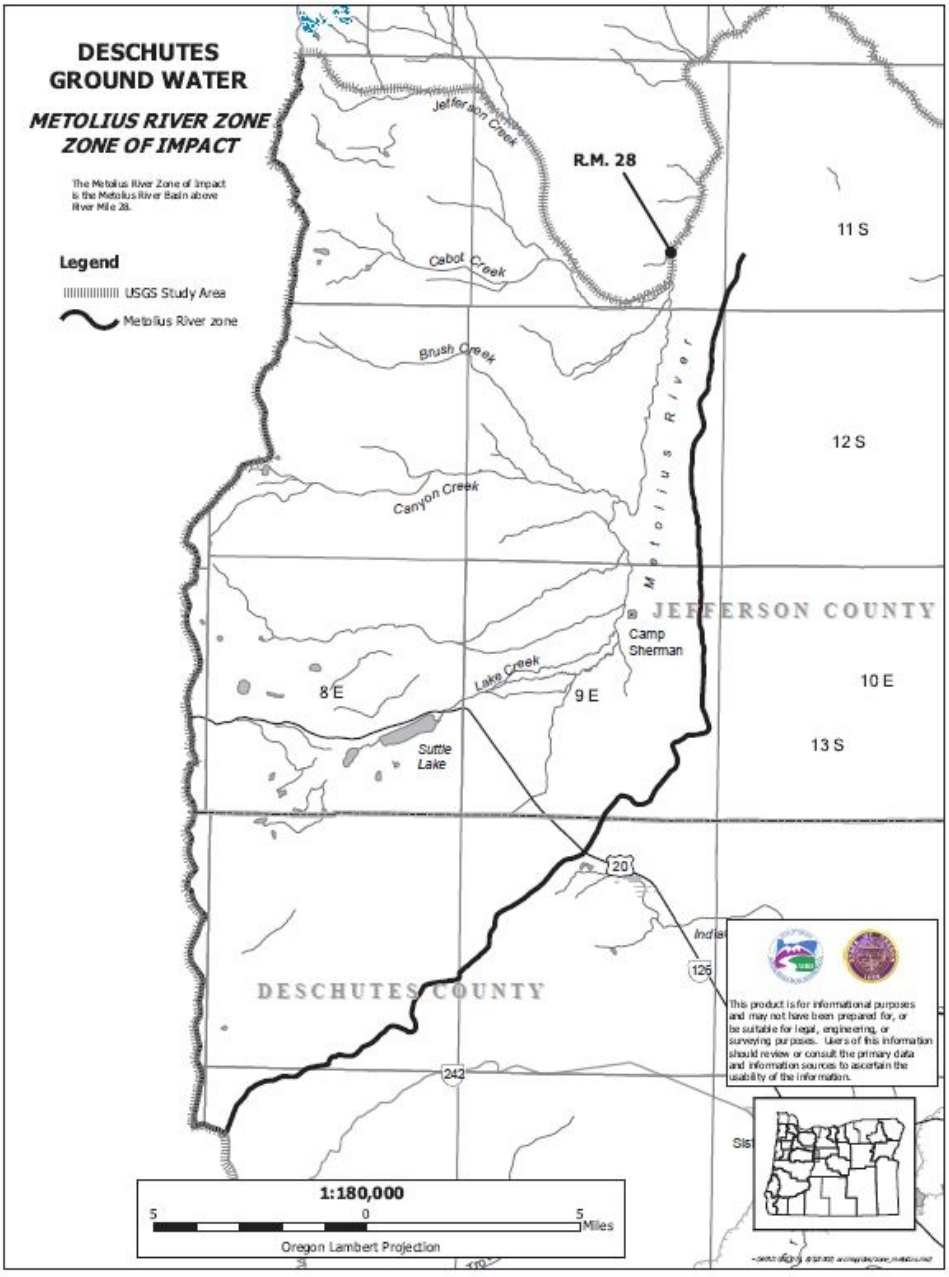

Figure 19: Metolius River Zone of Impact Map

C. Zone of Impact Identification for Groundwater Permit Applications

Stakeholder Comments: ODFW, DEQ, WaterWatch, and an individual commenter (Nunzie Gould) have all commented on the process in which OWRD identifies the zone of impact for the mitigation program. WaterWatch suggests that OWRD only requires mitigation in the "primary" zone of impact which raises significate resource concerns and suggests that mitigation should be provided in all impacted zones.

ODFW stated that allowing mitigation for groundwater impacts to occur away from the point of impact but within a larger "zone of impact" results in localized impacts to stream and the fish and wildlife they support; particularly for the general zone of impact. ODFW stated that mitigation under the program should directly offset the impact by being located upstream of the impacted reach consistent with the program goals to provide for new groundwater uses while maintaining scenic waterway and instream water right flows in the basin.

DEQ states that streamflows in the upper portions of the basin are more susceptible to diminishment under the program. They purport that groundwater flow paths are shorter, which means that the impacts of increased groundwater withdrawals on streamflow are likely to show up sooner. DEQ also noted that mitigation credits may come from anywhere within the zone of mitigation, which means the mitigation credits near the mouth can be used to offset a withdrawal near the headwaters and recommends that mitigation projects be sited upgradient from the groundwater withdrawals. They suggest groundwater withdrawals with direct, local impacts to streams, as determined by OWRD groundwater section, should be mitigated by projects upstream of the diminished reach.

Nunzie Gould commented that it is important that the zone of impact should be used for place of mitigation, not the zone of withdrawal and not a general zone of impact.

Department Response: From the beginning of the Mitigation Program, it was determined that the program must be structured in such a way so that it was a manageable system for OWRD to track and maintain over time. Part of that structure was the identification of different zones of impact within the basin discussed in more detail above and below.

OWRD identifies a single zone of impact for each groundwater permit application. This is based upon the understanding that the intent under the rules was to have 100% of the mitigation in the general (regional) zone of impact or 100% in a localized zone of impact.

When OWRD was initially implementing the Mitigation Program, considerable thought was given to using the best information available without making the review process overly complex. Using a conceptual approach, OWRD reviews a proposed groundwater permit based on the well's proximity to groundwater discharge areas, its construction, hydraulic properties of the target aquifer, and general groundwater flow direction to determine whether the proposed use will have a localized impact to surface water. If the well will have a localized impact on surface water, OWRD finds that 100% of the mitigation must occur in the local zone of impact. Put another way, if OWRD determines that a proposed well will have a localized impact, OWRD does not further analyze the point of appropriation to determine whether the proposed appropriation will also affect the aquifer in the general zone of

impact. This approach allows for the use of locally applicable data and sound hydrologic principles. This methodology has been used since the implementation of the Mitigation Program.

In general, when a well is pumped, the effects of groundwater pumping, being removal of water from the aquifer, and lowering of the water level around the well, spreads in all directions forming a cone of depression (see Figure 20). The effect spreads out radially from the well, with the magnitude and geometry varying according to the local geology of the groundwater system. The cone of depression continues to grow until sufficient groundwater flow is intercepted to supply the pumping. Once the cone of depression stabilizes, the discharge of groundwater from the well must be offset by diminished discharge of groundwater to springs, streams, and wetlands elsewhere, or by increased flow to the aquifer system from other boundaries.

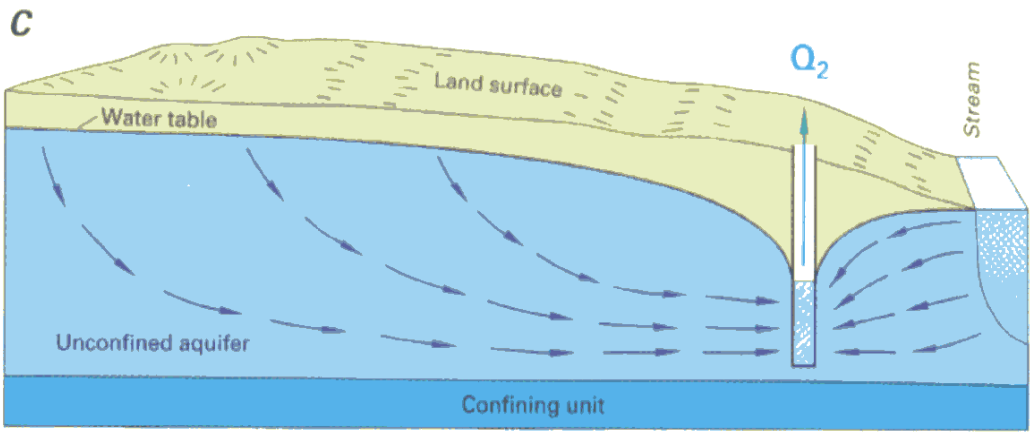

Figure 20: Cone of Depression

OWRD does not quantify and compare impacts to one zone or another in its zone of impact determination when it assesses new groundwater applications in the DGWSA and does not use the Deschutes groundwater flow model when it assesses applications. Instead, OWRD relies on the conceptual approach initially described in this section and has consistently used this approach since implementation of the Mitigation Program.

Single Zone of Impact: Using the conceptual approach, as described above, OWRD identifies a single zone of impact for each groundwater permit application.

The goal of identifying a local zone of impact is to target mitigation in and upstream of areas impacted by groundwater use. Mitigation for each local zone of impact is targeted to be either 1) Upstream from the bottom of the lowest established groundwater discharge area in the zone, or 2) Upstream from the point where instream requirements are not met within the lowest established groundwater discharge area. OWRD is then able to require mitigation that originates upstream of affected areas that are vulnerable to impacts by groundwater use and where additional streamflows are needed.

The Department is working towards a more complete understanding of how the mitigation program has been implemented and whether changes to the program are necessary to improve protection of local water resources, or it those protections are outside the scope of the mitigation program.

D. Zone of Impact Identification for Mitigation Projects

Mitigation for groundwater permit applications is provided by mitigation projects. A mitigation project is a completed project that results in mitigation water. Mitigation water is water that can be legally protected instream. One acre-foot of mitigation water is equal to one mitigation credit.

Groundwater permit applicants may either complete their own mitigation project or obtain mitigation credits from an individual or entity, known as a mitigation credit holder, who has already completed a mitigation project. The mitigation water/credits must be located in the same zone of impact as that impacted by the groundwater permit application. When OWRD evaluates a mitigation project, it will identify the zone of impact in which any mitigation water generated by the project may be used.

Mitigation projects establish mitigation water within at least one zone of impact and may establish mitigation in more than one zone. For mitigation projects that establish mitigation in more than one zone of impact, the instream reach extends through more than one zone of impact. For example, a mitigation project that results in protected flows with an instream reach beginning in the Little Deschutes River and extending into the mainstem Deschutes River downstream to Lake Billy Chinook, would protect flows in the Little Deschutes Zone, the Upper Deschutes Zone, the Middle Deschutes Zone and into the General Zone of Impact.

When determining the appropriate zone of impact for use of mitigation water from a mitigation project, OWRD considers:

- The reach in which or point at which water may be protected instream; and
- Whether the project would provide a benefit to streamflow within the DGWSA and into the zone or zones of impact. For example, a project to establish mitigation in the Crooked River Zone of Impact that is located above Prineville Reservoir, on the Crooked River, outside of the DGWSA would have to demonstrate how water could be protected through the reservoir and down into the reach on the Crooked River affected by groundwater use.

Mitigation Projects are reviewed by OWRD under the Mitigation Program Rules (Division 505 and Division 521) and they must also be reviewed under their originating process rules, currently being OAR Chapter 690, Division 77 for establishment of Instream Water Rights. By rule, an instream water right (established by instream transfer, instream lease, and allocation of conserved water) may be protected within a reach from a point on the source stream (generally, the original point of diversion) to the mouth of the source stream. Water may be protected past the mouth of the source stream only if the quantity to be protected instream is a measurable portion of the receiving stream (OAR 690-077-0015(8)).

Many mitigation projects originating on tributaries to the Deschutes River are not measurable portions of the receiving stream, primarily the Deschutes River, and are only protected to the mouth of their source stream. As instream quantities have increased (combination of restoration and mitigation flows),

newer mitigation projects may be protected past the mouth of the source stream. For example, additional instream water rights established on Whychus Creek are now measurable and protectable into the mainstem Deschutes River. However, projects originating in the Crooked River are not yet measurable into the mainstem Deschutes River.

Instream uses from Mitigation Projects that are protected instream in the mainstem Deschutes River generally terminate at Lake Billy Chinook. In the Lake Billy Chinook area, there is a large area of groundwater discharge to surface water flows. A portion of surface water diverted for out of stream uses upstream from Lake Billy Chinook seeps into the groundwater system and returns to the surface water system as subsurface return flows.

Under Division 77, OWRD is required to consider return flows as part of the establishment of the instream use to prevent injury to other water rights. If return flows are identified, OWRD is required to account for those return flows at an instream point downstream from the original diversion point or at the point of diversion itself, if the return flows don't occur at a definite point (See OAR 690-077-0075(2)(b)(B) and (2)(c)(A)).

In general, subsurface return flows from uses occurring upstream from Lake Billy Chinook return to the Deschutes River at or above the Madras Gage and become surface water flows that are then available to downstream water rights. The Madras gage is located at approximately River Mile 100.1 and at the bottom of the regional groundwater discharge area (spring system). The amount of water that may be protected instream downstream from the Madras Gage is generally the consumptive portion of the originating use. It is this consumptive portion that is also being used as mitigation of groundwater uses under the Mitigation Program. To date, mitigation has been the conversion of an existing consumptive surface water use to instream use in favor of a new consumptive groundwater use.

Given that instream flows in the Lower Deschutes River would be limited to the consumptive portion of the originating water right and that water is being used as mitigation, there would be no added benefit to instream flows in the lower Deschutes River resulting from mitigation. In addition, utilization of these flows for both mitigation and instream use could be considered as enlargement by expanding the original use from one to two uses occurring at the same time with the same water. By administrative rule, OWRD is not allowed to authorize a change to a water right through its instream transfer and instream lease processes that would result in enlargement (OAR 690-380-4010, OAR 690-077-0075 and OAR 690-077-0077).

The Deschutes Groundwater Mitigation Program administrative rules in OAR Chapter 690, Division 505 and Division 521 were affirmed under House Bill 3494 (Oregon Laws 2005, Chapter 669) as satisfying the requirements related to mitigation under the Scenic Waterway Act, the Instream Water Right Act (ORS 537.332 to 537.360) and Groundwater statutes (ORS 537.505 to 537.795). The zone of impact under current definitions in Division 505 is defined as:

> "General Zone of Impact" means anywhere above the Madras Gage on the Lower Deschutes River or, for wells determined by the Department to have a localized impact on surface water, anywhere within the impacted subbasin of the Deschutes River including the Metolius, Squaw Creek (*now known as Whychus Creek*), Little Deschutes, and Crooked River subbasins as identified by the Department. OAR 690-505-0605(5).

Mitigation then must be provided within the general zone of impact identified by OWRD (OAR 690-505-0610(4)).

OWRD's implementation of the zone of impact and mitigation requirements appear to be consistent with current administrative rules authorized by Oregon Laws 2005, Chapter 669 and Oregon Laws 2011, Chapter 694. Mitigation is being provided within the zone of impact identified by OWRD for each groundwater permit/certificate issued consistent with the Mitigation Program rules. As noted, instream leases and instream transfers have been the primary source of mitigation projects under the Mitigation Program. In its review of mitigation projects, OWRD must also review those projects under their authorizing statutes and rules, and any limitations contained therein. For instream leases and instream transfers, applications are processed and reviewed under ORS 537.348 and OAR Chapter 690, Division 77.

X. Review of Impacts on the Headwaters of the Metolius River and Other Key Reaches of the Metolius River System

OWRD has been actively engaged in programs to measure and evaluate impacts to the Metolius River. Instrumentation and monitoring streamflow and groundwater levels are paramount to understanding variations in the natural system. Complex interactions between groundwater pumping and impacts on surface water resources are best understood using numerical techniques that also account for natural climate variability.

In October 2007, OWRD staff re-established a stream gaging station just downstream of Camp Sherman near the Allingham Campground to generate a continuous streamflow record. In addition, OWRD staff have conducted seepage measurements and identified key reaches of groundwater inflow to the mainstem Metolius River. OWRD is also conducting quarterly streamflow measurements near the headwater springs to assess streamflow variations over time in that area.

OWRD staff continue to monitor groundwater levels at a well near Allingham and are working with landowners to secure permission to install and instrument dedicated observation wells to assess long-term groundwater level changes in the Metolius area.

Stakeholder Comments: Stakeholders raised concern with regard to other spring systems in the DGWSA. ODFW suggested that OWRD implement a program to monitor key spring complexes to determine ecological impacts to springs resulting from groundwater pumping.

Department Response: ODFW, DEQ, and OWRD have discussed cooperatively combining efforts to obtain funding for a study aimed at identifying impacts to the springs within the DGWSA, and to understand whether any impacts are the direct result of the mitigation program.

XI. Potential Timing of Federal, State and Local Storage Improvements

There are several existing storage projects in the Deschutes Basin. As of the writing of this report, there have been no new federal, state, or local storage developments that include the mitigation program. However, the United States (U.S.) Congress recently passed legislation to change how water stored in

the existing Prineville Reservoir may be allocated. Prineville Reservoir is authorized under Water Right Certificate 57612 to store up to 155,000 Acre-Feet (AF) for irrigation purposes from the Crooked River, a tributary of the Deschutes River. This reservoir is owned and operated by the U.S. Department of Interior, Bureau of Reclamation. In December of 2014, the U.S. Congress passed the Crooked River Collaborative Water Security and Jobs Act of 2014, which became public law on December 18, 2014. Under this Act, up to 5,100 AF of water stored in Prineville Reservoir may be used to establish mitigation for groundwater use by the City of Prineville consistent with Oregon Law. The Act also identified that a portion of the water stored in Prineville Reservoir may be used for instream flow enhancement. Stakeholders have been managing releases consistent with the federal legislation including the 5,100 AF of mitigation water for the City of Prineville. Mitigation Project MP-222 (Water Right Application S-88402) incorporated these changes to the storage right and a new water right certificate 94149 was issued to reflect the new uses.

XII. Identification of Regulatory and Statutory Changes that may Improve the Program in Order to Address and Mitigate Injury to Existing Water Rights and Spring Systems and to Offset Measurable Reductions of Scenic Waterway Flows

A. Impacts to Local Springs

Stakeholder Comments: Several comments were submitted about the impact to the local springs with the current and future of groundwater pumping.

WaterWatch commented that the program does not include protections for water quality and/or spring flows. As groundwater pumping, the programs impact on cold water springs is of increased concern.

ODFW, DEQ, League of Women Voters of Deschutes County, and multiple individual commenters (Nunzie Gould, George Wuerthner, Jim Powell, Yancy Lind) expressed concerns with the localized impacts of groundwater pumping on local springs, water quality of replacing cold groundwater with warm polluted irrigation water, and not knowing how much recharge is occurring and if it may be polluted.

ODFW commented that springs provide very important cold water inputs and over time continued and increased groundwater withdrawal for agricultural, residential, and municipal needs will further affect springs. Furthermore, impacts to springs from current and future groundwater withdrawals are exacerbated by the increasing trend to convert area irrigation canals to piped delivery systems. While this is positive in generating conserved water for instream flow, it also eliminates seepage which recharges the aquifer and contributes to spring discharge of cold water. The result is an exchange of cold spring water for warmer water upstream. Any future shift for conserved water projects that return flow to the upper Deschutes to benefit the spotted frog during the winter months will add further stress on the middle Deschutes and lower Crooked River in the valuable spring recharge areas. Cold water

refugia could likely become critical to long-term persistence of many fish species and should be considered in water management decisions and when assessing effectiveness of the program.

OWRD Response: OWRD has been working with ODFW and DEQ over the past couple years to discuss the impacts to local springs. The agencies plan to cooperatively combine efforts to obtain funding for a study aimed at identifying impacts to the springs within the DGWSA, and to understand whether any impacts are the direct result of the mitigation program.

B. Pre-Mitigation Program Permits (7J permits):

The term "7J" refers to a condition included in certain groundwater right permits and certificates that were issued by OWRD within or above a State Scenic Waterway after the Scenic Waterway Act was amended on July 19, 1995. Under the amended Scenic Waterway Act, OWRD may issue new groundwater permits provided that OWRD can make a finding that the use will not measurably reduce scenic waterway flows. If OWRD is unable to determine that the proposed use will measurably reduce scenic waterway flows, a new permit may be conditioned to allow for regulation of the use should it be later determined to measurably reduce scenic waterway flows.

From 1995 to 1998, OWRD issued 187 groundwater permits that originally totaled approximately 182 CFS with the scenic waterway condition allowing for regulation if the use(s) were determined to measurably reduce scenic waterway flows.

In 1998, when an ongoing groundwater study with U.S. Geological Survey was substantially complete, technical information became available to demonstrate that new groundwater use in the Deschutes Basin would measurably reduce scenic waterway flows. OWRD determined that new groundwater permits could only be issued if mitigation was provided. At that time, OWRD put pending groundwater permit applications on hold and convened the Deschutes Steering Committee to help develop a mitigation plan for the Deschutes Basin.

The Deschutes Basin Groundwater Mitigation Program was developed to enable applicants to obtain new groundwater permits by providing mitigation. The Mitigation rules also provided an opportunity for groundwater permit, or subsequent certificate holders, issued prior to the adoption of the Mitigation Program rules, to mitigate for their impacts on surface water flows to avoid any future regulation for reductions to scenic waterway flows, consistent with their permit (condition 7J).

Stakeholder Comments: WaterWatch of Oregon identified in their feedback to OWRD an ongoing concern that not all permit holders that should be mitigating are required to provide mitigation. WaterWatch is specifically concerned with those groundwater permits issued prior to the adoption of the Mitigation Program and conditioned to allow for regulation of the groundwater use should the use be found to measurably reduce scenic waterway flows (condition 7J).

OWRD Response: Of the 187 permits issued that include the 7J condition, 72 permits have been certificated and 37 permits have been cancelled. Some of the remaining permits, for which certificates have not yet been issued, may not yet be fully developed and may require extensions of time but there are also 63 claim of beneficial use reports that have been submitted and are awaiting certificate issuance. Figure 21 shows the number of permits by status, and Figure 22 shows the total cubic feet per second (CFS) associated for each status action. One option that OWRD is considering is whether

mitigation should be required for "7j" permit holders seeking extensions of time for the undeveloped portion of their permits.

