Oregon
Kate Brown, Governor

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MEMORANDUM

TO: Water Resources Commission

FROM: Thomas M. Byler, Director

SUBJECT: Agenda Item L, October 14, 2016
Water Resources Commission Meeting

OAR Chapter 690, Division 508, 510 and 511 – Request for Adoption of Rules to Extend Reservations and Make Other Modifications to the Grande Ronde Basin, Malheur Basin, and Owyhee Basin Programs

I. Introduction

This agenda items seeks Commission action to extend reservations in the Grande Ronde Basin, Malheur Basin, and Owyhee Basin programs and change related reporting requirements, update rule language, expand classified uses of water, and include already existing withdrawal in the basin programs.

II. Background

A reservation of water for future economic development sets aside a quantity of water for storage to meet future needs. In order to use reserved water, one would need to apply for a storage water right under the Department's regular permitting process. If successful, the new storage right retains the priority date of the reservation.

The rules establishing reservations in Grande Ronde, Malheur and Owyhee basins are set to expire; these reservations will automatically sunset on January 7, 2017 for the Grande Ronde Basin and February 7, 2017 for the Malheur and Owyhee Basins unless extended in rule by the Commission. The current reservations for these basins are described in Attachment 1. During the August 2016 meeting, Commission members adopted similar amendments to extend the Hood basin reservation.

The process for considering an extension for a reservation is contained in the OAR Chapter 690, Division 79 rules. However, the reservation itself is included in the basin program rules. Therefore, a reservation extension requires a basin program rule amendment.

The Division 79 rules provide that the Commission may extend a reservation up to 20 years unless it finds the reservation is no longer consistent with the policies of ORS 536.310. In conducting a basin program rulemaking, ORS 536.310 requires the Commission to take into consideration ORS 536.220 and the declarations of policy in ORS 536.310. ORS 536.220 directs

the Department to "encourage, promote and secure maximum beneficial use and control" of water resources, and that the Departments' basin programs for development of additional supplies "shall give proper and adequate consideration to the multiple aspects of the beneficial use of such water resources."

The policies in ORS 536.310 include: (1) protecting existing rights; (2) "integration and coordination of uses of water" and "augmentation of existing supplies for all beneficial purposes be achieved for the maximum economic development" for the state; (3) adequate supplies for human consumption; (4) "multiple-purpose impoundment structures are to be preferred over single-purpose structures" and the construction of impoundments should consider the importance of the fishery resource; (5) "competitive exploitation of water resources of this state for single-purpose uses is to be discouraged"; and (8) "watershed development policies shall be favored, whenever possible, for the preservation of balanced multiple uses". The policies in ORS 536.310 (6), (7), (9), (10), (11), (12), and (13) are not relevant to the reservations discussion.

III. Purpose of Rule Updates

The proposed final rules are in Attachment 2. The modifications to the rules are intended to:

1. Extend reservations of water for future economic development for an additional 20 years.
2. Change reporting requirements that apply to the Department of Agriculture and Oregon Water Resources Department.
3. Expand classified uses to clarify that the allowable uses include agricultural, commercial, and flow augmentation for instream uses.
4. Correct language to address inconsistencies in terminology.
5. Include an already-existing withdrawal in the Owyhee basin program; this provides additional transparency for applicants who may be interested in filing an application.

The Department convened a Rules Advisory Committees, on May 23, 25, and 26, 2016. See lists of attendees in Attachment 3. Representatives included: Oregon Farm Bureau, Irrigation Districts, Oregon Water Resources Congress, Department of Environmental Quality, Oregon Department of Fish and Wildlife, Oregon Rural Action, Local Soil and Water Conservation Districts, Oregon Department of Agriculture, Local Watershed Council, Local County Planners, Landowners, and Farmers. The Rules Advisory Committee provided input on the rules, but was not asked to achieve consensus. The hearing draft was crafted using input from this committee.

IV. Public Comment and Department Response

The Department held a public hearing on July 27, 2016 in La Grande and July 28, 2016, in Ontario and Adrian Oregon, with Commissioner Bruce Corn as the hearing officer. The Department accepted public comments on the hearing draft from July 1, 2016 to July 29, 2016.

Attachment 4 provides the text of written public comments received regarding the proposed Division 508, 510, and 511 rules. Attachment 5 provides a transcript of the verbal comments received during the public hearings; all verbal comments were supportive.

A. *Comments from and response to the Oregon Farm Bureau and Oregon Water Resources Congress. (Note that numbering is based on the hearing drafts; numbering has changed.)*

The Oregon Farm Bureau and Oregon Water Resources Congress submitted joint comments and while supportive of the concept and the proposed language changes, also suggested inserting the phrase "where necessary" into paragraph 0100(8) of all three basin programs. The proposed sentence would read "The Department shall determine, and impose as a condition, an appropriate storage season, and shall include other conditions **where necessary** to ensure no injury to senior water rights and to protect instream values."

Department response. This paragraph confirms that any water right applications made, pointing back to these reservations, will be processed according to the Department's most current practices. The Department includes those conditions necessary to meet its statutory goals and obligations as a matter of practice. The original language set forth in the hearing draft correctly conveys the Department's commitment to properly process water right permit applications.

B. *Comments from and Response to WaterWatch of Oregon. (Note that numbering is based on the hearing drafts; numbering has changed.)* WaterWatch of Oregon also submitted comments for each of the three basin programs.

1) In all three cases, the comments suggest expanding the list of classified uses, beyond the list proposed in the hearing draft, to also include "pollution abatement" and "scenic value."

Department response. As the reservation and subsequent permitting process favors multipurpose storage, these two additional uses might be reasonable to add to the list of classified uses. However, "flow augmentation," which is also proposed in the hearing draft, already adequately encompasses these two concepts. The list of classified uses was discussed during the rules advisory committee meetings, which focused on the topic of reservations only, not other programs such as scenic waterways. Maintaining the list as proposed in the hearing draft will maintain consistency between these three basin programs, and the two others recently modified by the Commission (the Hood River Basin and Powder River Basin Programs). No change from the hearing draft is recommended.

2) In all three cases, the comments request that the Department not delete the phrase "and subject to the provisions of section (7)" in paragraph 0100(6) of all three basin programs.

Department response. Paragraph 6 focuses on the concept of water availability and it is appropriate to delete mention of paragraph 7, which focuses on another topic (i.e., the conditions that must also be in place for the Department to issue a permit related to the

reservation). Applicants are still subject to paragraph 7. No change from the hearing draft is recommended.

3) In all three cases the comments ask that the Department not delete the original 0100(6) as proposed in the hearing draft.

Department response. The text has actually been moved into the previous paragraph, and has retained its original intent and approach. The new language clarifies that a water availability analysis will take place again at the permitting stage to ensure that water is still available at the specific site described in the water right permit application. No change from the hearing draft is recommended.

4) In all three cases the comments suggest tying consultation with the Oregon Department of Agriculture—found in paragraph 0100(7)(a) to the purpose of the reservation, which is economic development found in OAR 690-504-0100(1).

Department response. The paragraphs are to be read in concert, and there is no reason to cross reference. No change from the hearing draft is recommended.

5) In all three cases the comments suggest keeping the phrase "automatically repealed" in OAR 690-504-0100(9a).

Department Response. Staff recommends a change to "shall be effective until," to be consistent with language in the Powder River Basin Program adopted by the Commission in February 2016 and the Hood River Basin Program adopted in August 2016. These modifications were discussed with WaterWatch, and proposed language was kept in place for consistency with previously approved rules. Staff believes that the proposed language makes clear that reservations will sunset on the specified dates, unless extended by the Commission through rulemaking. No change from the hearing draft is recommended.

6) In all three cases the comments request that the Commission not extend the reservations because of the failure to report progress on the status of the reservations during their 20-year life span. The comments note that neither the Department of Agriculture nor Basin stakeholders reported progress during the past 20 years, as required. Further, WaterWatch argues that newly adopted Division 79 rules forbid the Commission from extending these reservations because the lack of progress reports place these reservations at odds with rules of the Commission (OAR 690-079-0160(6)).

Department Response: With regard to the extension of reservation, OAR 690-079-0160(6) says that "The Commission may extend the reservation up to 20 years unless the Commission determines the reservation is no longer consistent with ORS 536.310 or with rules of the Commission. The Commission may modify the reservation or include conditions as necessary for the reservation to remain consistent with ORS 536.310 and the purpose of reserving water for future economic development. As stated during previous rulemakings, the Department and Commission disagree that non-compliance with reporting requirements

is a fatal flaw in extending the reservation. No change from the hearing draft is recommended.

C. *WaterWatch made one comment specific to the Owyhee Basin:*

1) When the Malheur-Owyhee Basin Programs were pulled apart and given their own Division numbers, a paragraph about "Structures or works for the utilization of waters..." landed in the resulting Malheur Basin Program, but not in the Owyhee Basin Program (see OAR 690-510-0100(3) as the Malheur Basin example). WaterWatch requests inclusion of that same paragraph in the Owyhee Basin Program.

Department Response. This language was pulled apart, with new text for the two Basin Programs created in 1977. From OAR 690-510-0000, paragraphs 1, a, b, and were written into the Owyhee Basin Program only, and paragraphs 2 and 3 were peeled off and written into the Malheur Basin Program only. That change occurred in 1977 and was not discussed during the 2016 Rules Advisory Committee meetings. No change from the hearing draft is recommended.

D. *WaterWatch made one comment specific to the Grande Ronde Basin only:*

There is one reference to ORS 537 missing from Grande Ronde paragraph 0100(7). This reference exists in the other proposed basin programs.

Department Response. Yes, this was a mistake and has been added to the proposed rules.

E. *The Department has identified a numbering error in the Owyhee Basin Program only:*

Paragraphs numbered 0100(9), (10) and (11) should be numbered 0100(9) and (10) only.

Staff proposes two modifications to the hearing drafts as a result of public comment and scrivener's error: (1) adding reference to ORS 537 in the Grande Ronde Basin Program and (2) fixing the numbering error in the Owyhee Basin Program.

V. Conclusion

The Oregon Department of Agriculture has submitted a packet of applications to the Oregon Water Resources Department, requesting the extension of these reservations. The applications confirm the ongoing long-term need for stored water in each Basin. The applications are found in Attachment 6 of this report and are in digital form only, due to their length. The Oregon Water Resources Department finds the reservations continue to be consistent with ORS 536.220 and ORS 536.310, as they:

- Provide a mechanism for supporting water resources development in the basin to ensure the maximum economic development for the state.

- Demonstrate the state's preference for multipurpose reservoirs by reserving significantly more water for multipurpose reservoirs, while allowing a small amount for single-purpose reservoirs in recognition of local needs and the need to balance the different uses in the basin.
- Retain requirements to consult with the Oregon Department of Fish and Wildlife prior to applying to use the water in order to help protect the fishery resource.
- Allow for multiple-purpose uses, which include water to benefit instream values such as fisheries, pollution abatement, and recreation.
- Benefit existing water rights by increasing the likelihood that irrigators' will receive their full-duty, while also potentially increasing the amount of land that can be irrigated in the basin.

The Department proposes that the Commission adopt the proposed rules in Attachment 2 to modify Division 508 Grande Ronde Basin Program, Division 510 Malheur Basin program, and Division 511 Owyhee Basin Program, in order to extend reservations for an additional 20 years and clean up rule language as described above.

VI. Alternatives

The Commission may consider the following alternatives:

1. Adopt the proposed rules in Attachment 2
2. Adopt the proposed rules as modified by the Commission.
3. Not adopt the rules and provide the Department with further direction.

VII. Director's Recommendations

The Director recommends Alternative #1 to adopt the proposed rules.

Attachments:

Attachment 1 – Reservations in Grande Ronde, Malheur, and Owyhee Basins
Attachment 2 – Proposed Final Rules
Attachment 3 – Rules Advisory Committee Members
Attachment 4 – Written Public Comments
Attachment 5 – Verbal Public Comments
Attachment 6 – Oregon Department of Agriculture Applications to Extend Grande Ronde, Malheur and Owyhee Basin Reservations (On-line only due to length)

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Grande Ronde Basin (OAR Division 508) **Reservation**	**Expiration: February 7, 2017** **Quantity (acre-feet)**
Upper Grande Ronde Subbasin (690-508-0110)	26,900
(1) Meadows Creek and tributaries (14,900 acre-feet);	
(2) Grande Ronde River and tributaries including Fly Creek and tributaries, upstream of river mile 184 (NE ¼ Sec. 14, T4S, R35E) (12,000 acre-feet).	
Middle Grande Ronde Subbasin (690-508-0120)	9,000
(1) Catherine Creek and tributaries above Ames Creek	
Total	**35,900**

Malheur Basin (OAR Division 510) **Malheur Reservations** (690-510-0110)	**Expiration: January 7, 2017** **Quantity (acre-feet)**
(1) Malheur River and tributaries, excluding the North Fork and South Fork Malheur Rivers and tributaries	35,000
(2) South Fork Malheur River and tributaries	13,200
Total	**48,200**

Owyhee Basin (OAR Division 511) **Owyhee Reservations** (690-511-0110)	**Expiration: January 7, 2017** **Quantity (acre-feet)**
Owyhee River and tributaries	60,000
Total	**60,000**

DIVISION 508

GRANDE RONDE BASIN PROGRAM

NOTE: The Grande Ronde Basin is delineated on the agency Map No. 8.6, dated January 1, 1975.

690-508-0000

General Classifications

(1) Stored water may be used for any beneficial purpose.

(2) The storage of up to 900 acre-feet of water for domestic or livestock purposes authorized under water rights with priority dates after November 6, 1992, shall be exempt from regulation for storage of water reserved under OAR 690-508-0110 through 0120.

~~(3) Storage of water is a beneficial use in the Grande Ronde Basin.~~

Stat. Auth.: ORS 536
Stats. Implemented: ORS 536.220 & ORS 536.310
Hist.: WRB 15, f. 3-7-62; WRB 27, f. 5-11-64; WRD 2-1981, f. & cert. ef. 4-30-81; WRD 5-1985, f. & cert. ef. 6-14-85; Administrative Renumbering 1-1993, Renumbered from 690-080-0080; WRD 2-1997, f. & cert. ef. 2-25-97

690-508-0010

Upper Grande Ronde Subbasin

(1) Classifications:

(a) The maximum economic development of this state and the attainment of the highest and best use of the waters of the Upper Grande Ronde for the benefit of the state as a whole, will be furthered through utilization of the aforementioned waters only for domestic, livestock, municipal, irrigation, flow augmentation, commercial, agriculture, power development, industrial, mining, recreation, wildlife, and fish life uses and the waters of the Upper Grande Ronde Basin are hereby so classified.

~~(b) Applications for the use of such water shall not be accepted by any state agency for any other purpose and the granting of applications for such other purposes is declared to be prejudicial to the public interest and the granting of applications for such other uses would be contrary to the integrated, coordinated program for the use and control of the water resources of the state.~~

(~~c~~b) Structures or works for the utilization of the waters in accordance with the aforementioned classifications are also declared to be prejudicial to the public interest unless planned, constructed, and operated in conformity with applicable provisions of ORS 536.310 and any such structures or works are further declared to be prejudicial to the public interest which do not give proper cognizance to the multiple-purpose concept.

(2) Water Quality: Rights to use of water for industrial or mining purposes ~~granted by any state agency~~ shall be issued only on condition that any effluents or return flows from such uses shall not interfere with other beneficial uses of water.

(3) Power Development: Water rights acquired for hydroelectric power purposes utilizing the waters of the Upper Grande Ronde Basin shall be subordinate in priority to future upstream beneficial uses of water except for hydroelectric power.

