



Oregon

Kate Brown, Governor

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MEMORANDUM

TO: Water Resources Commission

FROM: Thomas M. Byler, Director

SUBJECT: Agenda Item C, August 27, 2020
Water Resources Commission Meeting

Director's Report

I. Current Events and Updates

A. Walla Walla Subbasin Update

In late 2019, the Department entered into a one-year cost share agreement with the United States Geological Survey (USGS) to begin to collect data in the Walla Walla subbasin, review existing data and reports on the basin, and develop a multi-year groundwater basin study scope of work. The groundwater basin study will address the entire Walla Walla Basin and will be conducted in cooperation with the Washington Department of Ecology, the Oregon and Washington Water Science Centers of the USGS, and in coordination with the Confederated Tribes of the Umatilla Indian Reservation. These five entities have continued to meet via teleconferences to maintain coordination and provide progress updates.

The Department was engaged in conversations with the Legislative Fiscal Office during July regarding the status of the funds and positions included in the 2019 Policy Option Package 102 groundwater basin study package. Due to the state's current financial outlook, only one of the six designated positions will be filled. The Department intends to continue the work with existing staff, but the process will be slower, and the Department will not have much capacity to support public engagement and outreach efforts. In addition, this will slow the processing of groundwater applications and other Groundwater Section work.

The Department is also participating in the Walla Walla Water 2050 process led by the State of Washington. The Washington Legislature directed the Washington Department of Ecology to work with basin stakeholders to develop a 30-year strategic integrated water resources plan for the Walla Walla Basin. While primarily focused on the Washington side of the basin, both states are interested in considering the water management needs for the basin as a whole, to the extent possible. The Department serves on the Strategic Plan Advisory Committee as well as a number of working groups.

The Department also engages regularly with Washington Department of Ecology and Confederated Tribes of the Umatilla Indian Reservation to discuss individual and joint efforts as co-managers of the Walla Walla Subbasin.

B. Water Supply Update

A relatively dry winter with below-normal snowpack in all but the northeast corner of the state has led to drought-like conditions across broad areas of Oregon. The summer and early fall forecast is for warmer than normal temperatures and equal chances of above or below normal precipitation. The [U.S. Drought Monitor](#) now places 76 percent of the state in D1 "Moderate" Drought Conditions, with D2 "Severe" Drought Conditions across more than 50 percent of the state. In addition, over 16 percent of the state is now in D3 "Extreme" Drought Conditions. This is likely to increase in the coming weeks. Oregon's Water Supply Availability Committee and Drought Readiness Council continue to meet regularly to track water conditions and process any requests for Governor's drought declarations.

Thus far in 2020 the Governor has issued several Executive Orders to declare drought in fourteen Oregon counties: Coos, Crook, Curry, Deschutes, Douglas, Gilliam, Jackson, Jefferson, Josephine, Klamath, Lake, Morrow, Wasco, and Wheeler counties. The Governor's Executive Orders call upon the Department and the Commission to coordinate with counties and other state agencies such as the Department of Agriculture, Department of Fish and Wildlife, and Office of Emergency Management to provide technical support to counties during drought. The recent orders also direct the Department to seek information from the Oregon Department of Fish and Wildlife to help understand the impacts of water availability on Oregon's fish and wildlife. This discussion has been initiated and is ongoing. The Executive Orders expire on December 31, 2020. To track drought declarations throughout the season, please visit: https://apps.wrd.state.or.us/apps/wr/wr_drought/declaration_status_report.aspx.

C. Climate Adaptation Framework

The Department of Land Conservation and Development is partnering with 24 other state agencies, including the Water Resources Department, to update the 2010 Climate Change Adaptation Framework ("Framework"). The 2020 Framework will describe climate change drivers, resulting risks, potential responses, and agency needs under six main themes: (1) Economy; (2) Natural World; (3) Built Environment; (4) Public Health; (5) Cultural Resources; and (6) Social Systems. The 2020 Framework will help state agencies work in partnership with Tribal nations, local governments and other community partners.

Five implementation recommendations will be included in the 2020 Framework:

- *Provide Leadership*: Establish a governance structure comprised of state agency leaders empowered to set direction and allocate resources;
- *Embrace Equity*: Engage disproportionately affected frontline and marginalized communities to ensure investments are targeted where they are needed most;
- *Assess Vulnerability*: Produce a rigorous and comprehensive vulnerability assessment intended to help leadership prioritize and target adaptation actions where and for whom they are most needed;
- *Support Collaboration*: Encourage a culture of interagency collaboration by building an information sharing and coordination platform enabling state leadership and staff to access the same vetted data and information and ensuring easy communication across agencies;
- *Mainstream Climate Adaptation*: Integrate climate change adaptation into agency work, including missions, authorities, programs, plans, and budget requests.

In addition, these implementation recommendations were submitted as action items to be included in the Oregon Natural Hazards Mitigation Plan that is also currently under revision. The draft 2020 Framework will be released for review in August, with final publication expected in December. More information about the effort can be found at: www.oregon.gov/lcd/CL/Pages/index.aspx.

D. Deschutes Basin Groundwater Mitigation Program 2019 Annual Review

The Department is required by OAR 690-505-0500(3) and OAR 690-521-0600 to provide annual evaluations on the Deschutes Basin Groundwater Mitigation Program. The annual evaluation is done in coordination with the Oregon Departments of Fish and Wildlife, Environmental Quality, State Lands, and Parks and Recreation. The annual evaluation is included in Attachment 1. The goal of this evaluation is to identify how streamflows are responding to additional groundwater use and implementation of the mitigation program.

In addition, the Department is initiating a periodic review of the program as required by Oregon Revised Statutes 540.155, which requires the Department to evaluate the mitigation program every five years and report to the Legislature on whether any regulatory and statutory changes are needed. The next report will be delivered by the end of 2021. The Department will be consulting with internal staff, other agencies, and external stakeholders over the next several months.

II. Litigation Update

Circuit Court Filings

Taylor A. Hyde and John L. Hyde v. Oregon Water Resources Department and Dani Watson, Watermaster, Marion Circuit Court, Case No. 20CV16967

On May 4, 2020, Taylor and John Hyde filed a Petition for Judicial Review in Marion Circuit Court of Watermaster regulatory orders directing the Hydies to cease diverting surface water in the Sprague River and Williamson River drainages following a valid call by senior surface water determined claims. On May 20, 2020, the Department issued an Order Denying Stay, reinstating the enforcement of the regulatory orders pending hearing. In mid-July petitioners filed a notice of dismissal, and on July 23, 2020 the Court dismissed the case.

