



DRAFT Technical Memorandum

To: Craig Horrell, Chair Basin Study Work Group
Mike Britton, Chair, Deschutes Basin Board of Control

From: Adam Sussman, GSI Water Solutions, Inc.
Kimberly Grigsby, GSI Water Solutions, Inc.
Steve Shropshire, Jordan Ramis PC

Date: June 10, 2016

Re: Task 5 - Water Right Opportunities and Impediments for New or Expanded Reservoir Storage

As part of the Upper Deschutes Basin Study, the Bureau of Reclamation is the lead for completing a Storage Assessment task. This information will be used to help assess the desirability of collaboratively developed storage concepts, specifically new or expanded above-ground water storage projects in the Upper Deschutes Basin, that help to achieve the goals laid out in the Basin Study.¹ Any storage concepts will be one part of hypothetical water management scenarios that assembles different concepts that can help meet multiple needs in the Basin. These scenarios will be analyzed and evaluated to better understand the associated impacts and tradeoffs.

As a component of this evaluation, GSI Water Solutions has developed this Technical Memorandum (memo) that identifies the opportunities and impediments for new or expanded storage projects from a water rights/legal perspective. This is a high-level evaluation and is not intended to predict the outcome of evaluations that must be made on a case by case basis. It should be noted that there may be other opportunities and impediments that are outside the scope of this memo.

This memo provides a general discussion of the process for obtaining a “new” water right to authorize the storage of water, and considers the relevant criteria more specifically for the Upper Deschutes Basin, the Crooked Sub-Basin and the Whychus Sub-Basin. This memo also considers potential opportunities to address identified impediments. Finally, a general discussion is provided of other potential barriers related to a new or expanded reservoir project.

¹ The Upper Deschutes Basin Study, Plan of Study defines this area as the Deschutes Basin upstream from the confluence of the Deschutes, Crooked, and Metolius Rivers, and includes the rivers' associated tributaries and storage projects.

1. Introduction to Water Rights

Under Oregon water law, with a few exceptions, the use of public water (including storage) requires a water right from the Oregon Water Resources Department (OWRD). Storage of water in a new or expanded reservoir would not fall within an exception and would, therefore, require a water right. Similarly, the use of stored water also requires a water right, which is different than the water right authorizing the storage of water and is referred to as a “secondary” water right. Secondary water rights can authorize the use of stored water for consumptive uses or for instream purposes.

The right to use water is typically first granted in the form of a water use permit. The permit describes the priority date, amount of water that can be used,² point of diversion, type of water use, season of use, and place of use. The permit also contains conditions that OWRD places on the use of water under the permit. The permit allows the water user to develop the infrastructure needed to put the water to beneficial use; in this case to store the water.

Permits also describe the timeline for making full beneficial use of the water without waste. If the water right holder completes its development of the water by this deadline, they can complete a claim of beneficial use and request a water right certificate. If a water right holder needs more time to develop the right, they may request an “extension of time” from OWRD.

2. Water Right Application Process and Potential Limitations

The process for obtaining a water right permit is described below along with specific considerations for the Upper Deschutes Basin, the Crooked River Sub-basin and the Whychus Sub-basin.

2.1 Overview

When reviewing a water right application for a new or expanded reservoir, OWRD will first determine whether the proposed use of water is prohibited by Oregon Revised Statute (ORS) Chapter 538.³ If the proposed use is not prohibited by statute, OWRD will evaluate the application under the following criteria:

- 1) Whether water is available during the period requested for storing water.
- 2) Whether the proposed storage project is consistent with the basin program rules, in this case Oregon Administrative Rules (OAR) Chapter 690, Division 505 governing the Deschutes Basin.
- 3) Whether the proposed use would cause injury to existing water rights.

² Permits authorizing the storage of water identify the total volume of water that can be stored during a single storage season. In Oregon, a water right holder cannot use some of the stored water and then re-fill the reservoir unless expressly allowed in the reservoir water right. (Oregon is, therefore, referred to as a “one-fill” state.)

³ ORS Chapter 538 contains a list of water bodies and basins where water has been withdrawn from further appropriation by the Oregon legislature.

- 4) Whether the application is consistent with other rules of the Water Resources Commission.

If each of the above criteria is met, it establishes a presumption that the proposed use would not impair or be detrimental to the public interest. (ORS 537.153(2).) OWRD can determine that this presumption has been overcome based on its evaluation of the proposed use and any additional information, such as that provided in public comments. (ORS 537.153(2).) If the public interest presumption is overcome, OWRD can deny the application. (ORS 537.170(8).) The following describes the application review process in more detail.

If the proposed use is not prohibited by statute, OWRD would evaluate an application to store water using the above-described review criteria. In such cases, OWRD would consider the following:

- 1) **Water Availability** - OWRD will determine whether water is available for a new storage water right based on its Water Availability Reporting System at a 50 percent exceedance standard (meaning the water would be available 5 years out of 10). OWRD's Water Availability Reporting System subtracts the existing expected demands for water (including out-of-stream consumptive uses and instream non-consumptive uses such as instream water rights and flows required for Scenic Waterways)⁴ from a stream's estimated natural streamflow met or exceeded 50 percent of the time (50 percent exceedance) to identify the net amount of water available for a new storage permit. According to OWRD, 50 percent exceedance is the quantitative tool used to satisfy water availability and allocation rules for storage contained in OAR 690-300-0010, 690-400-0010 and 690-410-0070.

If OWRD finds that water is not available at 50 percent exceedance, the applicant may conduct and submit a water availability analysis for OWRD's consideration during the application review process. It should be noted that there are few documented cases where a water availability analysis has been provided by an applicant. It should also be noted that water availability is just one of many criteria used during the public interest review process. When and if water is available, and how much water is available for a new use is determined based on the location where the water will be diverted. Additional considerations for water availability are described in more detail in section 3.

- 2) **Basin Program** - The basin program rules identify allowable uses of water in the state's water basins. The rules in OAR Chapter 690, Division 505 identify the allowable uses in the Deschutes Basin. Notwithstanding the classifications in the Division 505 administrative rules, the Water Resources Commission may allow OWRD to consider an application for a use not classified if the use meets one or more of the criteria provided in ORS 536.295(1)(a)-(g).
- 3) **Injury** - A new water right would injure an existing water right if it precluded the existing right from receiving water to which it is legally entitled.⁵

⁴ State Scenic Waterway and Federal Wild & Scenic River constraints are discussed in Section 4 of this memo.

⁵ This definition of "injury" comes from OAR 690-380-0100(3). The definition is written to pertain to injury resulting from a transfer, but OWRD practice is to also apply this definition in the context of water right applications.

- 4) **Other Rules of the Commission** – As part of this evaluation, OWRD will consider any applicable rule provisions. The “other rules of the Commission” that OWRD will consider include its “Division 33 rules” related to fish species listed as threatened, endangered or sensitive under state or federal law (a “listed fish species”) (OAR 690-033-0010)(8) and (9), and rules related to consistency with applicable land use requirements (OAR Chapter 690, Division 005).