Stat. Auth.: ORS 536
Stats. Implemented: ORS 536.220 & ORS 536.310
Hist.: WRB 15, f. 3-7-62; WRB 27, f. 5-11-64; WRD 2-1981, f. & cert. ef. 4-30-81; WRD 5-1985, f. & cert. ef. 6-14-85; Administrative Renumbering 1-1993, Renumbered from 690-080-0080; WRD 2-1997, f. & cert. ef. 2-25-97

690-508-0020

Middle Grande Ronde Subbasin

(1) Classifications:

(a) The maximum economic development of this state, ~~and~~ the attainment of the highest and best use of the waters of the Middle Grande Ronde Basin, and the attainment of an integrated and coordinated program for the benefit of the state as a whole, will be furthered through utilization of the aforementioned waters only for domestic, livestock, municipal, irrigation, flow augmentation, commercial, agriculture, power development, industrial, mining, recreation, wildlife and fish life purposes and the waters of the Middle Grande Ronde Basin are hereby so classified.

~~(b) Applications for the use of such water shall not be accepted by any state agency for any other purpose and the granting of applications for such other purposes is declared to be prejudicial to the public interest and the granting of applications for such other uses would be contrary to the integrated, coordinated program for the use and control of the water resources of the state.~~

(~~c~~b) Structures or works for utilization of the waters in accordance with the aforementioned classifications are also declared to be prejudicial to the public interest unless planned, constructed, and operated in conformity with the applicable provisions of ORS 536.310 and any such structures or works are further declared to be prejudicial to the public interest which do not give proper cognizance to the multiple-purpose concept.

(2) Water Quality: Rights to use of water for industrial or mining purposes ~~granted by any state agency~~ shall be issued only on the condition that any effluents or return flows from such uses shall not interfere with other beneficial uses.

(3) Power Development: Water rights acquired for hydroelectric power purposes utilizing the waters of the Middle Grande Ronde Basin shall be subordinate in priority to future beneficial uses of water except for hydroelectric power.

Stat. Auth.: ORS 536
Stats. Implemented: ORS 536.220 & ORS 536.310
Hist.: WRB 15, f. 3-7-62; WRB 27, f. 5-11-64; WRD 2-1981, f. & cert. ef. 4-30-81; WRD 5-1985, f. & cert. ef. 6-14-85; Administrative Renumbering 1-1993, Renumbered from 690-080-0080; WRD 2-1997, f. & cert. ef. 2-25-97

690-508-0030

Lower Grande Ronde Subbasin

(1) Classifications:

(a) The maximum economic development of this state, ~~and~~ the attainment of the highest and best use of waters of the Lower Grande Ronde Basin, and the attainment of an integrated and coordinated program for the benefit of the state as a whole, will be furthered through utilization of the aforementioned waters only for domestic, livestock, municipal, irrigation, flow augmentation, commercial, agriculture, power development, industrial, mining, recreation, wildlife, and fish life uses and the waters of the Lower Grande Ronde Basin are hereby so classified.

~~(b) Applications for the use of such water shall not be accepted by any state agency for any other purpose and the granting of applications for such other purposes is declared to be prejudicial to the public interest and the granting of applications for such other uses would be contrary to the integrated, coordinated program for the use and control of the water resources of the state.~~

(~~c~~b) Structures or works for the utilization of the waters in accordance with the aforementioned classifications are also declared to be prejudicial to the public interest unless planned, constructed, and operated in conformity with the applicable provisions of ORS 536.310 and any such structures or works are further declared to be prejudicial to the public interest which do not give proper cognizance to the multiple-purpose concept.

(2) Water Quality: Rights to use of water for industrial or mining purposes ~~granted by any state agency~~ shall be issued only on condition that any effluents or return flows from such uses shall not interfere with other beneficial uses of water.

Stat. Auth.: ORS 536
Stats. Implemented: ORS 536.220 & ORS 536.310
Hist.: WRB 15, f. 3-7-62; WRB 27, f. 5-11-64; WRD 2-1981, f. & cert. ef. 4-30-81; WRD 5-1985, f. & cert. ef. 6-14-85; Administrative Renumbering 1-1993, Renumbered from 690-080-0080; WRD 2-1997, f. & cert. ef. 2-25-97

690-508-0040

Wallowa River Subbasin

(1) Classifications:

(a) The maximum economic development of this state, ~~and~~ the attainment of the highest and best use of the waters of the Wallowa River Basin, and the attainment of an integrated and coordinated program for the benefit of the state as a whole, will be furthered through utilization of the aforementioned waters only for domestic, livestock, municipal, irrigation, flow augmentation, commercial, agriculture, power development, industrial, mining, recreation, wildlife, and fish life purposes and the waters of the Wallowa River Basin are hereby so classified with the following specific exceptions:

(A) The maximum economic development of this state, ~~and~~ the attainment of the highest and best use of the waters of the Minam River Basin, and the attainment of an integrated and coordinated program for the benefit of the state as a whole, will be furthered through utilization of the aforementioned waters only for domestic, livestock, irrigation, recreation, wildlife, and fish life uses and the waters of the Minam River Basin are hereby so classified.

(B) Further, no out-of-basin diversions of waters of the Minam River shall be permitted for any use.

~~(b) Applications for use of the waters of the Wallowa River Basin shall not be accepted by any state agency for any other purpose and the granting of applications for such other purposes is declared to be prejudicial to the public interest and the granting of applications for such other uses would be contrary to the integrated, coordinated program for the use and control of the water resources of the state.~~

(~~c~~b) Structures or works for the utilization of the waters in accordance with the aforementioned classifications are also declared to be prejudicial to the public interest unless planned, constructed, and operated in conformity with the applicable provisions of ORS 536.310 and any such structures or works are further declared to be prejudicial to the public interest which do not give proper cognizance to the multiple-purpose concept.

(2) Water Quality: Rights to use of water for industrial or mining purposes ~~granted by any state agency~~ for waters of the Wallowa River Basin shall be issued only on the condition that any effluents or return flows from such uses shall not interfere with other beneficial uses.

Stat. Auth.: ORS 536
Stats. Implemented: ORS 536.220 & ORS 536.310
Hist.: WRB 15, f. 3-7-62; WRB 27, f. 5-11-64; WRD 2-1981, f. & cert. ef. 4-30-81; WRD 5-1985, f. & cert. ef. 6-14-85; Administrative Renumbering 1-1993, Renumbered from 690-080-0080; WRD 2-1997, f. & cert. ef. 2-25-97

690-508-0050

Imnaha River Subbasin

(1) Classifications:

(a) The maximum economic development of the state, ~~and~~ the attainment of the highest and best use of the waters of the Imnaha River Basin, and the attainment of an integrated and coordinated program for the benefit of the state as a whole, will be furthered through utilization of the aforementioned waters only for domestic, livestock, municipal, irrigation, flow augmentation, commercial, agriculture, power development, industrial, mining, recreation, wildlife, and fish life purposes and the waters of the Imnaha River Basin are hereby so classified.

~~(b) Applications for the use of such water shall not be accepted by any state agency for any other purpose and the granting of applications for such other purposes is declared to be prejudicial to the public interest and the granting of applications for such other uses would be contrary to the integrated, coordinated program for the use and control of the water resources of the state.~~

(c) Structures or works for the utilization of the waters in accordance with the aforementioned classifications are also declared to be prejudicial to the public interest unless planned, constructed, and operated in conformity with applicable provisions of ORS 536.310 and any such structures or works are further declared to be prejudicial to the public interest which do not give proper cognizance to the multiple-purpose concept.

(2) Water Quality: Rights to the use of water for industrial or mining purposes ~~granted by any state agency~~ shall be issued only on the condition that any effluents or return flows from such uses shall not interfere with other beneficial uses.

(3) Power Development: Water rights acquired for hydroelectric power purposes utilizing the waters of the Imnaha River Basin shall be subordinate in priority to future upstream beneficial uses of water except for hydroelectric power.

Stat. Auth.: ORS 536
Stats. Implemented: ORS 536.220 & ORS 536.310
Hist.: WRD 2-1997, f. & cert. ef. 2-25-97

690-508-0100

~~Reservations~~ Application Process to Store Reserved Water

(1) Reservations of water for economic development are established pursuant to ORS 537.249 and 537.356 to ensure sufficient surface water will be available in the future to meet expected needs. Economic development includes, but is not limited to, the production of goods and services and management of natural resources which contribute economic benefits through both instream and out-of-stream uses of water.

(2) "Multipurpose reservoir", as used in OAR 690-508-0100 through 0120, means a reservoir storing water to serve multiple potential beneficial uses such as, but not limited to irrigation, commercial, agriculture power development ~~generation~~, municipal ~~water supply~~, recreation and flow augmentation for instream purposes.

(3) Reservations of water for future economic development in OAR 690-508-0110 through 0120 ~~allocate~~ reserve surface water for future storage in multipurpose reservoirs.

(4) Permits to store reserved water shall receive the priority date of the reservation. The priority date for reservations under 690-508-0110 through 0120 shall be November 6, 1992.

(45) In addition to the requirements of ORS Chapter 537, OAR Chapter 690, Division 310, and any other applicable rules, an application for a permit to store reserved water shall include:

(a) An assessment of the effect of the proposed reservoir on fish and wildlife developed after consultation with the Oregon Department of Fish and Wildlife;

(b) An assessment of the effect of the proposed reservoir on water quality developed after consultation with the Oregon Department of Environmental Quality;

(c) An analysis of water supply alternatives to the proposed reservoir, such as off-stream storage, water right transfers and implementation of conservation measures; and

(d) An analysis summarizing and describing how the proposed project will enhance instream values, including but not limited to instream flows.

(~~5~~6) For the purposes of review of water right permit applications to store reserved water under OAR Chapter 690, Division 310, ~~and subject to the provisions of section (7),~~ the reserved quantities of water listed in OAR 690-508-0110 through 0120 are available for appropriation. However, the determination that water is available under OAR 690-508-0110 through 0120 shall not substitute for consideration during the public interest review of site-specific information as required under OAR Chapter 690, Division 310 and any other applicable statutes or rules. Because the finding that water is available in OAR 690-0110 through 0120 is a water availability determination for a sub-basin, analysis of water availability at the specific location shall be conducted at the time of permit application review.

~~(6) The determination of water availability under section (5) shall not substitute for consideration during the public interest review of site-specific information related to the capacity of the resource to support the proposed project, as required under OAR Chapter 690, Division 310.~~

(7) In addition to any other findings required for issuance of a reservoir permit under ORS Chapter 537, OAR 690, Division 310, and applicable rules and prior to issuance of permit for a proposed project storing water reserved under 690-508-0110 through 0120, the Department shall also find:

(a) The proposed reservoir is consistent with the purpose of the reservation following consultation with the Department of Agriculture and other state agencies;

(b) The proposed reservoir will enhance instream values, including but not limited to instream flows; and

(c) Whether minimum bypass flow are required.

(c8) The Department shall determine, and impose as a condition, an appropriate ~~What~~ storage season ~~is appropriate and whether minimum bypass flows or other conditions should be included in the permit to~~ and shall include other conditions to ~~i~~ensure no ~~harm~~ injury to senior water rights and to protect instream values.

(8) ~~Permits to store reserved water shall receive the priority date of the reservation.~~

(9) Progress Reports: ~~If~~ Until the Department has ~~not received applications~~issued permits for ~~multipurpose~~ reservoir permits for the full quantity of reserved water under OAR 690-508-0110 through 0120, ~~by February 7, 2002, the Department of Agriculture shall provide the Commission with a progress report on development of the reservations. The report shall include information on the continued need for the reservations and the quantities of water reserved. The Department of Agriculture shall continue to provide progress reports at five year intervals while these rules are in effect unless the Department receives applications for multipurpose reservoir permits for the full quantity of reserved water~~. The Department shall biennially report to the Water Resources Commission on the amount of water available under the reservation, and the quantity allocated under the reservation. The Department or Commission may request periodic reports from the Oregon Department of Agriculture on continued interest in the reservation, efforts undertaken to develop the reservation, and any challenges to developing the reservation.

~~(10) If the Department has not received applications for multipurpose reservoir permits for the full quantity of water reserved by February 7, 2017, OAR 690-508-0110~~

(10) Effective date of rules:

(a) OAR 690-508-0110 through 0120 shall be effective until ~~automatically be repealed on~~ February 7, 20~~17~~37, unless effective date has been extended by further rulemaking of the Water Resources Commission.

(b) The expiration of these reservation rules shall not affect pending applications that have been received and deemed complete and not defective by the Water Resources Department pursuant to ORS 537.150(2), prior to the expiration date of the rules.

Stat. Auth.: ORS 536 & ORS 537
Stats. Implemented: ORS 536.310, ORS 537.249, ORS 537.356 & ORS 537.358
Hist.: WRD 2-1997, f. & cert. ef. 2-25-97

690-508-0110

Upper Grande Ronde Subbasin Reservation

Unappropriated water is reserved for storage in multipurpose reservoirs to be constructed in the future. The priority date of the reservations is November 6, 1992. The quantity and source of reserved water are as follows:

(1) Fourteen thousand nine hundred (14,900) acre-feet of Meadows Creek and tributaries. ~~are reserved~~;

(2) Twelve thousand (12,000) acre-feet of the Grande Ronde River and tributaries, including Fly Creek and tributaries, upstream of river mile 184 (NE 1/4, Section 14, Township 4 South, Range 35 East, Willamette Meridian). ~~(in NE 1/4 Sec. 14, T4S, R35E).~~

Stat. Auth.: ORS 537
Stats. Implemented: ORS 537.249 & ORS 537.356
Hist.: WRD 2-1997, f. & cert. ef. 2-25-97

690-508-0120

Middle Grande Ronde Subbasin Reservation

Nine thousand (9,000) acre-feet of unappropriated water of Catherine Creek and tributaries above Ames Creek are reserved. The water is reserved for storage in multipurpose reservoirs to be constructed in the future. The priority date of the reservations is November 6, 1992.

Stat. Auth.: ORS 537
Stats. Implemented: ORS 537.249 & ORS 537.356
Hist.: WRD 2-1997, f. & cert. ef. 2-25-97

DIVISION 510

MALHEUR BASIN PROGRAM

~~[~~NOTE: The Malheur ~~and Owyhee~~ Basin~~s~~ is delineated on ~~State Water Resources Board~~ agency Map No. 10~~-11-~~6, ~~available from the agency~~dated January 1, 1983.~~]~~

~~690-510-0000~~

~~Classifications~~

~~(1) The maximum economic development of this state, the attainment of the highest and best use of the waters of the Malheur-Owyhee Basins and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, municipal, irrigation, power development, industrial, mining, recreation, wildlife, fish life, pollution abatement uses, and the waters of the Malheur-Owyhee Basins are hereby so classified with the following exceptions:~~

~~(a) The maximum economic development of this state, the attainment of the highest and best use of the waters of the mainstem of the South Fork Owyhee River from the Oregon-Idaho border to Three Forks (the confluence of the North, Middle and South Forks Owyhee River), and the main stem Owyhee River from Crooked Creek (river mile 118) to the mouth of Birch Creek (river mile 76), and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, municipal, irrigation, industrial, mining, recreation, wildlife, and fish life uses and the aforementioned waters are hereby so classified;~~

~~(b) The maximum economic development of this state and the attainment of the highest and best use of the waters of the natural lakes of the Malheur-Owyhee Basins, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic livestock, irrigation of lawn or noncommercial garden not to exceed one-half acre in area, power development not to exceed 7-1/2 theoretical horsepower, recreation, wildlife, and fish life uses and the waters of the natural lakes of the Malheur-Owyhee Basins are hereby so classified.~~

~~(2) The maximum economic development of this state, the attainment of the highest and best use of 1,454,000 acre-feet annually of natural flows of the Snake River, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, municipal, and irrigation uses, and the 1,454,000 acre-feet annually of natural flows of the Snake River are hereby so classified.~~

~~(3) Structures or works for the utilization of the waters in accordance with the aforementioned classifications are also declared to be prejudicial to the public interest unless planned, constructed, and operated in conformity with applicable provisions of ORS 536.310 and any such structures or works are further declared to be prejudicial to the public interest which do not give cognizance to the multiple-purpose concept.~~

Stat. Auth.: ORS 536 & ORS 537

Stats. Implemented:
Hist.: WRB 44, f. 10-29-70; WRD 1-1981, f. & cert. ef. 4-20-81; WRD 2-1985, f. & cert. ef. 3-28-85; WRD 2-1986, f. & cert. ef. 2-20-86; Administrative Renumbering 1-1993, Renumbered from 690-080-0100

690-510-0010

Classifications

(1) The maximum economic development of this state, the attainment of the highest and best use of the waters of the Malheur Basin, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, municipal, irrigation, flow augmentation, commercial, agriculture, power development, industrial, mining, recreation, wildlife, and fish life uses, and the waters of the Malheur Basin are hereby so classified with the following exceptions:

(a) The maximum economic development of this state, the attainment of the highest and best use of the waters of the natural lakes of the Malheur Basin, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, irrigation of lawn or noncommercial garden not to exceed one-half acre in area, power development not to exceed 7 1/2 theoretical horsepower, recreation, wildlife, and fish life uses, and the waters of the natural lakes of the Malheur Basin are hereby so classified.