Klamath Irrigation District v. Oregon Water Resources Department, Marion County Circuit Court (2020) 20CV17922

On May 14, 2020, Klamath Irrigation District (KID) filed a Complaint for Declaratory and Injunctive Relief in Marion County Circuit Court. The complaint was filed under ORS 183.490 and ORS 540.740. KID is seeking an injunction compelling the Department to carry into effect the Amended and Corrected Order of Determination (“ACFFOD”) in the Klamath Adjudication by ordering the Bureau of Reclamation (BOR) not to divert stored water through the Link River Dam for instream purposes unless or until it: obtains a water right or instream lease authorizing the use of water for such purpose, obtains a stay of the ACFFOD pursuant to ORS 539.180,

or obtains a final judgment providing that federal law authorizes the BOR to use stored water in UKL reservoir for instream purposes without securing a water right in accordance with state law and the Reclamation Act.

A hearing was held in Marion County Circuit Court on June 18, 2020. On July 30, 2020, Judge Bennett issued an opinion letter approving the KID's motion for partial summary judgment on the injunction claim under ORS 540.740 and denying the Department's motions on the same claim. A final judgement is pending.

Fern Valley Estates Improvement District v. Water Resources Department, Water Resources Commission, and Oregon Health Authority; Jackson County Circuit Court Case No. 20CV19061

This case involves well construction deficiencies for two wells that supply a public water system in Jackson County. Enforcement commenced with a Notice of Violation being issued to Fern Valley Estates Improvement District on May 2, 2020. On May 27, 2020, the District filed a Petition for Judicial Review in Jackson County Circuit Court. The Court issued an order to hold action in abeyance until February 8, 2021 to give the parties an opportunity to resolve the issues.

Court of Appeals Filings

Brayman, et al. v. Oregon Water Resources Department and Oregon Water Resources Commission, Harney County Circuit Court, Consolidated Case No. 02-06-134-CV and 02-10-298-CV

This longstanding issue, dating back to 2002 in Harney County, concerns management and enforcement of water rights consistent with the Silvies River Decree and the Department's alleged violation of a settlement agreement. On November 4, 2019, the Court of Appeals granted the State a motion for stay of the Harney County Circuit Court decision for the duration of the appeal.

Blue Mountain Angus, LLC. v. Oregon Water Resources Department, Oregon Court of Appeals Case No. A156669

This case is a petition to the Oregon Court of Appeals for review of a final order denying a transfer (T-10898). Blue Mountain Angus filed a water right transfer application to change the point of diversion and place of use under Water Right Certificate 25844. The Department denied the transfer because the Department was unable to make findings of no injury or enlargement.

On May 11, 2018, the Court ordered that this case be reactivated. On June 22, 2018, the Court of Appeals granted a motion to hold the appeal in abeyance through July 23, 2018.

Staff have worked with Blue Mountain Angus' Counsel to receive materials necessary to continue processing the Blue Mountain Angus transfer application. The Department is awaiting input from the Oregon Department of Fish and Wildlife and Oregon Department of Parks and Recreation. The Court issued a new filing deadline for the Department of September 8, 2020. The Department anticipates it will meet the deadline with a new order on reconsideration.

TPC, LLC., and Hyde v. Oregon Water Resources Department, Oregon Court of Appeals Case No. A167380

On March 21, 2018, the State of Oregon filed a motion for stay of judgment pending appeal on TPC and Hyde Case No. 16CV27427 and 17CV26962. The petitioners requested attorney fees and a request for findings and conclusions. The State opposed the request. The petitioners opposed the State's response on May 7, 2018.

TPC and Hyde filed an appeal on June 5, 2018. On August 17, 2018, the Appellate Commissioner issued an order granting a motion to stay the Trial Court's judgment for the duration of the appeal. Oral arguments were heard on November 6, 2019.

On May 19, 2020 the Court dismissed TPC, LLC. from the case, as requested by TPC. The case is proceeding with Hyde as the lone petitioner.

III. Upcoming Commission/Board Schedules

<u>Commission/Board</u>	<u>Date</u>
Land Conservation and Development Commission	September 24-25
Parks and Recreation Commission	TBD
Fish and Wildlife Commission	September 11
State Land Board	October 13
Environmental Quality Commission	September 17-18
Watershed Enhancement Board	September 9
Board of Agriculture	September 22-24

Attachments:

1. 2019 Deschutes Basin Mitigation Program Report
2. Rulemaking Calendar

DESCHUTES BASIN GROUNDWATER MITIGATION PROGRAM



OREGON



WATER RESOURCES
DEPARTMENT

2019 ANNUAL REVIEW

WRITTEN BY SARAH HENDERSON

OREGON WATER RESOURCES DEPARTMENT

DESCHUTES BASIN GROUNDWATER MITIGATION PROGRAM

2019 ANNUAL REVIEW

OREGON WATER RESOURCES DEPARTMENT

OREGON



WATER RESOURCES
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Introduction

The attached report provides the 2019 Annual Evaluation of the Deschutes Basin Groundwater Mitigation Rules (Oregon Administrative Rules (OAR) Chapter 690, Division 505) and the Deschutes Basin Mitigation Bank and Mitigation Credit Rules (OAR Chapter 690, Division 521).

Background

On September 13, 2002, the Commission adopted the Deschutes Basin Groundwater Mitigation Rules and the Deschutes Basin Mitigation Bank and Mitigation Credit Rules. The rules provide for mitigation of impacts to scenic waterway flows and senior water rights including instream water rights, while allowing additional appropriations of groundwater in the Deschutes Basin Groundwater Study Area (Appendix 1). The mitigation program, by rule, allows an additional 200 cubic feet per second (cfs) of new groundwater use, referred to as the allocation cap.

Evaluation Requirements

Under OAR 690-505-0500(3) and OAR 690-521-0600 of the Deschutes Basin Groundwater Mitigation Rules, the Department is required to annually evaluate and report on the Deschutes Basin Groundwater Mitigation Program, including the implementation and management of mitigation credits allocated through existing mitigation banks. This annual evaluation and report is to include information on new groundwater appropriations, streamflow impacts, and mitigation activity to determine 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 (1966 to 1995).