Division 33 - The purpose of the Chapter 690, Division 33 rules is to help OWRD determine whether a proposed use will impair or be detrimental to the public interest with regard to listed fish species. (OAR 690-033-0000(1).) As required under the Division 33 rules, OWRD would request comments on an application for a reservoir permit in the Upper Deschutes Basin from a number of entities including the Oregon Department of Fish and Wildlife (ODFW) and the Oregon Department of Environmental Quality (DEQ) in any areas where fish species listed as “sensitive” are located. (OAR 690-033-0310 and 690-033-0330.)

Division 33 also includes a general prohibition on the appropriation of streamflow during the period from April 15 to September 30.⁶ (OAR 690-033-0120(2)(b).) These seasonal limitations are placed on storage applications, in which case water would not be available for storage from April 15 – September 30. The Division 33 rules, however, state that OWRD *may* approve permits for “multipurpose storage projects⁷ or other projects with measurable public benefits,” notwithstanding this provision. (OAR 690-033-140(e).) OWRD will consult with ODFW and DEQ, as described above, to make sure that the public interest is met with respect to listed fish species.

As part of its review under the Division 33 process, the consulted agencies can recommend conditions that are considered necessary to ensure that the proposed use complies with the Columbia River Basin Fish and Wildlife Program,⁸ and to ensure there is no net loss of essential habitat in areas where sensitive species are located. (OAR 690-033-0120(1) and 690-033-0330(2) and (3).) For storage applications, ODFW might recommend conditions to protect “seasonably varying flows” or “peak and ecological flows” when an applicant requests to store water during months when water is not available at 50 percent exceedance, when the amount of water requested is a large percentage of the natural streamflow, or when ODFW has site-specific resource concerns. These conditions often result in limitations on the amount and timing of water storage. On-channel storage projects generally receive more stringent conditions than storage projects that are constructed off-channel. The Division 33 rules for applications upstream of Bonneville Dam in the Columbia Basin (including the Deschutes Basin) must also comply with a number of standards, such as requiring fish screens and water use measurement and reporting. (OAR 690-033-0120(2).)

⁶ In addition to this limitation on the season of use, this rule includes other provisions, including that the proposed use complies with water measurement and reporting, and water quality standards, and screening and passage requirements. OAR 690-033-0120(2).

⁷ The Division 33 rules do not contain a definition of multipurpose storage projects. However, the basin rules for the Hood Basin and Owyhee Basin both contain a definition of “multipurpose reservoir.” Those rules define multipurpose reservoir for the purpose of those rules as “a reservoir storing water to serve multiple potential beneficial uses such as irrigation, power generation, municipal water supply, recreation, and flow augmentation for instream purposes. (OAR 690-504-0020(3) (Hood Basin), and OAR 690-511-0100(2) (Owyhee Basin).)

⁸ This program was adopted by the Northwest Power Planning Council in February 1994. Information on the program can be found at <https://www.cbfish.org>.

Land Use Compatibility - OWRD's evaluation of consistency with land use requirements under the Chapter 690, Division 5 rules is based on a Land Use Information Form that must be completed and signed by all "affected local governments" as defined in OAR 690-005-0015(1) and (9). OWRD requires land use form(s) for all the lands where water will be diverted, conveyed, and used.⁹ For OWRD to approve the application, the form must indicate that the land use to be served is allowed outright or does not require discretionary land use approvals under the applicable comprehensive plan, or the applicant has already received the necessary land use approvals. (OAR 690-005-0035(4)(b).) OWRD can also approve an application with conditions requiring that land use approvals be obtained before water use begins if local land use approvals are being pursued at the time of application. (OAR 690-005-0035(4)(c).)

Although, consistency with land use is site-specific, it is worth noting that state law provides that water impoundments lying in or adjacent to and in common ownership with farm use land are farm uses allowed as outright permitted uses in Exclusive Farm Use zones). (ORS 215.203(2)(b)(G).) This statutory provision is incorporated into the Deschutes County Zoning Ordinance¹⁰ in Chapter 18.04.030. Additionally, the Deschutes County Zoning Ordinance identifies reservoirs and water impoundments as uses that may be allowed as "conditional uses" in Forest Use Zones. (18.36.030(N) and 18.40.030(O).) Despite the fact that storage may be an outright permitted land use in some zones, there is still a need to obtain other permits, including a water permit.

Rules regarding multi-purpose storage - Finally, it is worth noting that OWRD's administrative rules articulate a preference for multi-purpose (as opposed to single purpose) storage projects. OAR 690-410-0030(2)(d) relating to statewide water management and instream flow protection states that, "[t]he Department shall actively encourage the ... construction of environmentally sound multi-purpose storage projects." OAR 690-410-080 also outlines the principles that should guide the development of storage projects. The Statewide Water Resources Management administrative rules regarding storage that were adopted by the Water Resources Commission in July, 1992 are in Attachment A.

Finally, the Deschutes Basin Program rules repeatedly state that, "structures or works are...prejudicial to the public interest ...[if they] do not give proper cognizance to the multiple purpose concept." (OAR 690-505-000(1)(c), 690-505-010(1)(c), 690-505-030(1)(c), and 690-505-040(1)(c).)

The following is a discussion of the above criteria as they relate to each of the three areas considered: Deschutes River Sub-Basin, the Crooked River Sub-Basin, and the Whychus Creek Sub-Basin.

⁹ A land use information form is not required for a water right application if the water is to be diverted, conveyed and used solely on federal land.

¹⁰ Deschutes County Code Chapter 18 and other development-related chapters are commonly referred to as the Deschutes County Development Code.

2.2 Deschutes River Sub-Basin

In the case of an application for a permit to store surface water in a reservoir in the Deschutes River Sub-Basin, only the use of water from a portion of Tumalo Creek would be prohibited by ORS 538.¹¹

If a storage water right application was filed for a new or expanded reservoir in the Deschutes River Sub-Basin, OWRD would review the application using the above-described criteria as follows:

- 1) **Water Availability at 50 Percent Exceedance** – Water availability at 50 percent exceedance will depend on location. According to OWRD’s Water Availability Reporting System for the Deschutes River above Buckhorn Canyon (Deschutes River west of Terrebonne)¹², water is available at 50 percent exceedance in the months of March and April. According to OWRD, 10,500 acre-feet is available for appropriation. According to OWRD’s Water Availability Reporting System for the Deschutes River, and its tributaries, above Tumalo Creek, however, water is not available at 50 percent exceedance at any time of year.
- 2) **Basin Program** - The basin program rules for the Upper Deschutes Basin do not limit or prohibit the use of water for new or expanded storage projects. (OAR Chapter 690, Division 505.) The basin program rules for the Middle Deschutes Basin state that “no further appropriations except for domestic or livestock uses shall be permitted for waters of the mainstem Deschutes River, from the head of Lake Billy Chinook near river mile 120 to the North Canal Dam near river mile 165. (OAR 690-505-0010(1)(D)). Thus, the basin program rules preclude projects that divert water from this approximately 45 mile section of the mainstem Deschutes River (unless a basin program exception is granted), but would not preclude projects elsewhere in this sub-basin.
- 3) **Injury** – OWRD will evaluate injury based on the circumstances presented by the application.
- 4) **Other Rules of the Commission** - OWRD’s evaluation of whether the proposed use of water would be consistent with other rules of the Water Resources Commission. This evaluation would include, but is not limited to, consideration of the OAR Chapter 690, Division 33 and Division 5 rules. The Division 33 rules pertain to an additional public interest review related to listed fish species and the Division 5 rules relate to consistency with land use requirements.