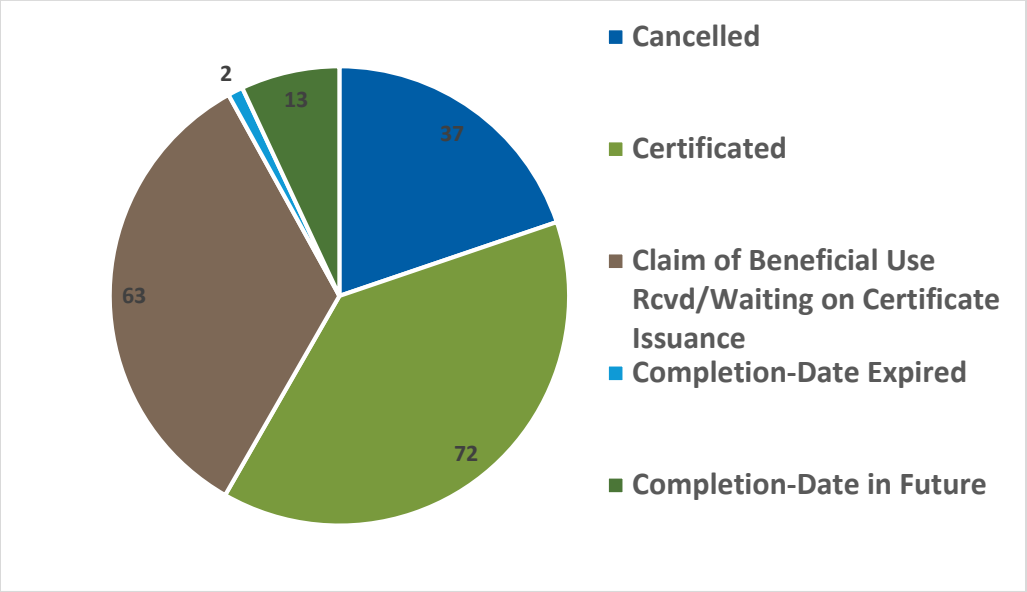

Figure 21: Number of 7J Pre-Mitigation Program Permits & Status

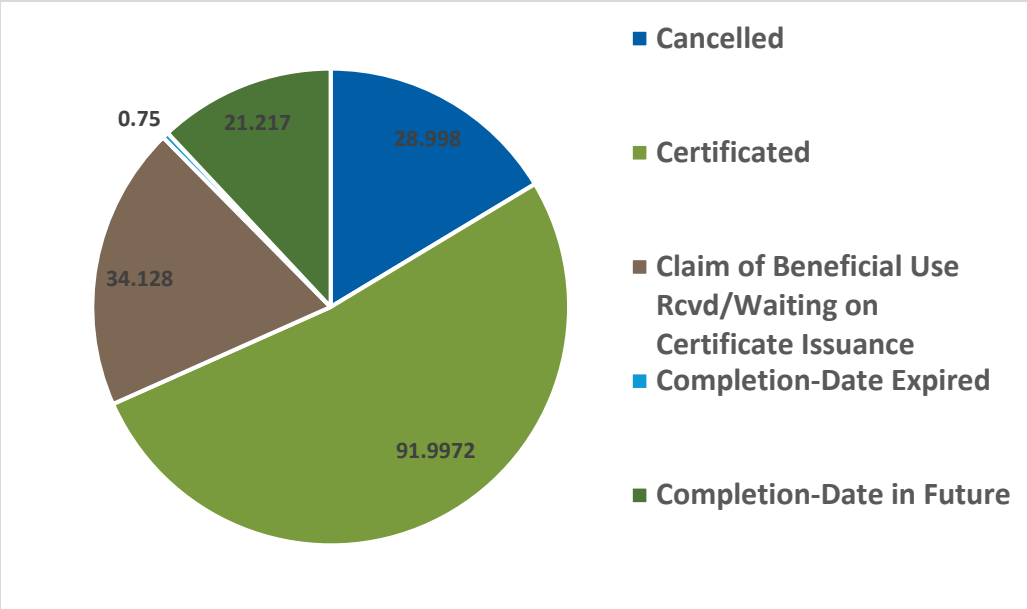

Figure 22: Total CFS for Each Status of 7J Pre-Mitigation Program Permits

C. Require Mitigation for Undeveloped Permits when Extension of Time is Requested:

As previously identified (see discussion of Pre-Mitigation Program Permits (7J permits)), there were approximately 187 groundwater permits issued by OWRD within what is now the Deschutes Groundwater Study Area (DGWSA) after the Scenic Waterway Act was amended in 1995 which contain

the "7J" condition that allows for regulation should the groundwater use later be found to cause a measurable reduction in scenic waterway flows.

The Scenic Waterway Act also identified that this requirement would be applied to groundwater permits issued after July 19, 1995. Further, groundwater permits are only subject to those scenic waterway flows in effect as of the priority date of the permit. The Deschutes Scenic Waterway flows were established and adopted by the Water Resources Commission on April 19, 1991. Of the 187 groundwater permits issued after July 19, 1995, 7 appear to have priority dates prior to April 19, 1991, and are not subject to the provisions under the Scenic Waterway Act but may have been conditioned to allow for regulation of the use similar to other permits issued after July 19, 1995, for scenic waterway flows.

Stakeholder Comments: Lack of mitigation requirements associated with the permits issued with the "7J" condition was identified as an issue by a few stakeholders, including WaterWatch of Oregon, Central Oregon Landwatch and League of Women Voters of Deschutes County.

Department Response: Under the existing Mitigation Program rules, these permit holders are not required to provide mitigation but are provided an opportunity under the Mitigation Program to provide mitigation to avoid any future regulation for scenic waterway flows.

Of the permits issued after July 19, 1995, 72 have been issued certificates by OWRD and were developed to the extent claimed and/or identified by OWRD. Some of the associated groundwater uses were developed for less than what had originally been requested.

Another 37 of the original permits issued after the scenic waterway act was amended have been cancelled.

The remaining portion of the 187 permits issued after July 19, 1995, being 15, may not be fully developed and may need extensions of time to complete development of the groundwater use. OWRD may grant extensions of time consistent with the criteria under OAR Chapter 690, Division 315 (Water Right Permit Extension of Time). As stated in the above section, one option that OWRD is considering is whether mitigation should be required for "7j" permit holders seeking extensions of time for the undeveloped portion of their permits.

XIII. Mitigation and Streamflow Monitoring

To monitor the impact of new groundwater permits and mitigation on scenic waterway flows and instream water right flows, the Department developed a streamflow modeling program. The model was constructed using a base-period of flows from 1966 to 1995 at selected gaging stations around the basin. This base-period represents streamflows during a period of time after the dams in the basin were constructed and before the Scenic Waterway Act was amended to include consideration of groundwater impacts. The model applies the effect of the estimated hydrologic impact of mitigation credits and debits to this historical flow data.

It should be noted that the model is designed to reflect the long-term, steady-state response of streamflow to mitigation-related activities only. In some cases, the actual hydrologic response to mitigation activities, such as new groundwater pumping, may take years or decades to be reflected as

changes in actual streamflow. In addition, climate variability and the resulting natural response in streamflow generally mask the actual streamflow response to mitigation activities at most locations which is why a modeling approach is used. The model does not account for other activities affecting streamflow outside of the mitigation program, such as other canal piping/lining (conserved water projects) instream transfers, riparian enhancement activities completed for restoration purposes only, or water management changes such as those related to higher winter releases designed to protect the ESA-listed spotted frog.

The seasonal changes in percent of time the water right instream flow requirements (ISFR) are met at each evaluation site follows the seasonal impacts of the mitigation program in terms of absolute streamflow. During the non-irrigation season, the impact to the percent of time the ISFR is met is generally negative, while the percent of the impact during the irrigation season is predominantly positive. The relative change in percent of time the ISFR is met varies by month and site, depending on how close the historical flows were to the ISFR prior to the mitigation program. If the historical flows were close to the ISFR for a given evaluation site, then a small change in flows can relate to a relatively large change in percent of time the ISFR is met. The opposite is true if the historical flows differed greatly from the ISFR.

The Department has also noted small negative changes in streamflow on an annual basis at certain evaluation points. (Figure 23) This is in part due to the resolution of the model. The baseline condition of streams in the model is determined from streamflows measured during water years 1966 to 1995. The only model inputs are the groundwater permit debits and mitigation credits. Because the model relies on a base period and not current streamflows, the only changes reflected in the model are from those debit and credit inputs, not current reservoir operations or other conditions such as climate change.

Another consideration is related to how groundwater permits, and mitigation projects are entered into the streamflow model. The model assumes full use by groundwater permit holders. However, not all permit holders are required to provide their full amount of mitigation before the permit is issued. In the case of municipal and quasi-municipal permit holders, they have the option of providing mitigation incrementally to match the development of the permit over time. The amount of mitigation provided and entered into the streamflow model is currently less than what all permits issued under the mitigation program will need at full use levels. However, these users are providing more mitigation than required at current use levels.

Stakeholder Comments: Deschutes River Conservancy understands that more water is protected instream than is utilized by groundwater pumping due to the undeveloped permits and incremental development plans, but would like to understand how this is captured in the model used for monitoring the program, as the incremental development plans grow into their full permits, how will these impact changes.

Jim Powell and George Wuerthner of Bend, Oregon and other Stakeholders have suggested the changing of the modeling to address climate change and not just using the averages.

Yancy Lind of Bend, Oregon suggests using average flows without taking into consideration of real time flows is not a success in the program and should be addressed.

The Oregon Farm Bureau Federation, Deschutes County Farm Bureau, Crook-Wheeler County Farm Bureau, and Jefferson County Farm Bureau all suggest that the Department revisit the science and legal underpinnings supporting the program.

Deschutes River Conservancy would like to know how potential climate change impacts relate to the reliability of protected instream project flows, and the reliability of the outputs from the model.

OWRD Response: Currently the Department does not have the funds or capacity to change the way the model represents the data using the base-period flows and estimates, not accounting for other activities affecting the streamflow outside of the mitigation program. The Department will continue to evaluate streamflow model results on an annual basis to determine whether streamflows continue to be met on an equivalent or more frequent basis.

Annual Change in % of time instream					
Gage	2015	2016	2017	2018	2019
Deschutes River at Mouth	0.06	0.05	0.08	0.13	0.18
Deschutes River below Pelton Dam	0.69	0.75	0.81	1.00	1.10
Metolius River at Lake Billy Chinook	0.00	0.00	0.00	0.00	0.00
Deschutes River at Lake Billy Chinook	0.65	0.63	0.63	0.64	0.68
Deschutes River at Lower Bridge (Downstream of Bend)	-0.10	-0.24	-0.21	-0.20	0.02
Deschutes River above diversion dam at Bend	0.06	-0.11	-0.11	-0.09	-0.04
Deschutes River at Benham Falls	-0.14	-0.26	-0.26	-0.26	-0.12
Little Deschutes River at mouth	-0.04	-0.49	-0.49	-0.49	-0.17
Deschutes River above Little Deschutes River	0.00	0.00	0.00	0.00	0.00

Figure 23: Annual CFS Change in % of time Instream at Identified Gages

XIV. Other Issues Identified by Stakeholders

Some stakeholders identified that there were a number of outstanding issues in the Deschutes Program. This section contains the additional issues identified by stakeholders.

A. Need for more permanent mitigation, monitoring and compliance:

Stakeholder Comments: Several stakeholders raised issues associated with use of temporary mitigation credits (instream leases). One commenter was uncertain how temporary mitigation could be used for a new groundwater permit considering that mitigation must be provided for the life of that groundwater use. In recent years, OWRD has consistently identified a few permit holders that have failed to continue providing mitigation when the original mitigation source has been temporary based on instream leases.

Stakeholders suggested that coordination with Mitigation Program partners is needed to provide a larger supply of permanent mitigation water. In addition, a clearly defined process needs to be established to address permit holders that fail to provide mitigation on an annual basis. One stakeholder also asked how often mitigation activities are monitored and regulated when mitigation is not occurring.

Central Oregon Cities Organization has expressed a great concern in the lack of permanent mitigation credits available in the growing communities, and the outrageous costs for the mitigation credits that are available.

OWRD Response: In general, the source of mitigation provided by a groundwater permit applicant may be permanent, temporary, or a combination of both. It is not clear whether or what changes would be needed to address the concerns on the costs for mitigation credits. However, OWRD intends to continue discussions with stakeholders.

Instream leases are one of the identified sources of mitigation under OAR 690-521-0300(1)(b); however, this temporary mitigation (instream lease-based mitigation) may only be established through a Mitigation Bank chartered by the Oregon Water Resources Commission. To date, temporary mitigation has been available from the DRC Mitigation Bank, which primarily brokers temporary mitigation credits issued by OWRD. Some permit holders that have used temporary mitigation in the past failed to continue providing that mitigation. The DRC Mitigation Bank diligently attempts to contact any permit holder that does not appear to be on track with obtaining annual mitigation from the Bank. By rule and by permit condition, every groundwater user with a permit issued under the Deschutes Groundwater Mitigation Program is required to maintain mitigation for the life of the groundwater use. Ultimately, the permit holder is responsible for maintaining any temporary mitigation being used annually with the DRC Mitigation Bank.

Since groundwater permit holders using temporary mitigation credits need to obtain mitigation credits on an annual basis, there is the risk of groundwater users failing to maintain the required mitigation. Under the Mitigation Program, when a permit holder fails to maintain their source of mitigation, OWRD is required, under OAR 690-505-0620, to regulate the use, deny any permit extension request, and possibly cancel the permit.

This issue was first identified in 2007. Figure 24 below shows the number of delinquent permits by year. Several of the permit holders did not have mitigation in place for a year or two and then continued providing annual mitigation. Others without mitigation have been cancelled either voluntarily or by OWRD under statutory authority to cancel permits.

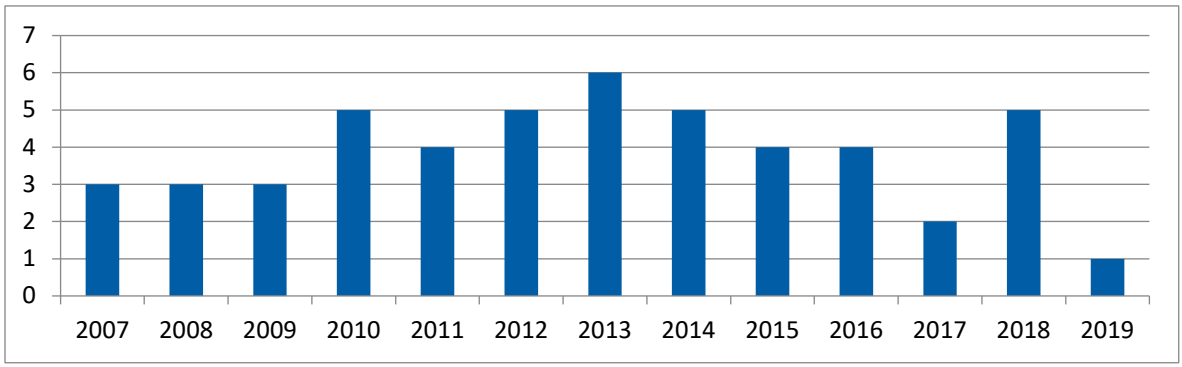

Figure 24: Delinquent Number of Permits by Year

Given that there are a few permits without mitigation on an annual basis, OWRD determined that a robust and clear process for addressing permits without mitigation was needed. OWRD worked with local staff and the DRC Mitigation Bank to develop an active process that includes regulation and compliance actions up to and including permit cancellation if necessary.

Through evaluation of this issue, OWRD identified a need to review its ability to cancel permits under current rules and statutes. Under OAR 690-505-0620(1)(f) and (3), OWRD may pursue cancellation if mitigation is not maintained. However, the primary statutes utilized by OWRD for cancellation of permits do not allow for cancellation for failure to meet this type of permit condition. Previously, OWRD has relied upon ORS 537.410, under which a permit may be cancelled for failure to commence or complete construction or to properly apply water to beneficial use. OWRD has also relied upon cancellation of a permit under ORS 537.260 for failure to submit a claim of beneficial use by the deadline specified in the permit. To cancel permits without mitigation, OWRD has primarily relied upon ORS 537.260 to cancel those permits when they later fail to submit a claim of beneficial use report. However, by relying on this statute, one or more years may pass without mitigation before a permit is cancelled. Therefore, OWRD has since determined that it is better to use the authority provided under ORS 537.720, which allows the cancellation of a permit for willful violation of any provision of the permit.

In response to comments on this issue and to begin addressing permits without mitigation more proactively, OWRD began notifying permit holders who have failed to provide mitigation. In 2016, OWRD initiated contact with each permit holder that had not yet provided mitigation for the 2016 calendar year. In its written correspondence, OWRD identified that unless mitigation was provided by a specified deadline, OWRD would initiate cancellation of the permit under ORS 537.720.

In 2018, five (5) delinquent permits were identified. Of those 5 delinquent permits, two (2) obtained the necessary mitigation, while three (3) failed to do so and were cancelled by OWRD.

Stakeholder Comment: Another issue raised by stakeholders is the reliability of temporary mitigation. The amount of mitigation available annually from temporary mitigation sources (instream leases) may vary from year to year. In addition, there are some areas of the DGWSA where mitigation, both temporary and permanent, is not as readily available. Given that mitigation has originated from conversion of existing surface water rights to instream use (instream transfer and instream lease), the

DRC Mitigation Bank identified that there may not be sufficient surface water rights in a few zones of impact to be used as mitigation.

As part of their feedback to OWRD throughout the years, the DRC Mitigation Bank asked what happens if temporary mitigation is available in a Zone of Impact one year but not the next.

Department Response: In regard to the DRC question, OWRD anticipates that it would work with the DRC Mitigation Bank to see if mitigation could be secured and, if unavailable, regulation of groundwater uses without mitigation may be necessary. OWRD will continue to pursue this issue with the DRC Mitigation Bank.

One responsibility of the DRC Mitigation Bank is to help prevent a lack of mitigation by maintaining a reserve of mitigation credits. For every temporary mitigation credit assigned to a groundwater permit, the Bank is required to maintain another similar credit in reserve.

In general, the amount of temporary mitigation provided through instream leases has exceeded the amount of mitigation needed for those permit holders using this as their primary source of mitigation (Figure 25). Should the supply of mitigation provided by instream leases decrease and/or additional permit holders fail to provide the needed mitigation, OWRD may need to reevaluate how instream leases are used for mitigation purposes.

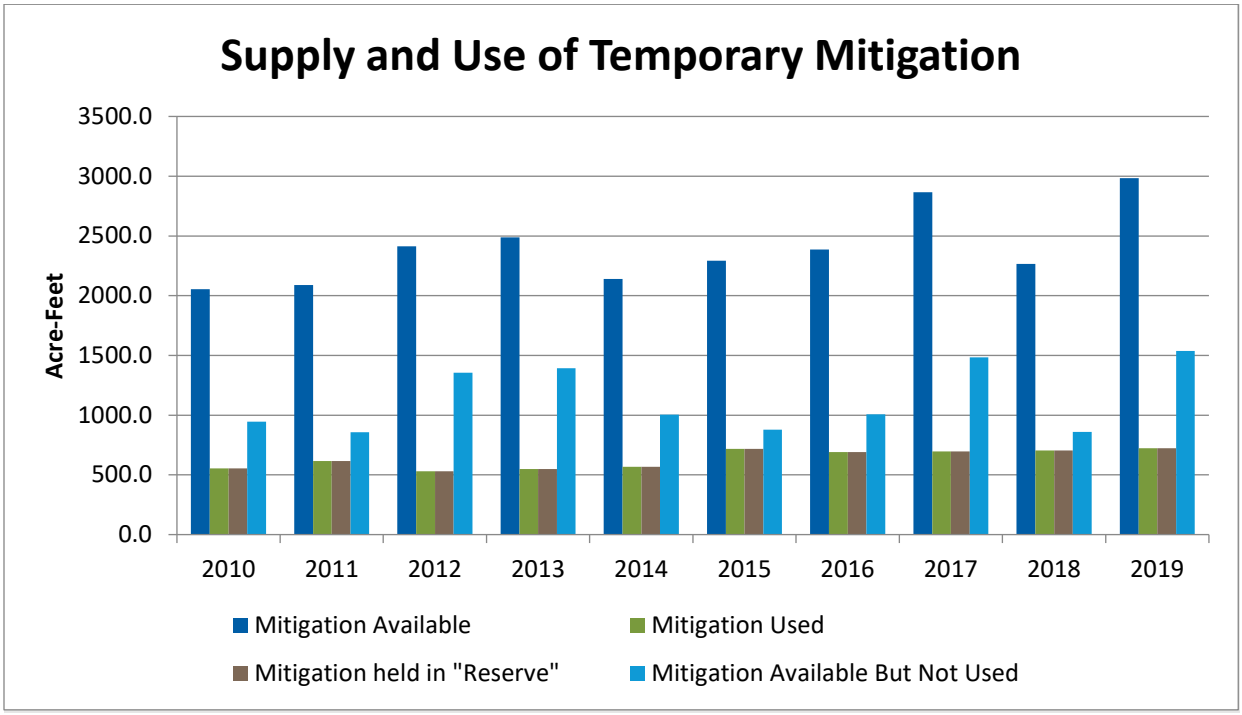

Figure 25: Supply and Use of Temporary Mitigation

As the Mitigation Program has grown from year to year, the amount of permanent mitigation has also grown and has surpassed the amount of temporary mitigation. Preferably, those using temporary mitigation credits would convert to permanent mitigation over time.

In the first twelve years of the Mitigation Program, instream leases represented 62% of the total volume of mitigation water (in acre-feet) established under the program each year (2003 through 2014). However, from 2015 through 2019, instream leases have averaged approximately 31% of the total volume of mitigation water established under the program. The amount of mitigation water established through permanent instream transfers has increased annually, lowering the ratio between instream leases and instream transfers. By the end of the first twelve years (2014), the amount of mitigation water established through instream transfers was 5097.0 AF. In 2019, 6142.3 AF of cumulative mitigation water was established through permanent instream transfers (Figure 26).

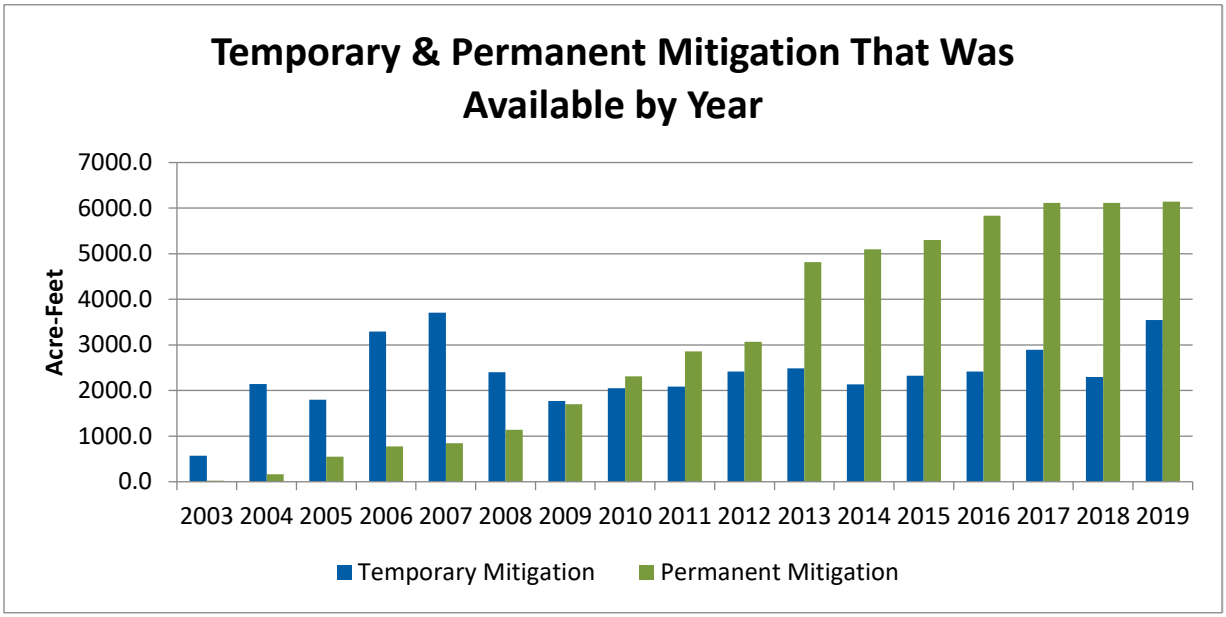

Figure 26: Amount of Mitigation Available by Year & by Type

The establishment of permanent mitigation credits has increased from year to year under the Mitigation Program (Figure 27). However, during the years 2017-2019 it tapered off. There still remains some permanent mitigation credits unused from year to year. The majority of the credits available are located in the general and middle Deschutes zone of impact (Figure 28).

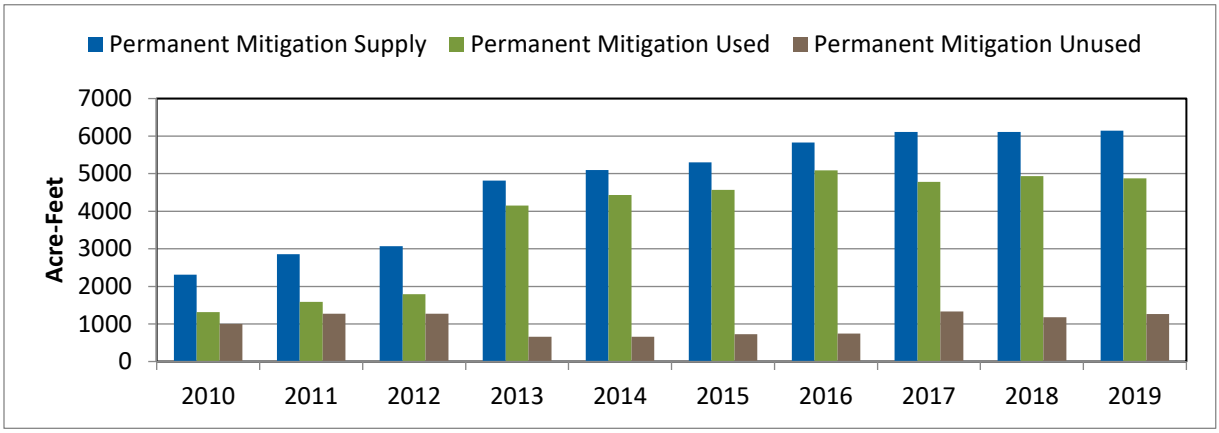

Figure 27: Supply and Use of Permanent Mitigation

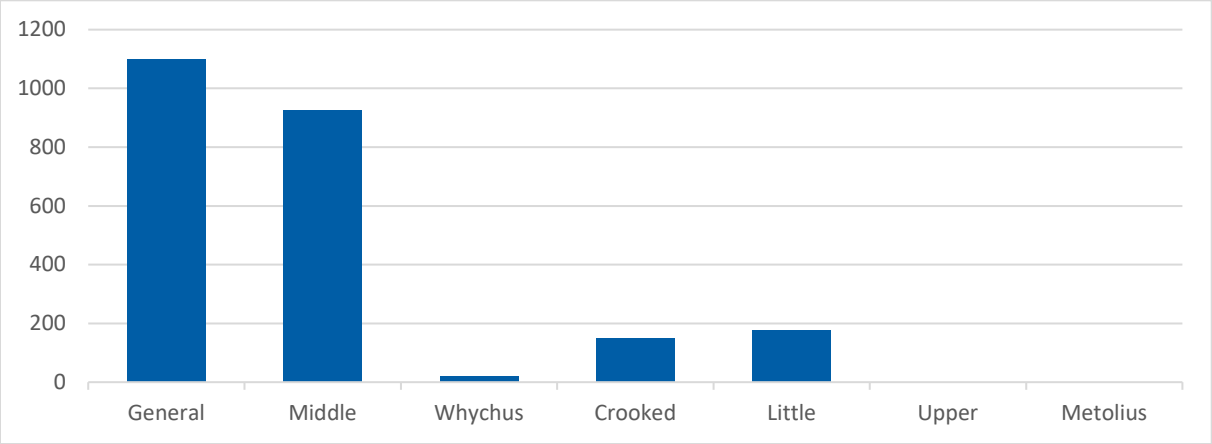

Figure 28: Mitigation Credits Available by Zone of Impact

OWRD maintains a tracking system of mitigation credits, mitigation credit holders, and use of mitigation credits. This information is available upon request from OWRD.