(b) Stored water may be used for any beneficial purpose.

(c) Storage, of up to 1000 acre-feet of water in the Malheur Basin, for domestic or livestock purposes authorized under water rights with priority dates after November 6, 1992, shall be exempt from regulation for storage of water reserved under OAR 690-510-0110 through 0120.

~~(d) Storage of water is a beneficial use in the Malheur Basin.~~

(2) The maximum economic development of this state, the attainment of the highest and best use of 1,454,000 acre-feet annually of natural flows of the Snake River, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, municipal, and irrigation uses, and the 1,454,000 acre-feet annually of natural flows of the Snake River are hereby so classified.

(3) Structures or works for the utilization of the waters in accordance with the aforementioned classifications are also declared to be prejudicial to the public interest unless planned, constructed, and operated in conformity with applicable provisions of ORS 536.310 and any such structures or works are further declared to be prejudicial to the public interest which do not give cognizance to the multiple-purpose concept.

Stat. Auth.: ORS 536
Stats. Implemented: ORS 536.220 & ORS 536.310
Hist.: WRD 2-1997, f. & cert. ef. 2-25-97

690-510-0020

Water Quality

Rights to use of water for industrial or mining purposes ~~granted by any state agency~~ shall be issued only on condition that any effluents or return flows from such uses shall not interfere with other beneficial uses of water.

Stat. Auth.: ORS 536 & ORS 537

Stats. Implemented:
Hist.: WRB 44, f. 10-29-70; WRD 1-1981, f. & cert. ef. 4-20-81; WRD 2-1985, f. & cert. ef. 3-28-85; WRD 2-1986, f. & cert. ef. 2-20-86; Administrative Renumbering 1-1993, Renumbered from 690-080-0100

690-510-0100

~~**Reservations**~~ **Application Process to Store Reserved Water**

(1) Reservations of water for economic development are established pursuant to ORS 537.249 and 537.356 to ensure sufficient surface water will be available in the future to meet expected needs. Economic development includes, but is not limited to, the production of goods and services and management of natural resources which contribute economic benefits through both instream and out-of-stream uses of water.

(2) "Multipurpose reservoir", as used in OAR 690-510-0100 and 0110, means a reservoir storing water to serve multiple potential beneficial uses such as, but not limited to irrigation, commercial, agriculture, power generation, municipal ~~water supply~~, recreation, and flow augmentation for instream purposes.

(3) Reservations of water for future economic development in OAR 690-511-0110 reserve ~~allocate~~ surface water for future storage in multipurpose reservoirs.

(4) Permits to store reserved water shall receive the priority date of the reservation. The priority date for reservations under OAR 690-510-0110 shall be November 6, 1992.

(~~4~~5) In addition to the requirements of ORS Chapter 537, OAR Chapter 690, Division 310, and any other applicable rules, an application for a permit to store ~~reserved~~water reserved under 690-511-0110~~water~~ shall include:

(a) An assessment of the effect of the proposed reservoir on fish and wildlife developed after consultation with the Oregon Department of Fish and Wildlife;

(b) An assessment of the effect of the proposed reservoir on water quality developed after consultation with the Oregon Department of Environmental Quality;

(c) An analysis of water supply alternatives to the proposed reservoir, such as off-stream storage, water right transfers and implementation of conservation measures; and

(d) An analysis summarizing and describing how the proposed project will enhance instream values, including but not limited to instream flows.

(~~5~~6) For the purposes of review of water right permit applications to store reserved water under OAR Chapter 690, Division 310, ~~and subject to the provisions of section (7),~~ the reserved quantities of water listed in OAR 690-510-0110 are available for appropriation. However, the determination that water is available under OAR 690-510-0110 shall not substitute for consideration during the public interest review of site-specific information as required under OAR Chapter 690, Division 310 and applicable statutes or rules. Because the finding that water is available in OAR-510-0110 is a water availability determination for a sub-basin, analysis of water availability at the specific location shall be conducted at the time of permit application review.

~~(6) The determination of water availability under section (5) shall not substitute for consideration during the public interest review of site-specific information related to the capacity of the resource to support the proposed project, as required under OAR Chapter 690, Division 310.~~

(7) In addition to any other findings required for issuance of a reservoir permit under ORS Chapter 537, OAR 690, Division 310, and applicable rules and prior to issuance of a permit for a proposed project storing water reserved under 690-510-0110, the Department shall also find:

(a) The proposed reservoir is consistent with the purpose of the reservation following consultation with the Department of Agriculture and other state agencies;

(b) The proposed reservoir will enhance instream values, including but not limited to instream flows; and

(c) Whether minimum bypass flows are required

(e8) The Department shall determine, and impose as a condition, an appropriate ~~What~~ storage season, and shall include other conditions to ~~is appropriate and whether minimum bypass flows or other conditions should be included in the permit to~~ ensure no ~~harm~~ injury to senior water rights and to protect instream values.

(~~8~~) ~~Permits to store reserved water shall receive the priority date of the reservation.~~

(9) Progress Reports: Until ~~If~~ the Department has ~~not received~~ issued permits~~applications~~ for ~~multipurpose~~ reservoirs ~~permits~~ for the full quantity of reserved water under OAR 690-510-0110, the Department shall biennially report to the Water Resources Commission on the amount of water available under the reservation, and the quantity allocated under the reservation. The Department or Commission may require periodic reports from the Department of Agriculture on the continued interest in the reservation, efforts undertaken to develop the reservation, and any challenges to developing the reservation. ~~by January 7, 2002, the Department of Agriculture shall provide the Commission with a progress report on development of the reservations. The report shall include information on the continued need for the reservations and the quantities of water reserved. The Department of Agriculture shall continue to provide progress reports at five year intervals while these rules are in effect unless the Department receives applications for multipurpose reservoir permits for the full quantity of reserved water.~~

(10) Effective date of rules:

(a) ~~If the Department has not received applications for multipurpose reservoir permits for the full quantity of water reserved by January 7, 2017,~~ OAR 690-510-0110 shall ~~automatically be repealed~~ be effective until ~~on~~ January 7, 20~~1~~37, unless effective date has been extended by further rulemaking of the Water Resources Commission.

(b) The expiration of these reservation rules shall not affect pending applications that have been received and deemed complete and not defective by the Water Resources Department pursuant to ORS 537.150(2), prior to the expiration date of the rules.

Stat. Auth.: ORS 536 & ORS 537
Stats. Implemented: ORS 536.310, ORS 537.249, ORS 537.356 & ORS 537.358
Hist.: WRD 2-1997, f. & cert. ef. 2-25-97

690-510-0110

Malheur Reservations

Unappropriated water is reserved for storage in multipurpose reservoirs to be constructed in the future. The priority date of the reservations is November 6, 1992. The quantity and source of reserved water is as follows:

(1) Thirty five thousand (35,000) acre-feet of the Malheur River and tributaries, excluding the North Fork and South Fork Malheur Rivers and tributaries~~, are reserved~~;

(2) Thirteen thousand two hundred (13,200) acre-feet of the South Fork Malheur River and tributaries ~~are reserved~~.

Stat. Auth.: ORS 537
Stats. Implemented: ORS 537.249 & ORS 537.356
Hist.: WRD 2-1997, f. & cert. ef. 2-25-97

DIVISION 511

OWYHEE BASIN PROGRAM

NOTE: The Owyhee Basin is delineated on the agency Map No. 11.6, dated January 1, 1967.

690-511-0010

Classifications

(1) The maximum economic development of this state, the attainment of the highest and best use of the waters of the Owyhee Basin, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, municipal, irrigation, flow augmentation, commercial, agriculture, power development, industrial, mining, recreation, wildlife, and fish life uses, and the waters of the Owyhee Basin are hereby so classified with the following exceptions:

(a1) The maximum economic development of this state, and the attainment of the highest and best use of the waters of the mainstem of the South Fork Owyhee River from the Oregon - Idaho border to Three Forks (the confluence of the North, Middle and South Forks Owyhee River), and the main stem Owyhee River from Crooked Creek (river mile 118) to the mouth of Birch Creek (river mile 76), and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, municipal, irrigation, industrial, mining, recreation, wildlife, and fish life uses and the aforementioned waters are hereby so classified.

(b2) The maximum economic development of this state, the attainment of the highest and best use of the waters of the natural lakes of the Owyhee Basin, and the attainment of an integrated and coordinated program for the benefit of the state as a whole will be furthered through utilization of the aforementioned waters only for domestic, livestock, irrigation of lawn or noncommercial garden not to exceed one-half acre in area, power development not to exceed 7 1/2 theoretical horsepower, recreation, wildlife, and fish life uses, and the waters of the natural lakes of the Owyhee Basin are hereby so classified.

(2) Surface water classification:

(a) Owyhee River and its tributaries above the Owyhee Reservoir are withdrawn from further appropriation for irrigation purposes by order of the State Engineer dated May 27, 1929.

(3) Stored water may be used for any beneficial purpose.

(4) Storage, of up to 1,000 acre-feet of water in the Owyhee Basin, for domestic or livestock purposes authorized under water rights with priority dates after November 6, 1992, shall be exempt from regulation for storage of water reserved under OAR 690-511-0110.

~~(5) Storage of water is a beneficial use in the Owyhee Basin.~~

Stat. Auth.: ORS 536
Stats. Implemented: ORS 536.220 & ORS 536.310
Hist.: WRD 2-1997, f. & cert. ef. 2-25-97

690-511-0020

Water Quality

Rights to use of water for industrial or mining purposes ~~granted by any state agency~~ shall be issued only on condition that any effluents or return flows from such uses shall not interfere with other beneficial uses of water.

Stat. Auth.: ORS 536
Stats. Implemented: ORS 536.220 & ORS 536.310
Hist.: WRD 2-1997, f. & cert. ef. 2-25-97

690-511-0100

~~Reservations~~ Application Process to Store Reserved Water

(1) Reservations of water for economic development are established pursuant to ORS 537.249 and 537.356 to ensure sufficient surface water will be available in the future to meet expected needs. Economic development includes, but is not limited to, the production of goods and services and management of natural resources which contribute economic benefits through both instream and out-of-stream uses of water.

(2) "Multipurpose reservoir", as used in OAR 690-511-0100 and 0110, means a reservoir storing water to serve multiple potential beneficial uses such as irrigation, commercial, agriculture, power generation, municipal ~~water supply~~, recreation, and flow augmentation for instream purposes.

(3) Reservations of water for future economic development in OAR 690-511-0110 ~~allocate~~ reserve surface water for future storage in multipurpose reservoirs.

(4) Permits to store reserved water shall receive the priority date of the reservation. The priority date for reservations under OAR 690-511-0110 shall be November 6, 1992.

(~~4~~5) In addition to the requirements of ORS Chapter 537, OAR Chapter 690, Division 310, and any other applicable rules, an application for a permit to store reserved water shall include:

(a) An assessment of the effect of the proposed reservoir on fish and wildlife developed after consultation with the Oregon Department of Fish and Wildlife;

(b) An assessment of the effect of the proposed reservoir on water quality developed after consultation with the Oregon Department of Environmental Quality;

(c) An analysis of water supply alternatives to the proposed reservoir, such as off-stream storage, water right transfers and implementation of conservation measures; and

(d) An analysis summarizing and describing how the proposed project will enhance instream values, including but not limited to instream flows.

(~~5~~6) For the purposes of review of water right permit applications to store reserved water under OAR Chapter 690, Division 310, ~~and subject to the provisions of section (7),~~ the reserved quantities of water listed in OAR 690-511-0110 are available for appropriation. However, the determination that water is

available under ORS 690-511-0110 shall not substitute for consideration during the public interest review of site-specific information as required under ORS Chapter 537, OAR Chapter 690, Division 310, or applicable statures or rules. Because the finding that water is available in OAR 690-511-0110 is a water availability determination for a sub-basin, analysis of water availability at the specific location shall be conducted at the time of permit application review.

~~(6) The determination of water availability under section (5) shall not substitute for consideration during the public interest review of site-specific information related to the capacity of the resource to support the proposed project, as required under OAR Chapter 690, Division 310.~~

(7) In addition to any other findings required for issuance of a reservoir permit under ORS Chapter 537, OAR 690, Division 310, or applicable rules and prior to issuance of a permit for a proposed project storing water reserved under 690-511-0110, the Department shall also find:

(a) The proposed reservoir is consistent with the purpose of the reservation following consultation with the Department of Agriculture and other state agencies;

(b) The proposed reservoir will enhance instream values, including but not limited to instream flows; and

(c) Whether minimum bypass flows are required.

(c8) The Department shall determine, and impose as a condition, an appropriate ~~What~~ storage season, and shall include other conditions to ~~is appropriate and whether minimum bypass flows or other conditions should be included in the permit to~~ ensure no ~~harm~~ injury to senior water rights and to protect instream values.

(8) ~~Permits to store reserved water shall receive the priority date of the reservation.~~

(9) Progress Reports Until ~~If~~ the Department has ~~not received~~ issued permits~~applications~~ for ~~multipurpose~~ reservoirs ~~permits~~ for the full quantity of reserved water under OAR 690-511-0110, the Department shall biennially report to the Water Resources Commission on the amount of water available under the reservation, and the quantity allocated under the reservation. The Department or Commission may require periodic reports from the Oregon Department of Agriculture on continued interest in the reservation, efforts undertaken to develop the reservation, and any challenges to developing the reservation ~~water by January 7, 2002, the Department of Agriculture shall provide the Commission with a progress report on development of the reservations. The report shall include information on the continued need for the reservations and the quantities of water reserved. The Department of Agriculture shall continue to provide progress reports at five year intervals while these rules are in effect unless the Department receives applications for multipurpose reservoir permits for the full quantity of reserved water.~~

(10) Effective date of rules

~~(a) If the Department has not received applications for multipurpose reservoir permits for the full quantity of water reserved by January 7, 2017,~~ OAR 690-511-0110 shall ~~automatically~~ be ~~repealed on~~effective until January 7, 20~~17~~37, unless extended by further rulemaking of the Water Resources Commission.

(b) The expiration of these reservation rules shall not affect pending applications that have been received and deemed complete and not defective by the Water Resources Department pursuant to ORS 537.150(2), prior to the expiration date of the rules.

Stat. Auth.: ORS 536 & ORS 537
Stats. Implemented: ORS 536.310, ORS 537.249, ORS 537.356 & ORS 537.358
Hist.: WRD 2-1997, f. & cert. ef. 2-25-97

690-511-0110

Owyhee Reservations

Sixty thousand (60,000) acre-feet of unappropriated water of the Owyhee River and tributaries are reserved. The water is reserved for storage in multipurpose reservoirs to be constructed in the future. The priority date of the reservations is November 6, 1992.