The annual review must address the following topics:

- New groundwater appropriations
- Mitigation activity
- Mitigation bank activity
- Streamflow impacts
- Consultation with the Oregon Department of Fish and Wildlife (ODFW), Oregon Parks and Recreation Department, Oregon Department of Environmental Quality (ODEQ), and Oregon Department of State Lands
- Determination of whether the scenic waterway and instream water right flows in the Deschutes Basin continue to be met on at least an equivalent or more frequent basis

Report Contents

This report incorporates all of the required elements outlined for the annual report required in OAR 690-505-0500(3) and OAR 690-521-0600.

Agency Comments

The Department provided a draft of the report for review by the agencies listed above on July 10, 2020. Comments were provided by the ODFW and ODEQ (see Appendix 2) and are summarized below.

Issues of concern raised by ODFW include:

- Impacts of increased groundwater use under the Mitigation Program to local springs, which are an important source of cold water inputs to streams by providing

cold water refugia and other habitat benefits for fish.

- Reduction of seepage and loss of cold water recharge for springs resulting from conversion of area irrigation canals to piped delivery systems.
- The effect of the Mitigation Program on streamflows outside of the irrigation season.
- Potential impacts of the Mitigation Program on the ESA-listed Oregon Spotted Frog.
- Proposed winter reservoir releases with unclear mitigation intent.
- Water accounting and impacts of climate change, actual “wet water” accounting.

Issues of concern raised by DEQ include:

- ODEQ concurs with ODFW’s comments.
- Time lag of impacts from groundwater withdrawals.
- Spatial consideration of impacts, recommendation for mitigation projects to be sited upstream from groundwater withdrawals. Currently, mitigation credits may come from anywhere within the Zone of impact.
- Accuracy of accounting, consumptive use coefficients used to determine mitigation requirements and credits.
- Report improvement suggestions, which water rights required to provide mitigation and inclusion of a map summarizing report information.

2019 Review Evaluation

New Groundwater appropriations and Mitigation Activities as of end of 2019

A. Permits Issued:

- 131 permits issued
- 26 of which have been issued certificates

B. Applications Pending with No Final Order:

- 18 applications, totaling 17.98 cfs

C. Allocation cap summary (Figure 1):

- 161.95 cfs – total cfs allocated under cap (permits and final orders)
- 17.98 cfs – pending applications not yet deducted from 200 cfs cap
- 20.08 cfs – remaining cfs if all pending applications were approved

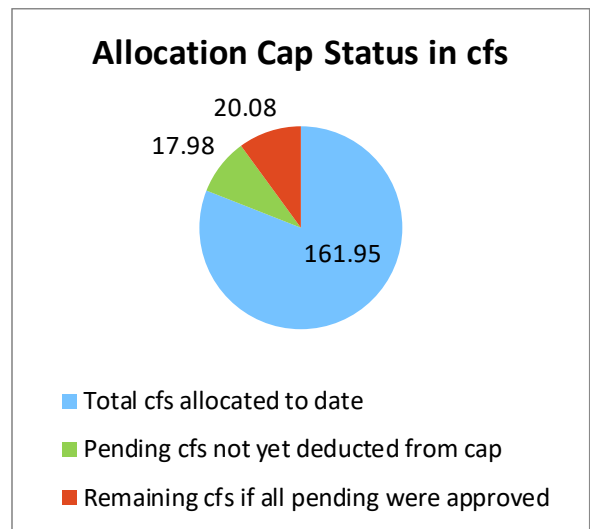


Figure 1 Allocation Cap Status in cfs

D. **Incremental Development Plans:** By rule, the Department may allow a municipal or quasi-municipal applicant to satisfy their mitigation obligation incrementally as the water use is developed, rather than requiring mitigation to be provided before the permit is issued. These applicants must report annually to the Department on the volume of water used and the source of mitigation. There are 20 permits that have incremental development plans.

A summary of water use for municipal and quasi-municipal permit holders with incremental development plans is

provided in Figure 2. This figure is a comparison between the amount that these water users are authorized to use at full development, the amount of water they could use based on how much mitigation they have provided through 2019, and the amount of water they actually used during 2019. Overall, in 2019, more mitigation was provided by entities with incremental development plans than was needed to mitigate for actual use.

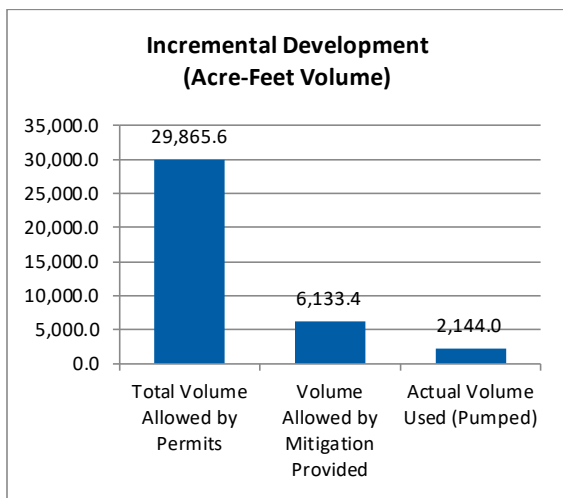


Figure 2 Incremental Development

- E. **Mitigation Activity:** Mitigation for active groundwater permits and certificates issued by the Department under the Mitigation Program is provided through permanent instream transfers and temporary instream leases. The majority of mitigation continues to be primarily from instream transfers (Figure 3). Mitigation credits established by a Mitigation Project are considered used when assigned to a groundwater application or permit.
- There were 72 total active mitigation projects, including:

- 46 permanent instream transfer projects; and
- 26 temporary instream lease projects.

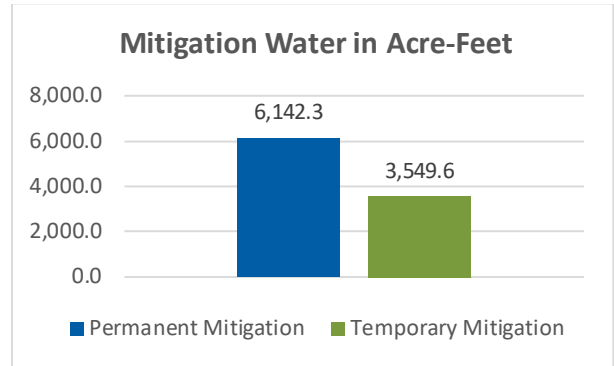


Figure 3 Mitigation Water in Acre-Feet

- Figure 4 shows the established mitigation broken out by zone of impact. The reason these amounts are more than the established amounts is because mitigation is sometimes established in multiple zones (i.e., 10 credits established in the middle and general zones, but they only get a maximum of 10 credits that can be used in the middle or general zones).