B. Consumptive Use:

Stakeholder Comments: The Department of Environmental Quality (DEQ) stated that the consumptive use coefficient used to determine mitigation requirements and mitigation credits should reflect the actual use, including frequency of annual use, and use type (such as pivots vs flood irrigation, vs domestic use) the consumptive use of a senior right with sprinkler irrigation is much higher than the consumptive use of a junior right with flood irrigation. Leasing an infrequently used inefficient use instream to mitigate for a highly efficient frequent use would lead to inaccuracies in accounting.

Yancy Lind of Bend, Oregon also stated that the consumptive use coefficient used to determine the mitigation requirements should reflect the actual use.

Deschutes River Conservancy suggested that the different types of consumptive use should be periodically evaluated.

Central Oregon Cities Organization commented that the success of the program does not require a reduction in consumptive use for each mitigation proposal.

WaterWatch suggested that the Department evaluate whether the rules should be amended to require mitigation of the water right of record, rather than consumptive use.

OWRD Response: OWRD uses a standardized set of consumptive use coefficients to determine mitigation needs in the DGWSA. The coefficients used are the same as those used in other OWRD processes, including OWRD's Water Availability Model.

The following consumptive use coefficients are used by OWRD for determining mitigation obligations of proposed groundwater permit applications:

- Irrigation: 1.8 acre-feet per acre
- Municipal Use (year-round): 40% of the annual volume
- Mining (such as gravel washing): 50% of the annual volume

- Domestic Use: 20% of the annual volume
- Commercial Use: 15% of the annual volume
- Agricultural Use (such as temperature control): 50% of the annual volume
- Storage and maintenance for a small reservoir/pond: 2.67 acre-feet per surface area acre
- Industrial use: 10% to 100% of the annual volume depending on the specific type of industrial use

The consumptive use coefficients are averages. If an application, or other information provided to OWRD (such as through public comment), suggests that the consumptive use should be higher or lower, OWRD will evaluate the application using the best information available.

Each groundwater permit issued under the Mitigation Program is also conditioned to require additional mitigation should OWRD determine that the average annual consumptive use has increased beyond the originally mitigated amount (See OAR 690-505-0620(1)(g)).

At this time, OWRD does not anticipate changing how mitigation obligations are calculated. However, should better information become available for consumptive use estimates, OWRD will review that information and determine whether any changes or updates are needed.

C. Permanent mitigation credits used temporarily:

Stakeholder Comment: Clyde Snow, LLC commented that the Department consider a mechanism to allow permanent mitigation credits to be assigned "temporarily" to groundwater permits, in particular, cities could benefit from a rule that would allow more certainty than using temporary mitigation based on instream leases, such a rule also could address the problem of finding mitigation outside of the irrigation season. Further comments conveyed a need for allowing creative solutions such as temporary assignment of permanent mitigation credits, forbearance agreements or other similar mechanisms that will add flexibility and address the needs outlined above. It was suggested that OWRD reconsider these issues during this evaluation and pursue a collaborative process for the evolution of this program.

OWRD Response: It is not clear how temporary assignment of permanent mitigation credits could be done at this time. However, OWRD does anticipate that changes will need to be made to the Mitigation Program rules based upon identified programmatic improvements.

D. Consideration of the Impacts of Exempt Wells:

Stakeholder Comment: WaterWatch of Oregon identified that OWRD should be either requiring mitigation for exempt wells that are junior to the instream water rights or regulating those uses off for injury to instream water rights, suggests that the rules need to be amended to include post 1995 exempt well holders.

Central Oregon Landwatch suggests rather than wait to study the effects of these wells on streamflows and water temperature and considering the adverse effects on water quantity and quality already occurring due to climate change, mitigation for exempt wells should require mitigation.

Jim Powell, Yancy Lind and George Wuerthner of Bend, Oregon suggest evaluation of the measuring and modifying effects of exempt wells.

League of Women Voters of Deschutes County suggested that the Department work toward a resolution including exempt wells, which will need to be addressed prior to the sunset of the program.

OWRD Response: Use of water from exempt wells is not part of the Deschutes Basin Groundwater Mitigation Program; therefore, such discussion is not included in this report.

E. Use of Storage Releases and Allocations of Conserved Water as Mitigation Projects:

The Mitigation Program rules identify several project types that could be used to establish mitigation in the Deschutes Groundwater Study Area. These include instream transfer applications, allocations of conserved water, storage releases, aquifer recharge and instream lease applications. To date, no mitigation has been established from an aquifer recharge project nor an allocation of conserved water application.

Stakeholder Comments: WaterWatch identified that the use of allocations of conserved water and aquifer recharge for mitigation should be deleted as possible mitigation projects in the rules.

Deschutes River Conservancy suggests that all proposed mitigation projects should be assessed for their reliability and ability to truly mitigate for additional groundwater withdrawals, including the use of allocations of conserved water and storage releases for mitigation, these projects have the potential to negatively impact the scenic waterway flows and may not be an offset to mitigation.

Others, including Central Oregon Cities Organization, expressed interest in and the need to look at other types of mitigation projects, including stored water and allocations of conserved water, as possible sources of mitigation; perhaps combinations of projects.

OWRD Response: OWRD agrees that additional types of mitigation projects should be carefully considered before being implemented to assure that the goals of the Mitigation Program continue to be met.

F. Sunset Date for the Mitigation Program

Stakeholder Comment: Central Oregon Cities Organization (COCO) suggests that the sunset deadline of January 2, 2029, should be addressed as soon as possible. This deadline creates significant uncertainty for COCO's member that must plan for the 20-, 50-, and 100-year horizons on infrastructure, financing, land use and other involved processes.

OWRD Response: The Department believes that the sunset date will also be addressed while exploring the modification of the allocation cap in 2022.

G. Groundwater Declines within the Deschutes Basin Study Area

Stakeholder Comment: WaterWatch and Deschutes River Conservancy and other Stakeholder comments suggest that the recent information on groundwater declines in the Deschutes Basin be included in the analysis and discussions of the program.

OWRD Response:

When the Department evaluates a new water right application, groundwater declines are a consideration when determining whether water is available for the proposed use and whether the use would cause injury to other water rights.

The Department, in its review of new applications, shall presume that a proposed groundwater use will ensure the preservation of the public welfare, safety and health as described in ORS 537.525 if:

(a) The proposed use is allowed in the applicable basin program established pursuant to ORS 536.300 and 536.340 or given a preference under ORS 536.310(12);
(b) Water is available;
(c) The proposed use will not injure other water rights; and
(d) The proposed use complies with the rules of the Commission.

All four criteria must be met for a proposed use to be presumed to ensure the preservation of the public welfare, safety and health. As discussed earlier in the report, the Deschutes Basin Mitigation Program created mitigation as a measure to moderate the impacts to surface water flows from additional ground water appropriation. The mitigation program does not address impacts to other groundwater rights or mitigate for impacts to the aquifer.

Attachment 1: Central Oregon Cities Organization

Central Oregon Cities Organization

Bend, Culver, La Pine, Madras, Maupin
Metolius, Prineville, Redmond, Sisters

September 11, 2020

Sarah Henderson
Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, OR 97301

Sent VIA Electronic mail

RE: Deschutes Basin Groundwater Mitigation Program – 5-year Review

Dear Ms. Henderson:

The Central Oregon Cities Organization (COCO) appreciates the opportunity to provide input on the Deschutes Basin Groundwater Mitigation Program (Mitigation Program) as part of the 5-year review under ORS 540.155.

COCO was formally established in 2002 and has grown to include the cities of Bend, Culver, La Pine, Madras, Maupin, Metolius, Prineville, Redmond and Sisters. COCO's purpose is to effectively and efficiently promote common interests of the cities in Central Oregon for issues such as transportation, economic development, school funding, tax reform, and water. COCO has specifically established a water subcommittee that meets each month to discuss basin-wide water issues, including the Mitigation Program.

Since 2002, new groundwater uses in the Deschutes Basin (the main water supply for COCO's members) require "mitigation." Historically, this mitigation has been developed in partnership with irrigation districts in the basin. However, even during the height of City/district collaboration the process for mitigation credit establishment was unpredictable, costly, time consuming and out of sync with long-term planning needs. With recent events in the Deschutes Basin (such as the need for some irrigation districts to forego winter storage to provide habitation restoration), the districts are feeling water supply insecurity and the historic process for establishing mitigation credits has all but ceased. This has led to an "everyone for themselves" approach to mitigation and unprecedented speculation. This new reality coincides with the Bureau of Reclamation's 2016 Upper Deschutes Basin Study, which among other things estimated the need for up to 16,000 acre-feet of mitigation to meet the 50-year City and private water provider projected groundwater mitigation demand.

Meeting the Deschutes Basin's mitigation demand is of critical importance to COCO and a key component of a thriving Central Oregon economy. To this end we offer the following input:

Overarching Goals of the Mitigation Program: When the Mitigation Program was established the Department clearly articulated the dual purposes of the program - to allow for some continued development of new groundwater use within the Deschutes Study Area while ensuring that

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scenic waterways and instream flows were protected. (See OWRD's September 13, 2002 staff report to the Oregon Water Resources Commission requesting adoption of the Mitigation Program rules, which states that the rules "provide for mitigation of impacts to scenic waterway flows and senior water rights while allowing additional qualifying appropriations of ground water.") This balanced approach is a hallmark of the Mitigation Program. It is extremely important that the Department not lose sight of the dual goals of the program and be mindful of both elements when reviewing the program and considering potential changes.

Measuring Efficacy of the Mitigation Program: The Department rules are clear that the efficacy of the Mitigation Program is to be measured by evaluating "whether scenic waterway flows and instream water right flows in the Deschutes Basin continue to be met on at least an equivalent or more frequent basis as compared to long-term, representative base period flows established by the Department." (See OAR 690-505-0500). In this regard, the Department has shown year after year that the program is successful. In continued evaluation of the Mitigation Program, the Department must rely on this fundamental measuring stick and resist mischaracterizations of how success of the program should be measured. Success of the program does not require a reduction in consumptive use for each mitigation proposal, nor does it require things like improvement in habitat or water quality. Basin-wide efforts, such as the Deschutes Basin Water Collaborative are the forum for addressing broader restoration and improvement issues.

Mitigation Associated with Stored Water Projects: The Department and several basin stakeholders have raised concerns that flows in some Deschutes Basin streams are lower than desired during the time period outside of the irrigation season, and that the Mitigation Program typically does not function to increase flows during that time period. Despite this recognized need to protect water instream outside of the irrigation season, and the fact that water associated with storage projects can meet this need, there is continued resistance to the use of stored water for mitigation. In reviewing the Mitigation Program the Department should work cooperatively with Basin stakeholders to successfully establish use of stored water as a viable mitigation option. It is understood that the release of stored water as a mitigation project may not result in a specific reduction in consumptive use; however, as mentioned above the measured efficacy of the overall Mitigation Program does not require that each mitigation project reduce consumptive use. The use of stored water for qualifying mitigation, through the protection instream of either the storage right or the "secondary" water right, can provide important ecological benefits and meet the dual purposes of the mitigation program.

Mitigation Associated with Allocation of Conserved Water Projects: As the Department is aware, allocations of conserved water can maintain the viability of an irrigator (or irrigation district) and restore stream flows. In the Deschutes Basin, numerous allocations of conserved water, funded by state and federal money have resulted in senior water rights being placed instream for restoration. These restoration efforts meet many of the objectives of the mitigation program (restoring flows for instream water rights and scenic waterways) yet there has been no overlap between the two programs to date. Given the multiple benefits of allocations of conserved water, COCO and other entities in the Basin continue to be interested in the use of allocations of conserved water to establish mitigation credits. COCO believes that allocation of conserved water projects can be "packaged" with other projects to meet the dual objectives of the mitigation program.

Lack of Available Permanent Mitigation Credits and State-Funded Bank: Currently, there is no framework or formal mechanism to find and acquire permanent mitigation credits. Each entity or person seeking permanent mitigation credits is on their own, leading to an inefficient and unpredictable permanent mitigation supply. Equally concerning is that the lack of permanent mitigation credits "on-the-shelf" has led to speculation and outrageous costs for mitigation

credits. There needs to be a structure, such as a publically funded, neutral mitigation bank, that can be a clearing house for permanent mitigation credits when they become available. Currently, there is no state support for the Mitigation Program other than processing water right applications and tracking mitigation. In reviewing the Mitigation Program the Department should consider a more active and leadership role; a role that could leverage multiple state-funded projects that result in water legally protected instream and that should also count for qualifying mitigation credits.

Mitigation Program Sunset: It is COCO's understanding that by statute the current Mitigation Program Rules in OAR Chapter 690, Division 505, sunset in 2029. This looming deadline creates significant uncertainty for COCO members that are planning on 20, 50 and 100 year horizons; planning for infrastructure, financing, land use, etc. This must be addressed as soon as possible and the Department should be in an active leadership role to renew the sunset based on the success of the program to meet specific benchmarks and measuring sticks outlined in the Mitigation Program rule.

The Deschutes Basin is chock-full of water-related activity including: the development of a Habitat Conservation Plan; law suits and settlements over the spotted frog; changes in reservoir management; the recently completed Upper Deschutes Basin Study; the recent establishment of the Deschutes Basin Water Collaborative; and the 5-year evaluation of the Mitigation Program and the looming program sunset. As a backdrop to all of these activities, COCO is looking to the Department for policy-level engagement and pro-active leadership. Foremost on our minds is the need for predictable, affordable and efficient groundwater mitigation.

We look forward to on-going dialog with the Department and reviewing the draft report 5-year review when available.

Sincerely,

Steve Uffelman
Mayor, City of Prineville,
Chair, Central Oregon Cities Organization Water Subcommittee

Attachment 2: Oregon Department of Environmental Quality (DEQ)

Oregon
Kate Brown, Governor

Department of Environmental Quality
Eastern Region Bend Office
475 NE Bellevue Drive, Suite 110
Bend, OR 97701
(541) 388-6146
FAX (541) 388-8283
TTY 711

July 24, 2020

Sarah Henderson
Flow Restoration Program Coordinator
Oregon Water Resources Department
725 Summer St. NE, Suite A
Salem, OR 97301

RE: DRAFT 2019 Annual Review of the Deschutes Groundwater Mitigation Program

Dear Ms. Henderson,

The Oregon Department of Environmental Quality appreciates the opportunity to provide comments on the Oregon Department of Water Resources' Draft 2019 Annual Review of the Deschutes Groundwater Mitigation Program.

The Deschutes Groundwater Mitigation Program is intended to protect instream flows for scenic waterways and senior water rights including instream water rights. Protecting instream flows is an essential part of protecting water quality. When flows are diminished by withdrawals or other causes, streams have less capacity to assimilate pollutants and become less resilient to climate changes. In other words, protecting instream flows keeps our streams fishable, swimmable, and drinkable. ODEQ has reviewed the draft report and has several comments and concerns.

ODEQ concurs with ODFW's comments

ODFW submitted comprehensive comments on the Draft 2019 Annual Review on July 22, 2020. ODEQ concurs with ODFW's comments and will not repeat those comments here.

Time lag of impacts

The impacts of groundwater withdrawals affect groundwater flow patterns at a regional scale and therefore we may not see flow diminishment in streams for many years. In the meantime, mitigation water increases instream flows immediately. This makes it seem like the mitigation program is a success. However, future decades may see a decline in streamflow from today's groundwater withdrawals and additional mitigation may become necessary. Monitoring streams and springs throughout the basin and reviews of the Deschutes Groundwater Mitigation Program need to continue for decades to ensure that the Program meets its goals of protecting instream flow.

Spatial consideration of impacts

Streamflows in the upper portions of the basin are more susceptible to diminishment under the Program. Groundwater flow paths are shorter, which means that the impacts of increased groundwater withdrawals on

streamflow are likely to show up sooner. Also, mitigation credits may come from anywhere within the Zone of Mitigation. This means that mitigation credits near the mouth can be used to offset a withdrawal near the headwaters. In this example, it is unlikely that the mitigation project at the mouth would mitigate the local impact to streamflow in the headwaters. DEQ recommends that mitigation projects be sited upgradient from groundwater withdrawals.

Similarly, groundwater withdrawals with direct, local impacts to streams, as determined by OWRD's Groundwater Section, should be mitigated by projects upstream of the diminished reach.

Accuracy of accounting

The consumptive use coefficient used to determine mitigation requirements and mitigation credits should reflect the actual use, including frequency of annual use, and use type (such as pivots vs flood irrigation, vs domestic use. The consumptive use of a senior right with sprinkler irrigation is much higher than the consumptive use of a junior right with flood irrigation. Leasing an infrequently used inefficient use instream to mitigate for a highly efficient frequent use would lead to inaccuracies in accounting.

Suggestions for report improvements

The Annual Review should clarify which types of water rights are included in the Deschutes Groundwater Mitigation Program. OWRD issues many types of water rights including surface water, groundwater, reservoir, limited licenses, use of stored water, instream water rights, transfers, leases, alternate reservoir, etc. It was recently brought to my attention that limited licenses are not required to be mitigated by the Program. Which water rights are required to be mitigated by the Program?

In Figure 4, it would be helpful to have a second set of bars that should how much water has been allocated in each zone.

Define "established mitigation" and "temporary mitigation credit" on page 3.

The Appendix 3 tables are very helpful. It would be even more helpful if the report could summarize this information in a map (or set of maps) or a chart.

Thank you, again, for the opportunity to comment. I look forward to continuing conversations with OWRD on the Deschutes Groundwater Mitigation Program and working together to ensure the protection of instream flows in Oregon.

Sincerely,

Smita Mehta
Deschutes Basin Coordinator

Attachment 3: John Short, Bend, Oregon

HENDERSON Sarah A * WRD

From: John Short <johnshort@usa.com>
Sent: Sunday, August 16, 2020 6:06 PM
To: HENDERSON Sarah A * WRD
Subject: Deschutes Basin Groundwater Mitigation Program

Hey Sarah,

The 5 year evaluation and annual review look fine. Thanks for the chance to review.

Sincerely
John

John A. Short CCB# 197121

541-389-2837

Water Right Services, LLC
PO Box 1830
Bend, OR 97709
johnshort@usa.com
oregonwater.us

Attachment 4: Oregon Department of Fish and Wildlife (ODFW)

Oregon
Kate Brown, Governor

Department of Fish and Wildlife
Fish Division
4034 Fairview Industrial Drive SE
Salem, OR 97302
(503) 947-6201
FAX (503) 947-6202
www.dfw.state.or.us/

September 14, 2020

Sarah Henderson
Flow Restoration Program Coordinator, Transfer and Conservation Division
Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, OR 97301-1271

RE: Deschutes Basin Mitigation Program Evaluation (ORS 540.155 and OAR 690-505) Feedback

Dear Ms. Henderson,

The Oregon Department of Fish and Wildlife (ODFW) appreciates the opportunity to provide feedback in preparation for the Deschutes Basin Mitigation Program Evaluation (ORS 540.155) and Five-Year Administrative Evaluation (OAR 690-505). Overall, ODFW agrees that the Deschutes Groundwater Mitigation Program (Program) has been successful in maintaining and improving flows in the middle and lower Deschutes River during the irrigation season. Increases in stream flow during the irrigation season in the Middle Deschutes has provided an added benefit to the overall objective of the rules, which are to maintain Scenic Waterway flows in the lower Deschutes River. However, as we acquire more information about the additional detrimental impacts to fish and wildlife expected in the future from a changing climate, we have increasing concerns about water accounting, the impacts to springs, and decreases in flow during the non-irrigation season. These issues are also of immediate concern, as water users are currently moving ahead with innovative means to secure future mitigation credits that may not fully meet the needs of fish and wildlife in the basin (e.g., proposed winter reservoir releases with unclear mitigation intent).

Since inception of the Program, ODFW has annually submitted comments that address our ongoing concerns with the Program. We are pleased that the Oregon Water Resources Department (OWRD) will soon convene sister agencies to revisit the statutes and rules in preparation for the upcoming 5-year Program review. ODFW looks forward to continuing conversations and advising the

agency on ways to strengthen the efficacy of the Program to improve and protect instream flow for fish, wildlife, and their habitats.

Because the agencies have not yet met to discuss concerns and seek solutions, ODFW will review our primary concerns here. Specifically, these tangible improvements to the Program need to be addressed before the 200 cfs cap on the Program is lifted:

Water Accounting and Impacts of Climate Change

A. ODFW recommends the Program include a protocol for monitoring, accounting (measuring), and reporting the volume of water transferred instream from annual mitigation credits in each zone of influence. Currently, the Deschutes River Conservancy tracks and accounts for the administrative transfer of water instream, but the verification and measurement of actual "wet water" used as mitigation in each zone is limited. A monitoring program to ensure mitigation is providing a true offset for impacts as initially intended and remains available as "wet water" in perpetuity (or for the life of the project) is necessary for assessing effectiveness of the Program. This may require additional gauges and flow measurement beyond what is currently in place.

   We know that climate change will exacerbate existing issues and alter streamflow, temperatures, and adjacent landscape characteristics necessary to support fish and wildlife populations. As we acquire more information about the detrimental impacts to fish and wildlife expected from a changing climate, closely monitoring groundwater use and associated mitigation is a necessity for the Program. In fact, Gannett and Lite, in their 2013 report "Analysis of 1997–2008 Groundwater Level Changes in the Upper Deschutes Basin, Central Oregon," found that groundwater flow model simulations indicated that climate variations have the largest influence on groundwater levels throughout the upper Deschutes Basin.

B. A portion of the water supporting the Mitigation Program is leased instream. ODFW is concerned with mitigating permanent groundwater rights with temporary leased water. This could set up the potential in the future to not have enough mitigation water to cover all the permanent groundwater rights that need mitigated. In cases where permanent groundwater pumping certificates have been granted, temporary instream leasing provides no certainty that the mitigation will remain in place for the life of the permit and/or certificate. Past Program reports have identified permit holders that have allowed temporary credits to expire

while continuing to irrigate. It is not clear if this issue has been addressed. Therefore, OWRD should increase compliance monitoring and immediate regulation of non-compliant participants. ODFW proposes that OWRD and program partners work more proactively to provide permanent mitigation water (permanent instream transfers) to offset groundwater pumping.

C. ODFW recommends modifying the presentation of flow data. The annual reports for the Program consistently present flow data on a monthly and annual basis, which demonstrate minor changes in flow. Because fish and other aquatic organisms are very susceptible to acute and chronic events (e.g., dewatered reaches or lower flow rates for extended periods), annual and even seasonal changes do not necessarily reflect true impacts to aquatic life. ODFW recommends presenting flow data in a form that is more relevant to fish needs, such as improvements in low flows, variability in flows throughout the year, and flows during critical time periods for fish.