2.3 Crooked River Sub-Basin

ORS Chapter 538 does not include any limitations on the use of water from the Crooked River Sub-Basin. If a storage water right application was filed for a new or expanded reservoir in the Crooked Sub-Basin, OWRD would review the application using the above-described criteria as follows:

¹¹ ORS 538.110 prohibits the diversion of water from Tumalo Creek (except for municipal, domestic and stock use) upstream from a point one-half mile above the location of the intake of the Columbia Southern Canal in section 2, township 18 south, range 10 east. This prohibition does not apply to waters of the south fork of Tumalo Creek.

¹² This water availability basin (WAB) extends upstream to the confluence with Tumalo Creek.

- 1) **Water Availability** - According to OWRD's Water Availability Reporting System, water is generally available in the Crooked River at 50 percent exceedance during the months of March, April, and May. Water availability for Crooked River tributaries varies from zero to two months. The amount of water available for appropriation at 50 percent exceedance in the Crooked River would depend on where the water was appropriated and would range from approximately 41,900 acre-feet to 45,400 acre-feet.
- 2) **Basin Program** - The basin program rules related to the Upper and Lower Crooked River do not generally limit or prohibit the use of water for a new or expanded storage project. (See OAR 690-505-0030 and 690-505-0040.) The Lower Crooked River Basin program rules for Ochoco Creek and its tributaries, however, allow new appropriations only for domestic and livestock uses.
- 3) **Injury** - OWRD will evaluate injury based on the circumstances presented by the application.
- 4) **Other Rules of the Commission** - As described above, the outcome of evaluations related to the public interest with regard to listed fish species (Division 33) and consistency with land use (Division 5) would be specific to the identified project and its location.

2.4 Whychus Creek Sub-Basin

ORS Chapter 538 does not include any limitations on the use of water from the Whychus Creek Sub-Basin. If a storage water right application was filed for a new or expanded reservoir in the sub-basin, OWRD would review the application using the above-described criteria as follows:

- 1) **Water Availability** - According to OWRD's Water Availability Reporting System at 50 percent exceedance, water is available throughout Whychus Creek in the month of June. Depending on the location of the project, 2,420 to 2,860 acre-feet would be considered to be available for storage at 50 percent exceedance.
- 2) **Basin Program** - The Deschutes Basin program rules do not limit or prohibit the use of water for a new or expanded storage project in the Whychus Creek Sub-Basin. (See OAR Chapter 690, Division 505.)
- 3) **Injury** - OWRD will evaluate injury based on the circumstances presented by the application.
- 4) **Other Rules of the Commission** - For the reasons described above, the outcome of evaluations related to the public interest with regard to listed fish species (Division 33) and consistency with land use (Division 5) would be specific to the identified location.

3. Additional Water Availability Considerations

The discussions of water availability in Section 2 above describe OWRD's Water Availability Reporting System at 50 percent exceedance, which shows that either no water is available or water is available between one and three months each year in the three sub-basins considered above. As part of the application review process, OWRD must find that "water is available" for a new use to establish a presumption that the proposed use is in the public interest. The definition of "water is available" (in OAR 690-300-010(57)) points to the Water Resources

Commission's Water Allocation Policy under OAR 690-410-0010 and -0070. Adopted in 1992, the Water Allocation Policy requires the Department to apply an 80 percent exceedance standard to all water availability determinations. Notwithstanding this provision, the Water Allocation Policy provides that new allocations of water for the purpose of filling storage facilities may be allowed during periods when a surface water source would be considered over-appropriated for other uses. (OAR 690-410-0070(2)(c).) In such cases, the rule states that:

Protection may be afforded to all water rights and instream uses by establishing storage filling seasons in basin rules, by considering the need for minimum pass-through flows on water rights, or establishing by rule other conditions consistent with the state policy on water storage as a prerequisite for allocation. In setting a storage season, consideration shall be given to avoiding periods of the year when flows are low and seldom exceed the needs of water rights and when additional flows are needed to support public uses. (emphasis added)

OWRD uses the 50 percent exceedance to satisfy water availability and allocation rules for storage. If OWRD finds that water is not available at 50 percent exceedance, there are alternate paths forward to demonstrate that the new water use will not be detrimental to the public interest. These paths are discussed in greater detail below: the first is to develop water availability information for OWRD consideration; the second is to mitigate the proposed use.

3.1 Development of Water Availability Information

If water is not available at the 50 percent exceedance standard in OWRD's Water Availability Reporting System, an applicant can submit evidence to the OWRD for review to demonstrate that water would be available for storage during additional months or half months. This could be done by developing site-specific information to demonstrate that despite OWRD's water availability at 50 percent exceedance, there is anticipated to be water for the project while affording protection to all water rights and instream uses as required by the Water Allocation Policy rules. (See OAR 690-410-070(2)(a) and (c). Also see the definition of "Water is Available" in OAR 690-300-010(57).) This information would be reviewed by OWRD during the permit application process to determine if water is available based on information provided by the applicant. It should be noted that there are few documented cases where a water availability analysis has been provided by an applicant.

3.2 Mitigation

Despite OWRD's finding that water is not available, the applicant may choose to pursue some form of mitigation that fully offsets the proposed use. (This should not be confused with "formal" mitigation developed under the Deschutes Basin Groundwater Mitigation program, which allows additional uses of groundwater in the basin.) This approach may be particularly practicable in situations where the water to be stored under the "new" water right is intended to replace or augment an existing upstream storage facility.

For example, an applicant could offer to cancel an existing storage right (or portion of a right) in a volume equal to the volume requested to be stored under the new water right. Alternatively, the applicant may be able to enter into an agreement with OWRD to forego storage of some or all of the water in the original reservoir in an amount equal to that stored in the new reservoir. It is important to note that OWRD would likely only accept these types of mitigation if the

water source for the original water right was the same source or a tributary to the new requested source.¹³

4. Other Potential Issues

There are a number of other potential issues related to the development of a new or expanded storage project. A list of potentially challenging issues follows¹⁴.