Stat. Auth.: ORS 537
Stats. Implemented: ORS 537.249 & ORS 537.356
Hist.: WRD 2-1997, f. & cert. ef. 2-25-97

Rulemaking for Grande Ronde Basin Program Oregon Administrative Rule 690-508
Rules Advisory Committee Roster
May 24, 2016

Name	Affiliation
Margaret Matter	Oregon Department of Agriculture
Scott Hartell	Union County Planning Director/ Farmer
Jeff Oveson	Grande Ronde Model Watershed
Jed Hassinger	Oregon Farm Bureau/Farmer
Smita Mehta	Department of Environmental Quality
Norm Cimon	Oregon Rural Action
Tim Bailey	Oregon Department of Fish and Wildlife
Fred Wallender	Commissioner Union County SWCD/ Farmer
Max Nilsson	Nilsson Farming Inc.
Phil Hassinger	Hassinger Farms LLC/ Farm Bureau Water Committee
STAFF	
Brenda Bateman	Oregon Water Resources Department
Machelle Bamberger	Oregon Water Resources Department

Rulemaking for Malheur Basin Program Oregon Administrative Rule 690-510
Rules Advisory Committee Roster
May 25, 2016

Name	Affiliation
Dan Fulwyler	Vale Oregon Irrigation District
Margaret Matter	Oregon Department of Agriculture
April Snell	Oregon Water Resources Congress
Alvin Scott	Malheur County Planning Director
Kelly Weideman	Malheur Watershed Council/ Irrigator
Gary Faw	Malheur Soil and Water District
Smita Mehta	Department of Environmental Quality
Harvey Manser	Owyhee Irrigation District
Norm Cimon	Oregon Rural Action
Danette Faucera	Oregon Department of Fish and Wildlife
Charlie Barlow	Oregon Farm Bureau/Barlow Farms
Corey Maag	Board of Director Vale ID/Y-1 Farms Inc.
Jay Chamberlain	Owyhee Irrigation District
Dennis Myhrum	Oregon Farm Bureau
John Eells	South Board of Control
Ben Ramirez	Oregon Department of Fish and Wildlife
STAFF	
Brenda Bateman	Oregon Water Resources Department
Machelle Bamberger	Oregon Water Resources Department
Ron Jacobs	Oregon Water Resources Department

Rulemaking for Owyhee Basin Program Oregon Administrative Rule 690-511
Rules Advisory Committee Roster
May 26, 2016

Name	Affiliation
Jay Chamberlin	Owyhee Irrigation District
Margaret Matter	Oregon Department of Agriculture
Alvin Scott	Malheur County- Planning Director
Vikki Price	Owyhee Watershed Council/ Farmer
Linda Rowe	Soil and Water Conservation District/ Farmer
Smita Mehta	Department of Environmental Quality
John Eells	South Board of Control
April Snell	Oregon Water Resource Congress
Charlie Barlow	Oregon Farm Bureau/ Barlow Farms
Harvey Manser	Owyhee Irrigation District
Greg Clark	MWH Global/ Grower
Eric White	Farmer/ Owyhee Irrigation District
Danette Faucera	Oregon Department of Fish and Wildlife
Dave Banks	Oregon Department of Fish and Wildlife
Corie Harlan	Oregon Natural Desert Association
Staff	
Brenda Bateman	Oregon Water Resources Department
Machelle Bamberger	Oregon Water Resources Department
Ron Jacobs	Oregon Water Resources Department

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UNION COUNTY
Planning Department

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JUL 28 2016

WATER RESOURCES DEPT

Hanley Jenkins Jr. Planning Director

1001 4th Street, Suite C La Grande, OR 97850 PHONE (541)963-1014 FAX (541)963-1039 TTY 1-800-735-1232

To: Oregon Water Resources Commission

RE: OAR 508 Grande Ronde Basin Rule Making Hearing, July 27, 2016, La Grande Oregon

From: Scott Hartell, Union County Planning Director, 1001 4th St. Suite C, La Grande, OR 97850

Union County supports the application to extend OAR Division 508—Grande Ronde Basin Program terms of reservations of unappropriated water from expiring on February 7, 2017 to expire on February 7, 2037.

Oregon's 2012 Integrated Water Resources Strategy identifies helping communities plan for their water futures through place-based integrated water resources planning. The Oregon Department of Water Resources was successful with the 2015 Legislature authorizing pilot program funding through place-based integrated water resources planning. Oregon Water Resources Department awarded $657,000, this year, to help communities address local water challenges through collaborative water planning. In 2016 Union County Commissioner Mark Davidson was instrumental in obtaining $197,000 in grant funding from the Oregon Water Resources Department's pilot program for place-based integrated water resources planning to conduct a study and identify potentially beneficial water related projects in the Upper Grande Ronde River Watershed.

To not extend the terms of reservations of unappropriated water for the Grande Ronde Basin would be detrimental to the work and efforts of the Oregon Water Resource Department staff for place-based integrated water planning from 2012 to today; detrimental to the 2015 Legislature in authorizing pilot program funding to the Oregon Department of Water Resources for place-based integrated water planning; and detrimental to Union County, our citizens and our economy for not extending these reservations for Union County to conduct our study and to identify beneficial projects relevant to these water reservations. Please extend the terms of reservations of unappropriated water from expiring on February 7, 2017 to expire on February 7, 2037.

Respectfully,

Scott Hartell

Scott Hartell,
Union County Planning Director

Oregon Water Resources Congress

July 26, 2016

Diana Enright
Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, Oregon 97301-1271
diana.m.enright@wrd.state.or.us

Re: Comments on Division 508 Rulemaking – Grande Ronde Basin Program

Chair Roberts, Director Byler, and Members of the Commission,

Thank you for the opportunity to comment on the changes to the Division 508 rules to extend the water reservations in the Grande Ronde. This letter is submitted jointly on behalf of the Oregon Farm Bureau (OFB), the Hood River County Farm Bureau, the Union County Farm Bureau, and the Oregon Water Resources Congress (OWRC) to express strong support the extensions of the water reservations in the Grande Ronde, and to urge the Water Resources Commission (Commission) to adopt the Division 508 rules with the minor change outlined below.

Introduction to Agricultural Organizations

By way of background, OFB is a voluntary, grassroots, nonprofit organization representing Oregon's farmers and ranchers in the public and policymaking arenas. As Oregon's largest general farm organization, its primary goal is to promote educational improvement, economic opportunity, and social advancement for its members and the farming, ranching, and natural resources industry as a whole. Today, OFB represents over 7,000 member families professionally engaged in the industry and has a total membership of over 60,000 Oregon families. Union County Farm Bureau is the voice of farmers and ranchers in Union County.

OWRC is a nonprofit association representing irrigation districts and other agricultural water suppliers across Oregon, delivering water to 1/3 of all irrigated land in the state.

The availability of water for future economic needs, including agriculture, has long been at the forefront of our members' thoughts. With long-term projections of drought, the need to ensure a reliable water supply to help feed our growing nation and growing world has never been more critical. With a total value of over $4.5 billion in annual farm gate sales, Oregon agriculture is the state's second largest industry sector. Oregon agriculture is also among the nation's most diverse sectors, with over 220 different commercial commodities grown in the state. About 80% of Oregon's agricultural production leaves the state, and about 40% is exported internationally. Roughly 12% of all jobs in Oregon are directly or indirectly connected to farming and ranching. Agriculture represents a vital part of Oregon's economy, and it is critically important that we

ensure long-term availability of water so Oregon's second largest industry sector can continue producing food and fiber.

Background on Grande Ronde Water Reservations

In 1987, the Oregon legislature authorized the Commission to reserve water for future economic development. The creation of water reservations was part of the same legislation allowing for the establishment of instream water rights. *See* ORS 537.356-537.358. Reservations of water for economic development were intended to be a corollary to instream water rights, and were designed to ensure that water was reserved for future growth when permanent instream water rights were created. The statute allows for any local government, local watershed council, or state agency to request that the Commission reserve unappropriated water for multipurpose storage for future economic development. In this case, the reservations for the Grande Ronde were created by the Oregon Department of Agriculture to support future economic development in the region.

In recent years, the availability of water for future economic development has been a great concern to the agricultural community, and one which has occupied the thoughts of many, particularly in Eastern Oregon. For the last several years, the local community has been working diligently to identify and develop additional opportunities for storage and water supply development. The applications provide great detail on the efforts undertaken by the community to identify opportunities for water supply development and the longstanding need for the development of additional water supply in the area. The accounts from our members in the Grande Ronde echo the need outlined in the application, and evidence the continuing need for this reserved water in the basin. We are hopeful that Oregon's recent investment water supply development projects will help make development of new water supply a possibility in this state. However, there are still significant economic and environmental hurdles to water supply development that necessitate planning for water supply projects on a multi-year timeframe.

The Commission Should Adopt the Division 508 Rules to Extend the Grande Ronde Reservation with the Minor Change Outlined Below

We urge the Commission to adopt the Division 508 rules and extend the Grande Ronde Reservation with the minor change outlined below. The applications submitted by the Oregon Department of Agriculture provide great detail on the extensive efforts undertaken to develop additional water supply in the basin, the continued need for the reservation, and the importance of the reservation to the local community. Since the reservation was created, several local entities have undertaken studies in the basin to evaluate potential water storage and flow augmentation opportunities. In developing the reservation, the community will ensure that the reserved water will be developed and available for future use, benefiting the local economic base and providing benefits to the local community, fish and wildlife, and other local values. The local community needs this water for future economic development. In the last twenty years, local farmers and ranchers have seen reductions in the amount of water available for irrigation, while their need for reliable irrigation sources has only increased. With projected increases in temperatures in the next several years, combined with increased demand on water resources, the need for additional water for farming and ranching will only continue to grow.

Prior to adopting the reservations, we have one small change we would like to see the Department make to the rule language.

The Department should specify that the Department need only impose conditions to ensure no injury to senior water rights when necessary to protect those rights. OAR 690-508-0100(8). In other words, the Department does not need to impose conditions to protect against injury when injury will not occur. We recommend the following language to capture these changes.

> OAR 690-508-0100(8). The Department shall determine, and impose as a condition, an appropriate storage season, and shall include other conditions **where necessary** to ensure no injury to senior water rights and to protect instream values.

We urge you to to adopted the Division 508 rules with the change outlined above and extend the water reservations. Thank you again for the opportunity to comment on the Division 508 rules.

Sincerely,

Mary Anne Nash
Oregon Farm Bureau Federation
maryanne@oregonfb.org
(541) 740-4062

April Snell
Oregon Water Resources Congress
aprils@owrc.org
(503) 363-0121

WATERWATCH

PROTECTING NATURAL FLOWS IN OREGON RIVERS

July 28, 2016

Oregon Water Resources Department, attention: Rules Coordinator
Oregon Water Resources Commission
725 Summer Street NE, Suite A
Salem, Or 97301

Re: Comments, Grande Ronde River Reservation for Future Economic Development, Division 508 rules

Dear Rules Coordinator and WRC Commissioners,

Thank you for the opportunity to comment on the proposed twenty year extension of the Grande Ronde River Reservation for Future Economic Development. WaterWatch does not support the extension of the reservations with a 1992 priority date. No projects were built under the existing reservation and the Department of Agriculture failed to meet the standards of the rules. Moreover, carrying forward a 1992 priority date for yet undeveloped projects puts instream values at serious risk.

Please consider the following comments:

(1) Proposed changes to specific rule language:

Classifications: OAR 690-508-0010(1), OR 690-508-0020(1), OAR 690-508-0030(1), OAR 690-508-0040(1), OAR 690-508-0050(1): "scenic value" and "pollution abatement" should be added as a classified use to all of the classification provisions of the Grande Ronde River basin plan. To the extent the state might designate new scenic waterways and/or the Department of Parks and Recreation and/or DEQ might want to apply for an instream water right, scenic values and pollution abatement should be a classified use. We did not object to the addition of the terms commercial or agriculture, but would if the WRD chose not to include the full spectrum of instream values allowed under state law.

OAR 690-508-0100(5): We support the additional language with regards to "ORS Chapter 537" and "any other applicable rules". Processing of applications for storage projects that seek to utilize reserved water are still subject to all WRD permitting statutes and rules, in addition to those specific to the reservation itself, including, specifically, Division 33. The proposed language helps to clarify this.

OAR 690-508-0100(6) (new): We support the additional language pertaining to site specific water availability analysis. However, we object to the proposed deletion of the language

"and subject to the provisions of section (7)." This proposed revision undercuts a current provision which subjects water to be allocated to the public interest provisions in subsection (7). While I appreciate the WRD is likely trying to be consistent with past reservation extensions of recent months (Hood and Powder), the fact of the matter is the earlier reservations did not contain this language in the first instance, so it was not proposed to be cut in those rules (or we would have mentioned there).

As the WRD is aware, the original reservations evolved over time to incorporate needed changes/clarifications. Because the Powder and Hood reservations did not contain this language in the first instance, we surmise it was added to the Grande Ronde and other later reservations to clarify that the reserved water was in fact subject to findings in sub (7). To delete this language will remove a substantive requirement of the current rules. If the WRD wanted consistency, it should have worked backwards from the most modern rules to ensure all past rules had the most up to date WRC decisions on necessary standards. The WRD should not be removing standards from later reservations that were adopted by the original Commission to address any ambiguities as to the force and effect of sub (7) on water available under a reservation. Again, we oppose the removal of the language "and subject to the provisions of section (7)".

OAR 690-508-0100(6) old: The draft rules propose to delete existing section 6 which states:

> The determination of water availability under section (5) shall not substitute for consideration during the public interest review of site specific information related to the capacity of the resource to support the proposed project, as required under OAR Chapter 690.310.

We request that this section be retained as the proposed amendments diminish protections under the existing reservation rules, in addition to the new language in Section new 6. "Capacity of Resources" is defined more broadly that just water availability. Division 400 defines the term as "the ability of a surface or groundwater resource to sustain a balance of public and private uses without causing over-appropriation or otherwise significantly impairing the function or character of the resource." Over-appropriation is also defined in the Division 400 rules, and is the standard used in the State's water availability determination (80% for surface, 50% for storage). See OAR 690-400-010(11)(a). The Division 300 rules then define "water is available" to the more narrow "over-appropriation" definition. So again, by requiring something be within the capacity of the resource, the current rules not only require a traditional water availability determination to protect against overappropriation, but they also require a review of any factor that would significantly impair the function or character of the resource. The original section 6 should be retained in addition to the newly proposed language on water availability.

OAR 690-508-0100(7): ORS Chapter 537 should be added here. It is proposed in the draft Owyhee and Malheur rules, thus we assume its omission was an oversight. We support the addition of "applicable rules" as , this along with ORS Chapter 537, clarifies the law, which is that in reviewing applications for reservoirs under a reservation the WRD must apply all statutes and rules that apply to other reservoir applications.

OAR 690-510-0100(7)(a) Purpose of the reservation and agency consultation: We would suggest that this section be amended so that the "purpose of the reservation" is clearly tied to OAR 690-504-0100(1). We would also ask that the WRD put into the staff report, for the record, the explanation of the adoption of this language in the first instance in 1996. The WRC, in adopting reservations in 1996, was very clear that DOA does not get veto power over any request. See e.g., WRD Staff Report to the Commission, 2//7/1997, Request for Adoption of Grande Ronde, Malheur and Owyhee Basin Program Amendments to Reserve Water For Future Economic Development, response to public comments. Instead, WRD consults with DOA, along with ODFW and DEQ, and other relevant state agencies for consistency with the reservation purpose. The primary purpose of the reservation is future economic development, both instream and out-of-stream, as noted in section 0100(1). This should be clear in the rules.