Zonal Mitigation

Allowing mitigation for groundwater impacts to occur away from the point of impact but within a larger "Zone of Impact" results in localized impacts to streams and the fish and wildlife they support. This is particularly true for the General Zone. Mitigation under the Program should directly offset the impact by being located upstream of the impacted reach consistent with the Program goals to provide for new ground water uses while maintaining scenic waterway and instream water right flows in the Deschutes Basin.

Impacts to Springs

ODFW continues to express concerns with the localized impacts of groundwater pumping on local springs. Springs provide very important cold water inputs to streams by providing cold water refugia and other habitat benefits for fish and by helping to cool stream temperatures during the summer in streams with depleted flows. Over time, continued and increased groundwater withdrawal for agricultural, residential, and municipal needs will further affect springs when there is a surface/groundwater connection. Impacts to springs from current and future groundwater withdrawals are exacerbated by the increasing trend to convert area irrigation canals to piped delivery systems. While this is positive in that it generates conserved water that currently results in improved instream flows in the middle Deschutes River, it also eliminates seepage which recharges the aquifer and contributes to spring recharge of cold water. The result is an exchange (loss)

of cold spring water for warmer water upstream. Further, any future shift for conserved water projects that return flow to the upper Deschutes River to benefit the Oregon Spotted Frog (*see* **Impacts During the Non-Irrigation Season**), particularly during the winter months, will add additional stress on the middle Deschutes and lower Crooked rivers in the valuable spring recharge areas. The fisheries impacts from these inconsistencies are likely to become more pronounced in future years as climate change continues to be increasingly more influential. Cold water refugia could likely become critical to long-term persistence of many fish species and populations and should be considered in water management decisions and when assessing effectiveness of the Program.

ODFW requests that OWRD consider implementing a program to monitor key springs/spring complexes in the basin to determine ecological impacts to spring flow, including temperature and nutrient changes resulting from groundwater pumping. Monitoring impacts of groundwater pumping on springs and spring complexes is important in respect to their aquatic habitat, botanical, wildlife, water quality, water quantity, and societal values. This issue was recognized by state and federal agencies several years ago, but work to address the concerns faded due to other priorities. ODFW would like to re-engage on the spring flow concerns and is willing to work with other agencies to seek funding, coordinate efforts for research, and develop and implement a strategy to address these concerns.

Impacts During the Non-Irrigation Season

As currently designed, the Program mitigates year-round groundwater withdrawals with irrigation season water and reports changes to streamflow on an annual basis. This type of mitigation does provide for more instream water during the irrigation season, as is consistently reported, but is also reported to reduce flows in the lower river during the non-irrigation season. Critical fish life history components occur outside of the irrigation season, particularly during "shoulder months" at the beginning and end of the irrigation season (March/April and October/November).

In addition, current implementation of the Program poses potential impacts to the ESA-listed Oregon Spotted Frog (OSF) outside of the irrigation season. Improving winter flows on the upper Deschutes River below Wickiup Reservoir and on Crescent Creek is essential to the survival of the OSF, and freshwater spring habitats in the upper Deschutes Basin have been identified as critical to overwinter survival.

The continual detrimental impact to streamflow during the non-irrigation season is now a greater concern for more than just the "shoulder months." Most stakeholders recognize that non-irrigation flow concerns still need to be addressed for the Deschutes basin as a whole. In the past, OWRD recognized this concern as well. One option, which is currently being sought by water users in the basin, would be to release stored water in Wickiup, Crane Prairie, Crescent and other reservoirs instream during the winter and shoulder months. ODFW recognizes the release of stored water during the non-irrigation season as a valuable tool for supplementing the existing mitigation credits that are currently limited to the irrigation season. Winter releases would aide in offsetting impacts of groundwater withdrawal on a true 1:1, year round basis, but only if utilized as mitigation for winter impacts and in partnership with other mitigation applied to the irrigation season. To fully mitigate impacts to fish and wildlife resulting from groundwater withdrawals, mitigation credits should apply the appropriate volume and quality of water to both the middle and upper Deschutes River on a year round basis.

200 CFS Cap

Stream flows outside the irrigation season are important to fish for a number of reasons, including providing habitat for spawning, rearing habitat throughout the year, and especially for spring outmigrating salmon and steelhead beginning in March and continuing through May. When the Program rules were developed, all parties recognized the Program would reduce flows in the lower river during the non-irrigation season. Because of this, the 200 cfs cap was put in place to limit flow reduction impacts in the lower river outside of the irrigation season and allow for an overall assessment of the Program. All stakeholders at the time recognized that non-irrigation flow concerns still needed to be addressed for the Deschutes basin as a whole.

ODFW would like OWRD and program partners to work with us to seek clear options for year-round mitigation to offset year-round impacts. Therefore, the 200 cfs allocation cap should remain until such time as the winter flow issues can be resolved. Maintaining the cap will ensure that groundwater reductions due to unmitigated, non-irrigation season use is kept to a minimum (*see* **Impacts During the Non-Irrigation Season**).

Review of Mitigation Projects

OWRD works in cooperation with ODFW to enhance the resource benefits and make the most effective use of mitigation projects and mitigation water (OAR 690-505-0615(7)).

ODFW Comments 9/14/20

Currently, ODFW's understanding is that in practice, WRD is seeking input regarding shaping of mitigation flows for proposed mitigation projects. However, this shaping is limited to the season of the original water right and some certificates have protocols that preclude releasing higher amounts during shoulder months. As such, ODFW is limited in our ability to effectively comment on mitigation projects so that they maximize benefits to fish and wildlife. ODFW would like to provide more meaningful input that benefits fish and wildlife year round in reach-specific locations, which may require updates to the existing rules. This will aide in ensuring that mitigation is offsetting the local impact and not resulting in impacts during the non-irrigation season.

Thank you for the chance to comment. We look forward to revisiting Program goals and rule language and pursuing solutions to our concerns in upcoming discussions as OWRD plans for Program updates. In the meantime, the 200 cfs cap should not be lifted until these issues are resolved, and the Commission can determine that scenic waterway flows and instream water right flows in the Deschutes Basin continue to be met year round on at least an equivalent or more frequent basis as compared to long-term, representative base period flows established by the Department per OAR 690-505-0500(4). If you have any questions, please contact me (503-947-6092) in Salem or Brett Hodgson (541-388-6363) in Bend.

Sincerely,

Danette Faucera, Water Policy Coordinator

Brett Hodgson, Deschutes District Fish Biologist

References:

Gannett, M.W., and Lite, K.E., Jr., 2013, Analysis of 1997–2008 groundwater level changes in the upper Deschutes Basin, Central Oregon: U.S. Geological Survey Scientific Investigations Report 2013-5092, 34 p., http://pubs.usgs.gov/sir/2013/5092.

Attachment 5: Oregon Farm Bureau, Deschutes County Farm Bureau, Crook-Wheeler County Farm Bureau, Jefferson County Farm Bureau

September 11, 2020

Sarah Henderson
Flow Restoration Program Coordinator
Transfer and Conservation Section
775 Summer St NE, Suite A
Salem, OR 97301

Submitted Via Email: sarah.a.henderson@oregon.gov

Re: Deschutes Basin Mitigation Program Evaluation Feedback Request

Ms. Henderson:

Thank you for the opportunity to provide feedback on the Deschutes Basin Mitigation Program Evaluation. Our members are concerned about the impacts of the Deschutes Basin Mitigation Program on farmers and ranchers in Central Oregon and urge the Department to undertake a comprehensive review of the science behind the program and the ongoing need for the program.

By way of background, OFBF is a voluntary, grassroots, nonprofit organization representing Oregon's farmers and ranchers in the public and policymaking arenas. As Oregon's largest general farm organization, its primary goal is to promote educational improvement, economic opportunity, and social advancement for its members and the farming, ranching, and natural resources industry. Today, OFBF represents nearly 7,000-member families professionally engaged in the industry. Deschutes, Jefferson, and Crook-Wheeler County Farm Bureaus represent 320-member farming families in Deschutes, Jefferson, and Crook counties, many of whom are directly impacted by the Deschutes Basin Mitigation Program.

Agriculture is critical to the Central Oregon economy. According to the 2017 census of agriculture, Deschutes County boasts 1,494 farms on 134,600 acres that contribute $28,769,000 in market value of agriculture products to the economy, Jefferson County has 397 farms on 792,920 acres that contribute $67,438,000 in market value, and Crook County has 620 farms spanning 799,845 acres that contribute $44,563,000. The totals over 2,500 farms, 1.7 million acres of farmland, and **over $140 million** in market value of agricultural products from farms in Central Oregon. Critically, these farms also provide fish and wildlife habitat, protect water quality, and protect open space and recreational areas for Oregonians.

Our members have been concerned about the Deschutes Basin Mitigation Program since its early inception. In the last several years, the program has resulted in removal of hundreds of acres of farmland from irrigated production, as cities look to irrigation water to provide mitigation for their growth. The removal of water rights from agricultural land severely reduces the value of the land, which can then depress property values for agricultural lands regionally. Critically, the removal of irrigation water makes it increasingly likely that the land will be removed from agricultural production. Within an irrigation district or agricultural area, this conversion can lead to a reduction in the overall agricultural community, as we have seen farm supply stores, tractor dealers and other infrastructure move away as farms in Central Oregon go out of business. In this respect, we are concerned that the Program conflicts with Oregon's land use planning goals, as it effectively banks irrigation water (and therefore agricultural land) for future use for cities in violation of Goal 3, which protects agricultural land for agricultural production.

Additionally, we are concerned that the Program is based on questionable and outdated science. It is our understanding that the Program was created based on a United States Geological Survey (USGS) study from the late 1980s that found that the Deschutes River was connected to all groundwater within the Program boundaries. We understand that there has been subsequent data and information that has further refined and called into question some of the assumptions contained in the early studies, but that the Program was not meaningfully adjusted or changed based upon this more recent information. Given that the program is having a major impact on both urban and rural communities in Central Oregon, the science underpinning its existence should be comprehensively reviewed and updated given the length of time that has passed since the program's inception.

Further, we are concerned that the program is not supported by a finding that the basin has been removed from appropriation or that groundwater is in limited supply. Indeed, the USGS study indicates that the primary aquifer is quite large. Further, we understand that there is no measurable impact to the river flows at the mouth of the Deschutes that would justify such a restriction on ground water withdrawals. We strongly encourage you to revisit the science and legal underpinnings supporting the program.

We also want to be clear that we support the recent Habitat Conservation Plan developed by a number of irrigation districts and cities in Central Oregon and want to ensure that plan remains implementable by the districts and cities. While we do not believe that preservation of the Program is essential to implement the HCP, we want to be clear that we support that work by the impacted irrigation districts, cities, and farmers.

Thank you for the opportunity to provide feedback and do not hesitate to contact us if you have any questions.

Sincerely,

Mary Anne Cooper
Vice President of Public Policy
Oregon Farm Bureau Federation
maryanne@oregonfb.org
(503) 799-1701

Matt Cyrus
President
Deschutes County Farm Bureau

Tim Deboodt
President
Crook-Wheeler County Farm Bureau

Sue Vanek
President
Jefferson County Farm Bureau

Attachment 6: Clyde Snow LLC on behalf of Shanda Asset Management, LLC

ClydeSnow
ATTORNEYS AT LAW
CLYDE SNOW & SESSIONS
A PROFESSIONAL CORPORATION
377 SW CENTURY DRIVE, SUITE 203
BEND, OREGON 97702
TEL 541.797.0011 • FAX 801.521.6280
clydesnow.com

RODNEY G. SNOW∞
STEVEN E. CLYDE∞
EDWIN C. BARNES∞
NEIL A. KAPLAN∞◊
D. BRENT ROSE∞
J. SCOTT HUNTER∞
DEAN C. ANDREASEN∞
ANNELI R. SMITH∞
WALTER A. ROMNEY, JR.∞
MATTHEW A. STEWARD∞
CHRISTOPHER B. SNOW∞◊¤
WAYNE Z. BENNETT∞
BRIAN A. LEBRECHT∞¤
ROBERT D. ANDREASEN∞
TIMOTHY R. PACK∞
JAMES W. ANDERSON∞
DIANA L. TELFER∞
SHANNON K. ZOLLINGER∞
LISA A. MARCY∞ø
EMILY E. LEWIS∞π
KEITH M. WOODWELL∞
SHAUNDA L. MCNEILL∞¤

JONATHAN S. CLYDE∞
VICTORIA B. FINLINSON∞
LAURA D. JOHNSON∞
TAYMOUR B. SEMNANI∞
TRENTON L. LOWE∞
KATHERINE E. PEPIN∞
JOSEPH D. WATKINS∞•
KODY L. CONDOS∞

OF COUNSEL:
T. EDWARD CUNDICK∞◊
REAGAN L.B. DESMOND∞¤
CLARK W. SESSIONS∞†
JAKE TAYLOR∞Δ
NATHAN B. WILCOX∞

EDWARD W. CLYDE (1917–1991)

† SENIOR COUNSEL
∞ ADMITTED IN UTAH (NOT ADMITTED IN OREGON)
• ALSO ADMITTED IN ARIZONA
¤ ALSO ADMITTED IN CALIFORNIA
◊ ALSO ADMITTED IN DISTRICT OF COLUMBIA
Δ ALSO ADMITTED IN FLORIDA
ø ALSO ADMITTED IN NEW YORK
◊ ALSO ADMITTED IN TEXAS
∞ ALSO ADMITTED IN UTAH
π ALSO ADMITTED IN WYOMING

September 11, 2020

Via Email and U.S. Mail

Sarah A. Henderson
Flow Restoration Program Coordinator
Transfer and Conservation Section
Oregon Water Resource Department
725 Summer Street, NE, Suite A
Salem, OR 97301-1271
Sarah.A.Henderson@oregon.gov

Re: Comments on Deschutes Basin Ground Water Mitigation Program Evaluation (ORS 540.155)

Dear Ms. Henderson:

Thank you for providing notice of the Deschutes Basin Groundwater Mitigation Program Evaluation currently underway pursuant to Oregon Revised Statutes 540.155. As the Department prepares its combined report, we submit these preliminary comments on behalf of Shanda Asset Management, LLC, requesting certain issues be included in the review.

We understand the Oregon Department of Fish and Wildlife (ODFW) and other stakeholders in the past have raised concerns regarding the narrow availability of mitigation credits, which are limited primarily to the irrigation season. (*See* Letters from ODFW dated July 22, 2020 re: DRAFT 2019 Annual Review of the Deschutes Groundwater Mitigation Program and October 17, 2018 re: Combined Report for 2017 and the Five-Year Administrative Evaluation.) We also recognize a need for year round mitigation credits. To that end, we encourage a process that will seek creative solutions to this problem.

{01747914-1 }

ClydeSnow

During the prior Five Year Evaluation process, other stakeholders encouraged the Department to consider a mechanism to allow permanent mitigation credits to be assigned temporarily to groundwater permits. (*See* Review of Deschutes Ground Water Mitigation Program, December 23, 2016, p. 49.) In particular, cities could benefit from a rule that would allow more certainty than using temporary mitigation based on instream leases. Such a rule also could address the problem of finding mitigation outside of the irrigation season.

We believe the statutory evaluation process currently underway is intended to identify and facilitate programmatic improvements to the Deschutes Ground Water Mitigation Program. A procedure for allowing creative solutions such as temporary assignment of permanent mitigation credits, forbearance agreements or other similar mechanisms will add flexibility and address the needs outlined above. We respectfully request the Department reconsider these issues during this evaluation and pursue a collaborative process for the evolution of this program. We also request to be included on future notice lists, and we welcome any opportunity to further inform this process.

Very truly yours,

CLYDE SNOW & SESSIONS, PC

Reagan L.B. Desmond

Cc: Chris Johnson, Shanda Asset Management, LLC

{01747914-1 }

Attachment 7: Confederated Tribes of Warm Springs

CONFEDERATED TRIBES OF
WARM SPRINGS
1855

Confederated Tribes of Warm Springs, Oregon
PO Box C
Warm Springs, OR 97761
Phone: 541-553-1161
Fax: 541-553-1924

August 12, 2020

Via email: Sarah.A.Henderson@oregon.gov

Sarah A. Henderson
Oregon Water Resources Department
725 Summer Street, NE Suite A
Salem, OR 97301

Re: Deschutes Basin Mitigation Program Evaluation ("Program")

Dear Ms. Henderson:

I am the Branch of Natural Resources General Manager for The Confederated Tribes of the Warm Springs Reservation of Oregon ("Tribe"), which is a federally recognized, self-governing, sovereign Indian tribe and is the legal successor in interest to the Indian signatories to the Treaty between the United States of America and the Tribes of Middle Oregon, dated June 25, 1855, 12 Stat. 963, ("1855 Treaty" or "Treaty"). I am in receipt of your July 16, 2020 email soliciting feedback from stakeholders regarding the Deschutes Basin Mitigation Program Evaluation ("Mitigation Program") that is being undertaken by the Oregon Water Resources Department ("Department").

The Tribe has many sovereign interests in the Deschutes Basin; those interests include, but are not limited to, the protection and enhancement of the Warm Springs Reservation and the Tribe's treaty-reserved rights to take fish and have a harvestable population of fish to take throughout the Basin, which is within the Tribe's ceded and aboriginal lands. As a sovereign, governmental co-manager of the Deschutes River, the Tribe intends to participate in the Department's evaluation of the Mitigation Program. I anticipate that our Tribal Council will likely seek a government-to-government consultation with the Director Byler and appropriate staff to discuss Mitigation Program. Unfortunately, Covid-19 has caused a temporary shutdown of most Tribal offices, including Tribal Council, and I cannot say with any certainty as to when we can schedule the consultation.

I have asked one of our Tribal attorneys, Josh Newton, to follow up with you. I want to be sure that we are able to provide the Tribe's input on the Mitigation Program in a timely fashion. Thank you.

Sincerely,

Robert A. Brunoe

ROBERT A. BRUNOE
General Manager, CTWS Branch of Natural Resources
RAB/ehg

cc: Raymond Tsumpti, Tribal Council Chairman
Tom Byler, Director, Oregon Water Resources Department
Josh Newton, Tribal attorney

Attachment 8: WaterWatch of Oregon

WaterWatch of Oregon
Protecting Natural Flows In Oregon Rivers

September 14, 2020

Sarah Henderson
Restoration Program Coordinator, Transfer and Conservation Section
Oregon Water Resources Department
725 Summer St. NE, Suite A
Salem, OR 97301
Email: sarah.a.henderson@oregon.gov

Re: Deschutes Groundwater Mitigation Program Review

Dear Ms. Henderson,

Thank you for the opportunity to provide comments as the OWRD embarks upon its review of the Deschutes Groundwater Mitigation Program, as required by ORS 540.155 and OAR 690-505. WaterWatch is a river conservation group dedicated to restoring and protecting water for rivers, streams and aquifers statewide. WaterWatch has been working in the Deschutes Basin for over 30 years. We negotiated the groundwater provisions of the State Scenic Waterway Act that resulted in this program, served as a member of the Deschutes Workgroup that developed the Groundwater Mitigation Program, were a member of the facilitated workgroup that provided input into the 2009 Legislative Report, have participated in all rulemakings related to this program and monitor new groundwater permits and associated mitigation credits in the basin.

Most of the issues that we will recommend for review are longstanding issues that WaterWatch and others have noted need attention since the adoption of the rules. Some were at issue in WaterWatch of Oregon v. Water Resources Commission, 199 Or. App. 598, (2005), in which WaterWatch prevailed. While we appreciate that following the Courts ruling, the 2005 Legislature passed a law to get around the ruling by mandating that the rules are in compliance with the Scenic Waterway Act, that statute expires in 2029.

In the 15 years since the Court ruling that found that the rules did not meet the mandates of the Scenic Waterway Act, the OWRD has not taken any meaningful action to address identified resource concerns. The OWRD did undertake two additional rulemakings during this time, but both were limited to addressing issues that would allow greater flexibility to users without addressing any of the longstanding resource concerns. As the statutory deadline of 2029 approaches, we would urge the OWRD to address longstanding issues. As we have stated throughout the years, WaterWatch will oppose any altering upwards of the 200 cfs cap absent resolution of outstanding resource concerns.

WaterWatch of Oregon
Main Office: 213 SW Ash St. Suite 208 Portland, OR 97204
Southern Oregon Office: PO Box 261, Ashland, OR, 97520

www.waterwatch.org
Main Office: 503.295.4039
S. OR Office: 541.708.0048

While most the longstanding issues are raised/briefed in previous reports and/or reviews, we will list them here again so that they are not overlooked as the OWRD embarks upon its 2020 review. For detailed discussion on background, please see the 2009 Legislative Report at a minimum. Issues of concern to WaterWatch include but are not limited to:

- **Zone of Impact:** Currently the OWRD only required mitigation in the "primary" zone of impact. Limiting mitigation to the primary zone of impact raises significant resource concerns. For instance, if a groundwater use will have a 60/40 impact on the Deschutes and Metolious Rivers respectively, mitigation will only be required in the Deschutes. This means that both scenic waterway flows and instream water rights in the Metolious will be impacted. We do not believe this practice is supported by statute or rules. Solution: provide that groundwater users must provide mitigation in all impacted zones

- **Timing of Mitigation:** Currently the rules do not include a timing element that would require that mitigation water be provided when the impact on surface water occurs; rather the rules allow for annual accounting of mitigation. This is a fatal flaw in the rules that undermines the purpose of the Scenic Waterway Act, which is to require mitigation of impacts to surface water from groundwater pumping.[1] Solution: rule change to require a timing element to mitigation.

- **Definition of Mitigation:** Currently the Deschutes Mitigation rules define mitigation as "moderating" the effects of the groundwater impact. This does not meet statutory standards under the Scenic Waterway Act, which clearly requires that mitigation ensure the maintenance of the free-flowing character of the scenic waterway in quantities necessary for recreation, fish and wildlife. ORS 390.835(9)(g)[2]. Solution: Change the definition in rule so that mitigation is defined as "offsetting" the effect of groundwater use.

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[1] The Oregon Court of Appeals found that the "volumetric-based standard" and the annual monitoring do not ensure the maintenance of the flows as required by the Act. , as respondents contend….." As the Court noted, "maintaining flows in quantities necessary for fish, recreation, and wildlife uses is different from maintaining a certain yearly average volume of water in a system. As the Oregon Department of Fish and Wildlife explained during the rulemaking proceeding, "fish and their habitats are more affected by periodic extreme constraints placed on their population and habitat rather than the average conditions. Basically, in biology, populations can only temporarily grow beyond these constraints provided by their habitat. In the case of fish their populations are ultimately constrained by the low flow periods rather than the average flows. Average measurements smooth out the valleys and peaks in a data set hiding the true magnitude of the valleys and peaks. Flow levels are directly related to available spawning and rearing habitat, especially in the lower Deschutes River where small drops in flow levels result in much larger reductions in available habitat. Allowing the overall low flow periods to decline further will result in a far greater impact to fish populations than would be indicated by average long term flows. In the case of the Lower Deschutes where several species are endangered this could prevent recovery of these species." WaterWatch of Oregon v. Water Resources Commission, 199 Or. App. 598, (2005).

[2] *Id.* The Oregon Ct. of Appeals noted: "ORS 390.835 requires that stream flows be maintained and that, under the statute, any mitigation must "ensure the maintenance of the free-flowing character of the scenic waterway in quantities necessary for recreation, fish and wildlife." ORS 390.835(10) (emphasis added). In petitioner's view, the statutory language requires that "mitigation" eliminate or fully offset the impacts of a groundwater use on scenic flows. Because the rules "only require that mitigation 'moderate' the effect of ground water use on [those] flows," petitioner contends that the rules depart from the legal standard expressed in ORS 390.835 and, accordingly, are invalid. We agree with petitioner."

- **Water Quality/Springs:** Currently the mitigation program does not include protections for water quality and/or spring flows. As groundwater pumping in the basin has increased, the program's impact on cold water springs that feed the Deschutes is of increased concern. This was identified in the 2009 Report to the Legislature, but OWRD has not invested significant time and/or resources to this issue. Solution: Work with ODFW and DEQ to develop sideboards to the program that will avert impacts to water quality and/or springs.

- **7j Permits:** Pages 46-47 of the 2009 Legislative Report provide a good background on this issue. Long story short, when SB 1033 was negotiated language was included that would allow regulation of water rights issued post 1995 if the OWRD determined that the Scenic Waterway Act's "measurable reduction standard" had been triggered. In 2001, the OWRD found that the standard had been triggered and that the post 1995 (7j) water right holders would need to mitigate. Rule language states that if 7j water right holders provided mitigation, they were not subject to OWRD regulation[3]. Legislative and administrative history makes clear the intent was that if 7j water right holders did not mitigate, OWRD would regulate. The OWRD has not, as of yet, required mitigation of the 7j water right holders. Post 1995 water rights with the 7j condition are in the order of 188 cfs; allowing continued use of these permits absent mitigation is negatively affecting both scenic waterway flows and senior instream water rights. Solution: OWRD should require mitigation of all post 1995 rights with the 7j permit condition.