- **State Scenic Waterways:** The Oregon legislature established the state scenic waterways program in 1970 to protect scenic river reaches and the adjoining lands. Today the program is administered by the Oregon Parks and Recreation Department in cooperation with OWRD and local governments. Portions of the Deschutes River are designated as state scenic waterways¹⁵ (see maps of Deschutes Basin scenic waterways in Attachment B). These designations create restrictions on water availability within and above the stream reaches designated as scenic waterways as well as in reaches tributary to the scenic portions of the river. In addition, the designations create development restrictions within the scenic segments. The application of the restrictions is site specific and would need to be evaluated for any proposed reservoir site.
 - **Water Availability Restrictions:** As part of its review of whether water is available for a new application to appropriate water within or above a state scenic waterway, OWRD considers the flows necessary to maintain the free-flowing character of the scenic waterway. In addition, the Scenic Waterway Statute only allows the construction or use of a diversion facility within a scenic waterway under a previously established right or as permitted by the Water Resources Commission under limited circumstances.¹⁶ (ORS 390.835(1).)
 - **Development Restrictions:** The construction of a dam or impoundment within a state scenic waterway will be limited in a number of ways. First, the Scenic Waterway Statute prohibits the construction of a dam or impoundment within a state scenic waterway (ORS 390.835(1).) With respect to adjoining lands, the Oregon Parks and Recreation Department must be notified of certain activities proposed within a 1/4 mile of the bank of Oregon's designated scenic waterways. Such activities include cutting of trees, mining, construction of roads, railroads, utilities, buildings, or other structures. In addition, Oregon land use laws require counties to incorporate scenic waterway protections in their land use ordinances. Deschutes County has done so, with protective provisions

¹³ This water would not be protected between the original reservoir and the new, downstream point of diversion, but this is unlikely to raise problems due to the low demands for the use of water during the storage season. Nonetheless, this would need to be evaluated on a case by case basis.

¹⁴ The issues relevant to an actual project will need to be determined at the time the project and its location are determined. Funding programs may also create additional requirements. (For example, funding under Senate Bill 839 could require protection of "seasonally varying flows.") That project-specific list may include additional issues not mentioned here. A good source of information about water related permitting is the State Water-Related Permits Users Guide, developed by OWRD, the Department of State Lands, and other state agencies.

¹⁵ Neither the Crooked River Sub-Basin nor the Whychus Creek Sub-Basin contain state scenic waterways.

¹⁶ To be allowed, the Water Resources Commission must find that a diversion is necessary to uses designated in ORS 536.310 (12) (human and livestock consumption, and other beneficial purposes in the public interest), and that it would be operated in a manner consistent with the policies set forth under ORS 390.805 to 390.925 (the state scenic waterway statutes).

included in the Comprehensive Plan and at various points in the County's Development Code.

- **Federal Wild and Scenic River Designation:** Portions of the Deschutes River and the Crooked River are designated as federal Wild and Scenic Rivers. The federal act imposes regulatory restrictions on federal lands and on federal agencies by prohibiting federal support for actions such as the construction of dams or other instream activities that would harm the river's free-flowing condition, water quality, or outstanding resource values. The designation neither prohibits development nor gives the federal government control over private property. But county governments are obligated to incorporate appropriate land use protections into their comprehensive plan documents as needed to implement the federal Act. However, this is not something that Deschutes County or Crook County have implemented at this time.
- **Removal-Fill Permitting:** Depending on a number of criteria including the waterway affected and possibly the amount of substrate moved, construction of a reservoir or intake could require a joint removal-fill permit from the U.S. Army Corps of Engineers and the Oregon Department of State Lands. This process can result in additional limitations placed on water use as the result of the consultation with the U.S. Fish and Wildlife Service or the NOAA Fisheries Service regarding the protection of species listed under the Endangered Species Act.
- **Endangered Species Act:** The federal Endangered Species Act requires permitting agencies and project operators to protect threatened and endangered species and their habitat. Oregon also has a state Endangered Species Act, which requires state agencies to develop programs for the management and protection of endangered species on state lands. The ESA and state act are generally implemented indirectly through state and federal permit processes. The Deschutes Basin is home to several listed species, including Oregon Spotted Frog, Bull Trout, Steelhead and multiple upland bird species. ESA evaluation occurs on a site-specific basis depending on the projected impact area for a project.
- **CWA WQ Certification:** A 401 Water Quality Certification (WQC) is required as a component of any federal action that has the potential to result in a discharge to waters of the state. In Oregon, these federal actions are typically U.S. Army Corps of Engineers Section 404 permits that authorize activities altering waters of the U.S., and that may also require state removal-fill permits issued by the Department of State Lands. The intent of the 401 WQC is to provide reasonable assurance that permitted activities will not violate state water quality standards, and therefore will not impair water quality or beneficial uses of waters of the state (including wetlands). The Department of Environmental Quality issues the 401 WQC.
- **Historic and Cultural Resource Protection:** A number of federal and state laws protect Oregon's historic properties, such as archaeological sites, historic structures, and other cultural resources. Any state water related permit must take into account the effects of the applicant's activities on historic properties. When a state agency permits an activity that may affect cultural resources, the agency must consult with the State Historic Preservation Office (SHPO). This consideration process involves a series of steps that

include: first, to identify if any historic properties exist within the project area; if so, then second, to evaluate the eligibility of the historic properties and determine the effects the proposed project will have on those properties; and third, if the project will have a negative impact on a significant historic property, the applicant and SHPO will explore alternatives to avoid, minimize, or mitigate the effects.

- **NEPA:** The National Environmental Policy Act (NEPA) requires federal agencies to consider potential environmental impacts of a project prior to undertaking any major federal action that significantly affects the environment. This analysis takes the form of Environmental Assessments (EAs) and Environmental Impact Statements (EISs), which assess the likelihood of impacts from alternative courses of action. “Federal action” includes not only obvious cases where a federal agency is a direct actor, but also the expenditure of federal funds in conjunction with an otherwise private project.
- **Fish Passage:** The construction of a new dam or alteration of an existing dam in waters in which native migratory fish are currently or were historically present triggers a requirement that the facility owner or operator meet fish passage requirements, which could potentially include obtaining a fish passage waiver. In the case of a dam, this generally requires the construction of fish passage facilities such as a fish ladder.
- **Habitat Protection/Mitigation Requirements:** ODFW recommends mitigation for projects where loss of fish and/or wildlife habitat is expected. ODFW makes these recommendations as part of its review of other agencies’ permit application processes such as removal-fill permit applications and water use permit applications. It also imposes these requirements for ODFW in-water blasting permit applications.
- **Fish Screening or Bypass Requirements:** Fish screening or bypass devices are often required as a condition for a Water Use Permit or transfer for a new point of diversion. This could be relevant in the case of an off-channel storage reservoir, or if stored water is transferred downstream to a new point of diversion.
- **Local Jurisdiction Land Use or Building Permit Requirements:** The construction of any new reservoir and related facilities will require multiple approvals at the local government level relating to land use compliance and permitting requirements. The applicable requirements are site-specific and will need to be evaluated on a site-by-site basis. This can be a very complex regulatory step for a large-scale project such as a new reservoir.
- **Land Acquisition/Eminent Domain:** There are many non-regulatory issues associated with the construction or enlargement of a reservoir. However, one very significant issue pertains to the acquisition of project-related land or easements. This process has the potential to be time consuming, expensive, and politically challenging.

5. Water Right Transfer

GSI was asked to investigate the possibility of obtaining the necessary water right authorization to store water in a new or expanded reservoir via a “transfer” of all or a portion of an existing storage right. The transfer application would request to change the authorized place of use for a storage right to a new location¹⁷. The effect of such a transfer would be to allow the storage of water in a new or expanded reservoir with the same priority date as the originating water right. Recently, OWRD denied a storage water right transfer in the Deschutes Basin. This issue is currently being litigated and the results will inform the viability of this option.

6. Selected Reservoir

7. Conclusion

See summary of water right opportunities and impediments for new or expanded reservoir storage in Attachment C.