OAR 690-508-0100(9) Effective Date of the Rules: The original WRC approval was very purposeful in stating that if the water reservation were not put to use with twenty years, it would expire. It could be extended, but absent that, it would expire. Instead of simply extending the original language in this section, the WRD is proposing to change this automatic expiration after twenty years to state that the rules are "effective until January 7, 2037, unless the effective date has been extended by further rulemaking of the Commission." The draft rule language contains no directive that the extension take place prior to January 7, 2037.

By taking out the automatic expiration and not directing an extension request before the ending of the "effective date", one plausible consequence is that the effective date could lapse but the Commission could come in at any time in the future (beyond twenty years) to extend. In other words, as proposed, it would simply mean the rules are still in existence but not necessarily in effect. The rules are not repealed. Under the proposed construct, the "effective date" could come and go and then ten, twenty, thirty years later the Commission would still be allowed to extend, and the reservation would still enjoy the 1992 priority date. While likely not the WRD's intent, that is what this language would allow. To be consistent with the purpose of this reservation rulemaking, which is to extend the date, the only thing that should change in this subsection is the date—February 7, 2017 should change to February 7, 2037. The remainder of this subsection should remain unchanged in whole.

(2) **Consistency with the Division 79 rules governing extensions:** The newly adopted Division 79 rules, effective April 19, 2016, are clear that the WRC cannot extend the reservation if the reservation is inconsistent with the rules of the Commission. OAR 690-0790160(6).

The Department of Agriculture failed to provide progress reports to the WRD as required by rule. Inclusion of progress reports was a much discussed topic in the adoption of the original reservations, the result being that the 1996 Commissioners deliberately included the following language in the rules to ensure periodic review of the reservation throughout its original 20 year life:

> **OAR 690-508-0100(9) Progress Reports:**
>
> If the Department has not received applications for multipurpose reservoir permits for the full quantity of reserved water five years after the adoption of these rules by February 7, 2002, the Department of Agriculture shall provide the Commission with a progress report on the

development of the reservations. The report shall provide information on the continued need for the reservations and the quantities of water reserved. The Department of Agriculture shall continue to provide progress reports at five year intervals while these rules are in effect unless the Department receives applications for multipurpose reservoir permits for the full quantity of reserved water.

Non-compliance with the governing rules is a fatal flaw in extending the reservation. The newly adopted Division 79 rules are clear that the WRC cannot extend the reservation if the reservation is inconsistent with the rules of the Commission. OAR 690-079-0160(6). The existing Grande Ronde River Reservation is an existing rule of the Commission. The Grande Ronde River Reservation rules required progress reports. DOA failed to provide them. Thus, the reservation is not in compliance with the rules of the Commission. This cannot be cured by adopting the new reservation language.

Conclusion: WaterWatch would urge the Commission to reject the reservation.

Sincerely,

Kimberley Priestley
Sr. Policy Analyst

WATERWATCH

PROTECTING NATURAL FLOWS IN OREGON RIVERS

July 28, 2016

Oregon Water Resources Department, attention: Rules Coordinator
Oregon Water Resources Commission
725 Summer Street NE, Suite A
Salem, Or 97301

Re: Comments, Malheur River Reservation for Future Economic Development, Division 510 rules

Dear Rules Coordinator and WRC Commissioners,

Thank you for the opportunity to comment on the proposed twenty year extension of the Malheur River Reservation for Future Economic Development. WaterWatch does not support the extension of the reservations with a 1992 priority date. No projects were built under the existing reservation and the Department of Agriculture failed to meet the standards of the rules. Moreover, carrying forward a 1992 priority date for yet undeveloped projects puts instream values at serious risk.

Please consider the following comments:

(1) Proposed changes to specific rule language:

Classifications: As we understand it, the WRD is proposing to strike language from the Malheur-Owyhee reservations (Division 690-510) with regards to Owyhee and instead have all language related to the Owyhee contained in the Division 511 rules and all language specific to the Malheur contained in the 510 rules. We do not object to this, however, key provisions from the Malheur-Owyhee rules that applied to both basins appear to be missing from the Owyhee rules[1], namely:

- OAR 690-510-0100(1): the Malheur-Owyhee basin classifications found in the original OAR 690-510-0000(1) included "pollution abatement" as a classified use. This is not found in the proposed Malheur classifications. We would request that it be inserted. Pollution abatement is an important beneficial use that should be explicitly allowed as a classified use.

OAR 690-510-0100(1): "scenic value" should be added as a classified use. To the extent the state might designate new scenic waterways and/or the Department of Parks and

[1] Note: the Malheur-Owyhee maps originally included map 11. This now is part of the Owyhee (added), so we are assuming the land area covered is the same.

Recreation might want to apply for an instream water right, scenic values should be a classified use. We did not object to the addition of the terms commercial or agriculture, but would if the WRD chose not to include the full spectrum of instream values allowed under state law.

OAR 690-510-0100(5): We support the additional language with regards to "ORS Chapter 537" and "any other applicable rules". Processing of applications for storage projects that seek to utilize reserved water are still subject to all WRD permitting statutes and rules, in addition to those specific to the reservation itself, including, specifically, Division 33. The proposed language helps to clarify this.

OAR 690-510-0100(6) (new): We support the additional language pertaining to site specific water availability analysis. However, we object to the proposed deletion of the language "and subject to the provisions of section (7)." This proposed revision undercuts a current provision which subjects water to be allocated to the public interest provisions in subsection (7). While I appreciate the WRD is likely trying to be consistent with past reservation extensions of recent months (Hood and Powder), the fact of the matter is the earlier reservations did not contain this language in the first instance, so it was not proposed to be cut in those rules (or we would have mentioned there).

As the WRD is aware, the original reservations evolved over time to incorporate needed changes/clarifications. Because the Powder and Hood reservations did not contain this language in the first instance, we surmise it was added to the Owyhee and other later reservations to clarify that the water was in fact subject to findings in sub (7). To delete this language will remove a substantive requirement of the current rules. If the WRD wanted consistency, it should have worked backwards from the most modern rules to ensure all past rules had the most up to date WRC decisions on necessary standards. Again, we oppose the removal of the language "and subject to the provisions of section (7)".

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> The determination of water availability under section (5) shall not substitute for consideration during the public interest review of site specific information related to the capacity of the resource to support the proposed project, as required under OAR Chapter 690.310.

We request that this section be retained as the proposed amendments diminish protections under the existing reservation rules (in addition to the new language in section 6). "Capacity of Resources" is defined more broadly that just water availability. Division 400 defines the term as "the ability of a surface or groundwater resource to sustain a balance of public and private uses without causing over-appropriation or otherwise significantly impairing the function or character of the resource." Over-appropriation is also defined in the Division 400 rules, and is the standard used in the State's water availability determination (80% for surface, 50% for storage). See OAR 690-400-010(11)(a). The Division 300 rules then define "water is available" to the more narrow "over-appropriation" definition. So again, by requiring something be within the capacity of the resource, the current rules not only require a traditional water availability determination to

protect against overappropriation, but they also require a review of any factor that would significantly impair the function or character of the resource. The original section 6 should be retained.

OAR 690-510-0100(7): We support the addition of ORS Chapter 537 and other applicable rules as it clarifies the law, which is that in reviewing applications for reservoirs under a reservation the WRD must apply all statutes and rules that apply to other reservoir applications.

OAR 690-510-0100(7)(a) Purpose of the reservation and agency consultation: We would suggest that this section be amended so that the "purpose of the reservation" is clearly tied to OAR 690-504-0100(1). We would also ask that the WRD put into the staff report, for the record, the explanation of the adoption of this language in the first instance in 1996. The WRC, in adopting reservations in 1996, was very clear that DOA does not get veto power over any request. See e.g., WRD Staff Report to the Commission, 2//7/1997, Request for Adoption of Grande Ronde, Malheur and Owyhee Basin Program Amendments to Reserve Water For Future Economic Development, response to public comments. Instead, WRD consults with DOA, along with ODFW and DEQ, and other relevant state agencies for consistency with the reservation purpose. The primary purpose of the reservation is future economic development, both instream and out-of-stream, as noted in section 0100(1). This should be clear in the rules.

OAR 690-510-0100(9) Effective Date of the Rules: The original WRC approval was very purposeful in stating that if the water reservation were not put to use with twenty years, it would expire. It could be extended, but absent that, it would expire. Instead of simply extending the original language in this section, the WRD is proposing to change this automatic expiration after twenty years to state that the rules are "effective until January 7, 2037, unless the effective date has been extended by further rulemaking of the Commission." The draft rule language contains no directive that the extension take place prior to January 7, 2037.

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(2) **Consistency with the Division 79 rules governing extensions:** The newly adopted Division 79 rules, effective April 19, 2016, are clear that the WRC cannot extend the reservation if the reservation is inconsistent with the rules of the Commission. OAR 690-0790160(6).

The Department of Agriculture failed to provide progress reports to the WRD as required by rule. Inclusion of progress reports was a much discussed topic in the adoption of the original

reservations, the result being that the 1996 Commissioners deliberately included the following language in the rules to ensure periodic review of the reservation throughout its original 20 year life:

> **OAR 690-510-0100(9) Progress Reports:**
>
> If the Department has not received applications for multipurpose reservoir permits for the full quantity of reserved water five years after the adoption of these rules by January 7, 2002, the Department of Agriculture shall provide the Commission with a progress report on the development of the reservations. The report shall provide information on the continued need for the reservations and the quantities of water reserved. The Department of Agriculture shall continue to provide progress reports at five year intervals while these rules are in effect unless the Department receives applications for multipurpose reservoir permits for the full quantity of reserved water.

Non-compliance with the governing rules is a fatal flaw in extending the reservation. The newly adopted Division 79 rules are clear that the WRC cannot extend the reservation if the reservation is inconsistent with the rules of the Commission. OAR 690-079-0160(6). The existing Malheur River Reservation is an existing rule of the Commission. The Malheur River Reservation rules required progress reports. DOA failed to provide them. Thus, the reservation is not in compliance with the rules of the Commission. This cannot be cured by adopting the new reservation language.

Conclusion: WaterWatch would urge the Commission to reject the reservation.

Sincerely,

K. Priestley

Kimberley Priestley
Sr. Policy Analyst

Oregon Water Resources Congress

July 26, 2016

Diana Enright
Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, Oregon 97301-1271
diana.m.enright@wrd.state.or.us

Re: Comments on Division 510 Rulemaking – Malhuer Basin Program

Chair Roberts, Director Byler, and Members of the Commission,

Thank you for the opportunity to comment on the changes to the Division 510 rules to extend the water reservations in the Malhuer. This letter is submitted jointly on behalf of the Oregon Farm Bureau (OFB), the Hood River County Farm Bureau, the Malhuer County Farm Bureau, and the Oregon Water Resources Congress (OWRC) to express strong support the extensions of the water reservations in the Malhuer, and to urge the Water Resources Commission (Commission) to adopt the Division 510 rules with the minor change outlined below.

Introduction to Agricultural Organizations

By way of background, OFB is a voluntary, grassroots, nonprofit organization representing Oregon's farmers and ranchers in the public and policymaking arenas. As Oregon's largest general farm organization, its primary goal is to promote educational improvement, economic opportunity, and social advancement for its members and the farming, ranching, and natural resources industry as a whole. Today, OFB represents over 7,000 member families professionally engaged in the industry and has a total membership of over 60,000 Oregon families. Malhuer County Farm Bureau is the voice of farmers and ranchers in Malhuer County.

OWRC is a nonprofit association representing irrigation districts and other agricultural water suppliers across Oregon, delivering water to 1/3 of all irrigated land in the state.

The availability of water for future economic needs, including agriculture, has long been at the forefront of our members' thoughts. With long-term projections of drought, the need to ensure a reliable water supply to help feed our growing nation and growing world has never been more critical. With a total value of over $4.5 billion in annual farm gate sales, Oregon agriculture is the state's second largest industry sector. Oregon agriculture is also among the nation's most diverse sectors, with over 220 different commercial commodities grown in the state. About 80% of Oregon's agricultural production leaves the state, and about 40% is exported internationally. Roughly 12% of all jobs in Oregon are directly or indirectly connected to farming and ranching. Agriculture represents a vital part of Oregon's economy, and it is critically important that we

ensure long-term availability of water so Oregon's second largest industry sector can continue producing food and fiber.

Background on Malhuer Water Reservations

In 1987, the Oregon legislature authorized the Commission to reserve water for future economic development. The creation of water reservations was part of the same legislation allowing for the establishment of instream water rights. *See* ORS 537.356-537.358. Reservations of water for economic development were intended to be a corollary to instream water rights, and were designed to ensure that water was reserved for future growth when permanent instream water rights were created. The statute allows for any local government, local watershed council, or state agency to request that the Commission reserve unappropriated water for multipurpose storage for future economic development. In this case, the reservations for the Malhuer were created by the Oregon Department of Agriculture to support future economic development in the region.

In recent years, the availability of water for future economic development has been a great concern to the agricultural community, and one which has occupied the thoughts of many, particularly in Eastern Oregon. For the last several years, the local community has been working diligently to identify and develop additional opportunities for storage and water supply development. The applications provide great detail on the efforts undertaken by the community to identify opportunities for water supply development and the longstanding need for the development of additional water supply in the area. The accounts from our members in the Malhuer echo the need outlined in the application, and evidence the continuing need for this reserved water in the basin. We are hopeful that Oregon's recent investment water supply development projects will help make development of new water supply a possibility in this state. However, there are still significant economic and environmental hurdles to water supply development that necessitate planning for water supply projects on a multi-year timeframe.

The Commission Should Adopt the Division 510 Rules to Extend the Malhuer Reservation with the Minor Change Outlined Below

We urge the Commission to adopt the Division 510 rules and extend the Malhuer Reservation with the minor change outlined below. The applications submitted by the Oregon Department of Agriculture provide great detail on the extensive efforts undertaken to develop additional water supply in the basin, the continued need for the reservation, and the importance of the reservation to the local community. Since the reservation was created, several local entities have undertaken studies in the basin to evaluate potential water storage and flow augmentation opportunities. In developing the reservation, the community will ensure that the reserved water will be developed and available for future use, benefiting the local economic base and providing benefits to the local community, fish and wildlife, and other local values. The local community needs this water for future economic development. In the last twenty years, local farmers and ranchers have seen reductions in the amount of water available for irrigation, while their need for reliable irrigation sources has only increased. With projected increases in temperatures in the next several years, combined with increased demand on water resources, the need for additional water for farming and ranching will only continue to grow.

Prior to adopting the reservations, we have one small change we would like to see the Department make to the rule language.

The Department should specify that the Department need only impose conditions to ensure not injury to senior water rights when necessary to protect those rights. OAR 690-510-0100(8). In other words, the Department does not need to impose conditions to protect against injury when injury will not occur. We recommend the following language to capture these changes.

> OAR 690-510-0100(8). The Department shall determine, and impose as a condition, an appropriate storage season, and shall include other conditions **where necessary** to ensure no injury to senior water rights and to protect instream values.

We urge you to to adopted the Division 510 rules with the change outlined above and extend the water reservations. Thank you again for the opportunity to comment on the Division 510 rules.

Sincerely,

Mary Anne Nash
Oregon Farm Bureau Federation
maryanne@oregonfb.org
(541) 740-4062

April Snell
Oregon Water Resources Congress
aprils@owrc.org
(503) 363-0121

Oregon Water Resources Congress

July 26, 2016

Diana Enright
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Salem, Oregon 97301-1271
diana.m.enright@wrd.state.or.us

Re: Comments on Division 511 Rulemaking – Owyhee Basin Program

Chair Roberts, Director Byler, and Members of the Commission,

Thank you for the opportunity to comment on the changes to the Division 511 rules to extend the water reservations in the Owyhee. This letter is submitted jointly on behalf of the Oregon Farm Bureau (OFB), the Hood River County Farm Bureau, the Malhuer County Farm Bureau, and the Oregon Water Resources Congress (OWRC) to express strong support the extensions of the water reservations in the Owyhee, and to urge the Water Resources Commission (Commission) to adopt the Division 511 rules with the minor change outlined below.