- **Exempt wells:** The Deschutes Groundwater Mitigation Rules do not require mitigation by exempt well holders. While the Scenic Waterway Act explicitly excludes exempt wells from its mitigation requirements, this does not relieve the OWRD from its obligation to protect senior surface water rights, including senior instream water rights. In the late 1990's the OWRD found that PSI (potential for substantial interference) had been triggered in the basin. The exempt well statutes ORS 576.545 grant OWRD explicit authority to regulate exempt wells. Given instream water rights throughout the Deschutes are routinely not met, the OWRD should either be regulating them off, or requiring mitigation. Solution: Amend rules to require post 1995 exempt well holders to provide mitigation under the program.

- **What qualifies as mitigation under the program:** Currently the rules include a list of projects that "may" qualify as mitigation. That said, the potential projects must meet the parameters of the program, namely that it result in water that is legally protected

[3] OAR 690-505-0600 (4) Holders of existing ground water permits and associated certificates in the Deschutes Ground Water Study Area issued after July 19, 1995, with priority dates after April 19, 1991, that are specifically conditioned to allow regulation for measurable reduction of a state scenic waterway and that choose to provide mitigation meeting the standards of these rules shall not be subject to regulation for scenic waterway flows pursuant to ORS 390.835(9). A ground water permit or certificate for which a mitigation project has been approved by the Department prior to the effective date of these rules shall not be subject to regulation for scenic waterway flows pursuant to ORS 390.835(9).

instream. During rule development, numerous commenters (including WaterWatch, Bureau of Land Management and ODFW) raised concerns with the inclusion of "conserved water" on that list. As OWRD is aware, the Conserved Water Statute requires that before allocating the applicant's portion of the conserved water, mitigation must be provided to offset any impacts to other water right holders. Because of the unique hydrology of the Deschutes basin whereby water leaked via canals returns to the Deschutes, saved water cannot be "allocated" to any additional consumptive use without diminishing flows protected by instream water rights. In other words, legally Conserved Water cannot serve as mitigation as all saved water must go towards offsetting impacts of diminished recharge on instream rights. The OWRD has received draft advice from DOJ corroborating this point. Similarly, aquifer recharge also cannot serve as mitigation as there is no way under Oregon law to protect water "recharged" instream. Solution: to avoid ongoing confusion, both conserved water and aquifer recharge should be deleted as possible mitigation projects in the rules.

Conclusion: While WaterWatch supports the continuation of the Deschutes Groundwater Mitigation Program, we continue to believe that the program needs updating to ensure it meets the mandates of the state Scenic Waterway Act, namely that mitigation must "ensure the maintenance of the free-flowing character of the scenic waterway in quantities necessary for recreation, fish and wildlife." ORS 390.835(10). While the program has benefitted certain segments of the river during certain times of the year, it is not ensuring the protection of scenic waterway flows either in all protected segments or year-round. Moreover, there have been some unintended consequences, such as the negative effects on springs, which should be addressed.

Thank you for the opportunity to provide comments in advance of the OWRD review; we look forward to continued opportunities to provide input as the OWRD develops draft documents.

Sincerely,

Kimberley Priestley
Senior Policy Analyst

Attachment 9: Nunzie Gould, Bend, Oregon

HENDERSON Sarah A * WRD

From: Nunzie <nunzie@pacifier.com>
Sent: Monday, September 14, 2020 3:52 PM
To: HENDERSON Sarah A * WRD
Subject: comments on Deschutes Mitigation Rules
Attachments: Director's Report by Tom Byler for Aug. 27, 2020 OWR Commssion meeting.pdf; eo_15-05.pdf; Resolution No 2020-024.pdf

Please enter this email into comments on the Deschutes Mitigation Rules which closes at end of today Sept 14, 2020.

I concur with DEQ 7/24/20 and ODFW 7/22/20 written comments to OWRD and submitted in Tom Byler's submittal to WRC's August 27 2020 regarding the deschutes mitigation rules. It is important that the zone of impact should be used for place of mitigation, not the zone of withdrawl and not a general zone of impact.
The Director Byler's report to WRC meeting of 8/27/20 is attached.
In the documentation charts that Tom Byler submitted to WRC in August 27, 2020, I think there needs to be a distinction between temporary and permanent mitigation ass well as a tallying of temporary mitigation credits versus permanent mitigation available.
When a mitigation amount is reduced to a lesser incremental developer mitigation, there needs to be analysis performed to assure and show that there is sufficient permanent mitigation available since temporary mitigation credits only look outward for a maximum of 5 years. It's important that volumne allowed thru permits does not exceed permanent mitigation available: Please feature in the final report

The issue isn't so much about mitigation available compared to volumne pumped but permanent mitigation available today compared to volumne permitted to be pumped.

In my opinion, granting ground water permits without having long range permanent mitigation is a very short range and unsustainable commitment to the science of what we know about hydrologic connectivity in the Deschutes Basin.

I attach both Drought Declarations from 5/2015 Executive Order 15-05 and Deschutes County Resolution 2020 - 024 from 6/2020 to emphasize that Deschutes County continues to be impaired by reduced snowpack and climate change. There must be improvements to the Deschutes Mitigation Rules, such that when Drought is declared in the Deschutes Basin, that there is a measuring device to identify and report the actual amount of supplemental water that is drawn from the ground and that mitigation rules apply especially during drought conditions and not sidetrack the science by creating a carveout to exclude mitigation standards or to streamline transfers without the department doing due diligence to protect our scenic waterways. We need a Mitigation Rules Program that doesn't throw the science out the window in favor of pumping more groundwater unless it can be shown that mitigation is met beforehand. This includes Emergency Water Use Permits and Temporary Transfers of Water Rights and Use of Existing Right Option/Agreements. Frankly our water use should be curtailed during drought not expanded in withdrawl and certainly not exempted of mitigation.

I am a bit troubled by the computer generated statistic charts in Director Byler's report and would like to see actual stream guage measurements to substantiate the computer generated flows.
Furthermore, I think it imperative that the State of Oregon begin to measure springs in the Deschutes Basin in particular those that are not instream: i.e. those in the high desert.

I think it very important for the Deschutes Mitigation Rules to include mitigation for supplemental ground water rights and I think it imperative for WRD to measure with meters the amount of water withdrawn by supplemental water rights (including for pre-mitigation rules supplemental water rights) to have a basis for WRD to know how much water is withdrawn and to begin collecting data during this period in our history of climate change. Great telemetry strides have

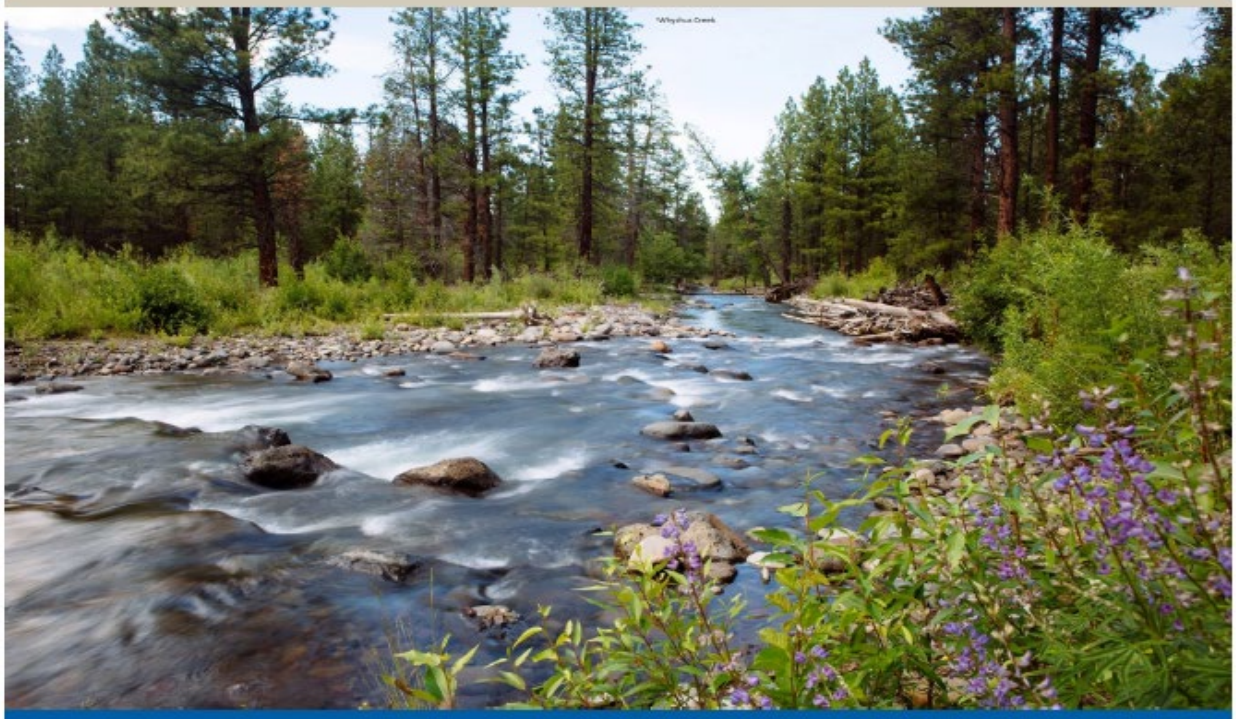
been made in technology and I do believe that Measuring devices should not just be "at the discretion of the water master".

Finally, It's time that where lands are subdivided that municipal water supplies be required such that multiple exempt wells are not
drilled impacting our watershed. Examples are 100 acres outside of
any UGB where 10 wells would then be drilled. It's imperative for there to be mitigation for such withdrawls and a municipal system would have to meet the Mitigation Rules whereas 10 individual exempt wells would not. Recently 74 new wells could be drilled adjacent to our state and federal scenic Deschutes River in one such subdivision. Not only is the proximity to the scenic waterway a concern together with so many well punctures, but it is unclear whether the hydrologic 100' setbacks for such wells could be met, yet the subdivision is approved. Leased lands are yet another example where new wells are drilled exempt of the mitigation rules for large homesites most with their larger lawns in the high desert: again, there should be a limit on the number of exempt wells that lands leased to others for dwelling are allowed or better yet, a municipal water source should be established such triggers the mitigation rules for such leased lands.

Already the state of Oregon is looking to add density to rural lands with ADU's and this will tax exempt rural wells that today don't partake into the mitigation rules.
If all wells were metered, OWRD would have measurable data on which to stand.
Thank you for considering my views,
Nunzie Gould
19845 JW Brown
Bend, OR 97701

This is the first page of the Nunzie Gould attachment that is 30 pages long, it refers to the 2019 Annual Review.

DESCHUTES BASIN GROUNDWATER MITIGATION PROGRAM



OREGON
WATER RESOURCES DEPARTMENT

2019 ANNUAL REVIEW

WRITTEN BY SARAH HENDERSON

OREGON WATER RESOURCES DEPARTMENT

Office of the Governor
State of Oregon

EXECUTIVE ORDER NO. 15-05

DETERMINATION OF A STATE OF DROUGHT EMERGENCY IN DESCHUTES, GRANT, JACKSON, JOSEPHINE, LANE, MORROW, UMATILLA, AND WASCO COUNTIES DUE TO DROUGHT, LOW SNOW PACK LEVELS, AND LOW WATER CONDITIONS

At the request of Deschutes County (by Declaration 2015-038 dated April 29, 2015), Grant County (by Resolution 2015-06 dated April 29, 2015), Jackson County (by Order 61-15 dated May 13, 2015), Josephine County (by Resolution 2015-017 dated May 6, 2015), Lane County (by Order 15-05-12-07 dated May 12, 2015), Morrow County (by Resolution R-2015-4 dated May 6, 2015), Umatilla County (by Order BCC2015-048 dated April 28, 2015), and Wasco County (by Resolution 15-003 dated May 20, 2015), and based on the recommendations of the Drought Council and the Water Availability Committee, and pursuant to ORS 401.165 and ORS 536.740, I find that continuing dry conditions, low snowpack, and lack of precipitation have caused natural and economic disaster conditions in Deschutes, Grant, Jackson, Josephine, Lane, Morrow, Umatilla, and Wasco Counties.

Projected precipitation and climatic conditions are not expected to alleviate the continuing drought conditions, and the drought is having significant economic and other impacts on communities and on agricultural, livestock, and natural resources in Deschutes, Grant, Jackson, Josephine, Lane, Morrow, Umatilla, and Wasco Counties.

The dry conditions present hardships for these communities: crops, agricultural and other economic interests are at risk; animals and plants that rely on Oregon's surface water supplies are threatened; and the risk of wildfires across the state is greatly increased. Current conditions are being monitored and analyzed by state agencies including the Department of Agriculture, the Department of Water Resources, and the Oregon Office of Emergency Management.

A timely response to the drought conditions is vital to the safety of persons, property and economic security of the citizens and businesses of Deschutes, Grant, Jackson, Josephine, Lane, Morrow, Umatilla, and Wasco Counties. I am therefore declaring that a continuing drought emergency exists in Deschutes, Grant, Jackson, Josephine, Lane, Morrow, Umatilla, and Wasco Counties, and directing the following actions.

REVIEWED
LEGAL COUNSEL

For Recording Stamp Only

BEFORE THE BOARD OF COUNTY COMMISSIONERS OF DESCHUTES COUNTY, OREGON

A Resolution Declaring a Countywide State of Emergency and Requesting State Declaration of Drought Emergency within all of Deschutes County

RESOLUTION NO. 2020-024

WHEREAS, ORS 401.309 and the Deschutes County Emergency Operations Plan (EOP) authorize the county governing body to declare a state of emergency within the county or within a designated portion of the county; and

WHEREAS, drought conditions endanger crops and livestock, endanger the health and safety of the county's population, jeopardize economic vitality within the county, and imperil the quality of the environment; and

WHEREAS, the Deschutes Basin Board of Control has informed Deschutes County that continuing extreme weather conditions within the county are likely to cause widespread and severe damage to livestock, wildlife, natural resources, recreation, tourism and related economies; and

WHEREAS, snow melt which feeds all water sources within the county is substantially below average; and

WHEREAS, Wickiup Reservoir is presently filled to its second lowest level on record; and

WHEREAS, month end contents at Wickiup Reservoir for April and May are the lowest ever on record; and

WHEREAS, the low water levels at Wickiup Reservoir will cause impacts to fishing and recreating; and

WHEREAS, the Deschutes River is experiencing extremely low natural flow levels such that all irrigation districts dependent upon water flows from the Deschutes River will be impacted; and

WHEREAS, the extended weather forecast for Central Oregon projects higher than normal temperatures and below average precipitation, now therefore,

BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF DESCHUTES COUNTY, OREGON, as follows:

Section 1. Pursuant to ORS 401.309,the Deschutes County EOP, and information provided to Deschutes County by the Deschutes Basin Board of Control, a State of Emergency is presently declared within Deschutes County.

Section 2. Pursuant to ORS 401.032(2), the governing body for Deschutes County finds that the appropriate response is beyond the capability of Deschutes County.

Section 3. The governing body for Deschutes County respectfully submits the Request contained immediately below in Section 4.

Section 4. **Request:** The Honorable Kate Brown, Governor of Oregon, declare a Drought Emergency for all of Deschutes County under the provisions of ORS 401.165 and ORS Chp. 536 due to severe and continuing drought conditions beginning at this time and continuing to October 31, 2020; and direct the Oregon Department of Water Resources and other Oregon executive branch agencies to make available for all purveyors of water within Deschutes County Temporary Transfers of Water Rights, Emergency Water Use Permits, and Use of Existing Right Option/Agreement; and other federal and state drought assistance and programs as needed.

Section 5. This Resolution shall take effect immediately from and after its adoption.

Dated this 15 of June, 2020

BOARD OF COUNTY COMMISSIONERS
OF DESCHUTES COUNTY, OREGON

Patti Adair
PATTI ADAIR, Chair

ANTHONY DeBONE, Vice Chair

PHILIP G. HENDERSON, Commissioner

ATTEST:
Recording Secretary

Attachment 10: Central Oregon Landwatch

CENTRAL OREGON LANDWATCH

2843 NW Lolo Drive., Ste. 200 | Bend, OR 97703
Phone (541) 647-2930
www.colw.org

August 25, 2021

Filed via email

To: Sarah Henderson, Flow Restoration Program Coordinator, Oregon Water Resources Department

From: Tod Heisler, Rivers Conservation Director, Central Oregon LandWatch

Re: Comments on the Five-Year Review of Deschutes Groundwater Mitigation Program

Dear Ms. Henderson:

Thank you for the opportunity to comment on the Draft Review of the Deschutes Basin Groundwater Mitigation Program. Central Oregon LandWatch ("LandWatch") is a conservation organization which has advocated for preservation of natural resources in Central Oregon for over 30 years. With over 400 members in Central Oregon, LandWatch has worked on water resource issues in the Deschutes River Basin and in gaining special protection for Whychus Creek and the Metolius River and spring systems. LandWatch has lately been particularly concerned about flows in the Upper Deschutes River, the impacts of the management of the irrigation diversions from the River, and maintenance of flows in the River's key tributaries. We continue to be interested in supporting an efficient irrigation-based farming community throughout Central Oregon. Our vision is that land and water will be available to meet the needs of working farms, ranches, and forests that produce food and timber, and wild lands, rivers, and streams that support native plants and animals.

After fifteen years of implementing the Groundwater Mitigation Program, LandWatch believes that the Oregon Water Resources Department should update and improve the program in the following ways:

1. Require mitigation for all exempt wells, 7J permits. Rather than wait to study the effects of these wells on streamflows and water temperature and considering the adverse effects on water quantity and quality already occurring due to climate change, mitigation for groundwater use from exempt wells should be required now. The connection between surface water and groundwater is well established and the state should not wait for the adverse impacts to occur, but instead, should prevent them from happening in the first place. It will be more challenging to fix the problem once it is established than to prevent the adverse impacts of exempt wells now.

2. Require senior "wet" water rights to be used as mitigation. The Deschutes Basin is over-appropriated and closed to further appropriation. Since 1909, when the Oregon water code was first established, the state has issued thousands of groundwater and surface water rights in the Deschutes Basin across a wide spectrum of seniority. Some water rights are only served for a short period during the higher flows early in the irrigation

season, while others are fully served throughout the year and in all water years. Other rights are used as supplemental water rights when primary water rights are limited.

OWRD should create higher sufficiency standards for water rights to be used for mitigation. If OWRD allows junior water rights that are only minimally used during the year to qualify for mitigation of a year-round groundwater right, consumptive use will increase and rivers will be harmed. Only water rights senior enough to be served 90% or better throughout the year should qualify as mitigation.

Historic use should also be a measure of sufficiency for mitigation. This would allow only water rights that have been used consistently since the 1995 amendments to the Scenic Waterway Act to qualify for groundwater mitigation. Water rights that cannot demonstrate long term consistent use should be disqualified for mitigation. Supplemental water rights or primary water rights that needed to be "proved up" in the past decade should also be disqualified. Failing to do so will increase the overall consumptive use of water in the basin and threaten streamflows and water quality.

3. The need for more permanent mitigation is real, and additional mitigation water should be made available when cities grow onto rural land. Cities are compelled by Oregon land use law to plan for growth twenty years into the future, but cities in Central Oregon lack the means to develop reliable long-term plans for the water supply needed over this period. Better coordination between Oregon's land use system and the groundwater mitigation program is needed. As rural land transitions to urban land when it comes inside an urban growth boundary, the water rights on that land should be released for mitigation if the city can justify the water need in its land use plan. Under current law, as development occurs inside the UGB on land with irrigation water rights, the rights must be transferred or forfeited. This presents the opportunity for these water rights to be repurposed for municipal water supply through the groundwater mitigation program. This critically needed change to the program will require coordination among state, county, municipal and district governments. It will require legislative change.

4. Additional criteria for evaluating the sufficiency of the 200 cfs cap are needed. OWRD does a good job tracking the status of groundwater permit applications and final orders. This effort monitors the supply of permits and applications under the cap, but not the demands associated with them. The program should closely track the volume of water projected under applications and permits and their associated demands. If the volume of water under the City of Bend's groundwater permits, for example, is projected to meet water demand for the next twenty years, there would be little need to raise the cap anytime soon on their behalf.

Thank you for considering these comments. Modifying the Deschutes Groundwater Mitigation Program as described above will help the Department ensure the Program continues to benefit the Deschutes Basin and its people into the future. Please inform us of any further opportunities to participate.

Attachment 11: Clyde Snow LLC on behalf of Shanda Asset Management, LLC

ClydeSnow
ATTORNEYS AT LAW
CLYDE SNOW & SESSIONS
A PROFESSIONAL CORPORATION
377 SW CENTURY DRIVE, SUITE 203
BEND, OREGON 97702
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STEVEN E. CLYDE∞
EDWIN C. BARNES∞
NEIL A. KAPLAN∞◊
D. BRENT ROSE∞
J. SCOTT HUNTER∞
DEAN C. ANDREASEN∞
ANNELI R. SMITH∞
WALTER A. ROMNEY, JR.∞
MATTHEW A. STEWARD∞
CHRISTOPHER B. SNOW∞◊¤
WAYNE Z. BENNETT∞
BRIAN A. LEBRECHT∞¤
ROBERT D. ANDREASEN∞
TIMOTHY R. PACK∞
JAMES W. ANDERSON∞
DIANA L. TELFER∞
SHANNON K. ZOLLINGER∞
LISA A. MARCY∞ø
EMILY E. LEWIS∞π
KEITH M. WOODWELL∞
SHAUNDA L. MCNEILL∞¤

JONATHAN S. CLYDE∞
VICTORIA B. FINLINSON∞
LAURA D. JOHNSON∞
TAYMOUR B. SEMNANI∞
TRENTON L. LOWE∞
KATHERINE E. PEPIN∞
JOSEPH D. WATKINS∞•
KODY L. CONDOS∞

OF COUNSEL:
T. EDWARD CUNDICK∞ß
REAGAN L.B. DESMOND∞¤
CLARK W. SESSIONS∞ł
JAKE TAYLOR∞◊
NATHAN B. WILCOX∞

EDWARD W. CLYDE (1917-1991)

‡ SENIOR COUNSEL
∞ ADMITTED IN UTAH (NOT ADMITTED IN OREGON)
ł ALSO ADMITTED IN ARIZONA
ß ALSO ADMITTED IN CALIFORNIA
◊ ALSO ADMITTED IN DISTRICT OF COLUMBIA
Δ ALSO ADMITTED IN FLORIDA
ø ALSO ADMITTED IN NEW YORK
ο ALSO ADMITTED IN TEXAS
¤ ALSO ADMITTED IN UTAH
π ALSO ADMITTED IN WYOMING

August 25, 2021

Via Email and U.S. Mail

Sarah A. Henderson
Flow Restoration Program Coordinator
Transfer and Conservation Section
Oregon Water Resource Department
725 Summer Street, NE, Suite A
Salem, OR 97301-1271
Sarah.A.Henderson@oregon.gov

Re: Comments on Review of the Deschutes Basin Groundwater Mitigation Program 5 Year Review – 2021 DRAFT

Dear Ms. Henderson:

Thank you for providing notice of the Deschutes Basin Groundwater Mitigation Program 5 Year Review – 2021 DRAFT ("2021 DRAFT Review"). As the Department prepares its final report, we submit these secondary comments on behalf of Shanda Asset Management, LLC ("Shanda"), requesting certain issues continue to be considered as the Department evaluates the program and finalizes its report.

We appreciate the Department's consideration and incorporation of our preliminary comments dated September 11, 2020. Of primary concern to Shanda is added-in flexibility for the program to put mitigation credits to use and to alleviate water demand in the fall/winter season when seasonally generated credits are unavailable. Multiple other stakeholders raised concerns regarding the timing of mitigation as problematic because most credits come from seasonal irrigation and do not adequately meet the municipal demand for year-round use. (*See e.g.* 2021 DRAFT Review, Stakeholder Comments, p. 19.) Incentivizing year-round

{01906681-1}

mitigation projects and freeing up those credits for both temporary and permanent application is a necessary step to bring the mitigation program to the next level.