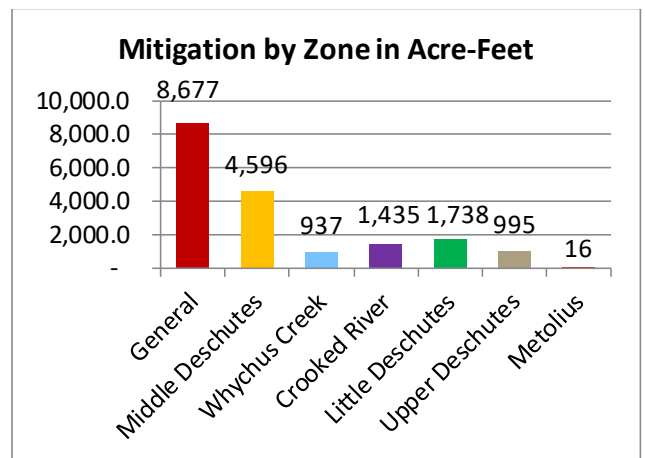


Figure 4 Mitigation by Zone

F. **Mitigation Banks:** Mitigation banks must submit an annual report detailing all of the credit transactions and activities for the preceding calendar year. To date, there are three:

- Deschutes River Conservancy Mitigation Bank (DRCMB);
- Deschutes Irrigation, LLC; and
- Arnold Irrigation District Mitigation Bank.

G. **Mitigation Bank Activity:**

DRCMB

- Filed the required report
- Submitted 19 instream leases in 2019
- Has maintained sufficient “reserve” credits to cover temporary mitigation credits used by groundwater permit holders in each zone of impact. (For each temporary mitigation credit used to satisfy all or part of the mitigation obligation of a groundwater permit, the Mitigation Bank is required to keep a matching credit in reserve.)

Deschutes Irrigation LLC

- No activity to date

Arnold Irrigation District

- No activity to date

Mitigation Effects on Streamflow

To evaluate the impact of the mitigation program on scenic waterway flows and instream water right flows, the Department developed a streamflow modeling program based on gaging records from the 1966-1995 base period, a pre-mitigation program time frame. The model simulates the estimated hydrologic effects of mitigation credits and debits on the historical records at the gaged locations across the basin, and then evaluates

how often the instream flow requirements (ISFR) are met based on this adjusted streamflow data compared to the original flow records (Cooper 2008). A modeling approach was used because the steady-state, long-term impact of streamflow to mitigation-related activities may take years or even decades to be reflected as actual changes in streamflow (Gannett and Lite, 2004), plus natural climate variability generally masks the streamflow response to mitigation activities at most locations (Cooper 2008). The simulations do not reflect activities affecting streamflow outside of the mitigation program, such as canal piping/lining.

Analysis of the 2019 data demonstrates that, on an annual basis, the simulated change in percent of time for the instream flow requirements at the evaluation points ranges from -0.17% to +1.10%. Similarly, the overall annual change in streamflow ranges from -0.006 cfs to +21.5 cfs (Appendix 3).

Consistent with previous annual reports, the seasonal change in the quantity of streamflow (cfs) continues to be negative at all evaluation points during the non-irrigation season and positive at all evaluation points during the irrigation season.

Similarly, the changes in percent of time the ISFR are met (% ISFR met) generally follows this same seasonality as changes in streamflow quantity. The magnitude of change in % ISFR met varies by month and site, reflecting how close 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 result in a large change in percent of time the ISFR is met, while the opposite is true if the historical flows differed greatly from the ISFR.

This difference in seasonal results is expected due to the inherent timing difference between when the effects of debits and credits reach the stream network. Debits (new groundwater withdrawals) produce a decrease in streamflow year-round due to the pumping effects on groundwater being attenuated in time (Gannett and Lite, 2004). Credit (instream leases and instream transfers of surface water rights) effects are immediate and occur during the irrigation season.