Introduction to Agricultural Organizations

By way of background, OFB is a voluntary, grassroots, nonprofit organization representing Oregon's farmers and ranchers in the public and policymaking arenas. As Oregon's largest general farm organization, its primary goal is to promote educational improvement, economic opportunity, and social advancement for its members and the farming, ranching, and natural resources industry as a whole. Today, OFB represents over 7,000 member families professionally engaged in the industry and has a total membership of over 60,000 Oregon families. Malhuer County Farm Bureau is the voice of farmers and ranchers in Malhuer County.

OWRC is a nonprofit association representing irrigation districts and other agricultural water suppliers across Oregon, delivering water to 1/3 of all irrigated land in the state.

The availability of water for future economic needs, including agriculture, has long been at the forefront of our members' thoughts. With long-term projections of drought, the need to ensure a reliable water supply to help feed our growing nation and growing world has never been more critical. With a total value of over $4.5 billion in annual farm gate sales, Oregon agriculture is the state's second largest industry sector. Oregon agriculture is also among the nation's most diverse sectors, with over 220 different commercial commodities grown in the state. About 80% of Oregon's agricultural production leaves the state, and about 40% is exported internationally. Roughly 12% of all jobs in Oregon are directly or indirectly connected to farming and ranching. Agriculture represents a vital part of Oregon's economy, and it is critically important that we

ensure long-term availability of water so Oregon's second largest industry sector can continue producing food and fiber.

Background on Owyhee Water Reservations

In 1987, the Oregon legislature authorized the Commission to reserve water for future economic development. The creation of water reservations was part of the same legislation allowing for the establishment of instream water rights. *See* ORS 537.356-537.358. Reservations of water for economic development were intended to be a corollary to instream water rights, and were designed to ensure that water was reserved for future growth when permanent instream water rights were created. The statute allows for any local government, local watershed council, or state agency to request that the Commission reserve unappropriated water for multipurpose storage for future economic development. In this case, the reservations for the Owyhee were created by the Oregon Department of Agriculture to support future economic development in the region.

In recent years, the availability of water for future economic development has been a great concern to the agricultural community, and one which has occupied the thoughts of many, particularly in Eastern Oregon. For the last several years, the local community has been working diligently to identify and develop additional opportunities for storage and water supply development. The applications provide great detail on the efforts undertaken by the community to identify opportunities for water supply development and the longstanding need for the development of additional water supply in the area. The accounts from our members in the Owyhee echo the need outlined in the application, and evidence the continuing need for this reserved water in the basin. We are hopeful that Oregon's recent investment water supply development projects will help make development of new water supply a possibility in this state. However, there are still significant economic and environmental hurdles to water supply development that necessitate planning for water supply projects on a multi-year timeframe.

The Commission Should Adopt the Division 511 Rules to Extend the Owyhee Reservation with the Minor Change Outlined Below

We urge the Commission to adopt the Division 511 rules and extend the Owyhee Reservation with the minor change outlined below. The applications submitted by the Oregon Department of Agriculture provide great detail on the extensive efforts undertaken to develop additional water supply in the basin, the continued need for the reservation, and the importance of the reservation to the local community. Since the reservation was created, several local entities have undertaken studies in the basin to evaluate potential water storage and flow augmentation opportunities. In developing the reservation, the community will ensure that the reserved water will be developed and available for future use, benefiting the local economic base and providing benefits to the local community, fish and wildlife, and other local values. The local community needs this water for future economic development. In the last twenty years, local farmers and ranchers have seen reductions in the amount of water available for irrigation, while their need for reliable irrigation sources has only increased. With projected increases in temperatures in the next several years, combined with increased demand on water resources, the need for additional water for farming and ranching will only continue to grow.

Prior to adopting the reservations, we have one small change we would like to see the Department make to the rule language.

The Department should specify that the Department need only impose conditions to ensure not injury to senior water rights when necessary to protect those rights. OAR 690-511-0100(8). In other words, the Department does not need to impose conditions to protect against injury when injury will not occur. We recommend the following language to capture these changes.

> OAR 690-511-0100(8). The Department shall determine, and impose as a condition, an appropriate storage season, and shall include other conditions **where necessary** to ensure no injury to senior water rights and to protect instream values.

We urge you to to adopted the Division 511 rules with the change outlined above and extend the water reservations. Thank you again for the opportunity to comment on the Division 511 rules.

Sincerely,

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April Snell
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WATERWATCH

PROTECTING NATURAL FLOWS IN OREGON RIVERS

July 28, 2016

Oregon Water Resources Department, attention: Rules Coordinator
Oregon Water Resources Commission
725 Summer Street NE, Suite A
Salem, Or 97301

Re: Comments, Owyhee River Reservation for Future Economic Development, Division 511 rules

Dear Rules Coordinator and WRC Commissioners,

Thank you for the opportunity to comment on the proposed twenty year extension of the Owyhee River Reservation for Future Economic Development. WaterWatch does not support the extension of the reservations with a 1992 priority date. No projects were built under the existing reservation and the Department of Agriculture failed to meet the standards of the rules. Moreover, carrying forward a 1992 priority date for yet undeveloped projects puts instream values at serious risk.

Please consider the following comments:

(1) Proposed changes to specific rule language:

Classifications: As we understand it, the WRD is proposing to strike language from the Malheur-Owyhee reservations (Division 690-510) with regards to Owyhee and instead have all language related to the Owyhee contained in the Division 511 rules. We do not object to this, however, key provisions from the Malheur-Owyhee rules that applied to both basins appear to be missing from the Owyhee rules[1], namely:

- OAR 690-511-0100(1): the Malheur-Owyhee basin classifications found in the original OAR 690-510-0000(1) included "pollution abatement" as a classified use. This is not found in the proposed Owyhee classifications (nor in the Malheur classifications). We would request that it be inserted in both rules, so for the Division 511 rules that would be under this section.

- OAR 690-510-0000(3) for the Malheur-Owyhee included the following provision that is now not included in the proposed Division 511 rules:

[1] Note: the Malheur-Owyhee maps originally included map 11. This now is part of the Owyhee (added), so we are assuming the land area covered is the same.

> Structures or works for the utilization of the waters in accordance with the aforementioned classifications are also declared t be prejudicial to the public interest unless planned, constructed, and operated in conformity with applicable provisions of ORS 536.310 and any such structures or words are further declared to be prejudicial to the public interest which do not give cognizance to the multiple-purpose concept.

Given this is a substantive standard, we would request that this be added into the Owyhee 511 rules so that the existing classifications are not weakened by what is simply supposed to be a reservation extension.

OAR 690-511-0100(1): "scenic value" should be added as a classified use. To the extend the state sets state scenic waterway flows and/or Oregon Department of Parks might want to apply for instream water rights to protect scenic values, this should be included here.

OAR 690-511-0100(5): We support the additional language with regards to "ORS Chapter 537" and "any other applicable rules". Processing of applications for storage projects that seek to utilize reserved water are still subject to all WRD permitting statutes and rules, in addition to those specific to the reservation itself, including, specifically, Division 33. The proposed language helps to clarify this.

OAR 690-511-0100(6) (new): We support the additional language pertaining to site specific water availability analysis. However, we object to the proposed deletion of the language "and subject to the provisions of section (7)." This proposed revision undercuts a current provision which subjects water to be allocated to the public interest provisions in subsection (7). While I appreciate the WRD is likely trying to be consistent with past reservation extensions of recent months (Hood and Powder), the fact of the matter is the earlier reservations did not contain this language in the first instance, so it was not proposed to be cut in those rules (or we would have mentioned there).

As the WRD is aware, the original reservations evolved over time to incorporate needed changes/clarifications. Because the Powder and Hood reservations did not contain this language in the first instance, we surmise it was added to the Owyhee and other later reservations to clarify that the water was in fact subject to findings in sub (7). To delete this language will remove a substantive requirement of the current rules. If the WRD wanted consistency, it should have worked backwards from the most modern rules to ensure all past rules had the most up to date WRC decisions on necessary standards. Again, we oppose the removal of the language "and subject to the provisions of section (7)".

OAR 690-511-0100(6) old: The draft rules propose to delete existing section 6 which states:

> The determination of water availability under section (5) shall not substitute for consideration during the public interest review of site specific information related to the capacity of the resource to support the proposed project, as required under OAR Chapter 690.310.

We request that this section be retained as the proposed amendments diminish protections under the existing reservation rules (in addition to the new language in sub 6). "Capacity of Resources" is defined more broadly that just water availability. Division 400 defines the term as "the ability of a surface or groundwater resource to sustain a balance of public and private uses without causing over-appropriation or otherwise significantly impairing the function or character of the resource." Over-appropriation is also defined in the Division 400 rules, and is the standard used in the State's water availability determination (80% for surface, 50% for storage). See OAR 690-400-010(11)(a). The Division 300 rules then define "water is available" to the more narrow "over-appropriation" definition. So again, by requiring something be within the capacity of the resource, the current rules not only require a traditional water availability determination to protect against overappropriation, but they also require a review of any factor that would significantly impair the function or character of the resource. The original section 6 should be retained.

OAR 690-511-0100(7): We support the addition of ORS Chapter 537 and other applicable rules as it clarifies the law, which is that in reviewing applications for reservoirs under a reservation the WRD must apply all statutes and rules that apply to other reservoir applications.

OAR 690-511-0100(7)(a) Purpose of the reservation and agency consultation: We would suggest that this section be amended so that the "purpose of the reservation" is clearly tied to OAR 690-504-0100(1). We would also ask that the WRD put into the staff report, for the record, the explanation of the adoption of this language in the first instance in 1996. The WRC, in adopting reservations in 1996, was very clear that DOA does not get veto power over any request. See e.g., WRD Staff Report to the Commission, 2//7/1997, Request for Adoption of Grande Rone, Malheur and Owyee Basin Program Amendments to Reserve Water For Future Economic Development, response to public comments. Instead, WRD consults with DOA, along with ODFW and DEQ, and other relevant state agencies for consistency with the reservation purpose. The primary purpose of the reservation is future economic development, both instream and out-of-stream, as noted in section 0100(1). This should be clear in the rules.

OAR 690-511-0100(10) Effective Date of the Rules: The original WRC approval was very purposeful in stating that if the water reservation were not put to use with twenty years, it would expire. It could be extended, but absent that, it would expire. Instead of simply extending the original language in this section, the WRD is proposing to change this automatic expiration after twenty years to state that the rules are "effective until January 7, 2037, unless the effective date has been extended by further rulemaking of the Commission." The draft rule language contains no directive that the extension take place prior to January 7, 2037.

By taking out the automatic expiration and not directing an extension request before the ending of the "effective date", one plausible consequence is that the effective date could lapse but the Commission could come in at any time in the future (beyond twenty years) to extend. In other words, as proposed, it would simply mean the rules are still in existence but not necessarily in effect. The rules are not repealed. Under the proposed construct, the "effective date" could come and go and then ten, twenty, thirty years later the Commission would still be allowed to extend, and the reservation would still enjoy the 1992 priority date. While likely not the WRD's intent, that is what this language would allow. To be consistent with the purpose of this

reservation rulemaking, which is to extend the date, the only thing that should change in this subsection is the date—January 7, 2017 should change to January 7,2037. The remainder of this subsection should remain unchanged in whole.

(2) **Consistency with the Division 79 rules governing extensions:** The newly adopted Division 79 rules, effective April 19, 2016, are clear that the WRC cannot extend the reservation if the reservation is inconsistent with the rules of the Commission. OAR 690-0790160(6).

The Department of Agriculture failed to provide progress reports to the WRD as required by rule. Inclusion of progress reports was a much discussed topic in the adoption of the original reservations, the result being that the 1996 Commissioners deliberately included the following language in the rules to ensure periodic review of the reservation throughout its original 20 year life:

> **OAR 690-511-0100(9) Progress Reports:**
>
> If the Department has not received applications for multipurpose reservoir permits for the full quantity of reserved water five years after the adoption of these rules by January 7, 2002, the Department of Agriculture shall provide the Commission with a progress report on the development of the reservations. The report shall provide information on the continued need for the reservations and the quantities of water reserved. The Department of Agriculture shall continue to provide progress reports at five year intervals while these rules are in effect unless the Department receives applications for multipurpose reservoir permits for the full quantity of reserved water.

Non-compliance with the governing rules is a fatal flaw in extending the reservation. The newly adopted Division 79 rules are clear that the WRC cannot extend the reservation if the reservation is inconsistent with the rules of the Commission. OAR 690-079-0160(6). The existing Owyhee River Reservation is an existing rule of the Commission. The Owyhee River Reservation rules required progress reports. DOA failed to provide them. Thus, the reservation is not in compliance with the rules of the Commission. This cannot be cured by adopting the new reservation language.

Conclusion: WaterWatch would urge the Commission to reject the reservation.

Sincerely,

K. Priestley

Kimberley Priestley
Sr. Policy Analyst

BAMBERGER Machelle A

From: ENRIGHT Diana M
Sent: Friday, July 29, 2016 9:41 AM
To: BAMBERGER Machelle A
Subject: Fwd: Extension of Owyhee Reservations and Rules Comment
Attachments: image003.jpg

FYI

Diana

Begin forwarded message:

From: Nicole Sullivan <nsullivanowc@qwestoffice.net>
Date: July 29, 2016 at 08:33:17 PDT
To: <diana.m.enright@wrd.state.or.us>
Subject: Extension of Owyhee Reservations and Rules Comment

Rules Coordinator, Diana Enright

On behalf of the Owyhee Watershed Council I would like to submit the following comments in regards to the Extension of the Owyhee Basin Water Reservations and rules.

Owyhee Watershed Council supports the application to extend the Owyhee Basin Water Reservations. Reservation extension allows Owyhee stakeholders time to further research the possibility of developing these reservations for future agricultural, economic, commercial, recreational, and wildlife beneficial uses within our local community. Below normal snow pack and variations to runoff have made significant economic impacts to our community over the past three years. Further development of these reservations would have positive impacts on all of the beneficial uses listed above, and help to offset weather and hydrologic variations in this high desert landscape.

Thank you,

Nicole Sullivan

Nicole Sullivan
Coordinator

PO Box 275
Adrian, OR 97901
541-372-5782

690-508 Grande Ronde Basin Hearing 7/27/2016

This hearing is now in session and is being tape recorded to maintain a permanent record. My name is Bruce Corn (Commissioner), and I am the hearing officer. Today is July 27, 2016, and the time is 4:05 pm

The purpose of this hearing is to provide an opportunity for public comment on proposed rules in OAR Chapter 690, Division 508, Grande Ronde Basin Program.

The proposed rules include: Updates to Grande Ronde Basin Program and Extension of Reservations.

In addition to presenting oral comments at this hearing, anyone may submit written comments until 5 P.M. on Friday July 29th, 2016 which is the close of the public comment period. Send comments to "Rules Coordinator" at Oregon Water Resources Department, 725 Summer Street NE, Suite A, Salem, OR 97301 or fax comments to: (503) 986-0903, Attn: Rule Coordinator or email comments to: rule-coordinator@wrd.state.or.us

Comments received after 5 P.M. on Friday July 29th, 2016 will not be reviewed or considered by the agency unless the agency decides to extend the public comment period for everyone.