This five-year evaluation process provides the Department the ideal opportunity to identify and facilitate programmatic improvements to the Deschutes Ground Water Mitigation Program. Those improvements should include a mechanism to temporarily assign permanent mitigation credits to other groundwater permits utilizing forbearance agreements or other similar mechanisms. In particular, municipalities could benefit from a rule that would allow more certainty than using temporary mitigation based on seasonal instream leases.

We respectfully request the Department reconsider these issues during this evaluation and pursue a collaborative process for the evolution of this program. We also request to be included on future notice lists, and we welcome any opportunity to further inform this process.

Very truly yours,

CLYDE SNOW & SESSIONS, PC

Reagan L.B. Desmond

Cc: Chris Johnson, Shanda Asset Management, LLC

{01906681-1}

Attachment 12: Central Oregon Cities Organization

CENTRAL OREGON CITIES ORGANIZATION

Bend, Culver, La Pine, Madras, Maupin
Metolius, Prineville, Redmond, Sisters

August 23, 2021

Sarah Henderson
Flow Restoration Coordinator
Oregon Water Resources Department
725 Summer St NE, Suite A
Salem, OR 97301

RE: Deschutes Basin Groundwater Mitigation Program – 5-year Review

Dear Ms. Henderson

The Central Oregon Cities Organization (COCO) appreciates the opportunity to provide input on OWRD's 2021 Draft Review of the Deschutes Basin Groundwater Mitigation Program (Draft Report).

As described further below, COCO is concerned with the lack of urgency and disregard for municipal water supply planning timelines evidenced in the Draft Report. Central Oregon is the fastest growing region in the state. COCO members must plan today for how they are going to deliver water for Central Oregon's growing communities over timelines of more than 20 years.

Despite COCO repeatedly expressing concerns about the lack of certainty associated with the mitigation program—lack of permanent mitigation credits "on-the-shelf," speculation and outrageous costs for mitigation credits, and a sunset date of January 2, 2029—the Department's Draft Report does nothing to address or acknowledge these concerns and in fact brushes-off what is now the biggest concern for COCO members which is the 200 cfs cap on the program.

The Draft Report states that: "OWRD does not anticipate an immediate need to change the 200 CFS allocation cap; however, OWRD would like to explore the issue of modification of the allocation cap ***in the next few years"*** (emphasis added). In making this statement, OWRD relies on information compiled through December 31, 2019 that shows approximately 20 cfs still available under the cap. However, in recent communications with the Department, COCO

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Central Oregon Cities Organization
Email. rladeby@ci.madras.or.us

Doug Riggs, Lobbyist
NW Grassroots & Communications
(503) 702-5120 doug@ngrc.com

has learned that, including all pending applications, the 200 cfs cap has been met as shown below.

Total CFS Appropriated Under Cap (permit & final order) =	159.10
200 CFS Allocation Cap remaining =	40.90
Pending Applications not deducted yet from Cap =	40.96
Difference between Pending and 200 CFS remaining =	-0.05
Total (final orders and pending Applications)	200.05

OWRD should not understate the significance of reaching the 200 cfs cap, both for municipal water suppliers and for other water users in Central Oregon. This is bringing the Upper Deschutes Basin perilously close to a moratorium on the issuance of new groundwater permits. COCO urges the Department to clarify the current status of the cap and make addressing the cap a high priority.

COCO understands the connection between addressing some long-standing concerns about the mitigation program and the 200 cfs cap. However, COCO is disappointed that the Department's Draft Report continues to suggest that somehow the very limited mitigation program is the cause of numerous resource challenges in the basin. For example, among the potential ways to improve the Mitigation Program, OWRD identifies "partnering with ODFW and DEQ to jointly secure funding for a study aimed at identifying impacts to springs and spring complexes located within the [Deschutes Groundwater Study Area] and to better understand the sources of those impacts, including the degree to which the Mitigation Program may contribute to the impacts." OWRD is already able to identify the potential scale of the contribution of the mitigation program to any current impacts to groundwater resources and associated springs: In Figure 6 of the Draft Report, OWRD identifies that the actual volume of water pumped under all groundwater permits requiring mitigation in 2019 was 2,144 acre-feet. The impact of the mitigation program to groundwater resources and springs would therefore be vanishingly small. Moreover, the amount of mitigation created through permanent instream transfers greatly exceeds the amount of water actually pumped under mitigation permits in all reaches of the Deschutes River. The mitigation program continues to have a net positive impact on streamflow. Also consider that, as documented in the recent Upper Deschutes River Basin Study, combined city and private water provider demand for groundwater—under mitigation permits or otherwise—is less than 4 percent of the total water demand in the basin.

The Mitigation Program is intended to "provide for mitigation of impacts to scenic waterway flows and senior water rights while allowing additional qualifying appropriations of ground water." The Department seems to overlook that there is currently an abundance of water-related activity taking place in the Deschutes Basin that will modify long-standing flow regimes. For this reason OWRD must differentiate the mitigation program from a generalized

Chair Richard Ladeby
Central Oregon Cities Organization
Email: rladeby@ci.madras.or.us

Doug Riggs, Lobbyist
NW Grassroots & Communications
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review of groundwater and surface water conditions in the Deschutes Basin. The scale of the mitigation program, both now and in the foreseeable future, is dwarfed by the scale of efforts already underway.

The foremost issue on the minds of COCO's municipal water suppliers is the need for regulatory certainty to match COCO members' long-term planning horizons and the need for predictable, affordable, and efficient groundwater mitigation. We urge the Department to step-up and give this well-functioning program the attention it needs before it spirals into a moratorium-fueled crisis.

Sincerely,

Mayor Richard Ladeby
Chair, Central Oregon Cities Organization

Mayor George Endicott,
Vice Chair, Central Oregon Cities Organization

Mayor Jason Beebe
Chair, COCO Water Subcommittee

Chair Richard Ladeby
Central Oregon Cities Organization
Email: rladeby@ci.madras.or.us

Doug Riggs, Lobbyist
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Attachment 13: Confederated Tribes of The Warm Springs

CONFEDERATED TRIBES OF
WARM SPRINGS
1855

Confederated Tribes of Warm Springs, Oregon
PO Box C
Warm Springs, OR 97761
Phone: 541-553-1161
Fax: 541-553-1924

August 23, 2021

Via email: Sarah.A.Henderson@oregon.gov

Sarah A. Henderson
Oregon Water Resources Department
725 Summer Street, NE Suite A
Salem, OR 97301

Re: Deschutes Basin Mitigation Program Evaluation

Dear Ms. Henderson:

I am the Branch of Natural Resources General Manager for The Confederated Tribes of the Warm Springs Reservation of Oregon ("Tribe"), which is a federally recognized, self-governing, sovereign Indian tribe and is the legal successor in interest to the Indian signatories to the Treaty between the United States of America and the Tribes of Middle Oregon, dated June 25, 1855, 12 Stat. 963. I am in receipt of your July 27, 2021 email soliciting feedback from stakeholders regarding the Department's periodic evaluation of the Deschutes Basin Mitigation Program ("Mitigation Program"). You ask for input on the 2021 – Draft Review of the Deschutes Basin Groundwater Mitigation Program ("Draft Review"). Without waiving the opportunity to provide additional comments in the future, I am providing input on the Draft Review now, because it omits meaningful reference to the Tribe and its interests in the water and aquatic resources of the Deschutes Basin.

The Tribe has many sovereign interests in the Deschutes Basin; those interests include, but are not limited to, the protection and enhancement of the Warm Springs Reservation and the Tribe's treaty-reserved rights to take fish and have a harvestable population of fish to take throughout the Basin, which is within the Tribe's ceded and aboriginal lands. The Tribe, along with the United States of America and the State of Oregon, is a party to the *Confederated Tribes of the Warm Springs Reservation Water Rights Settlement Agreement*, dated November 17, 1997 and amended effective May 16, 2002 ("WRSA"). The WRSA recognizes the Tribe as a co-manager of the Deschutes River, and the parties have agreed to cooperatively manage the water (including water quality) and aquatic resources of the Deschutes Basin.

The Draft Review is materially incomplete because if fails to provide any description of the Tribe and its sovereign and treaty-reserved interests in the Deschutes Basin; it also omits any reference to the WRSA. We ask that the Draft Review be revised to remedy this oversight. We are willing to assist the Department draft a provision that adequately recognizes the Tribe's interests that are implicated by the Mitigation Program. If the Department is willing to revise the Draft Review, please contact our Josh Newton, our attorney, at 541-382-3011 or jn@karnopp.com.

Sincerely,

ROBERT A. BRUNOE
General Manager, CTWS Branch of Natural Resources
RAB/jn

cc: Raymond Tsumpti, Tribal Council Chairman
Tom Byler, Director, Oregon Water Resources Department
Josh Newton, Tribal attorney

Attachment 14: Deschutes Basin Water Collaborative

Deschutes Basin
WATER COLLABORATIVE
Water for Agriculture, Rivers and Communities

August 23, 2021

Sarah Henderson
Restoration Program Coordinator, Transfer and Conservation Section
Oregon Water Resources Department
725 Summer St. NE, Suite A
Salem, OR 97301
Email: sarah.a.henderson@oregon.gov

RE: 5-year Review of the Deschutes Groundwater Mitigation Program

The Deschutes Basin Water Collaborative (DBWC) appreciates the opportunity to provide comments on the Oregon Water Resources Department's 2021 Draft Review of the Deschutes Basin Groundwater Mitigation Program (the Program). The Program, and its future, is integral to the larger comprehensive water management plan that the DBWC is working on to meet needs for rivers, agriculture and cities. We recognize that the Program has resulted in benefits towards its goals, and we commend the state on the effort that goes into administering and monitoring the Program. We appreciate the state's identification of key issues in the Program (some of them long-standing), and we strongly encourage state involvement and leadership in resolving these issues.

The DBWC has a Groundwater Mitigation Committee actively interested in working with the state to improve the Deschutes Basin Groundwater Mitigation Program. It is eager to leverage its collaborative forum to contribute to solutions and efforts to build consensus around difficult and long-standing issues with the Program. We look forward to further discussions with the state on these issues.

The DBWC is a mechanism for stakeholders to collaborate on critical water allocation and management issues in the Deschutes Basin, and to develop strategies to meet streamflow, ecological, agricultural, and community needs for water. The DBWC was built on the momentum of the Upper Deschutes Basin Study Working Group, the Water Summit convened by the Confederated Tribes of Warm Springs and the State of Oregon in the fall of 2018, as well as the legacy of the Deschutes Water Alliance. The DBWC formalized its Charter in June of 2020; to-date, 44 member groups have signed. It is focused on accelerating the implementation of water projects and programs that meet instream and out of stream needs in the basin, and planning for a sustainable water resources future for both surface water and groundwater.

At the August 23, 2021 DBWC Working Group meeting, all voting members present voted to support this letter, including the following organizations:

Trout Unlimited, Deschutes Redband Chapter
Wild Rivers Owners' Association
Central Oregon Cities Organization
Deschutes River Conservancy
Water for Life
Portland General Electric
Deschutes Soil & Water Conservation District
Great Old Broads for Wilderness
City of Redmond
Coalition for the Deschutes

City of Bend
Sunriver Anglers
North Unit Irrigation District
Central Oregon Irrigation District
Ochoco Irrigation District
Yancy Lind, citizen

Thank you for the opportunity to comment.

With respect,

The Deschutes Basin Water Collaborative
[attachments: DBWC membership list]

THE FOLLOWING ORGANIZATIONS ARE DBWC MEMBERS BY VIRTUE OF ADOPTING THE DBWC CHARTER:

Arnold Irrigation District
Avion Water Company
Central Oregon Cities Organization
Central Oregon Intergovernmental Council
Central Oregon Irrigation District
Central Oregon LandWatch
Yancy Lind, Citizen
City of Bend
City of La Pine
City of Prineville
City of Redmond
Coalition for the Deschutes
Confederated Tribes of Warm Springs
Crook County
Deschutes River Conservancy
Deschutes Soil & Water Conservation District
Great Old Broads for Wilderness
Jefferson County
League of Women Voters of Deschutes County
Lone Pine Irrigation District
North Unit Irrigation District
Ochoco Irrigation District
Oregon Dept. of Agriculture
Oregon Dept. of Environmental Quality
Oregon Dept. of Fish & Wildlife Oregon
Governor Kate Brown's Office
Oregon Natural Desert Association
Oregon Water Resources Dept.
Portland General Electric
Sunriver Anglers
Trout Unlimited – Deschutes Redband Chapter
Trout Unlimited – State Office
Upper Deschutes Watershed Council
United States Forest Service
Water for Life
WaterWatch of Oregon

Attachment 15: Oregon Department of Environmental Quality

RE: Deschutes Basin Mitigation Program Evaluation (ORS 540.155) Feedback Requested

MEHTA Smita * DEQ <smita.mehta@deq.state.or.us>
Wed 8/25/2021 3:51 PM

To: HENDERSON Sarah A * WRD <Sarah.A.Henderson@oregon.gov>
Cc: FAUCERA Danette L * ODFW <Danette.L.FAUCERA@odfw.oregon.gov>; SLATER Sara * DEQ <sara.slater@deq.state.or.us>

Hi Sarah,

Thank you for sharing this draft of the Deschutes Basin Mitigation Program Evaluation. I appreciate your careful consideration of all of our comments and detailed review of the program. I learned quite a few things about the program that I didn't know before. I have no further comments on the draft at this time.

In several sections of the draft, OWRD responded to DEQ and ODFW comments by stating further discussions and cooperation on funding of studies is needed between the agencies. I look forward to participating in these discussions. I hope we can pick up from where we left off in our interagency discussions that began last fall but abruptly ended in December. We need to resolve the issues brought up in our comments in time to recommend sound revisions to the Program when it is up for renewal in 2029.

Sincerely,
Smita

Smita Mehta
TMDL Basin Coordinator
Oregon Department of Environmental Quality
475 NE Bellevue Drive, Suite 110
Bend, OR 97701
541-633-2022
Smita.Mehta@deq.state.or.us

Attachment 16: Deschutes River Conservancy

DESCHUTES RIVER
CONSERVANCY

August 25, 2021

Sarah Henderson
Restoration Program Coordinator, Transfers and Conservation Section
Oregon Water Resources Department
725 Summer St. NE, Suite A
Salem, OR 97301

Email: Sarah.A.Henderson@oregon.gov

Re: 2021 DRAFT Review of the Deschutes Basin Groundwater Mitigation Program

Dear Ms. Henderson,

Thank you for the opportunity to provide comment on the 5-year review of the Deschutes Basin Groundwater Mitigation Program, as required by ORS 540.155. The Deschutes River Conservancy (DRC) is a non-profit conservation group with the mission to restore streamflow and water quality in the Deschutes Basin. The DRC achieves this mission with collaborative and market-based solutions. In addition, the DRC has operated and continues to operate a state sanctioned groundwater mitigation bank since 2003 (ORS 537.746(4) and subject to OAR 690-521).

While the DRC agrees that generally, the mitigation program has worked well in the shorter term, there are concerns about growth of the program and longer term impacts to groundwater and streamflow in the scenic waterway and on state instream water rights within the upper Deschutes Basin. DRC's concerns fall under the follow categories:

- Status of room under the cap and further discussions needed to resolve concerns with the program in conjunction with or prior to additional discussions about the cap
- Zonal mitigation, supply, effects, and impacts
- Water accounting, reliability of surface water mitigation projects, mitigation assigned related to increase in groundwater use (incremental development), potential additional impacts due to climate change
- Possible trend of groundwater decline, impact of that AND new groundwater use on springs – both of which impact scenic waterway flows and more senior state instream water rights
- Modeling impacts as opposed to physically measuring impacts to springs and flows (with fiscal support to crosscheck monitoring), possible periodic review of the model for accuracy of outputs
- Conditioned permits (7J) issued prior to adoption of the mitigation rules warrant further discussion
- Increasing number of exempt wells and the developmental use of clustered exempt wells

The list above is a quick overview of DRC's larger concerns and will be described in further detail, but may not follow the order of the comments on the program review. The comments below are referenced with the number, letter or figure from the 5-year report and follow in order coinciding with the report.

VI. Allocation Cap Status

Figures 2-4 in the report. Please provide clarification that final orders and permits both count towards the cap, but not all final orders move forward to permit. Due to a 5-year deadline for action in the form of providing mitigation on a final order, many final orders (approximately over 100 cfs, the number may be higher) have withdrawn or been cancelled due to lack of action. While the program is closer to the cap than in the past, and perhaps the current applications are more likely to move forward, there is a history of final orders not moving forward and space under the cap opening up.

The pie charts are useful to visually represent cap status and number of applications, however, one very important pie chart is not present. While there are a high *number* of small applications for irrigation uses, the bulk of the progress toward the cap (in cfs) is filled with municipal and quasi-municipal (MU and QM) final orders and permits. MU and QM final orders and permits comprise about 90% of the applications and orders under the cap, irrigation applications about 8% and other miscellaneous uses the remaining 2%. Using only numbers of applications relating to particular uses does not provide an accurate picture of applications and uses and potential need for long term and reliable mitigation.

While we are closing in on the cap, there has been talk of when or if this should increase. There are a number of stakeholder concerns that relate to impacts and effectiveness of the program that should be addressed to help guide discussions over the status of the current cap.

VII. Program Impacts on Other Water Users

B. Injury to Other Water Rights

More water has been protected instream than has been utilized by groundwater pumping due to undeveloped permits and incremental development plans, can you describe how this is captured in the model used for monitoring the program? As incremental development plans grow into their full permits, how will these impacts change? This is addressed somewhat in VII.D., but is not recognized. In addition, how will potential climate change impacts relate to the reliability of protected instream project flows, and the reliability of the outputs from the model. How might this influence injury to instream flows and other users in combination with increased groundwater pumping?

C. Property and Water Right Value

The DRC has not been in the practice of permanent buy-and-dry programs for rural and productive agriculture lands. A significant amount of the current permanent mitigation has been obtained by transferring urbanizing water rights instream. Perhaps a graphic showing the location of instream transfers mitigation projects (student GIS project) could clarify the locations of the sources of the mitigation project water. According to the 2017 USDA Ag Census, farms in Jefferson County have an average cash farm income of $31,281 (cp41031.pdf (usda.gov)), in Crook County a $7,408 (cp41013.pdf (usda.gov)) and in Deschutes County farms have an average cash farm income of *negative* $12,866 (cp41017.pdf (usda.gov)). While agriculture has a significant economic impact in parts of central Oregon, recreation and tourism also have a great impact. Visit Central Oregon has reported that recreation and tourism supports the local economy to the amount of $1.28 billion annually (Supporting the Central Oregon Tourism Industry (visitcentraloregon.com)). Water has economic value in farming but also has great value instream in support of the local recreation, tourism economy and ecological health. This is a simplified view of both, but demonstrates that the value of water to the local economy goes beyond agriculture and balance should be a consideration.

D. Cities and Other Water Providers

Figure 6. Does Figure 6 only include mitigation that has been assigned to incremental permits? There is a large volume of mitigation credits held by incremental developers that are not assigned to permits and the storage volume of water held for mitigation in Prineville Reservoir appears to be missing from this accounting. The Figure could be misleading if not mentioning that unassigned permanent credits are held by MU, QM and other entities. Some MU and QM hold credits for current and future use, while other MU and QM entities are not as far along in mitigation supply and even others may have difficulty acquiring permanent supply depending on their zone of impact.

E. Irrigation Districts
Figure 8: Temporary Mitigation
Should this chart clarify that temporary credits are utilized with a required reserve credit (so when 3000 credits are available, 1500 credits are use and 1500 are reserve)? This will more accurately represent the reality of this supply. Perhaps Figures 7 and 8 could both clarify how they are allocated. Permanent credit for use is allocation at a 1:1 for consumptive groundwater use while a temporary credit for use is allocated at a 2:1 for consumptive groundwater use due to the reserve credit requirement. This would provide a more accurate perspective on the temporary credit supply and overall supply availability.

A. Deschutes Scenic Waterway (this should be labeled "F" and not "A")
This section could use clarification. More than half (approx. 38 cfs) of the permanent streamflow restoration attributable to mitigation has occurred in the mainstem Deschutes River. Smaller amounts of permanent mitigation have contributed to restored flows in specific streams such as the Little Deschutes River (< 10 cfs), Whychus Creek (< 5 cfs) and the Crooked River (< 4 cfs), with smaller amounts in Big Marsh Creek, Crescent Creek, Lake Creek, Pole Creek, Three Creeks and Indian Ford Creek. This also means that the flow restoration in the middle Deschutes River has a maximum or concentrated stream benefit from mid-May to mid-September due to reduced shoulder season flows. Protected flows in the middle Deschutes are reduced by as much as 50% in April and October to match the shoulder seasons of the original out of stream water right and use.

While up to 84 cfs has been protected instream due to the mitigation program, approximately 28 of this has been protected through instream leases to create temporary mitigation credits. The temporary mitigation supply, while significant, is growing slowly if much at all. Overall, instream leasing has been shrinking (mitigation leasing plus non-mitigation leasing). In addition, the temporary mitigation is allocated 2:1 with a required reserve credit and can be an unstable source of mitigation for zones of impact associated with tributaries to the Deschutes River. In some zones, the supply is coming from just a few individual leases.

VII. F. and VIII. Potential Timing of Mitigation
DRC shares a similar concern over timing of mitigation, timing of use, and of impact to springs. Much of the water protected instream is irrigation and seasonal in nature, while 90% of the cfs in groundwater applications are for year-round MU and QM groundwater users. These MU and QM have usage peaking during the summer, but pump water year-round. The timing of increased groundwater withdrawals and peak use impacts on springs is unknown. These concerns should be addressed before increasing the cap.

Current reliability of mitigation project water protected instream and potential change in the reliability due to climate change should also be addressed prior to discussions concerning the cap. As the basin sees reduced snowpacks and increasing numbers of drought years, surface water rights once considered to be senior with 90-100% reliability may see regulation or curtailment in the future, becoming less reliable, while groundwater uses continue to increase without drought year regulation. Can we stay

ahead of this and discuss how this can be monitored and addressed to prevent harm to lower Deschutes flows?

The storage water for mitigation from Prineville Reservoir for the City of Prineville, managed adaptively by ODFW as a volume of water is not described, should this be included in VII. F.? I will be helpful to understand has this is being utilized and how it is being monitored since it does not follow the same path as other permanent mitigation? How is this being managed adaptively to prevent harm to the lower Deschutes? Understanding the impacts and management to prevent impacts will be useful in determining how other similar type projects could be managed to preserve lower Deschutes flows.

IX. C. Zones of Impact for Groundwater Permit Applications
Concerns over groundwater use impacts crossing multiple zones associated with a single application should be monitored. A discussion of how larger applications that have similar impacts across multiple zones could be reviewed more carefully would be a step toward addressing this concern. Groundwater application G-16900 addressed this issue with impacts associated with well locations, but could significant impacts to multiple zones from a single well location be addressed with a similar review?

D. Zones of Impact Identified for Mitigation Projects
When OWRD determines a zone of impact for a project, the protected reach and the benefit, and the amount of mitigation made available, does the department also assess current and potential future reliability of the mitigation project? Can the department clarify how this is done? Will this change as the department becomes more aware of the future impacts of climate change on current and future projects?

Page 32
Return Flows and Protected Water
Currently, when a mitigation project is protected instream, it is only protected through to Lake Billy Chinook or the Madras gage (or earlier point of return flow in some instances). When that surface water was in its original use, the consumptive use portion of the water was not available past the point of return flow. In a non-mitigation instream transfer, the consumptive use of the water in transfer would be protected past the point of return flow because this water was not available to junior downstream users. A new groundwater use is created with a consumptive use credit for the water protected instream. The water that was protected to the point of return flow (consumptive use), but not beyond, is now made available to downstream users and can be utilized. In addition, the new groundwater consumptive use impacts groundwater contributions to springs and is not present below the point of return flow (springs). Combined, this can result in reduced flows in the lower Deschutes. Please review why the consumptive use is not protected through the entire reach with a mitigation project, how this is being monitored to ensure additional new use of this water is not occurring downstream, and if lower Deschutes flows are impacted as a result.

X. Review of Impacts to the Metolius
The DRC agrees that impacts to the Metolius River cannot be assessed without monitoring. OWRD and ODFW should invest in monitoring the headwaters and key springs on the Metolius so there is a baseline for determining impacts.

XI. Potential Timing of Storage Improvements

Please include a description of how the 5100 AF of storage from Prineville Reservoir (MP-222) is being utilized and managed and how that is being monitored for its effectiveness. This will be useful information as discussions of additional types of mitigation projects arise.