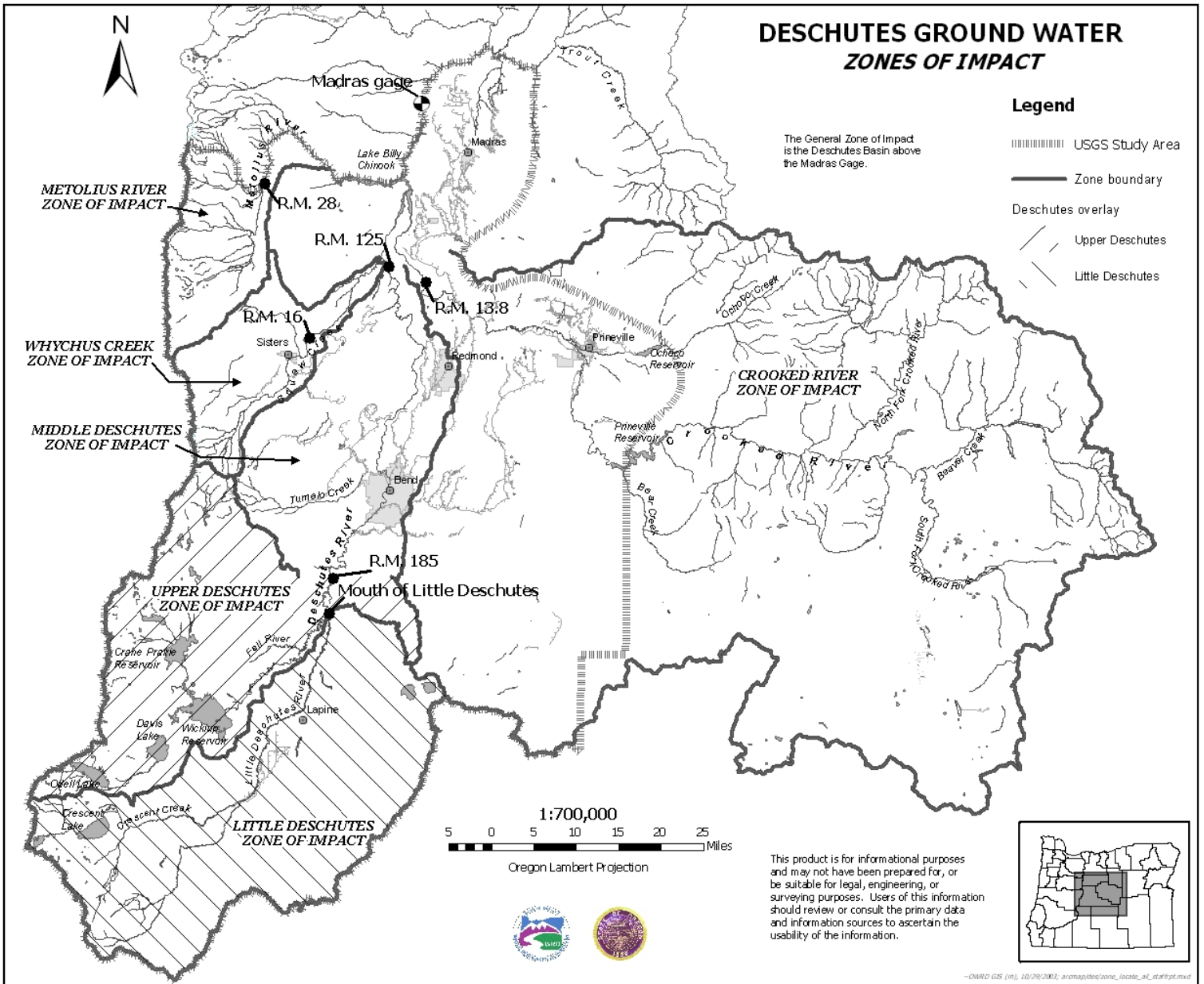
Summary

The Department continues working to effectively implement the Deschutes Basin Groundwater Mitigation Program. Groundwater permit applications and mitigation projects are moving through the required processes. Overall, the program continues to produce positive benefits as more mitigation water has been approved and protected instream than is required for active groundwater permits and certificates.

The Department does not believe that modifying the allocation cap is necessary at this time. There is water available under the cap, and it will continue to be evaluated annually.

Appendices

1. Deschutes Basin Groundwater Study Area Zone of Impact Map
2. Comments from ODFW and ODEQ
3. Summary of Modeled Streamflow for Water Year Ending September 2019





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July 22, 2020

Sarah Henderson
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 Oregon Water Resources Department
 725 Summer Street NE, Suite A
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RE: DRAFT 2019 Annual Review of the Deschutes Groundwater Mitigation Program

Dear Ms. Henderson,

The Oregon Department of Fish and Wildlife (ODFW) appreciates the opportunity to comment on the DRAFT 2019 Annual Review of the Deschutes Groundwater Mitigation Program (Program). Overall, ODFW agrees that the Program has been successful in maintaining and improving flows in the middle and lower Deschutes River 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. 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).

ODFW has consistently submitted comments on past annual reports that address our ongoing concerns with the Program. We are pleased to learn that the Oregon Water Resources Department (OWRD) will soon convene stakeholders 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 a stakeholder group has not yet been convened, ODFW will review our primary concerns here. Specifically, ODFW requests tangible improvements to the Program in the following areas:

ODFW Comments

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Water Accounting and Impacts of Climate Change

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.

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, ODFW assumes that 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

ODFW Comments

7/22/20

considered in water management decisions and when assessing effectiveness of the Program.

As noted as an action in the 2016 Annual Report and topic for a stakeholder Work Group, 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. ODFW 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 reported again in this current review, 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 of water to both the middle and upper Deschutes River on a year round basis.

ODFW would like OWRD and program partners to work with us to seek clear options for year-round mitigation to offset year-round impacts.

ODFW Comments

7/22/20

Thank you for the chance to comment. We look forward to pursuing solutions to our concerns and encourage OWRD to schedule dates for a stakeholder Work Group as soon as possible so we can revisit Program goals and rule language and plan for Program updates. If you have any questions in the meantime, 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>.



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July 24, 2020

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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

Streamflow Model Data

The data presented in the following tables are from the Department's Deschutes Mitigation model. The "before mitigation" or baseline condition of streams in the Deschutes Basin has been determined from streamflows measured during water years 1966 to 1995. The model has been developed to mathematically estimate the change in streamflow expected due to mitigation (credits) and groundwater allocation (debits). The model is designed to reflect the theoretical, 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 streamflow.

CHANGE IN PERCENT OF TIME INSTREAM REQUIREMENTS ARE MET
IN THE DESCHUTES BASIN AS A RESULT OF MITIGATED GROUNDWATER USE

Effective Date: 9/30/2019

Deschutes River at Mouth

Time: 12:38 Date: 07/02/2020

Month	Base Line %	Mitigated %	Change in Percentage %	Percent Change %
JAN	93.20	93.10	-0.11	-0.12
FEB	90.80	90.40	-0.35	-0.39
MAR	95.30	95.10	-0.22	-0.23
APR	99.90	99.90	0.00	0.00
MAY	99.10	99.50	0.32	0.32
JUN	98.00	98.80	0.78	0.79
JUL	91.00	93.10	2.15	2.31
AUG	100.00	100.00	0.00	0.00
SEP	98.10	98.20	0.11	0.11
OCT	97.40	97.50	0.11	0.11
NOV	99.90	99.90	0.00	0.00
DEC	91.70	91.10	-0.64	-0.71
ANNUAL	96.20	96.40	0.18	0.19

Enter (1) to CONTINUE; (2) to WRITE the Table:

CHANGE IN MEAN STREAM FLOW (CFS)
IN THE DESCHUTES BASIN AS A RESULT OF MITIGATED GROUNDWATER USE

Effective Date: 9/30/2019

Deschutes River at Mouth

Time: 12:38 Date: 07/02/2020

Month	Base Line cfs	Mitigated cfs	Change in cfs cfs	Percent Change %
JAN	6910.0	6890.0	-24.5	-0.36
FEB	7080.0	7050.0	-24.5	-0.35
MAR	7250.0	7220.0	-24.3	-0.34
APR	6640.0	6630.0	-3.36	-0.05
MAY	5800.0	5820.0	19.1	0.33
JUN	5200.0	5230.0	35.3	0.68
JUL	4590.0	4630.0	43.4	0.94
AUG	4380.0	4420.0	41.9	0.95
SEP	4430.0	4460.0	27.8	0.62
OCT	4710.0	4710.0	7.92	0.17
NOV	5390.0	5370.0	-24.1	-0.45
DEC	6190.0	6160.0	-24.5	-0.40
ANNUAL	5710.0	5710.0	4.34	0.08

Enter (1) to CONTINUE; (2) to WRITE the Table:

CHANGE IN PERCENT OF TIME INSTREAM REQUIREMENTS ARE MET
IN THE DESCHUTES BASIN AS A RESULT OF MITIGATED GROUNDWATER USE

Effective Date: 9/30/2019

Deschutes River below Pelton Dam
Time: 12:39 Date: 07/02/2020

Month	Base Line %	Mitigated %	Change in Percentage %	Percent Change %
JAN	64.70	64.10	-0.64	-1.01
FEB	63.00	62.20	-0.83	-1.33
MAR	67.80	66.90	-0.97	-1.45
APR	71.40	71.40	0.00	0.00
MAY	58.80	63.00	4.19	6.66
JUN	55.60	59.90	4.33	7.24
JUL	41.00	45.20	4.19	9.29
AUG	98.20	99.40	1.18	1.19
SEP	66.80	69.00	2.22	3.22
OCT	81.10	81.10	0.00	0.00
NOV	97.20	97.20	0.00	0.00
DEC	66.10	65.50	-0.64	-0.99
ANNUAL	69.30	70.40	1.10	1.56

Enter (1) to CONTINUE; (2) to WRITE the Table:

CHANGE IN MEAN STREAM FLOW (CFS)
IN THE DESCHUTES BASIN AS A RESULT OF MITIGATED GROUNDWATER USE

Effective Date: 9/30/2019

Deschutes River below Pelton Dam
Time: 12:40 Date: 07/02/2020

Month	Base Line cfs	Mitigated cfs	Change in cfs cfs	Percent Change %
JAN	5240.0	5220.0	-24.5	-0.47
FEB	5190.0	5170.0	-24.5	-0.47
MAR	5520.0	5500.0	-24.3	-0.44
APR	5130.0	5130.0	-3.36	-0.07
MAY	4420.0	4440.0	19.1	0.43
JUN	4230.0	4260.0	35.3	0.83
JUL	4020.0	4060.0	43.4	1.07
AUG	3940.0	3980.0	41.9	1.05
SEP	3980.0	4000.0	27.8	0.69
OCT	4190.0	4200.0	7.92	0.19
NOV	4680.0	4660.0	-24.1	-0.52
DEC	5030.0	5010.0	-24.5	-0.49
ANNUAL	4630.0	4630.0	4.34	0.09

Enter (1) to CONTINUE; (2) to WRITE the Table:

CHANGE IN PERCENT OF TIME INSTREAM REQUIREMENTS ARE MET
IN THE DESCHUTES BASIN AS A RESULT OF MITIGATED GROUNDWATER USE

Effective Date: 9/30/2019

Metolius River at Lake Billy Chinook
Time: 12:40 Date: 07/02/2020

Month	Base Line %	Mitigated %	Change in Percentage %	Percent Change %
JAN	97.70	97.70	0.00	0.00
FEB	99.20	99.20	0.00	0.00
MAR	99.80	99.80	0.00	0.00
APR	100.00	100.00	0.00	0.00
MAY	100.00	100.00	0.00	0.00
JUN	100.00	100.00	0.00	0.00
JUL	100.00	100.00	0.00	0.00
AUG	100.00	100.00	0.00	0.00
SEP	100.00	100.00	0.00	0.00
OCT	100.00	100.00	0.00	0.00
NOV	100.00	100.00	0.00	0.00
DEC	100.00	100.00	0.00	0.00
ANNUAL	99.70	99.70	0.00	0.00

Enter (1) to CONTINUE; (2) to WRITE the Table:

CHANGE IN MEAN STREAM FLOW (CFS)
IN THE DESCHUTES BASIN AS A RESULT OF MITIGATED GROUNDWATER USE

Effective Date: 9/30/2019

Metolius River at Lake Billy Chinook
Time: 12:40 Date: 07/02/2020

Month	Base Line cfs	Mitigated cfs	Change in cfs cfs	Percent Change %
JAN	1510.0	1510.0	-0.044	0.00
FEB	1560.0	1560.0	-0.044	0.00
MAR	1560.0	1560.0	-0.044	0.00
APR	1520.0	1520.0	-0.044	0.00
MAY	1560.0	1560.0	0.056	0.00
JUN	1590.0	1590.0	0.056	0.00
JUL	1490.0	1490.0	0.056	0.00
AUG	1400.0	1400.0	0.056	0.00
SEP	1350.0	1350.0	0.006	0.00
OCT	1330.0	1330.0	-0.044	0.00
NOV	1370.0	1370.0	-0.044	0.00
DEC	1450.0	1450.0	-0.044	0.00
ANNUAL	1470.0	1470.0	-0.006	0.00

Enter (1) to CONTINUE; (2) to WRITE the Table:

CHANGE IN PERCENT OF TIME INSTREAM REQUIREMENTS ARE MET
IN THE DESCHUTES BASIN AS A RESULT OF MITIGATED GROUNDWATER USE

Effective Date: 9/30/2019

Deschutes River at Lake Billy Chinook

Time: 12:41

Date: 07/02/2020

Month	Base Line %	Mitigated %	Change in Percentage %	Percent Change %
JAN	100.00	100.00	0.00	0.00
FEB	100.00	100.00	0.00	0.00
MAR	100.00	100.00	0.00	0.00
APR	97.10	99.80	2.67	2.67
MAY	100.00	100.00	0.00	0.00
JUN	100.00	100.00	0.00	0.00
JUL	100.00	100.00	0.00	0.00
AUG	100.00	100.00	0.00	0.00
SEP	100.00	100.00	0.00	0.00
OCT	94.40	99.80	5.38	5.39
NOV	100.00	100.00	0.00	0.00
DEC	100.00	100.00	0.00	0.00
ANNUAL	99.30	100.00	0.68	0.68

Enter (1) to CONTINUE; (2) to WRITE the Table:

CHANGE IN MEAN STREAM FLOW (CFS)
IN THE DESCHUTES BASIN AS A RESULT OF MITIGATED GROUNDWATER USE

Effective Date: 9/30/2019

Deschutes River at Lake Billy Chinook

Time: 12:41

Date: 07/02/2020

Month	Base Line cfs	Mitigated cfs	Change in cfs cfs	Percent Change %
JAN	1300.0	1290.0	-8.07	-0.62
FEB	1320.0	1310.0	-8.07	-0.62
MAR	1300.0	1290.0	-7.92	-0.62
APR	843.0	856.0	13.1	1.53
MAY	552.0	586.0	34.1	5.81
JUN	606.0	654.0	47.6	7.29
JUL	550.0	603.0	52.9	8.77
AUG	519.0	570.0	50.5	8.86
SEP	537.0	574.0	36.4	6.35
OCT	725.0	742.0	17.1	2.30
NOV	1130.0	1120.0	-8.07	-0.72
DEC	1220.0	1210.0	-8.07	-0.67
ANNUAL	881.0	899.0	17.8	1.98