The Department will not respond to questions during this hearing. After the close of public comment period, Department personnel will prepare a staff report, which will be available from the Department. We have two Comments

Jed Hassinger- My name is Jed Hassinger, I am a farmer in the Grande Ronde Valley here, and I am also the President of Union County Farm Bureau. My comments today represent the Union County Farm Bureau and Oregon Farm Bureau both indicated both strongly support the ODA application for extending the reservations in this basin. We understand that it was the intent of the legislature back in 1987 when they first created the mechanism for instream water rights which are permanent was that they would set aside this reserved water for future economic development. We think it is important to continue that into the future as well. There has been a lot of concern throughout Eastern Oregon lately about the diminished availability of irrigation water both surface and groundwater and in our local area here some of the union county partner's members have expressed interest in some kind of storage projects in this basin. Some of that interest in part is led by the place based planning grant the county got last year to assess potential water development projects in this area. We are encouraged by that investment but at the same time we realize that any projects that might come out of there are going to be complicated and major undertakings that will be a multi year process at least. It is important to have these reservations in place for the future to make those potentialities viable. The application that Department of Agriculture made details some of the efforts that have been made to date to develop the reservations and their importance to the local community. Over the last 20 years, farms and ranchers in this area have seen reduced water availability and at the same time an increase in needs for irrigation and with projected warmer and drier climate conditions in the coming future its just going to make the need for storage and these reservations more important going into the future these reservations are

going to more and more important I urge you to support the reservations. Thank you for the opportunity to comment.

Scott Hartell – (provided Written Comments at Hearing) my name is Scott Hartell; I am the Union County Planning Director at 1001 4th street, La Grande Or 97850. The Union County supports the application to extend the OAR Division 508 Grande Ronde Basin program in the terms of the reservations of unappropriated water from expiring on February 7, 2017 to expiring on February 7, 2037. Oregon's 2012 integrated water a strategy identifies helping communities to plan for water for future through integrated place based planning. The Oregon Department of Water Resources was successful with the 2015 legislation authorizing pilot program funding through place based integrated water planning. Oregon water resources Department awarded 6 hundred 57 thousand dollars this year to help communities address local water challenges through collaborative water planning. In 2016 Union County commissioners Mark Davidson, was instrumental in gaining 197 thousand dollars in grant funding from the Oregon Water Resources Departments pilot program for place based resource planning to conducted a study and identified 10 beneficial water related projects in the upper Grande ronde river water no to extend the terms of the reservations up river after the Grande ronde watershed to not to extend the terms of the reservations of unappropriated waters for the upper Grand Ronde Basin would be detrimental to the works and efforts of the water resources department staff for the place based integrated water planning from 2012 till today. Detrimental to the 2015 legislature authorizing pilot program funding the Oregon Department Water Resources for place based integrated planning water and detrimental to Union County, our citizens, and our economy for not extending these reservations for Union County to conduct a study and to identify beneficial projects relevant to these water reservations. Please extend the terms of these reservations of unappropriated water from expiring on February 7, 2017 to expire on February 7, 2037, respectful. Thank you

Hearing officer: I have called the names of everyone who submitted registration cards. Is there anyone else who wishes to comment?

Thank you for coming and providing us with your comments. The hearing is adjourned.

690-510 Hearing July 28, 2016

This hearing is now in session and is being tape recorded to maintain a permanent record. My name is Bruce Corn (Commissioner) and I am the hearing officer. Today is Thursday July 28, 2016 and the time is 4:00 pm Mountain Standard Time

The purpose of this hearing is to provide an opportunity for public comment on proposed rules in OAR Chapter 690, Division 510, to Extend Reservation of Water for Economic Development for the Malheur Basin Reservations The proposed rule includes updates to Malheur Basin Program and Extension Reservations

In addition to presenting oral comments at this hearing, anyone may submit written comments until 5 P.M. on July 29, 2016 which is the close of the public comment period. Send comments to "Rules Coordinator" at Oregon Water Resources Department, 725 Summer Street NE, Suite A, Salem, OR 97301 or fax comments to: (503) 986-0903, Attn: Rule Coordinator or email comments to: rule-coordinator@wrd.state.or.us.

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The Department will not respond to questions during this hearing. After the close of public comment period, Department personnel will prepare a staff report, which will be available from the Department.

Dan Fulwyler: I am Dan Fulwyler I represent the Vale Irrigation District, I am the Manager there. Thanks for the opportunity to speak. The future of the irrigation district in Eastern Oregon is very concerning to me with the long term droughts we have had. We very seldom get a full water season; about ten percent is what we get of a full season. These reservations they have set aside on the Malheur and the other streams in the Basin could be the boost we need, the shot in the arm if you will; we never know what the future going to hold. When those were put into place, they were put there for the future of the valley and the area, and they were unknown at that time, we never know what the future holds, so if additional storage is available in the future, these reservations could very well come into play. I would like to urge the Commission to adopt the Division 510 rules to extend the reservation on behalf of Vale Oregon Irrigation District.

Hearing officer: Is there any one else here that would like to make a comment? We will recess now.

It is 4:10 we will reconvene the hearing, Jay Chamberlin from the Owyhee Irrigation District.

Jay Chamberlin: Thank you very much for this opportunity to say some support in regards to Division 510, Malheur Basin Program and the extension of the water reserve proposal that is there and to move forward with the rules that are needed to extend this reservations. As we have experienced here in Malheur County both in the Malheur drainage and Owyhee drainage we've seen tremendous water shortages in the last several years. So for any future economic development for water use as far as storage or increase of storage would certainly help to increase our economic value here in the valley. It seems as though are water shortages have been consecutively for a number of years which is concerning, even our existing water supply has been shorted and has caused a real economic hardship on our local economy. I would also like to make sure in these rules that it doesn't harm the senior water right holders and that it protects those existing rights that are already in place and have been for many, many years, and any future water development keep that in mind that it doesn't jeopardize existing water rights. I would be my recommendation that we extend that for another 20 years, as we know things are changing rapidly and that any thing that will help out with water conservation, water development will certainly help for economic situation here in our valley. Thank you very much.

Linda Rowe: Thank you. I am Linda Rowe from the Malheur County Soil and Water Conversation District, I am the District Manger. I would like to thank you letting us have this time for the Malheur extension for the water.. sorry... for the Malheur water reservations for the Division 510. For this going forward for the extension is important for us to have the ability to use it, to develop the resource, if we can find the need and the economic need to develop this. At this time we don't have the economics, but that doesn't mean that its not going to out there for our future use and with the drought situation in Malheur County. We need all avenues available for the economy not only for landowners but for the whole Malheur watershed drainage. So we are supporting this as we go forward, we just want to make sure that it is available for our use whither it is for agriculture or , we would like to see it for agricultural but we want to keep it . We don't want to lose this extension it is important for our County Thank you.

Hearing officer: we will recess again.

TO END:
I have called the names of everyone who submitted registration cards. Is there anyone else who wishes to comment?

690-510 Hearing July 28, 2016

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Hearing officer: we will recess again.

TO END:
I have called the names of everyone who submitted registration cards. Is there anyone else who wishes to comment?

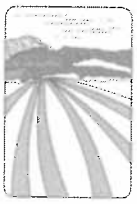
Agenda Item M, Attachment 6
Oregon Water Resources Commission Meeting
October 14, 2016

Applications for Reservation Extensions

Grande Ronde Basin (Division 508)
Malheur Basin (Division 510)
Owyhee Basin (Division 511)

Oregon
Kate Brown, Governor

Department of Agriculture
635 Capitol St NE
Salem, OR 97301-2532



June 30, 2016

Tom Byler, Director
Water Resources Department
725 Summer Street NE; Suite A
Salem, Oregon 97301

Dear Director Byler:

The Department of Agriculture (ODA), in accordance with OAR 690-079-0060, requests 20-year extensions of terms for the following reservations of unappropriated water for future economic development in agriculture:

(a) Upper Grande Ronde Subbasin Reservation (OAR 690-508-0110):
- Fourteen thousand nine hundred (14,900) acre-feet of Meadows Creek and tributaries;
- Twelve thousand (12,000) acre-feet of the Grande Ronde River and tributaries, including Fly Creek and tributaries, upstream of river mile 184 (in NE ¼ Sec. 14, T4S, R35E); and

(b) Middle Grande Ronde Subbasin Reservation (OAR 690-508-0120):
- Nine thousand (9,000) acre-feet of unappropriated water of Catherine Creek and tributaries above Ames Creek.

Application information called for in the form, Request for Extension of Reservation, is provided for the Grande Ronde Basin Reservations. Please contact Margaret Matter if additional information is needed for consideration of this request.

Since the original applications for reservations were approved in 1997, important changes have occurred in Oregon that increase prospects of realizing water storage projects, for example:
- New public and private programs for planning, technical assistance and funding for water resources projects;
- Biological opinions and conservation plans completed for anadromous fish;
- Over a decade of extended dry and drought conditions, and effects of climate change have underscored the need for additional storage to help promote resilience in and mitigate impacts to agriculture, local and regional economies, and aquatic ecosystems;
- Addition of staff at ODA to actively engage with and inform landowners and agricultural communities about their reservations of unappropriated water and the potential opportunities the reservations offer.

The 20-year extensions of reservation terms would provide agricultural water users in the Grande Ronde Basin with certainty and time to advance and complete vital multipurpose water resources projects.

Sincerely,

Katy Coba
Director

Request for Extension of Terms for
Reservations of Water for Economic Development
Upper Grande Ronde Subbasin Reservation

DATE: June 30, 2016

(1) Requestor Name and Address

Oregon Department of Agriculture
635 Capitol Street NE
Salem, OR 97301

Contact: Margaret Matter, Water Resources Specialist
Phone: (503) 986-4561
Email: mmatter@oda.state.or.us

(2) Description of the existing reservation and applicable rule reference:

The Oregon Department of Agriculture (ODA) submitted a request to OWRD in 1993 that unappropriated waters of the Grande Ronde River and its tributaries be reserved for future agricultural economic development. Copies of the 1993 water availability analysis and a recent (May 7, 2016) report from the OWRD Water Availability Reporting System for the Upper Grande Ronde River are included in Appendix A.

The Oregon Water Resources Department (OWRD) determined and the Water Resources Commission (WRC) approved the request for the following quantity of water available for the reservation:

- Upper Grande Ronde Subbasin Reservation (OAR 690-508-0110):
  (a) Fourteen thousand nine hundred (14,900) acre-feet of Meadows Creek and tributaries;
  (b) Twelve thousand (12,000) acre-feet of the Grande Ronde River and tributaries, including Fly Creek and tributaries, upstream of river mile 184 (in NE ¼ Sec. 14, T4S, R35E).

Based on 50% exceedance, twenty-six thousand nine hundred (26,900) acre-feet of water are presumably available for storage during October and December through May for Meadows Creek, and October and December through June for the Grande Ronde River and tributaries upstream of river mile 184. However, the actual time of availability for out of stream uses may be influenced by instream flow restrictions discussed in OAR 690-033-0120. A new, site-specific water availability analysis will be conducted at the time that an application is submitted for a permit to store water from a reservation.

(3) Discussion of the continued current and future need for the reservation:

The Upper Grande Ronde Subbasin reservation offers opportunities to address some recognized water resources needs in the area, including:

- Artificial Groundwater Recharge [OAR 690-300-0010 (4)]
- Aquatic Life Water Use [OAR 690-300 (3)]
- Irrigation [OAR 690-300 (26)]
- Stockwater Use [OAR 690-300 (46)]
- Municipal Water Use [OAR 690-300 (29)]
- Agricultural Water Use [OAR 690-300 (2)]
- Domestic Water Use [OAR 690-300 (14)]

The need for increased water supply storage is long standing, and is anticipated to persist into the future. However, other purposes may also emerge as demands increase over time. The reservations of unappropriated water in the Upper Grande Ronde Basin (the Basin) are an opportunity to meet some water supply needs and to promote economic development in agriculture, for example:

(a) Building subsurface recharge and/or storage to capture available streamflow during higher flow seasons for purposes including:
    - Augment low flows during the summer and early fall for fish passage, reduce stream temperatures and enhance aquatic ecosystem health;
    - Recharging groundwater reserves;
    - Increase reliability of diversion during the summer and early fall;

(b) Supporting instream values and fostering ecosystem adaptation to changing hydrologic and climatic conditions; and

(c) Promoting economic resiliency in agriculture through:
    - Adapting operations to changing climate and hydrologic conditions;
    - Contingency planning for and fostering resilience to prolonged dry and drought conditions;
    - Enhancing water quality; and
    - Improving reliability of late season streamflow.

Locating suitable sites for under- and above ground facilities has been a challenge for stakeholders in the Basin. Two feasibility studies for managed underground storage have been conducted (GRMW 2010; GRMW 2013), and an in-depth investigation is also needed to identify suitable above ground storage sites.

Background

The Grande Ronde River flows through Union County (the County) in northeastern Oregon, and the watershed supports ranches, farms, and urban residents, as well as a variety fish and wildlife species. The County encompasses over 1.3 million acres, and approximately 31.6% of the land area is in farms. Approximately 258,000 acres are pasture or rangeland, and over 141,000 acres are cropland, of which 63,000 acres are irrigated (Oregon Employment Department;

https://www.qualityinfo.org/-/snapshots-from-the-2012-census-of-agriculture, accessed May 7, 2016; NRCS; http://www.nrcs.usda.gov/wps/portal/nrcs/detail/or/programs/?cid=nrcs142p2_044048, accessed May 7, 2015). Agriculture is an integral and valuable part of the community in the County, contributing significantly to local and regional economies.

Estimated farm gate sales in 2011 for agricultural products were:

- All crops: $69,767,000; and
- All animal products: $21,769,000,
- For a total of $91,536,000 (OSU Extension, 2012).

Union County's mild climate and good soils support diverse agriculture. Field crops are among the top commodities, and include peppermint, seed potatoes, sugar beets, specialty crops; grass seed, grain crops, hay and pasture. Irrigation practices have increased, due in part to improving productivity to meet growing demands for agricultural goods, and to decreases in annual precipitation (McIntosh et al. 1994).

Union County and the surrounding area also include vast tracts of public land that offer a wide range of recreational, fishing, and hunting opportunities for Union County residents and visitors to the region, for instance:

- Alpine and Nordic snow skiing;
- Fishing (e.g., trout, salmon, steelhead; sturgeon, bass, crappie, and walleye);
- Hiking, including hunting for mushrooms and huckleberries;
- Kayaking, canoeing; and other water activities; and
- Hunting (e.g., game birds and big game).

The Grande Ronde River system is snowmelt dominated, so streamflow magnitudes typically correspond with the snowmelt patterns. By late summer/early fall, snowmelt is nearly over and streamflows are typically low while water temperatures are often high. At some locations along the river, late season flows may be so low that it is difficult or even impossible to divert water for irrigation, and low flows impede fish migration.

Recent prolonged dry and drought conditions have highlighted the need for contingency plans and resources, including redundancy in water supply alternatives. Robust contingency plans that better position agriculture and communities to navigate through and recover from extended dry and drought conditions need to involve inclusive, collaborative, cooperative groups, such as those that operate in the Grande Ronde Basin.

Changes in Climate

Crops, livestock and municipalities will all require more water as temperatures increase into the future, which will require bolstering water supplies, including through increased diversions from streams and rivers (EPA 2015; https://www3.epa.gov/climatechange/impacts/water.html). As air temperatures

increase, so will stream temperatures, even without diversions from streams and rivers. Improving understanding of and anticipating future temperature and streamflow conditions is essential to informing management and mitigation strategies and actions to prevent and mitigate effects of high temperatures and low flows on fish species and aquatic ecosystems.

The US Bureau of Reclamation evaluated potential climate change impacts on water supply reliability in the basins in Oregon. They applied results from Phase 3 of the Coupled Model Intercomparison Program (CMIP3; 2007) in their model study. Since 2007, results from the 5th Phase of CMIP (CMIP5) were used to write the 5th IPCC Assessment Report (AR5).

Oregon Climate Change Research Institute (OCCRI; Kathie Dello, personal communications, Sept 2015) provided climate model projections from Phase 5 of the Coupled Model Intercomparison Program (CMIP5) of average monthly temperature changes for summer months during the 2080s (see Table 1).