XII.A. Impacts to Local Springs
It is essential to the program to understand impacts of new groundwater pumping to springs. For example, what happens when streamflow protected as a mitigation project may become less reliable over time while groundwater pumping continues to increase? It seems that injury would occur to the scenic flows. Without baseline monitoring of key springs, these impacts will be difficult to determine.

B. Pre mitigation permits – 7J
The 7J permits are significant. If and when fully developed, how will these impact the flows in the lower Deschutes? Perhaps the 7J permits should be identified as a separate category in monitoring groundwater impacts. Further discussion of mitigation requirements for these permits or portions of these permits not yet fully developed, as suggested in the report (pg 37) would be a start in addressing this issue.

XIII. Mitigation and Streamflow Monitoring
The state currently uses a model applying effects to a base period of flow data (1966-1995). Flows have changed substantially in the Deschutes Basin with improvements from non-mitigation streamflow restoration projects, projects directly related to the mitigation program, changes in water management, and as a result of more frequent drought events. Does the model capture the difference between restoration flows and mitigation flows? That temporary mitigation projects are issued at a 2:1 ratio and not all temporary credits are utilized? Does the balance of permanent mitigation to temporary mitigation impact model outputs? Does the model anticipate the relationship between current protected flows for mitigation and the lag time for development of incremental plans for large mitigation users? Is the model still producing accurate results and estimates of hydrologic impacts? Can the model be assessed now and periodically so the baseline reflects changes? Can this be accomplished by comparing the results produced by the model to actual measured flows and flow changes?

XIV. Other Issues
The DRC agrees that there is a need for more permanent mitigation, either through permanent transfers of water instream or long-term commitments to instream leases or term limited instream transfers to provide more security for the MU and QM users that rely on this program. The DRC operates a temporary mitigation bank that relies on voluntary participation in an instream leasing program. In some zones of impact, just one or two landowners provide all of the mitigation available. In these same zones, there is very little if any opportunity for permanent mitigation. New groundwater use applicants seem unaware of requirements for mitigation or limits to supply until they are well into the application process. Very little information is accessible to those with less understanding of groundwater limitations and information is difficult to find on the Department's website. Should the Department produce or update fact sheets for the general public that address limits to supply of mitigation prior to these new applicants going through the entire process? New applicants should be aware of these limits and risks prior to investing in groundwater applications and infrastructure.

Figure 23.
Amount of Mitigation Available by Year and Type
Clarify the temporary mitigation availability with the 2:1, use and reserve credit requirement. This means that of the credits created only half of those credits are available for actual "use." How is the

5100 AF of mitigation from Prineville Reservoir (MP-222) tracked? This additional water should be added when listing amounts and types of mitigation created and available.

Figure 24.
How is the 5100 AF of mitigation from Prineville Reservoir accounted for? It does not appear to be identified in much of the mitigation project tracking. Does the permanent mitigation "used" in this chart include mitigation that has been applied to incremental development permits? How much development has occurred on those permits relative to the mitigation applied? This might be a question of mitigation applied to a permit vs mitigation actually utilized by permits with groundwater pumping.

Figure 25.
Mitigation credits available by zone of impact
It is unclear if this chart lists temporary mitigation credits available by zone or a combination of permanent and temporary credits. Some mitigation projects create credits in multiple zones of impact, but once the credit is used in one zone, it is no longer available for use in the additional zones. Since most projects create credits in the General zone as well as an additional more localized zone, this information should be captured somehow. For example, the DRC has 2-3 leases that create credits that could be used in the Upper, Little, Middle or General zones of impact.

B. Consumptive use
While general coefficients assigned to types of use streamline the program. It could be beneficial to periodically review these coefficients. Irrigation consumptive use does not necessarily change with different methods of irrigation, what does change is the waste, or return to the system as groundwater gains from inefficient types of irrigation. However, the consumptive use of different *types* of use should be periodically evaluated. Consumptive use of water can change as more capture and re-use of wastewater that had returned to groundwater occurs and as growing seasons may change over time, both of which can potentially increase consumptive use when compared with the standard assigned coefficients for each type of use.

C. Permanent mitigation credits used temporarily
Some entities or individuals hold large amounts of permanent mitigation that they will not build into in the near term. Municipalities and Quasi Municipalities have the ability to move water around within their own well system (690-522-0050(1)(g). Having a thoroughly tracked and transparent method to allow QM and MU users to share water between 2 different systems may be beneficial. Any process for temporarily sharing unutilized permanent credits for different users should go through a thorough review and a transparent process. The groundwater withdrawals should be reviewed for impacts (within a zone or aquifer). This could be beneficial in taking some pressure off of QM and MU that do not have the same long-term supply of permanent credits on hand as others. This is worth a discussion surrounding the feasibility, transparency, and tracking, while keeping in mind the potential impacts on other stakeholders and scenic and protected instream flows. Will this impact scenic flows?

D. Use of storage releases and allocations of conserved water
The use of allocations of conserved water to create mitigation could impact springs and flows in the scenic waterway. This should be very carefully assessed for additional impacts to groundwater and springs combined, especially when combined with additional pumping. Conserved water originally returned to the groundwater system as seepage or loss in leaky canal systems or inefficient irrigation systems. If new groundwater use is allowed by utilizing allocations of conserved water to create mitigation credits, the potential for negatively impacting scenic waterway flows may not be offset. All

proposed mitigation projects should be assessed for their reliability and ability to truly mitigate for additional groundwater withdrawals. When considering storage releases for mitigation, consider whether the stored water that has been made available through conservation projects, which may run into the same issue as above.

Additional suggestions:

Figures 3 & 4
Please make the color references to uses in the pie charts legends larger as they are quite small and difficult to distinguish.

Figure 7: Permanent Mitigation
Should the 5,100 AF of mitigation created by Prineville Reservoir releases be captured or mentioned here as non-District permanent mitigation?

VII. A. Deschutes Scenic Waterway
This is the second "A" under VII and should be labeled "F" and not "A."

IX. Zones of Impact
Figure 10. The general zone of impact map may be unclear to those unfamiliar with the program. The general zone of impact falls within the study area outline (maybe add color), but does not include the entire upper Crooked River basin.

Figure 11. The middle Deschutes zone of impact - clarify that this map overlaps the Little Deschutes and upper Deschutes zones of impact for mitigation project water, but is a much smaller area relative to groundwater use.

Figure 13. The Crooked River zone of impact, clarify that the area requiring mitigation is within the study area outline but does not include the Crooked River above Prineville Reservoir.

XII. C. Pre mitigation permits – 7J
Figure 19.
Please increase the size of the legend so the colors are identifiable in conjunction with the pie charts.

The DRC appreciates having the opportunity to continue to participate in matters related to the Deschutes Groundwater Mitigation Program, including rules advisory committees and reviews of annual and 5-year reports. We look forward to ongoing communications with the Department and stakeholders and discussions on how the Mitigation Program can be improved for stakeholders while satisfying its intended purpose.

Best Regards,

Genevieve Hubert
Program and Mitigation Bank Manager
gen@deschutesriver.org
Deschutes River Conservancy

Attachment 17: George Wuerthner, Bend, Oregon

HENDERSON Sarah A * WRD

From: George Wuerthner <gwuerthner@gmail.com>
Sent: Friday, August 6, 2021 4:00 PM
To: HENDERSON Sarah A * WRD
Subject: ground water

Follow Up Flag: Follow up
Flag Status: Flagged

Sarah Henderson
OWRD Flow Restoration Program Coordinator

Dear Ms. Henderson

I am writing to comment on The Deschutes Basin Ground Water Mitigation Program.

I feel the program has some real problems that should be mitigated. We know that aquifer is shrinking and ultimately this is bad for water quality, wildlife and even use. The unfortunate thing ist the majority of all water is consumed by Agriculture for nearly worthless water-loving crops like alfalfa. At some point, we need to determine whether the public's water (and the public owns all water in Oregon) should be wasted on such use. Most of the Deschutes River is covered by the State Scenic Waterway Act which states that the best uses of the river are for recreation, fish, and wildlife. As Oregon courts have stated, this is not occurring.

The first is the idea that all water is the same. Replacing cold groundwater with warm polluted irrigation water is not equivalent in water quality.

Second, averaging flows misses an important point. Sometimes the water is extremely low and detrimental to fish and other aquatic life. Timing of flow is critical. The lowest flows should be the limiting factor not the averages.

Third, there are many exempt wells. Monitoring of use is supposed to occur but does not. At the very least, there should be no future exempt wells. And perhaps some form of monitoring of existing wells should be put into place.

Finally recharge is assumed, but the state does not know how much really is occurring, not to mention if it is mostly irrigation water, it may be polluted.

I hope the state will identify and rectify these problems.

Sincerely;

George Wuerthner
POB 8359
Bend, OR 97708

1

Attachment 18: Jim Powell, Bend, Oregon

HENDERSON Sarah A * WRD

From:	Jim Powell <jhp@bendbroadband.com>
Sent:	Sunday, August 15, 2021 2:49 PM
To:	HENDERSON Sarah A * WRD; FRENCH Dwight W * WRD
Cc:	GORMAN Kyle G * WRD; Kate Fitzpatrick
Subject:	Re: Deschutes Basin Mitigation Program Evaluation (ORS 540.155) Feedback Requested

Thank you for the evaluation report, for your time and presentation at the DBWC Groundwater Subcommittee meeting and for persisting in trying to make this program meaningful and effective.

The parameters established for this evaluation are very limited by a number of factors related to both program and legislative or OWRD rules. It is gratifying that you are:

- retaining the cap on mitigation credits/rights,
- persisting in adhering to the concept of a zone of impact in the relationship of aquifer withdrawals and aquifer resiliency
- not finding a large diminution in the flow metrics you monitor for the program.
- acknowledging the concerns of those making comments on the initial draft, both in their context and in regard to larger questions about the status of groundwater sustainability and impacts on environment and water dependent and consuming species, including humans.

From these standpoints, the review is a success and mirrors its predecessors in its conclusions and reported outcomes. Thank you for administering such an important tool in preserving our water supply and flows.

That being said, the last two 5-year reviews reflected similar conclusions. My preference would be that the evaluation also include a more urgent notice to the Legislature that this report does not mean all is well within the basin

In a frame of groundwater status not limited by the scope constraints of the DB Mitigation Program, there are sufficient warnings currently to justify a larger re-evaluation of

- water supply relative to allocations and our current "beneficial use" definitions
- our water management assumptions and regulations
- measuring and modifying effects of "exempt wells" and J3 "rights"
- our priorities, which still favor an attachment to "rights" and using economic growth as the primary metric
- falling flows in springs and spring fed tributaries
- river temperature and water quality changes as snow or glacier recharge to both surface and underground water diminishes
- the continued validity of current climate change modeling
- economic growth and development as the prime metric for the requirement to provide mitigation credit opportunities
- the wisdom of development promoting human population growth into areas without fell regard of water issues
- public, district and consumptive user collaboration on how to share, not possess, a diminishing resource in a manner that honors all uses and species that depend on it.

Marshal Gannett et al's investigations into basin hydrology have shown diminishing flows of spring fed tributaries in recent years. Recent media reports reflect a significant diminution of the Metolius headwaters. OWRD's separate groundwater evaluation in the basin will hopefully help guide the DBWC;s focus on groundwater as an integral part and,

perhaps, bellwether of the health of basin water. I look forward to learning its findings, particularly as you have been tracking more refined data points and modeling for a number of years now

In addition, the Department might explore ways to utilize what might be termed "Duffey water", those extra diversion rights the Department is so familiar with, granted by the Deschutes County Circuit Court Judge in concert with the State Engineer to make up for canal and main lateral losses and obstructions. Ranging from 35 - 65% of the water adjudicated appurtenant to the lands granted under the Carey Act, they were allocated to allow full duty of water delivery throughout a district system. Court records carefully documented the amounts as being distinctly different from the water / acre granted under the Cary Act. As such, those "Duffey water" diversions should diminish as districts pipe canals and laterals and remove loss and obstacles. They cannot be claimed as adjudicated to any land of a district. Perhaps instead of being released during irrigation season, they could be held to help modulate irrigation seasonal flows, improve the "off-season" flows as well as aquifer recharge (addressing some of the seasonal groundwater mitigation concerns with the current system) and help satisfy the HCP flow regimens. Or with certain sidebars, e.g an official drought declaration,.they might be apportioned to help ameliorate productive agricultural water shortfalls.

Thank you again for your presentation to and involvement of the DBWC Groundwater Mitigation Subcommittee and for the opportunity to review and comment on this latest mitigation program review.

Kind regards

Jim Powell
Bend

Attachment 19: League of Women Voters' of Deschutes County

President, Carol Loesche
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August 16, 2021

Sarah Henderson
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RE: 5-year Review of the Deschutes Groundwater Mitigation Program

The League of Women Voters of Deschutes County appreciates the opportunity to provide comment on the Oregon Water Resources Department's 2021 Draft Review of the Deschutes Basin Groundwater Mitigation Program (the Program). We concur with the Deschutes Basin Water Collective's (DBWC) opinion, as stated in their August 13th letter to you, that The Program is integral to the DBWC's larger comprehensive water management plan to meet needs for rivers, agriculture, and cities. We also agree that long-standing issues need to be resolved to create a sustainable and effective Program into the future. We appreciate the state's identification of key issues in the Program, and we strongly encourage state involvement and leadership in resolving these long-standing issues.

Working toward resolution on the following issues will be necessary to address the 2029 sunset of the program:

- The allocation cap
- Issues related to the timing and location of mitigation
- Impacts to local springs
- Permits issued prior to adoption of the mitigation rules
- Exempt wells

All stakeholders in the Deschutes Basin, including Municipalities/quasi-municipalities and irrigation interests, need to understand how the Program benefits or impacts river flows, spring flows, and groundwater resources. All would benefit from certainty about, and improvement of, this program.

While we recognize that protecting and stewarding groundwater systems is not an explicit goal of the Program, it will be important to understand the state and sustainability of groundwater in the Deschutes Basin. With many large-scale water management changes happening right now, understanding impacts and tradeoffs to groundwater resources, springs, and cold-water inputs is critical, particularly in the face of climate change.

The League of Women Voters of Deschutes joins the DBWC in requesting state leadership in working through these issues. We encourage collaboration in contributing to solutions and efforts to build consensus around difficult and long-standing issues with the Program. We also encourage state involvement in continuing to help understand how to ensure our groundwater resources are sustainable over time.

Thank you, again, for this opportunity to comment.

Sincerely,
Carol Loesche
LWVDC President

Attachment 20: Oregon Department of Fish and Wildlife

Oregon
Kate Brown, Governor

Department of Fish and Wildlife
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www.dfw.state.or.us/

August 24, 2021

Via Email:
sarah.a.henderson@oregon.gov

Sarah Henderson
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Oregon Water Resources Department
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RE: ODFW Comments on the 2021 Draft Review of the Deschutes Basin Groundwater Mitigation Program

Dear Ms. Henderson,

The Oregon Department of Fish and Wildlife (ODFW) appreciates the opportunity to provide comments on the 2021 Draft Review of the Deschutes Basin Groundwater Mitigation Program for the Deschutes Basin Mitigation Program Evaluation (ORS 540.155) and Five-Year Administrative Evaluation (OAR 690-505) covering the years 2015 - 2019. Overall, ODFW agrees that the Deschutes Groundwater Mitigation Program (Program) has been successful in maintaining and improving flows for State Scenic Waterways and senior water rights, particularly instream water rights, during the irrigation season. However, as we acquire more information about the additional detrimental impacts to fish and wildlife expected in the future from a changing climate, we have increasing concerns about water accounting, the impacts to springs, and decreases in flow during the non-irrigation season.

Since inception of the Program, ODFW has annually submitted comments that address our ongoing concerns with the Program. We are pleased that the Oregon Water Resources Department (OWRD) has included many of these concerns directly in the body of this document and has acknowledged potential solutions, including some regulatory and statutory changes. ODFW's previous comments regarding the Program can be found in Attachment 4 of the draft document, so we will not reiterate them in detail here. In general, ODFW recommends addressing

the following issues prior to lifting or modifying the 200 cfs cap on the Program (see Attachment 4 for further information):

- **Water Accounting and Impacts of Climate Change:** ODFW would like to see a comparison of the streamflow model reporting and current, measured improvements/declines in streamflow. The draft identifies success because 56 cfs of instream flow has been permanently restored to the Deschutes River and its tributaries. A comparison showing how this amount truly offsets the impacts from new groundwater use and information on the reliability of the mitigation water in regard to its physical and regulatory availability would tell a more complete story.
- **Zonal Mitigation:** ODFW recommends mitigation under the Program directly offset the impact by being located upstream of the impacted reach.
- **Impacts to Springs:** ODFW would like to discuss the proposed path forward regarding combined efforts to obtain funding for a study aimed at identifying impacts to the springs within the Study Area and to understand whether any impacts are the direct result of the mitigation program.
- **Impacts During the Non-Irrigation Season:** ODFW recommends providing a more complete picture when communicating the efficacy of the Program at meeting key goals by looking at benefits/impacts to flow during the non-irrigation season as well as the irrigation season. Concluding that the Program has been successful in meeting key goals by relying on assessments on an annual/yearly basis is misleading given the Program allows declines in flow (and potential impacts to the Scenic Waterway) during the non-irrigation season.

Thank you for the chance to comment. ODFW is eager to continue conversations and advise the agency on ways to strengthen the efficacy of the Program to improve and protect instream flow for fish, wildlife, and their habitats. We look forward to receiving a timeline and plan to revisit solutions to our concerns. In the meantime, the 200 cfs cap should not be modified until these concerns are resolved. If you have any questions, please contact me at 503-947-6092.

Sincerely,

Danette L Faucera

Danette Faucera, Water Policy Coordinator

Attachment 21: Oregon Farm Bureau, Deschutes County Farm Bureau, Crook-Wheeler County Farm Bureau, Jefferson County Farm Bureau

September 11, 2020

Sarah Henderson
Flow Restoration Program Coordinator
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Submitted Via Email: sarah.a.henderson@oregon.gov

Re: Deschutes Basin Mitigation Program Evaluation Feedback Request

Ms. Henderson:

Thank you for the opportunity to provide feedback on the Deschutes Basin Mitigation Program Evaluation. Our members are concerned about the impacts of the Deschutes Basin Mitigation Program on farmers and ranchers in Central Oregon and urge the Department to undertake a comprehensive review of the science behind the program and the ongoing need for the program.

By way of background, OFBF is a voluntary, grassroots, nonprofit organization representing Oregon's farmers and ranchers in the public and policymaking arenas. As Oregon's largest general farm organization, its primary goal is to promote educational improvement, economic opportunity, and social advancement for its members and the farming, ranching, and natural resources industry. Today, OFBF represents nearly 7,000-member families professionally engaged in the industry. Deschutes, Jefferson, and Crook-Wheeler County Farm Bureaus represent 320-member farming families in Deschutes, Jefferson, and Crook counties, many of whom are directly impacted by the Deschutes Basin Mitigation Program.

Agriculture is critical to the Central Oregon economy. According to the 2017 census of agriculture, Deschutes County boasts 1,494 farms on 134,600 acres that contribute $28,769,000 in market value of agriculture products to the economy, Jefferson County has 397 farms on 792,920 acres that contribute $67,438,000 in market value, and Crook County has 620 farms spanning 799,845 acres that contribute $44,563,000. The totals over 2,500 farms, 1.7 million acres of farmland, and **over $140 million** in market value of agricultural products from farms in Central Oregon. Critically, these farms also provide fish and wildlife habitat, protect water quality, and protect open space and recreational areas for Oregonians.

Our members have been concerned about the Deschutes Basin Mitigation Program since its early inception. In the last several years, the program has resulted in removal of hundreds of acres of farmland from irrigated production, as cities look to irrigation water to provide mitigation for their growth. The removal of water rights from agricultural land severely reduces the value of the land, which can then depress property values for agricultural lands regionally. Critically, the removal of irrigation water makes it increasingly likely that the land will be removed from agricultural production. Within an irrigation district or agricultural area, this conversion can lead to a reduction in the overall agricultural community, as we have seen farm supply stores, tractor dealers and other infrastructure move away as farms in Central Oregon go out of business. In this respect, we are concerned that the Program conflicts with Oregon's land use planning goals, as it effectively banks irrigation water (and therefore agricultural land) for future use for cities in violation of Goal 3, which protects agricultural land for agricultural production.

Additionally, we are concerned that the Program is based on questionable and outdated science. It is our understanding that the Program was created based on a United States Geological Survey (USGS) study from the late 1980s that found that the Deschutes River was connected to all groundwater within the Program boundaries. We understand that there has been subsequent data and information that has further refined and called into question some of the assumptions contained in the early studies, but that the Program was not meaningfully adjusted or changed based upon this more recent information. Given that the program is having a major impact on both urban and rural communities in Central Oregon, the science underpinning its existence should be comprehensively reviewed and updated given the length of time that has passed since the program's inception.

Further, we are concerned that the program is not supported by a finding that the basin has been removed from appropriation or that groundwater is in limited supply. Indeed, the USGS study indicates that the primary aquifer is quite large. Further, we understand that there is no measurable impact to the river flows at the mouth of the Deschutes that would justify such a restriction on ground water withdrawals. We strongly encourage you to revisit the science and legal underpinnings supporting the program.

We also want to be clear that we support the recent Habitat Conservation Plan developed by a number of irrigation districts and cities in Central Oregon and want to ensure that plan remains implementable by the districts and cities. While we do not believe that preservation of the Program is essential to implement the HCP, we want to be clear that we support that work by the impacted irrigation districts, cities, and farmers.

Thank you for the opportunity to provide feedback and do not hesitate to contact us if you have any questions.

Sincerely,

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Matt Cyrus
President
Deschutes County Farm Bureau

Tim Deboodt
President
Crook-Wheeler County Farm Bureau

Sue Vanek
President
Jefferson County Farm Bureau

Attachment 22: WaterWatch of Oregon

WaterWatch of Oregon
Protecting Natural Flows In Oregon Rivers

August 25, 2021

Sarah Henderson
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Re: Deschutes Groundwater Mitigation Program Review

Dear Ms. Henderson,

Thank you for the opportunity to provide comments on the OWRD 2021 Draft Review of the Deschutes Groundwater Mitigation Program (hereinafter Draft Review). WaterWatch is a river conservation group dedicated to restoring and protecting water for rivers, streams and aquifers statewide. WaterWatch has been working in the Deschutes Basin for over 30 years. We negotiated the groundwater provisions of the State Scenic Waterway Act that resulted in this program, served as a member of the Deschutes Workgroup that developed the Groundwater Mitigation Program, were a member of the facilitated workgroup that provided input into the 2009 Legislative Report, have participated in all rulemakings related to this program and monitor new groundwater permits and associated mitigation credits in the basin.

Most of the issues that we address in these as well as past comments are longstanding issues that WaterWatch and others have noted need attention since the adoption of the rules. Some were at issue in WaterWatch of Oregon v. Water Resources Commission, 199 Or. App. 598, (2005), in which WaterWatch prevailed. While we appreciate that following the Court's ruling, the 2005 Legislature passed a law to get around the ruling by mandating that the rules are in compliance with the Scenic Waterway Act, that statute expires in 2029.

In the 16 years since the Court ruling that found that the rules did not meet the mandates of the Scenic Waterway Act, the OWRD has not taken any meaningful action to address identified resource concerns. The OWRD did undertake two additional rulemakings during this time, but both were limited to addressing issues that would allow greater flexibility to users without addressing any of the longstanding resource concerns. As the statutory deadline of 2029 approaches, we would urge the OWRD to address longstanding issues.

In addition to longstanding issues with the mitigation program as it relates to the requirements for mitigation, we wanted to register our deep concern with the OWRD's refusal to protect mitigation water past the source stream and/or past Lake Billy Chinook into the Lower Deschutes. The Lower Deschutes is stream segment for which the OWRD found the Scenic Waterway Act was triggered; the Lower Deschutes was also the centerpiece around which the Deschutes Groundwater Mitigation Program was designed. OWRD's position here is not only

incongruous with the basic premise of the Deschutes Groundwater Mitigation Program, but also not supported by statute, the Deschutes Groundwater mitigation rules or the administrative record leading to the adoption of the rules. Detailed comments are included below.

Overall, while we appreciate that the Draft Review acknowledges the issues raised by WaterWatch and other stakeholders, we are disappointed that the OWRD is not directing near term action on many/most of the long outstanding issues. That said, we do recognize that there are a few areas where modest commitments forward are included in the review; those are noted in our comments as well as our concerns. Comments generally follow the order the issue is presented in the report, with issues not included in the report at the end.