¹⁷ A water right transfer does not change the priority date of the water right that is being changed.

Attachment A

Water Resources Commission Water Storage Policy

OAR 690-410-0080

Water Storage

(1) Policy. Water storage options are an integral part of Oregon's strategy to enhance the public and private benefits derived from the instream and out-of-stream uses of the state's water resources. Storage can provide increased water management flexibility and control. Storage can be enhanced through means ranging from natural processes to engineered structures. The state shall facilitate and support project planning and development. The state shall actively pursue funding when storage is determined to be a preferred alternative to meet the water needs of instream and out-of-stream beneficial uses.

(2) Principles. Programs to achieve the policy in section (1) of this rule shall be guided by the following principles:

(a) Water resource planning in the state shall consider storage along with other available alternatives to meet water management goals;

(b) When determining whether storage is a preferred alternative, due regard shall be given to public interest, needs and priorities, and legal, social, economic and environmental factors;

(c) The state shall encourage high priority storage projects and facilities through the reservation of unappropriated water for future economic development;

(d) Storage shall be planned and implemented in a manner to protect and enhance the public health, safety and welfare, and the state's natural resources;

(e) The state shall encourage enhancement of watershed storage capacity through natural processes using non-structural means;

(f) The state shall promote the maximization of benefits derived from storage facilities by evaluating existing and potential storage capacities, authorized uses and operational practices;

(g) Criteria for evaluating impacts of storage projects shall include the following factors:

(A) Purpose (e.g., type, location and extent of use, benefits);

(B) Legal (e.g., state, federal and local legal requirements);

(C) Social (e.g., recreational, public support, cultural, historic);

(D) Technical (e.g., siting issues, public safety and structural integrity);

(E) Financial (e.g., project financing including site costs, cost sharing and repayment, and operating, maintenance and rehabilitation costs);

(F) Economic (e.g., project benefit/cost analysis);

(G) Land use (e.g., ownership, comprehensive plans, coordination);

(H) Environmental (e.g., impacts on streamflows, fisheries, wildlife, wetlands, habitat, biological diversity, water quality and opportunities for mitigation);

(I) Other (e.g., direct and indirect impacts).

(h) The state shall encourage and give high priority to storage that optimizes instream and out-of-stream public benefits and beneficial uses. Multi-purpose storage is to be preferred over single-purpose storage and upstream storage is to be preferred over downstream storage;

(i) The state shall cooperate with federal agencies, local governments and private entities in identifying and protecting high priority storage sites for development of projects. The state shall promote appropriate land use protection for high priority storage sites;

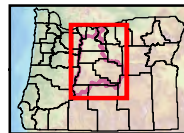
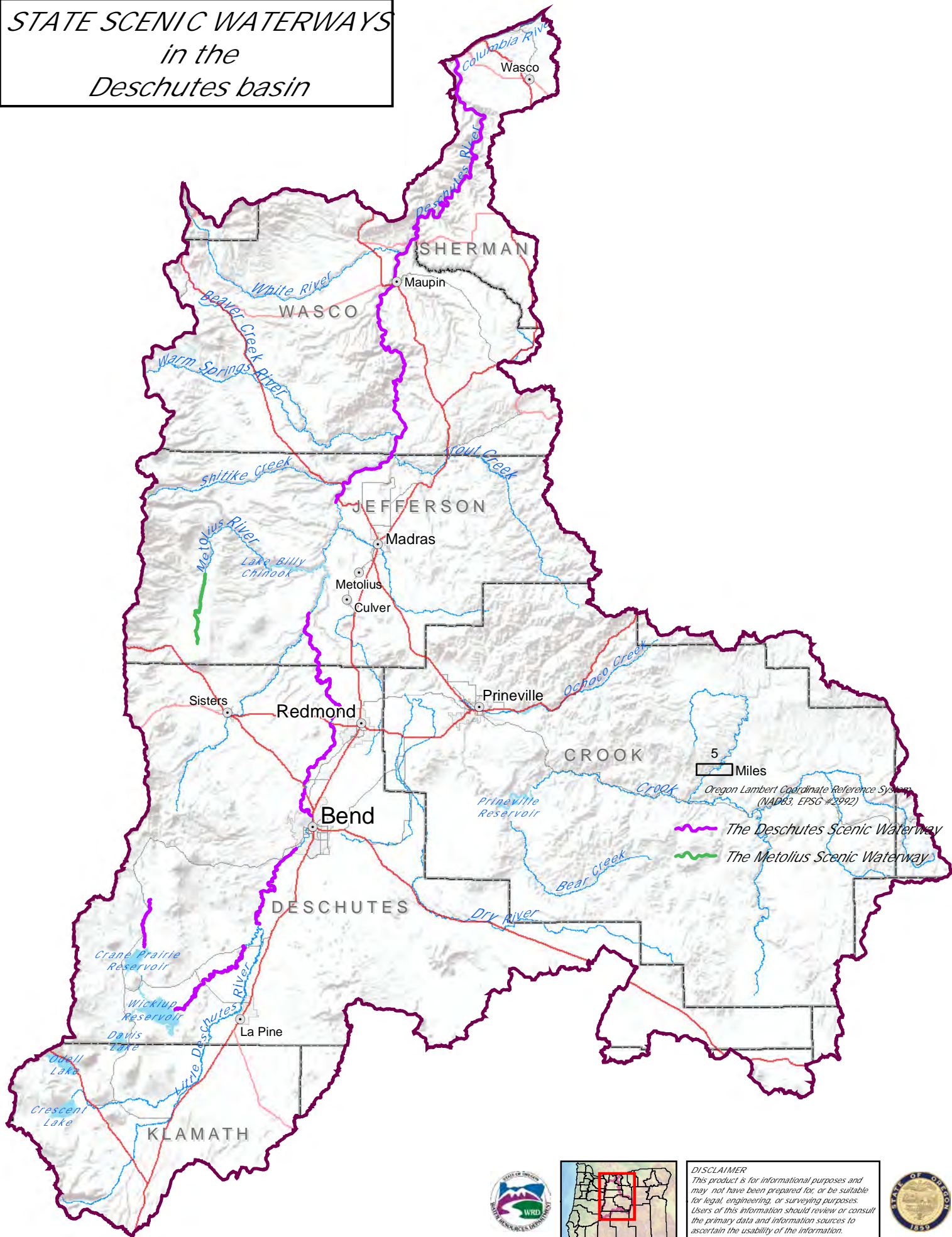
(j) The state shall support and participate in programs to finance planning and development of high priority storage;

(k) The Water Resources Department shall coordinate interagency recommendations to sponsors, developers or operators of high priority storage projects.