Enter (1) to CONTINUE; (2) to WRITE the Table:

CHANGE IN PERCENT OF TIME INSTREAM REQUIREMENTS ARE MET
IN THE DESCHUTES BASIN AS A RESULT OF MITIGATED GROUNDWATER USE

Effective Date: 9/30/2019

Deschutes River at Lower Bridge

Time: 12:42

Date: 07/02/2020

Month	Base Line	Mitigated	Change in	Percent
	%	%	Percentage	Change
			%	%
JAN	60.50	59.00	-1.51	-2.55
FEB	63.80	62.50	-1.30	-2.08
MAR	68.30	67.70	-0.54	-0.79
APR	23.60	24.40	0.89	3.64
MAY	1.29	1.51	0.22	14.30
JUN	2.11	3.22	1.11	34.50
JUL	0.11	0.86	0.75	87.50
AUG	0.86	1.61	0.75	46.70
SEP	3.67	4.44	0.78	17.50
OCT	13.00	14.10	1.08	7.63
NOV	52.20	50.90	-1.33	-2.62
DEC	56.30	55.60	-0.75	-1.35
ANNUAL	28.60	28.70	0.02	0.06

Enter (1) to CONTINUE; (2) to WRITE the Table:

CHANGE IN MEAN STREAM FLOW (CFS)
IN THE DESCHUTES BASIN AS A RESULT OF MITIGATED GROUNDWATER USE

Effective Date: 9/30/2019

Deschutes River at Lower Bridge

Time: 12:42

Date: 07/02/2020

Month	Base Line	Mitigated	Change	Percent
	cfs	cfs	in cfs	Change
			cfs	%
JAN	683.0	681.0	-1.79	-0.26
FEB	705.0	703.0	-1.79	-0.25
MAR	714.0	712.0	-1.79	-0.25
APR	299.0	318.0	18.9	5.94
MAY	51.2	88.2	37.1	42.00
JUN	50.5	98.5	48.0	48.80
JUL	42.6	93.4	50.8	54.40
AUG	46.2	96.4	50.2	52.10
SEP	61.0	100.0	39.1	39.00
OCT	222.0	243.0	21.5	8.86
NOV	551.0	549.0	-1.79	-0.33
DEC	614.0	612.0	-1.79	-0.29
ANNUAL	335.0	356.0	21.5	6.04

Enter (1) to CONTINUE; (2) to WRITE the Table:

CHANGE IN PERCENT OF TIME INSTREAM REQUIREMENTS ARE MET
IN THE DESCHUTES BASIN AS A RESULT OF MITIGATED GROUNDWATER USE

Effective Date: 9/30/2019

Deschutes River above Diversion Dam at Bend
Time: 12:42 Date: 07/02/2020

Month	Base Line %	Mitigated %	Change in Percentage %	Percent Change %
JAN	37.30	37.20	-0.11	-0.29
FEB	40.00	39.30	-0.71	-1.80
MAR	42.90	42.20	-0.75	-1.79
APR	73.20	73.30	0.11	0.15
MAY	97.00	97.00	0.00	0.00
JUN	100.00	100.00	0.00	0.00
JUL	100.00	100.00	0.00	0.00
AUG	100.00	100.00	0.00	0.00
SEP	97.00	97.60	0.56	0.57
OCT	54.60	55.60	0.97	1.74
NOV	29.00	28.70	-0.33	-1.16
DEC	35.70	35.50	-0.22	-0.61
ANNUAL	67.40	67.30	-0.04	-0.05

Enter (1) to CONTINUE; (2) to WRITE the Table:

CHANGE IN MEAN STREAM FLOW (CFS)
IN THE DESCHUTES BASIN AS A RESULT OF MITIGATED GROUNDWATER USE

Effective Date: 9/30/2019

Deschutes River above Diversion Dam at Bend
Time: 12:42 Date: 07/02/2020

Month	Base Line cfs	Mitigated cfs	Change in cfs cfs	Percent Change %
JAN	712.0	711.0	-1.76	-0.25
FEB	738.0	736.0	-1.76	-0.24
MAR	781.0	779.0	-1.76	-0.23
APR	877.0	879.0	2.15	0.24
MAY	1180.0	1180.0	5.24	0.44
JUN	1360.0	1360.0	7.27	0.53
JUL	1440.0	1450.0	10.1	0.70
AUG	1290.0	1300.0	9.57	0.74
SEP	1090.0	1100.0	7.68	0.70
OCT	721.0	726.0	5.24	0.72
NOV	590.0	588.0	-1.76	-0.30
DEC	650.0	648.0	-1.76	-0.27
ANNUAL	953.0	956.0	3.23	0.34

Enter (1) to CONTINUE; (2) to WRITE the Table:

CHANGE IN PERCENT OF TIME INSTREAM REQUIREMENTS ARE MET
IN THE DESCHUTES BASIN AS A RESULT OF MITIGATED GROUNDWATER USE

Effective Date: 9/30/2019

Deschutes River at Benham Falls
Time: 12:43 Date: 07/02/2020

Month	Base Line %	Mitigated %	Change in Percentage %	Percent Change %
JAN	43.40	43.20	-0.22	-0.50
FEB	54.50	54.40	-0.12	-0.22
MAR	32.50	31.40	-1.08	-3.42
APR	69.60	69.60	0.00	0.00
MAY	78.10	78.10	0.00	0.00
JUN	92.60	92.60	0.00	0.00
JUL	96.80	96.80	0.00	0.00
AUG	94.50	94.60	0.11	0.11
SEP	67.80	67.90	0.11	0.16
OCT	54.00	54.00	0.00	0.00
NOV	35.90	35.70	-0.22	-0.62
DEC	44.60	44.60	0.00	0.00
ANNUAL	63.70	63.60	-0.12	-0.19

Enter (1) to CONTINUE; (2) to WRITE the Table:

CHANGE IN MEAN STREAM FLOW (CFS)
IN THE DESCHUTES BASIN AS A RESULT OF MITIGATED GROUNDWATER USE

Effective Date: 9/30/2019

Deschutes River at Benham Falls
Time: 12:43 Date: 07/02/2020

Month	Base Line cfs	Mitigated cfs	Change in cfs cfs	Percent Change %
JAN	814.0	812.0	-1.74	-0.21
FEB	845.0	844.0	-1.74	-0.21
MAR	901.0	899.0	-1.74	-0.19
APR	1240.0	1240.0	-0.674	-0.05
MAY	1850.0	1850.0	0.137	0.01
JUN	2100.0	2100.0	0.797	0.04
JUL	2200.0	2200.0	3.61	0.16
AUG	2040.0	2040.0	3.10	0.15
SEP	1730.0	1740.0	2.62	0.15
OCT	1000.0	1010.0	2.45	0.24
NOV	685.0	683.0	-1.74	-0.25
DEC	752.0	750.0	-1.74	-0.23
ANNUAL	1350.0	1350.0	0.294	0.02

Enter (1) to CONTINUE; (2) to WRITE the Table:

CHANGE IN PERCENT OF TIME INSTREAM REQUIREMENTS ARE MET
IN THE DESCHUTES BASIN AS A RESULT OF MITIGATED GROUNDWATER USE

Effective Date: 9/30/2019

Little Deschutes River at mouth
Time: 12:44 Date: 07/02/2020

Month	Base Line %	Mitigated %	Change in Percentage %	Percent Change %
JAN	22.90	20.80	-2.15	-10.40
FEB	37.30	34.60	-2.72	-7.85
MAR	27.40	27.10	-0.32	-1.19
APR	45.20	45.00	-0.22	-0.49
MAY	55.90	55.80	-0.11	-0.19
JUN	56.60	56.70	0.11	0.20
JUL	85.10	86.80	1.72	1.98
AUG	93.90	94.30	0.43	0.46
SEP	72.00	73.10	1.11	1.52
OCT	11.60	12.80	1.18	9.24
NOV	14.70	14.00	-0.67	-4.76
DEC	20.30	19.70	-0.64	-3.28
ANNUAL	45.30	45.10	-0.17	-0.38

Enter (1) to CONTINUE; (2) to WRITE the Table:

CHANGE IN MEAN STREAM FLOW (CFS)
IN THE DESCHUTES BASIN AS A RESULT OF MITIGATED GROUNDWATER USE

Effective Date: 9/30/2019

Little Deschutes River at mouth
Time: 12:44 Date: 07/02/2020

Month	Base Line cfs	Mitigated cfs	Change in cfs cfs	Percent Change %
JAN	162.0	160.0	-1.71	-1.07
FEB	183.0	182.0	-1.71	-0.94
MAR	219.0	218.0	-1.71	-0.79
APR	262.0	262.0	-0.643	-0.25
MAY	329.0	329.0	0.168	0.05
JUN	298.0	299.0	0.828	0.28
JUL	230.0	234.0	3.64	1.56
AUG	200.0	203.0	3.13	1.54
SEP	144.0	146.0	2.65	1.81
OCT	76.7	79.2	2.48	3.14
NOV	108.0	106.0	-1.71	-1.61
DEC	142.0	141.0	-1.71	-1.22
ANNUAL	196.0	197.0	0.325	0.17

Enter (1) to CONTINUE; (2) to WRITE the Table:

CHANGE IN PERCENT OF TIME INSTREAM REQUIREMENTS ARE MET
IN THE DESCHUTES BASIN AS A RESULT OF MITIGATED GROUNDWATER USE

Effective Date: 9/30/2019

Deschutes River above Little Deschutes River
Time: 12:44 Date: 07/02/2020

Month	Base Line %	Mitigated %	Change in Percentage %	Percent Change %
JAN	29.70	29.70	0.00	0.00
FEB	30.10	30.10	0.00	0.00
MAR	33.50	33.50	0.00	0.00
APR	68.40	68.40	0.00	0.00
MAY	97.80	97.80	0.00	0.00
JUN	98.80	98.80	0.00	0.00
JUL	100.00	100.00	0.00	0.00
AUG	100.00	100.00	0.00	0.00
SEP	99.80	99.80	0.00	0.00
OCT	56.80	56.80	0.00	0.00
NOV	20.90	20.90	0.00	0.00
DEC	24.70	24.70	0.00	0.00
ANNUAL	63.50	63.50	0.00	0.00

Enter (1) to CONTINUE; (2) to WRITE the Table:

CHANGE IN MEAN STREAM FLOW (CFS)
IN THE DESCHUTES BASIN AS A RESULT OF MITIGATED GROUNDWATER USE

Effective Date: 9/30/2019

Deschutes River above Little Deschutes River
Time: 12:45 Date: 07/02/2020

Month	Base Line cfs	Mitigated cfs	Change in cfs cfs	Percent Change %
JAN	329.0	329.0	0.000	0.00
FEB	331.0	331.0	0.000	0.00
MAR	319.0	319.0	0.000	0.00
APR	654.0	654.0	0.000	0.00
MAY	1220.0	1220.0	0.000	0.00
JUN	1500.0	1500.0	0.000	0.00
JUL	1690.0	1690.0	0.000	0.00
AUG	1530.0	1530.0	0.000	0.00
SEP	1260.0	1260.0	0.000	0.00
OCT	561.0	561.0	0.000	0.00
NOV	246.0	246.0	0.000	0.00
DEC	280.0	280.0	0.000	0.00
ANNUAL	829.0	829.0	0.000	0.00

Enter (1) to CONTINUE; (2) to WRITE the Table:

Last Revision: 08/20/2020

Oregon Water Resources Department Current/Anticipated Rulemaking

Rule Division	Topic	Lead Staff	GWAC Input Expected?	Target WRC Date	Status
Division 54 (New Rule Division)	Hydro conversion to instream	Mary Graineey	No	TBD	On Hold
Division 77 Instream Water Rights	Consistency with SB 199 (2013) – allowing lease applications to be processed more efficiently	Dwight French, Lisa Jaramillo, Sarah Henderson	No	TBD	On Hold
TBD – Klamath Groundwater	Regulation of wells in the Klamath Basin	Ivan Gall	Yes	TBD	Not started
Division 87 (New Rule Division)	Municipal Reclaimed Water Registrations	Dwight French, Kerri Cope	No	2021	On Hold
Division 77	Instream Leases and Transfers of Stored Water	TBD	No	TBD	Planning
Division 205 & 240 - Well Construction Licensing	HB3030 and SB 688 Implementation	Kris Byrd	Yes	2020	Rules Advisory Committee