- **Allocation of cap status (pg. 8-11):** WaterWatch strongly supports the OWRD determination that they do not anticipate an immediate need to change the 200 cfs cap. A number of stakeholder groups and state agencies have made clear on the record that they do not support amending the cap upwards until the OWRD addresses long standing problems with the program. We would also urge the OWRD to incorporate recent groundwater study work that has found groundwater level declines in the basin. While a different issue, if groundwater pumping is leading to groundwater declines that is something that should also be factored into to any agency decision to allow groundwater pumping beyond the 200 cfs cap.

- **Injury to other water rights (pg. 11):** In the Draft Review, the OWRD claims that there is no evidence that injury to surface water rights has resulted from the program "as an evaluated on an annual basis". The OWRD's interpretation of injury standard flies in the face of both the terms and conditions of water rights which protect monthly flows, but also longstanding application of injury standards. Instream water rights are set by month to meet the biological needs of fish and wildlife. These species need water year round. The OWRD is legally bound to protect these flows against injury by new groundwater rights. This means if flows that were previously available to the instream rights are no longer available because of groundwater pumping, injury is occurring. This should be a real time analysis; it is not biologically or legally sound to review impacts on an annual volumetric basis. The mitigation program is, in fact, resulting in "negative" impacts on flows in the shoulder and winter months. Thus, injury is in fact occurring. This is a critical point because as WaterWatch and others have made clear since the adoption of the program that unless the rules address problems that are resulting in injury there will be significant opposition to any suggestion that the cap be altered upwards beyond 200 cfs.

  Proposed solution: OWRD should make the finding that the program is resulting in injury during certain months; then commit to fixing areas of the rules that are resulting in this prior to discussions about altering the 200 cfs cap.

- **Timing of Mitigation (Pg 18-19):** Currently the rules do not include a timing element that would require that mitigation water be provided when the impact on surface water occurs; rather the rules allow for annual accounting of mitigation. This is a fatal flaw in

the rules that undermines the purpose of the Scenic Waterway Act, which is to require mitigation of impacts to surface water from groundwater pumping.[1]

OWRD Draft Review: While we appreciate that OWRD notes that it will work with ODFW, DEQ and Stakeholders to address this challenging issue into the future, the OWRD does not commit to a time certain for this work, nor does it commit to maintaining the cap at 200 cfs until this issue is resolved. We request both these point be outlined in the final report.

- **Zone of Impact identification for Groundwater Permits (pg. 29):** The Deschutes Groundwater Mitigation Rules require mitigation in the zone of impact. Currently the OWRD only requires mitigation in the "primary" zone of impact. Limiting mitigation to the primary zone of impact raises significant resource concerns, and also is not something that is so narrowed in rule. The problem with this practice is that, for instance, if a groundwater use will have a 60/40 impact on the Deschutes and Metolious Rivers respectively, mitigation will only be required in the Deschutes. This means that both scenic waterway flows and instream water rights in the Metolious will be harmed by groundwater pumping. This does not meet the mandates of the state Scenic Waterway Act, or general statute prohibitions against injury. We do not believe this practice is supported by statute or rules (e.g. the rules do not speak to a "primary zone" of impact).

  OWRD Draft Review: The Draft Review is inconsistent in its representations as to their actions with regards to "zone of impact". The Draft Review first notes that for wells determined by OWRD to have a localized impact on surface water, mitigation must be provided in a local zone of impact (pg. 20). While we applaud this representation, later in the response to comments section the OWRD says that they in fact only define one single zone of impact because it is their understanding that the intent of the rules was to have 100% percent of the mitigation in the general zone or100% in a single local zone (pg. 29). OWRD then states that if a well has a localized affect, then 100% of the mitigation is required in the zone where there is an effect (pg. 29). The Draft Review asserts this has been the practice since the program's inception. This last statement implies that if there is even a small impact on a local stream, then that is where 100% of the mitigation will be required. This is contrary to what stakeholders were told in the 2009 Workgroup, which was that the OWRD requires mitigation where the greatest

[1] The Oregon Court of Appeals found that the "volumetric-based standard" and the annual monitoring do not ensure the maintenance of the flows as required by the Act. , as respondents contend….." As the Court noted, "maintaining flows in quantities necessary for fish, recreation, and wildlife uses is different from maintaining a certain yearly average volume of water in a system. As the Oregon Department of Fish and Wildlife explained during the rulemaking proceeding, "fish and their habitats are more affected by periodic extreme constraints placed on their population and habitat rather than the average conditions. Basically, in biology, populations can only temporarily grow beyond these constraints provided by their habitat. In the case of fish their populations are ultimately constrained by the low flow periods rather than the average flows. Average measurements smooth out the valleys and peaks in a data set hiding the true magnitude of the valleys and peaks. Flow levels are directly related to available spawning and rearing habitat, especially in the lower Deschutes River where small drops in flow levels result in much larger reductions in available habitat. Allowing the overall low flow periods to decline further will result in a far greater impact to fish populations than would be indicated by average long term flows. In the case of the Lower Deschutes where several species are endangered this could prevent recovery of these species." WaterWatch of Oregon v. Water Resources Commission, 199 Or. App. 598, (2005).

percentage of impact takes place. It is also contrary to groundwater applications that WaterWatch and others have protested on this issue (e.g. Ponderosa Resort, Metolious Basin). If in fact the statements in the Draft Review are correct and reflect a changed OWRD practice, we would ask that the OWRD include an explanatory example to guide both the public's understanding and agency on the ground application, for instance, instructions that if a groundwater well will have a 5 % impact on the Metolious then the OWRD will require 100% of the mitigation to be provided in the Metolious. If, on the other hand, that is not how the OWRD is requiring mitigation then the Draft Review should be edited to provide clarity; and we would request that the OWRD move to amend the rules so that localized impacts are mitigated.

Proposed Solution: As noted in previous comments, we believe the rules should be amended to require mitigation in all zones of impact. Failure to require this is/will resulting in injury to water rights and measurable reduction to Scenic Waterway Flows.

- **Zone of Impact Identification for Mitigation Projects (pg. 31):** WaterWatch strongly opposes apparent agency practice noted in this section. Areas of concern include but are not limited to:

  (1) Limiting protection to the mouth of the source stream unless measurable: The Draft Review notes that that mitigation project water is only protected to the mouth of the source stream unless it is "measurable". The mitigation program does not provide for this limit on protection anywhere in its rules.

  The Draft Review points to Division 77 as authority for this practice. As OWRD is well aware, WaterWatch and others have been raising concerns since the 2005 Division 77 rulemaking that the Division 77 rules on this point are not supported by the Instream Water Rights Act[2]. There is nothing in any existing statute that supports the OWRD practice here.

  Moreover, this practice goes against the very underpinnings of the program, which was premised on the guidepost of protecting the Lower Deschutes Scenic Waterway and Instream Water Rights. See e.g. OWRD Staff Reports to the Commission, April 2002

[2] The Instream Water Rights Act was adopted in 1987. The statute is clear in its directives, and does not specify that implementing rules are required. That said, the OWRD adopted implementing rules in 1988. These rules are inconsistent with statute in many areas, and unlawfully serve to limit the instream benefits allowed by the Act. In 2005 the OWRD convened a RAC to address split season leasing under Division 77; in that RAC WaterWatch and others flagged rule provisions that were inconsistent with the governing statute. At that time, the OWRD moved forward with limited rules but failed to address the areas that are inconsistent with statute, and instead said they would take that up at a later rulemaking (see OWRD Staff Report to the Commission, August 2006). The OWRD failed to reconvene the RAC or otherwise address these issues. In 2015, a decade later, a Division 77 RAC was convened to address additional statutory changes to split season leasing. WaterWatch and others again urged OWRD to amend rule directives that were inconsistent with statute. The OWRD told the RAC that the issues would be sent to DOJ and that the RAC would reconvene after DOJ review (OWRD email to the RAC, 10/18/2016). However, the RAC was never reconvened to address these critical problems with the rules. All that said, the rules are inconsistent with statute and the OWRD's reliance on them here to undercut instream protections is precisely why the OWRD should proceed with rulemaking to cut from rule provisions that are not supported by statute and undermine the very premise of the Intream Water Rights Act.

and September 2002. Guiding documents also made clear that cumulative impacts would be offset by mitigation water; this is not achievable if the OWRD is requiring that all individual mitigation projects be "measureable" past the source stream.

Discussions throughout the 4 year Deschutes workgroup centered upon providing mitigation at or above the point of impact. Given the hydrology of the basin, the Lower Deschutes scenic waterway and instream rights are the final stretch of the "point of impact"; in other words, an impact on the Metolious Scenic Waterway will also impact the Lower Deschutes unless mitigation is carried all the way down.

(2) Limiting protection below Lake Billy Chinook: WaterWatch also strongly opposes the OWRD's practice and rationale as to why mitigation water generally stops at Lake Billy Chinook. This apparently applies even if the protected flows are "measurable" (see section above). This practice is wholly inconsistent with the premise of the program, which at its core must protect Scenic Waterway flows through the lower Deschutes. Moreover, the convoluted rationale flies directly in the face of the USGS study and the specific provisions of the mitigation program. The OWRD's assertions as to enlargement make no legal or hydrological sense[3].

It should also be noted that there is no futile call between the upper and lower river (see e.g. the Pelton Round Butte Reauthorization Settlement Agreement); as such, the OWRD can and should protect this water into the lower river to offset impacts to the Lower Deschutes instream water rights and scenic waterway flows. We are unaware of any stakeholder opposition to protecting mitigation water downstream into the Lower River; this appears to be wholly an internal decision by OWRD.

(3) Interpreting "Zone of Impact" in a manner contrary to intent of mitigation program: The Draft Review also points to the definition of "general zone of impact" to support their position that they do not need to carry water mitigation water through to the Lower Deschutes. "Zones of impact" were established for administrative ease to provide mitigation at or above the point of impact, but the intention was that any water protected upstream would carry through to the Columbia in order to protect flows in the Lower Deschutes (the final point of impact). At no time in the 4 year discussion did the Deschutes Workgroup ever discuss or imagine that the water put instream would not be protected all the way to the Columbia. As to why there is no "Lower Deschutes Zone", the Deschutes workgroup recognized that there was no need for a Lower Deschutes "zone" because all upstream mitigation water would be carried through to the lower Deschutes, whether from a "local" zone or the "general zone". The hydrology of the Deschutes has been compared to a bathtub, with all water and all groundwater effects ultimately "draining" into the lower Deschutes, and affecting those protected streamflows. The OWRD 1988 memo guiding discussions of the program was focused on the Lower Deschutes Scenic Waterway, as were numerous staff reports to the Commission (see e.g. 2002 April and September Staff Reports to the Commission). In

[3] E.g. the Draft Reports asserts that it is enlargement for instream transfers to serve as instream water and also mitigation. By definition, mitigation water must be water legally protected instream. This argument is circular at its best.

other words, the lower Deschutes Scenic Waterway flows are the bellwether for the program, it was these flows that discussions centered on needing ultimate protection. If mitigation does not protect those flows, then the Deschutes Mitigation program is not meeting the Scenic Waterway Act nor protecting against injury.

All in all, the OWRD practice is not supported by statute, the Deschutes Groundwater Mitigation rules or the record of the Deschutes Groundwater Mitigation Program. Scenic waterway flows and instream water rights in the lower Deschutes are being impacted by groundwater pumping, thus the Scenic Waterway Act demands that mitigation be provided, or the application be denied. If the OWRD is only protecting mitigation water to the source stream and/or to Lake Billy Chinook, then all water rights issued based on mitigation that stops short of the Lower Deschutes River are measurably reducing protected scenic waterway flows and injuring instream water rights.

Proposed solution: Strike these provisions from the Draft Review. Furthermore, the OWRD should immediately halt this practice if this is how they are operating today. It is not supported by rule, it is not supported by statute, and it is putting any water rights that use mitigation that stops short of the Lower Deschutes at risk. And finally, any existing instream water right issued for "mitigation" that falls short of the lower Deschutes on the basis that it is not "measurable" should be amended to extend to the Columbia River.

- **Water Quality/Springs (pg. 34)** Currently the mitigation program does not include protections for water quality and/or spring flows. As groundwater pumping in the basin has increased, the program's impact on cold water springs that feed the Deschutes is of increased concern. This was identified in the 2009 Report to the Legislature, but OWRD has not invested significant time and/or resources to this issue.

  Draft Review: The Draft Review commits to working with ODFW and DEQ to develop study. WaterWatch supports this work. That said, we also think the agencies should work together to develop sideboards to the program that will avert impacts to water quality and/or springs. Moreover, OWRD should fold recent information on groundwater declines into the analysis and/or discussions.

- **7j Permits:** Pages 46-47 of the 2009 Legislative Report provide a good background on this issue. Long story short, when SB 1033 was negotiated language was included that would allow regulation of water rights issued post 1995 if the OWRD determined that the Scenic Waterway Act's "measurable reduction standard" had been triggered. In 2001, the OWRD found that the standard had been triggered and that the post 1995 (7j) water right holders would need to mitigate. Rule language states that if 7j water right holders provided mitigation, they were not subject to OWRD regulation[4]. Legislative and

[4] OAR 690-505-0600 (4) Holders of existing ground water permits and associated certificates in the Deschutes Ground Water Study Area issued after July 19, 1995, with priority dates after April 19, 1991, that are specifically conditioned to allow regulation for measurable reduction of a state scenic waterway and that choose to provide mitigation meeting the standards of these rules shall not be subject to regulation for scenic waterway flows pursuant to ORS 390.835(9). A ground water permit or certificate for which a mitigation project has been approved by the

administrative history makes clear the intent was that if 7j water right holders did not mitigate, OWRD would regulate (see e.g. OWRD Staff Report to the Commission, April 11, 2002 attached). The OWRD has not, as of yet, required mitigation of the 7j water right holders. Post 1995 water rights with the 7j condition are in the order of 188 cfs; allowing continued use of these permits absent mitigation is negatively affecting both scenic waterway flows and senior instream water rights.

Draft Review: The Draft Review notes that the OWRD is considering whether mitigation should be required for "'7j" permit holders seeking extensions of time for the undeveloped portion of their permits. This is similar to what they committed to in the 2016 Report. WaterWatch strongly supports this; it is our position that it is required under the Act. That said, OWRD should act now. Not commit to "considering". That 5 years have passed without action is disappointing to say the least. Overall, we continue to urge the OWRD to require mitigation of all existing permit and/or certificate holders that were issued after 1995. The administrative record for the Deschutes Program makes clear this was the intent of the program; and was even a stipulation in the MOU that governed the workgroup that developed the rules (e.g. See OWRD Staff Report to the Commission, April 11, 2002). Absent this, these water right holders are at risk of enforcement action. Solution: OWRD should require mitigation of all post 1995 rights with the 7j permit condition.

- **Compliance (pg. 40-41):** The Draft Review notes compliance issues. Mitigation is a condition of use. It is also required by statute. Any violations should result in cancellation of the permit. We appreciate that the OWRD cancelled three rights in 2018; we would urge them to carry this practice forward for any water right in any year that fails to provide mitigation. This will free up space under the cap for prospective water right applicants who are committed to following the law.

- **Consumptive use (pg. 44):** The Draft Review outlines issues related to consumptive use, including coefficients used. New studies and/or groundwater work has been developed in the years since the program was adopted. Moreover, each groundwater permit has a condition of use requiring an increase in mitigation if consumptive use increases. To our knowledge, OWRD is not reviewing current water rights to assess whether consumptive use is increasing. As entities become more efficient to stretch limited supplies and/or address a changed climate, it is quite likely that consumptive use co-efficients might be outdated (e.g. cities using grey water for landscaping, golf courses, etc). Given changing knowledge, changing climate and changing technology, we would urge the OWRD to evaluate whether the rules should be amended to require mitigation of the water right of record, rather than consumptive use.

Department prior to the effective date of these rules shall not be subject to regulation for scenic waterway flows pursuant to ORS 390.835(9).

- **Exempt wells (pg. 45):** The Deschutes Groundwater Mitigation Rules do not require mitigation by exempt well holders. While the Scenic Waterway Act explicitly excludes exempt wells from its mitigation requirements, this does not relieve the OWRD from its obligation to protect senior surface water rights, including senior instream water rights. In the late 1990's the OWRD found that PSI (potential for substantial interference) had been triggered in the basin. The exempt well statutes ORS 576.545 grant OWRD explicit authority to regulate exempt wells. Given instream water rights throughout the Deschutes are routinely not met, the OWRD should either be regulating them off, or requiring mitigation. Draft Report: The Draft Report states that because exempt wells are excluded from the Scenic Waterway Act discussion is not included in this report. As we have noted before, exempt well holders in the Deschutes Basin are at risk of regulation as groundwater use under these wells are injuring instream water rights. The state should be looking at this issue now in order to try to find a path forward for this problem; otherwise these water users are at risk. Proposed solution: Amend rules to require post 1995 exempt well holders to provide mitigation under the program.

- **What qualifies as mitigation under the program (pg. 45):** Currently the rules include a list of projects that "may" qualify as mitigation. That said, the potential projects must meet the parameters of the program, namely that it result in water that is legally protected instream. During rule development, numerous commenters (including WaterWatch, Bureau of Land Management and ODFW) raised concerns with the inclusion of "conserved water" on that list. As OWRD is aware, the Conserved Water Statute requires that before allocating the applicant's portion of the conserved water, mitigation must be provided to offset any impacts to other water right holders. Because of the unique hydrology of the Deschutes basin whereby water leaked via canals returns to the Deschutes, saved water cannot be "allocated" to any additional consumptive use without diminishing flows protected by instream water rights. In other words, legally Conserved Water cannot serve as mitigation as all saved water must go towards offsetting impacts of diminished recharge on instream rights. The OWRD has received draft advice from DOJ corroborating this point. Similarly, aquifer recharge also cannot serve as mitigation as there is no way under Oregon law to protect water "recharged" instream. Solution: to avoid ongoing confusion, both conserved water and aquifer recharge should be deleted as possible mitigation projects in the rules. We would also urge the OWRD to amend the Draft Review to make the determinations on these points clear.

- **Priority date of mitigation water:** OWRD should take steps to ensure that mitigation project provide water that is of senior enough priority that it will be protected instream in dry years. Absent that, OWRD should annually regulate off any water right that is dependent on mitigation water that cannot be provided in any given year because of drought, senior water right priorities, etc. We would urge OWRD attention to this issue.

- **Definition of Mitigation:** Currently the Deschutes Mitigation rules define mitigation as "moderating" the effects of the groundwater impact. This does not meet statutory standards under the Scenic Waterway Act, which clearly requires that mitigation ensure the maintenance of the free-flowing character of the scenic waterway in quantities

necessary for recreation, fish and wildlife. ORS 390.835(9)(g)[5]. Proposed Solution: Change the definition in rule so that mitigation is defined as "offsetting" the effect of groundwater use.

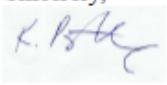
Conclusion: In the past WaterWatch has voiced general support of the continuation of the Deschutes Groundwater Mitigation Program; though that support was premised on the understanding that while we generally supported continuation of the program, we would oppose amending of the cap upwards unless the program is updating to ensure it meets the mandates of the state Scenic Waterway Act, namely that mitigation will "ensure the maintenance of the free-flowing character of the scenic waterway in quantities necessary for recreation, fish and wildlife." ORS 390.835(10).

That said, the OWRD's refusal to protect mitigation water into the source stream if not measurable or through Lake Billy Chinook to the Lower Deschutes River (measurable or not) is of great concern and raises a lot of questions about the program in general. In short, the OWRD's position that it will not protect mitigation water through Lake Billy Chinook to the Lower River puts at serious risk the possibility of widespread support of a legislative extension of the program beyond 2029. We urge re-evaluation of this position as it is not supported by statute, the Deschutes Groundwater Mitigation Rules or the administrative record leading up to the adoption of the Deschutes Groundwater Mitigation Rules.

As to the other issues raised in our comments, we urge OWRD to amend the rules as suggested and/or convene a workgroup to discuss a path forward in the very near future.

Thank you for the opportunity to provide comments

Sincerely,



Kimberley Priestley
Senior Policy Analyst

[5] *Id.* The Oregon Ct. of Appeals noted: "ORS 390.835 requires that stream flows be maintained and that, under the statute, any mitigation must "ensure the maintenance of the free-flowing character of the scenic waterway in quantities necessary for recreation, fish and wildlife." ORS 390.835(10) (emphasis added). In petitioner's view, the statutory language requires that "mitigation" eliminate or fully offset the impacts of a groundwater use on scenic flows. Because the rules "only require that mitigation 'moderate' the effect of ground water use on [those] flows," petitioner contends that the rules depart from the legal standard expressed in ORS 390.835 and, accordingly, are invalid. We agree with petitioner."

Attachment 23: Yancy Lind, Bend, Oregon

HENDERSON Sarah A * WRD

From: Y Lind <yancy.lind@gmail.com>
Sent: Monday, August 23, 2021 3:50 PM
To: HENDERSON Sarah A * WRD
Subject: Review of the Deschutes Basin Groundwater Mitigation Program

August 23, 2021

To: Sarah Henderson
OWRD Flow Restoration Program Coordinator
sarah.a.henderson@oregon.gov

From: Yancy Lind
yancy.lind@gmail.com
541-788-5514

Subject: Comments on the DBGMP 5-Year Review Draft

Sarah,

Thank you for entering and considering these comments into the review process. I want to state that I agree with the comments made by WaterWatch, the Oregon Department of Fish & Wildlife, and the Oregon Department of Environmental Quality on the last draft report. I will not repeat them here.

The draft claims that the Mitigation Program has been a success. "The benefits of the program are significant in some key areas where chronic low flows historically occurred, such as in the Deschutes River below Bend, Crooked River below Smith Rock, and Whychus Creek below the Three Sisters Irrigation District diversion." The draft report also states that "approximately 56 CFS of instream flow has been permanently restored to the Deschutes River and its tributaries", which is on the order of 4% of the historical flow of the Middle Deschutes.

OWRD claims success by using average flows without taking into consideration the timing and variability of flows, which can be extreme. It is not uncommon for flows in the Middle Deschutes to vary over a hundred CFS in a single day, at all times of the year. There are also periods of flows as low as 60 CFS. At times this summer flows in the Crooked River were low enough to not even be measurable on OWRD's gauges. Those same gauges reported temperatures as high as 90 degrees (F) when the flows could be measured. Flows in Wychus Creek regularly exceed state temperature standards. How is this a success? If 180 CFS of the mitigation cap has been used, where is the mitigation water? It does not appear to be instream in any "significant" fashion based on what the gauges report.

I believe that fish, wildlife, and recreational users need flows that never go below an acceptable minimum at any time to meet the goals of the program which is to protect state scenic waterways. Measuring flows as averages masks when they are low enough to kill fish and wildlife or make the river unsuitable for recreational use. Like us, fish and other forms of aquatic life need oxygen to breathe every day, not just most of the time. How exactly is OWRD measuring success?

Another issue is that the amount of mitigation required is based on the concept of "consumptive use", but the draft report offers no evidence for the listed "consumptive use coefficients". The concept makes intuitive sense, and probably occurs in places. Unlined irrigation canals, for example, do leak water and it appears that water makes it back

to the aquifer (although far downstream from the point of diversion). I believe that the volume of water and saturation that occurs in a canal or at a wastewater percolation pond are exceptions. The very dry soil conditions in the high desert, especially in our frequently occurring drought conditions, leads me to question the amount of aquifer recharge occurring outside of a few places. Just how much water sprinkled on a lawn, or an agricultural field, really makes its way down to the aquifer? What evidence are these coefficients based on?

In my mind, this is very important. If a gallon of water is pumped out of the ground but only 40% of that is replaced by mitigation water (the figure for municipal use), and the other 60% does not eventually return to a river, then the program will never meet its goals.

OWRD also does not take into consideration the quality of the water being used for mitigation. I understand that water quality is not explicitly part of the Mitigation Program, but it should be. The State Scenic Waterway Act states that the best uses of a scenic waterway are for recreation, fish, and wildlife. Cold, clean spring water replaced with warm, possibly polluted water stored for irrigation is not an equal replacement. Not for fish, not for wildlife, and not for recreation.

I also understand that "exempt" wells are not covered by the mitigation program, but they too should be. There are over 21,000 exempt wells in the Basin, I own one of them. Using data from the now complete Deschutes Basin Work Group, data I obtained from the City of Bend, and your consumptive use coefficients, I have calculated that exempt wells likely use at least as much, if not more, water than the City of Bend. This is a huge drain on groundwater that clearly impacts scenic waterway flows in the Basin.

Thank you for your consideration of these comments,

Yancy Lind