Attachment B

Deschutes Basin State Scenic Waterways Maps

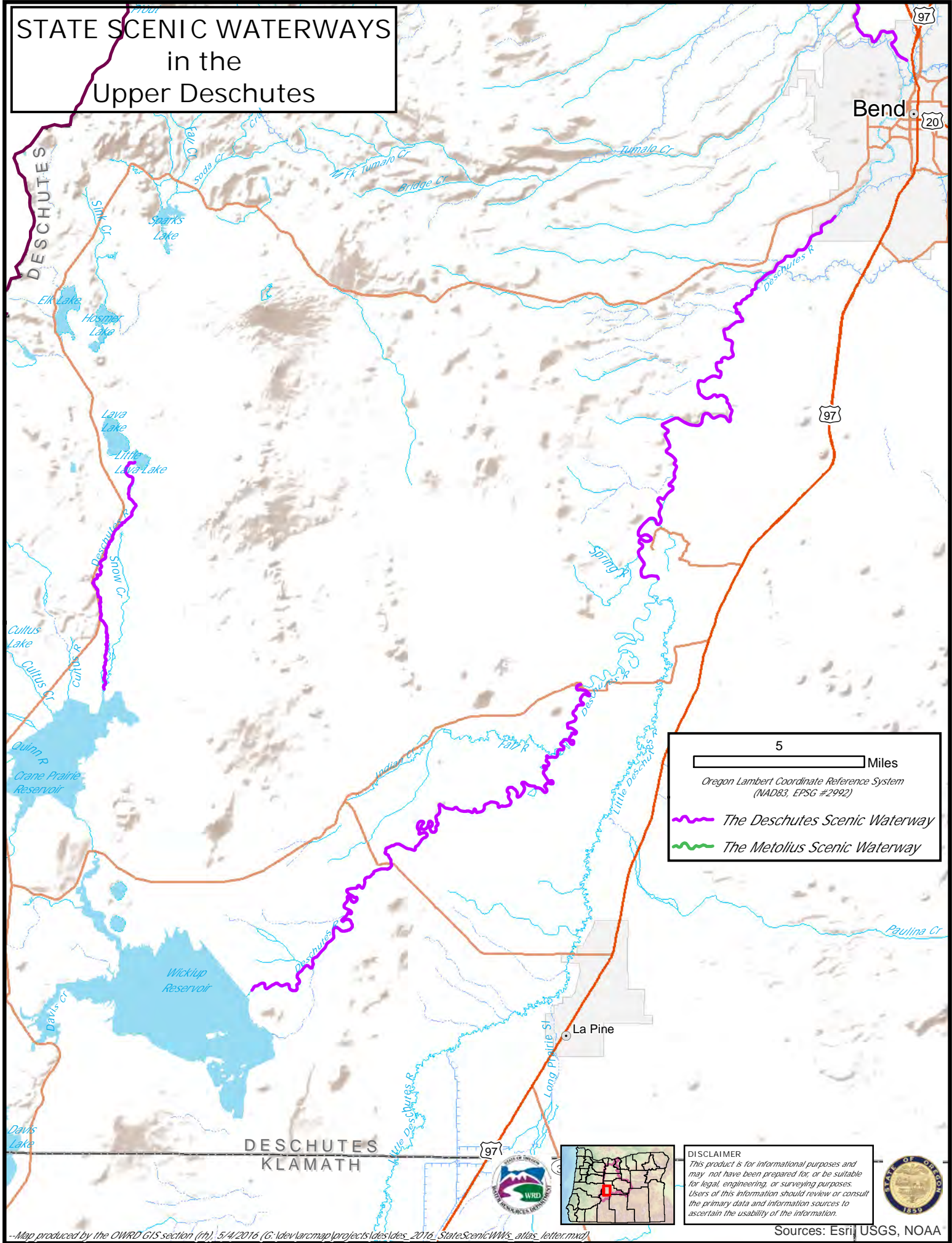
STATE SCENIC WATERWAYS in the Deschutes basin



DISCLAIMER
This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



STATE SCENIC WATERWAYS in the Upper Deschutes



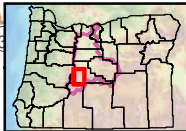
5

Miles

Oregon Lambert Coordinate Reference System
(NAD83, EPSG #2992)

The Deschutes Scenic Waterway

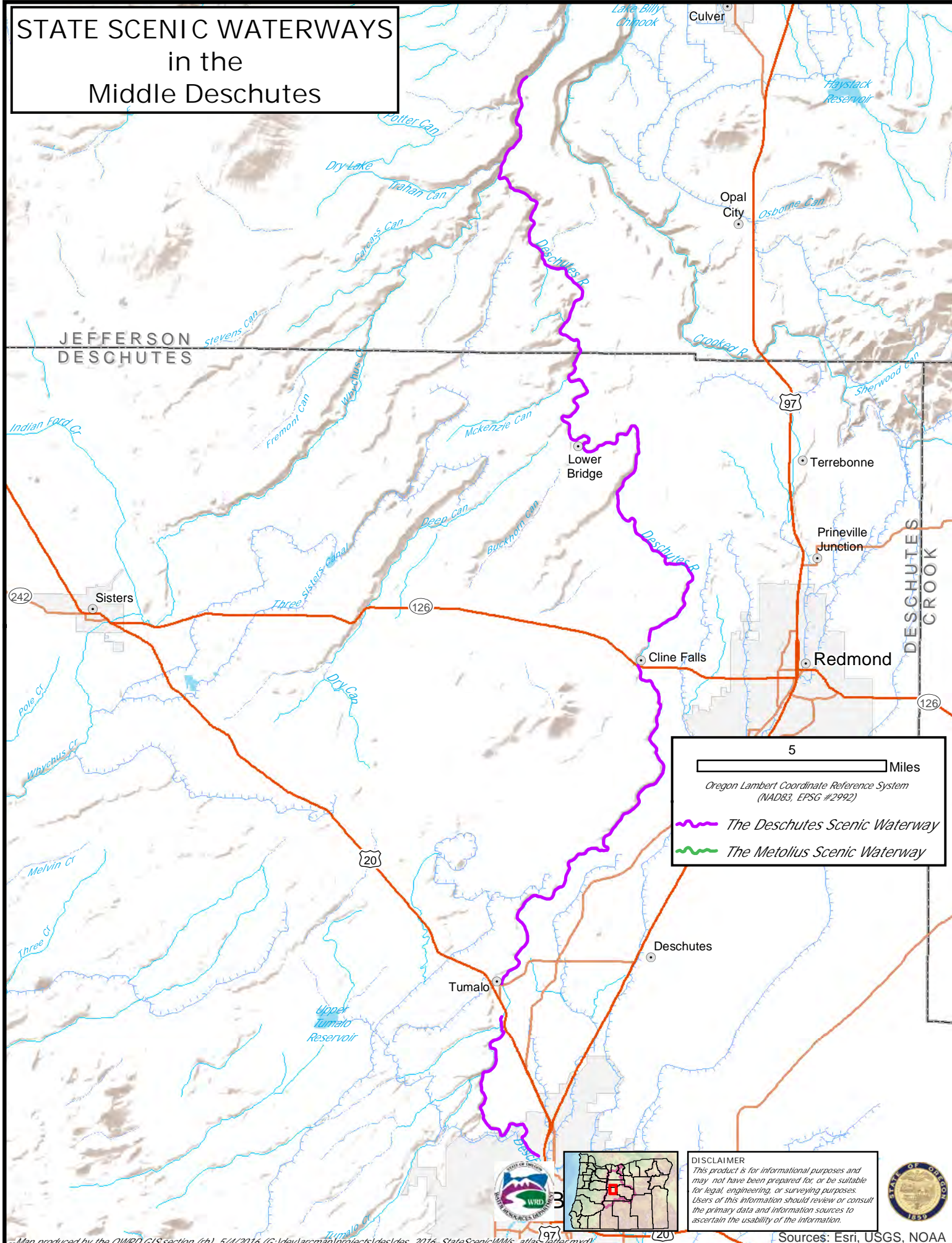
The Metolius Scenic Waterway



DISCLAIMER
This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



STATE SCENIC WATERWAYS in the Middle Deschutes

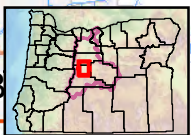


5 Miles

Oregon Lambert Coordinate Reference System
(NAD83, EPSG #2992)

The Deschutes Scenic Waterway

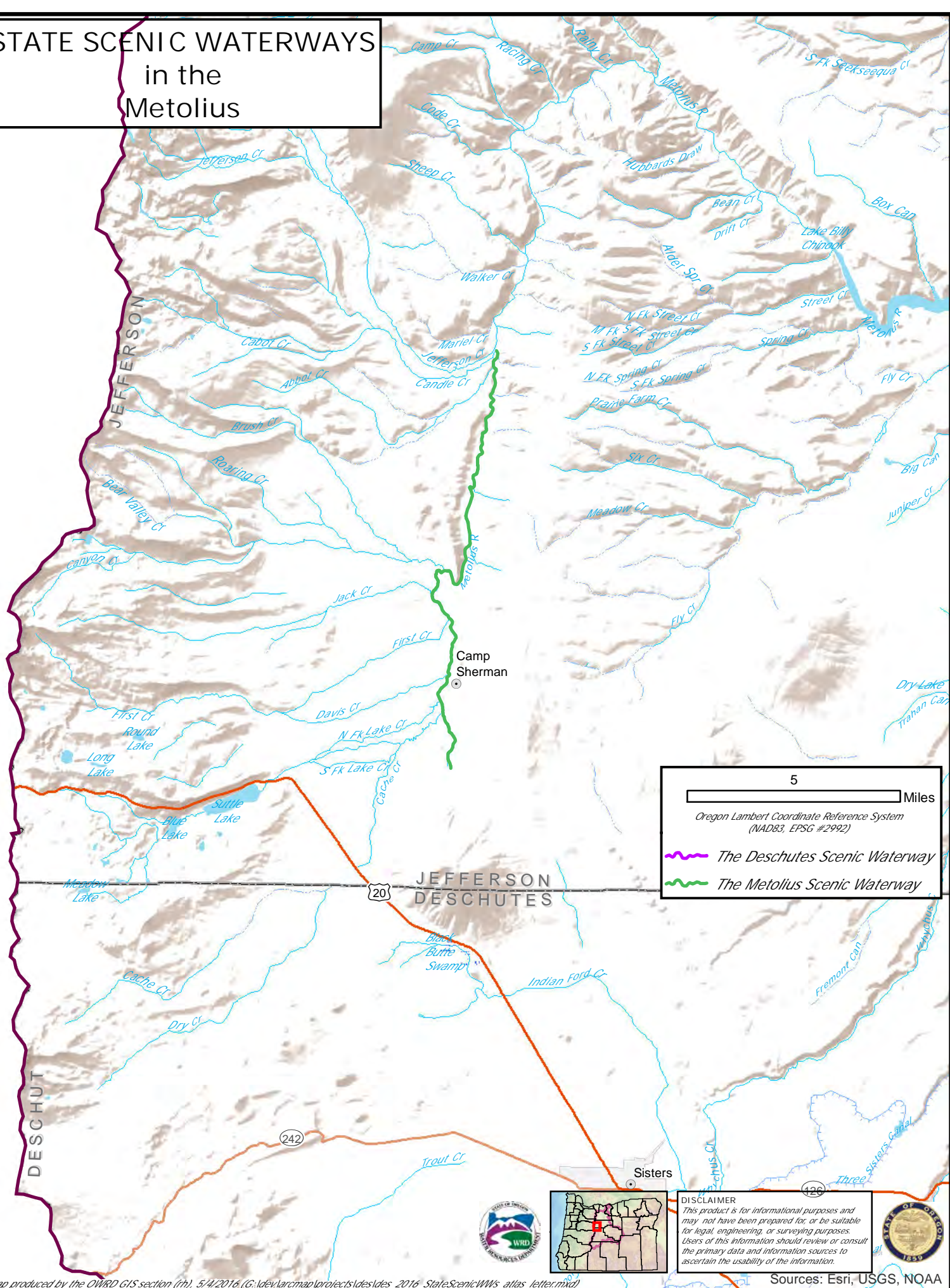
The Metolius Scenic Waterway



DISCLAIMER
This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



STATE SCENIC WATERWAYS in the Metolius

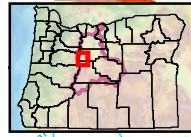


5 Miles

Oregon Lambert Coordinate Reference System
(NAD83, EPSG #2992)

The Deschutes Scenic Waterway

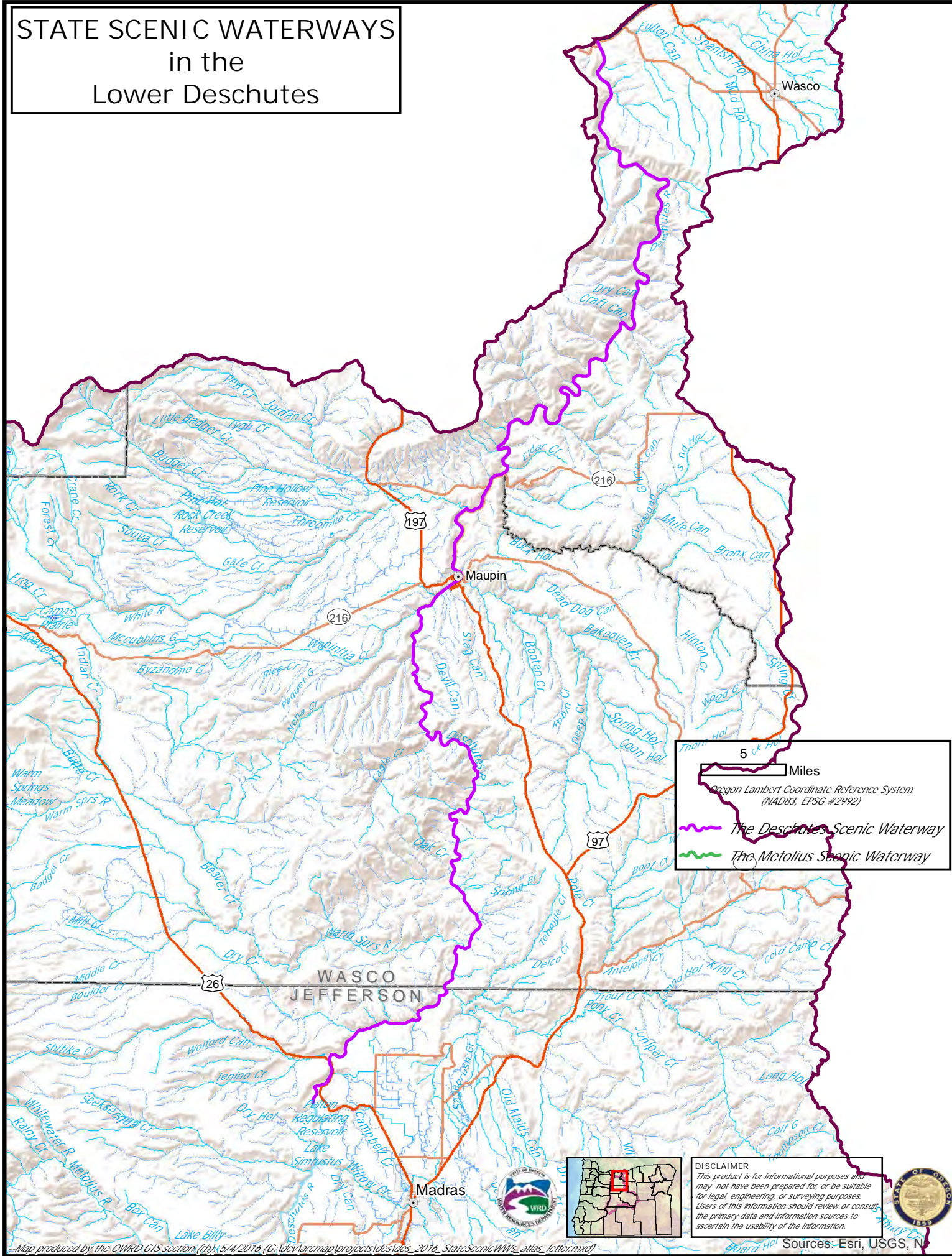
The Metolius Scenic Waterway



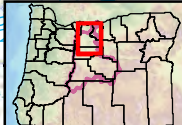
DISCLAIMER
This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



STATE SCENIC WATERWAYS in the Lower Deschutes



DISCLAIMER
This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



Attachment C

Summary of Deschutes Basin Water Rights Permit Considerations for New Storage

Attachment C. Summary of Deschutes Water Rights Permit Considerations for New Storage (ORS 537.621 and OAR 690-310)

Note: This table lays out some of the information that would be considered when processing a permit application for stored water. This table is not comprehensive.

	Prohibitions of Proposed Uses	Water Availability at 50% Exceedance Standard	Consideration of Basin Program Rules	Injury	Consideration for Sensitive, Threatened and Endangered Species	Land Use Compatibility	Other Potential Public Interest Considerations	Other Potential Conditions
Source	ORS 538	ORS 537.621 OAR 690-300/310, 690-400/410	ORS 537.621, 536.300, 536.340 OAR 690-300/310, 690-400/410, 690-505	ORS 537.621 OAR 690-300/310, 690-400/410	ORS 537.621 OAR 690-300/310, 690-400/410, 690-033	ORS 537.621 OAR 690-300/310, 690-400/410, OAR 690-005	ORS 537.621, 537.170 OAR 690-300/310, 690-400/410	ORS 537.170 OAR 690-300/310
Description	At the onset, the Department will determine whether the proposed use is prohibited by statute.	The Department will determine if water is available at 50% exceedance for the proposed storage permit if other information about water availability is not provided.	The Department will determine if the proposed use is consistent with the Deschutes Basin Program rules.*	The Department will determine if the proposed use is likely to “injure” other water rights.	The Department will determine if the proposed use is consistent with Division 33 rules, which determines whether a proposed use will impair or be detrimental to the public interest with regard to sensitive, threatened, or endangered fish species. The WRD will also evaluate public interest factors in Div.300/310/400/410.	The Department will determine if the proposed use is consistent with Division 5 rules, which pertains to agency compliance with statewide planning goals, compatibility with local comprehensive land use plans and coordination on land use matters.	The Department will determine whether the proposed use will impair or be detrimental to the public interests as demonstrated in comments, protests or a finding of the Department.	As a part of its review the Department may determine that permit conditions are necessary to ensure public interest and welfare.
Deschutes River Sub Basin	Specific portion of Tumalo Creek is available for limited uses. Storage is not an identified allowed use.	<u>Above Buckhorn Canyon:</u> Months available: March and April Amount available: 10,500 acre feet	Generally, no limitations, with the following exception:.* “No further appropriations except for domestic or livestock uses shall be permitted for waters of the mainstem Deschutes River, from the head of Lake Billy Chinook near river mile 120 to the North Canal dam near river mile 165.”	Project/location specific assessment considering: - Existing water rights Potential permit conditions: - Limits on the amount and/or timing of water storage - Water use measurement and reporting - Installation of an outlet pipe - Use contingent upon meeting downstream rights - Regulation if interference with senior instream or out-of-stream water rights	Project/location specific assessment considering: - Consultation with state agencies - Consistency with the Fish and Wildlife Program (including no withdrawal April 15 to Sept 30) - Potential losses of essential habitat Potential permit conditions: - Limits on the amount and/or timing of water storage - Seasonal limitations (no appropriation from Apr 15 to Sept 30 unless an exemption is granted) - Bypass requirements - Passage barriers - Fish screens - Water use measurement and reporting - Water quality considerations - Restoration/ enhancement of riparian areas - Proposed mitigation measures - Measures to ensure reasonably efficient water use	Project/location specific assessment considering: - Consultation/coordination with local, state, and federal governments and special districts on land use matters - Local comprehensive land use plans Potential permit conditions: - Land use approval	Project/location specific assessment. Sources of information may include: - Applicable statutes, administrative rules, and case law - Applicable agency plans - Recommendations by other state agencies and local governments - Public comments - Protest filed specifying how the action would impair public welfare, safety and health - Any other available information - The Department shall, at a minimum, consider: <ul style="list-style-type: none">Water use efficiency and avoidance of wasteFish and wildlife, including STE speciesWater qualityRecreationEconomic developmentLocal plansState scenic waterways	Potential permit conditions: - Deadline for completion of construction - Deadline for claim of beneficial use - Dam safety - Construction - Fish passage - Fish screens - Restoration/ enhancement of riparian areas - Water quality standards - Conservation considerations - Technology considerations - Contact with other state agencies - Other applicable statutes, administrative rules, etc - Measures to ensure reasonably efficient water use - Regulation if scenic waterways not met - Water measurement/reporting - Etc.
		<u>Above Tumalo Creek:</u> Months available: none Amount available: N/A						
Crooked River Sub Basin	None	<u>Crooked River:</u> Months available: March, April, and May Amount available: 41,900 to 45,400 acre feet <u>Crooked River Tributaries:</u> Timing and volume of water availability varies from zero to two months.	Generally, no limitations, with the following exception:.* “No further appropriations except for domestic or livestock uses shall be made or granted by any state agency for the waters of Ochoco Creek and its tributaries.”					
Whychus Creek Sub Basin	None	Months available: June Amount available: 2,420 to 2,860 acre feet	No limitations.*					

* Applicants for new permits can seek an exception to the basin program rules under the provisions of ORS 536.295. In addition, the basin program rules also state: The applicant must “give proper cognizance to the multi-purpose concept.”