Table 1. Projected Summertime Temperature Increases by the 2080s

Month	**Temperature Increase (deg F) in Mean Monthly Temperatures**
June	5-9
July	6-10
August	6-10
September	5-10

Rising temperatures will increase crop water use, or evapotranspiration (ET), and a useful approximation is, ET increases 5% for each degree F increase in temperature, all other factors remaining equal (Wagoner and Revelle 1990; OCCRI 2010). Warming will be highest during summer months (i.e., part of the growing season), and summer precipitation is expected to decrease 14%, on average, and shift more into winter months (OCCRI 2010).

Based on the general relationship between increasing temperature and ET, 25%-50% more water may be required during the summer months by the 2080s to raise the same crops grown today on the same acreage. On a daily basis, the estimates may be conservative since maximum daily temperatures during the growing season will have greater immediate impact on crops than mean monthly temperatures. Livestock water requirements also increase with temperature. The amount of water required for livestock varies with age, size and other factors. In general, under heat-stressing conditions, water needs increase 1.2 to 2 fold for each 10 deg F increase in temperature (Beede 1994; Tennessee Extension Service 2015; https://extension.tennessee.edu/WebPacket/Pages/WP-2015-03-CattleWatering.aspx).

Changes in climate will also influence drought intensity and duration. The attribution of human influenced climate change on drought conditions in Oregon

has not been fully investigated, but Williams and others (2015) found that human caused climate change contributed 8-27% to the drought in California during 2012-2014, and 5-18% in 2014. Adaptation to warmer, drier summer conditions and more intense winter precipitation in Oregon will require increased capacity to capture and store water, and manage runoff to meet increasing water demands for agriculture, municipal, fisheries and recreation.

(4) Description of actions taken to advance development of the reservation;

The original application to reserve unappropriated water in the Upper Grand Ronde River Basin, approved in 1997, identified potential storage sites in the Upper Grande Ronde Subbasin (Appendix A), and included a storage site analysis with a list of other potential water storage sites in the Grande Ronde Basin (Appendix B).

Stakeholders in the Grande Ronde Basin have conducted several investigations into potential solutions to water supply needs in the basin. The Upper Catherine Creek Storage Feasibility Study for Grande Ronde Model Watershed, completed in 2010, evaluated the potential for managed underground storage (MUS) alternatives in the upper Catherine Creek watershed to protect and enhance stream flows. MUS alternatives include aquifer storage and recovery (ASR) and artificial recharge (AR). In general, the proposed project would involve using water from a separate source (e.g., Upper Grande Ronde Subbasin reservation) to recharge an aquifer, or recharge to and store water in the aquifer in order to recover the water at a later time.

AR could potentially increase streamflows during the summer/early fall, which in turn, would facilitate fish passage, cool stream temperatures and improve reliability of late season irrigation diversions. ASR would accomplish the same objectives but entail slightly different steps. Water stored in the aquifer would be recovered for discharge into the stream to increase flows, cool stream temperatures, and enhance reliability of diversions for irrigation.

Constraints on potential viability of MUS in the Catherine Creek study area involve:

- Source water factors (e.g., quality, quantity and location);
- ASR/AR regulatory requirements (e.g., water rights and permitting); and
- Hydrogeological factors.

Available water from the Upper Grande Ronde Subbasin reservation may be used as source water for MUS alternatives.

The Upper Grande Ronde River Watershed Storage Feasibility Study (the 2013 Storage Feasibility Study), completed in 2013, evaluated whether managed underground storage (MUS) would be a viable alternative for storing water in the Upper Grande Ronde watershed. Water would be diverted when flows were available to store, then returned to the river system during times when streamflows were low. Results of the feasibility study showed that: (a) there are viable aquifer storage sites in the study area; and b) sufficient water is available in winter and spring months for storage. The study also revealed that existing groundwater well

data were insufficient to adequately characterize aquifer boundary conditions and other important attributes.

A technical review was conducted by the U.S. Geological Survey (Snyder 2014) of the Storage Feasibility Study. The technical review confirmed already identified data gaps as well as pointed out others; and made additional observations.

Most recently, Union County received a grant from Oregon Water Resources Department for a place-based planning pilot program to help communities address local water challenges through collaborative water planning. The place-based planning approach offers a framework for communities to understand current and future water needs, and develop an integrated water resources plan for securing the support and resources necessary to implement local solutions for people, local and regional economies, and the environment.

The Upper Grande Ronde Subbasin reservations of unappropriated water may be used by land owners and other stakeholders in the basin as a source of water for aquifer recharge, or may be among a suite of water supply options meet water needs of agriculture, aquatic ecosystems, municipalities and agriculturally related industries in the basin.

(5) Discussion of challenges to developing the reservation.

Key challenges to developing the reservation of unappropriated water include:

- Lack of sufficient funding for water projects;
- Issues surrounding native and sensitive, threatened, and endangered fish;
- Opposition by some non-profit organizations; and
- Permitting and other regulatory requirements.

These factors handicap cooperation and restrict testing and development of innovative alternatives at scales necessary to achieve: (a) reliable water supplies; (b) secure food supplies; and (c) high levels of public health, while concomitantly promoting resilient, sustainable aquatic ecosystems. Procuring the necessary funding also requires considerable time and assurance that water is available for proposed projects.

(6) Description of actions that will need to be undertaken in the future in order to develop the reservation.

Necessary actions to undertake to develop the reservations of unappropriated water include:

- Secure sufficient funding to equip agriculture at appropriate levels to meet rising demands of growing populations for food, fiber, shelter and water, and to support sustainable ecosystems;
- Promote integration of relevant new science into applicable resource management regulations so that they are germane to 21st Century challenges;
- Streamline regulatory processes to keep pace with rising demands;

- Improve coordination and partnerships with federal natural resource management agencies to facilitate development of water resources;
- Build new public/private partnerships to help support the water supply infrastructure necessary to provide for current and future demands; and
- Develop mechanisms to promote meaningful municipal water conservation while compensating for losses in revenue.

(7) Information on how the proposal is compatible with overall basin program goals and policies.

The WRC determined that the application for the reservation was compatible with the overall Grande Ronde Basin program goals and policies, and approved the reservation in 1997. In turn, the reservations were adopted into the Grande Ronde Basin Program [OAR 690-508-0110 to 690-508-0120].

The proposal to extend the terms of the reservations of unappropriated water in the Upper Grande Ronde Subbasin remains consistent with the Grande Ronde Basin Program goals and policies. Landowners have beneficially used water in the basin for over a century for multiple purposes including irrigation, livestock, domestic and commercial purposes; hydropower generation, fish and wildlife; and recreation. These beneficial uses are part of integrated operations, and consistent with the goals of the broader agricultural and cultural communities. As agriculture continues to incorporate technology into operations through modernizing facilities and increasing water and energy use efficiencies, they are able to maintain the highest and best use of water by 21st Century standards.

The economy of the Grande Ronde basin depends on vibrant and stable irrigated agriculture and related commercial enterprises. At the same time, stakeholders also support healthy aquatic systems that are the foundation for fishing, water recreation, tourism; the food and leisure industry; other industries and ecosystem services. Extending the term of the reservation of unappropriated water in the Upper Grande Ronde subbasin is an opportunity for irrigated agriculture and stakeholders in the basin to restore aquatic ecosystems and to provide agriculture with additional certainty in future water supplies.

(8) Identification of affected local governments.

Oregon Department of Agriculture (ODA), with assistance from the Union County Soil and Water Conservation District; landowners; and The Farm Bureau in the Grande Ronde Basin, developed a list of affected local governments in the Grande Ronde Basin. ODA notified affected local governments by mail (i.e., June27, 2016), and copies of the notification letters and the mailing list will be retained on file at ODA and OWRD. A copy of the list of affected local governments in the Grande Ronde Basin is included in Appendix C.

(9) Copies of letters notifying each local government of the intent to file an extension request that includes a description of the reservation and statement that an opportunity to provide comment will be provided at a future date:

A copy of the letter to affected local governments in the Grande Ronde Basin will be included in Appendix C. The letter includes a statement that an opportunity to provide comment, in person and by written comment, will be provided at a later date. Also, the date of the public hearing was provided.

(10) Description of expected economic benefits.

Irrigated agriculture and raising livestock are important economic drivers in Union County. The County covers more than 1.3 million acres, and approximately 31.6% of the land area is in farms. Approximately 258,000 acres are pasture or rangeland, over 141,000 acres are cropland, of which 63,000 acres are irrigated (Oregon Employment Department; https://www.qualityinfo.org/-/snapshots-from-the-2012-census-of-agriculture, accessed May 7, 2016; NRCS; http://www.nrcs.usda.gov/wps/portal/nrcs/detail/or/programs/?cid=nrcs142p2_044048, accessed May 7, 2015). Agriculture is an integral and valuable part of the community, and contributes significantly to local and regional economies.

Estimated farm gate sales in 2011 for agricultural products in the County were:

- All crops: $69,767,000; and
- All animal products: $21,769,000,
- For a total of $91,536,000 (OSU Extension, 2012).

Union County's mild climate and good soils support diverse agriculture in the regions. Field crops are among the top commodities, and include peppermint, seed potatoes, sugar beets, specialty crops; grass seed, grain crops, hay and pasture. Irrigation practices have increased, due in part to meeting growing demands for agricultural goods, and to decreases in annual precipitation (McIntosh et al. 1994).

Union County and the surrounding area also encompasses vast tracts of public land that offer diverse recreational, fishing, and hunting opportunities for Union County residents and visitors to the region, for instance:

- Alpine and Nordic snow skiing;
- Fishing (e.g., trout, salmon, steelhead; sturgeon, bass, crappie, and walleye);
- Hiking, including hunting for mushrooms and huckleberries;
- Kayaking, canoeing; and other water activities; and
- Hunting (e.g., game birds and big game).

The health of the economy, agriculture, raising livestock and the Grande Ronde River system are interwoven. The interrelationship is particularly evident in the late summer/early fall when streamflows are naturally low and warm, but irrigation diversions contribute further to lower streamflows, and warmer summertime stream temperatures. It is necessary to withdraw water from streams to meet water

demands of municipalities, industry, agriculture and other societal needs, but it is also important to balance with instream needs to sustain energy and nutrient cycling, which are vital to overall sustainability. The challenge is to balance timing and quantity of supply and demands.

Managed underground storage (MUS) projects in the Grande Ronde Basin are novel proposals to attain and support balance in streamflow and water quality (i.e., stream temperature) for instream values and irrigated agriculture.
The proposed MUS projects would increase late season flows, decrease stream temperatures and provide new underground water storage that also functions in aquifer recharge. Improved stream conditions in the summer/early fall will decrease the potential for curtailment of diversions for fisheries, and diversions can continue through the growing season to produce a good harvest.

Hired farm employees; farm implement and irrigation equipment sales, leases and service create temporary and permanent family wage employment; and boost the local economy. Improved reliability of water supplies allows farmers to plan and prepare for the future, for example, make investments in new implements and more efficient irrigation conveyance and application equipment, and improve instream values. Long-term viability in agriculture and related industries supports retention of agriculturally based jobs (e.g., 1 Full-Time Employee (FTE)/11 acres in agricultural production), as well as associated jobs in packing, delivery and sales of harvested products. Ample, reliable water supplies are essential to continuation of farms and the family wage jobs they support. The reserved water can serve an important role in a regional water use and management strategy that supports permanent jobs on agricultural lands that are vital to the Union County economy.

(11) Information on whether the reservation exists above or within a Scenic Waterway.

The Upper Grande Ronde Subbasin reservation is above the Oregon Scenic Waterway Designation located in the segment of the Grande Ronde River from Rondowa, at the confluence of the Wallowa River with the Grande Ronde River, to the Umatilla National Forest boundary. In addition, the Grande Ronde River from the confluence with the Wallowa River to the Oregon-Washington border received federal designation in 1988 as a Wild and Scenic River.

While the 1988 Oregon Scenic Waterway designation predates approval of the Upper Grande Ronde Subbasin reservation, it was necessary to consider the Scenic Waterway in the water availability analysis conducted by OWRD prior to approval of the reservation request by the WRC.

(12) Statement that explains how the reservation and proposed water use(s) will promote the beneficial use of the water without waste.

Water users in the Grande Ronde Basin are committed to collaborative engagement to determine the best strategies to use water efficiently, effectively, and without

waste in order meet current and future water supply challenges in the basin. Meeting the challenges will need to occur on different fronts, including identifying and evaluating new recharge and storage options; water reuse; and improving water use efficiency. The newly funded place-based program will be key in accomplishing a detailed supply and demand analysis, and using the data to design effective water management strategies and beneficial uses including: (a) Artificial Groundwater Recharge; (b) Aquatic Life Water Use; (c) Irrigation; (d) Stockwater Use; (e) Municipal Use; (f) Agricultural Water Use; and (g) Domestic Water Use.

Appendix A

DATE: March 8, 1993

TO: Martha Pagel, Director
Oregon Water Resources Department
3850 Portland Road NE
SALEM, OR 97310

FROM: Bruce Andrews, Director

SUBJECT: REQUEST FOR RESERVATION of the unappropriated waters of the **GRANDE RONDE RIVER** and its tributaries for future agricultural economic development.

The **OREGON DEPARTMENT OF AGRICULTURE, 635 CAPITOL STREET NE, SALEM, OREGON, 97310,** hereby requests the reservation of **40,900** acre feet of water from the Grande Ronde River and its tributaries. We request a reservation be established for the following sources and quantities. Potential storage sites are also listed. Other potential but less feasible sites are identified by attached schedule A.

SOURCE	QUANTITY	STORAGE SITE
GRANDE RONDE RIVER		
Grande Ronde River	7,000 acre feet	Clear Creek
Meadow Creek	10,000 acre feet	Railroad
Meadow Creek	4,900 acre feet	Upper Meadows
Little Fly Creek	4,700 acre feet	Pack Trail
Fly Creek	5,300 acre feet	Squaw Creek
CATHERINE CREEK		
North Fork Catherine Creek	9,000 acre feet	Meadows
Total	**40,900**	

The water is to be put to beneficial use for the following purposes and amounts during the time periods indicated, to support expanding agricultural enterprises and associated industries:

	PURPOSE	QUANTITY OF WATER - AF	SEASON OF USE
1.	IRRIGATION	25,000	MARCH 1 TO OCTOBER 31
2.	LIVESTOCK	500	YEAR ROUND
3.	INDUSTRIAL	1,000	"
4.	AGRICULTURE	1,000	"
5.	MUNICIPAL	7,000	"
6.	DOMESTIC	400	"
7.	FISHERY	6,000	"
TOTAL AF REQUESTED		40,900	

page 1

SCHEDULE B

METHODOLOGY, WATER AVAILABILITY ANALYSIS

The methodology used to determine available water supply is very basic. The average yield and 50% excedence yield of a basin are determined for the proposed period of use or storage. Long-term stream gaging data from the US Geological Survey (USGS) and from the Oregon Water Resources Department (OWRD) is used.

Gaged flows are used where stream gaging stations are located at or near the bottom of a basin. Where gages are located elsewhere in a basin, yields are determined by estimating the runoff in acre feet per square mile for the ungaged portion of the basin resulting in an ungaged estimated yield which is added to the known yield.

The quantity of water needed to supply instream uses is calculated from minimum flows, instream water rights, instream water right applications and adopted flows for the scenic water ways for the same period of time as the yield. These instream flows are subtracted from the calculated or estimated yield of a given basin resulting in a quantity of water available for future economic development or other uses.

The quantity of water used upstream of the gage is not a necessary factor in determining water availability using this methodology. Likewise, return-flows from use, evaporation, seepage or other similar factors are not considered necessary. Gaged flows at the bottom of a basin record the total basin yield less consumptive use, plus return-flows.

As the analysis moves upstream to identify the source of the available supply or to find storage sites, then that analysis must also consider the nearly non-consumptive uses such as power and mining which create a demand at a point along a stream but eventually return all, or most, of the water to the stream.

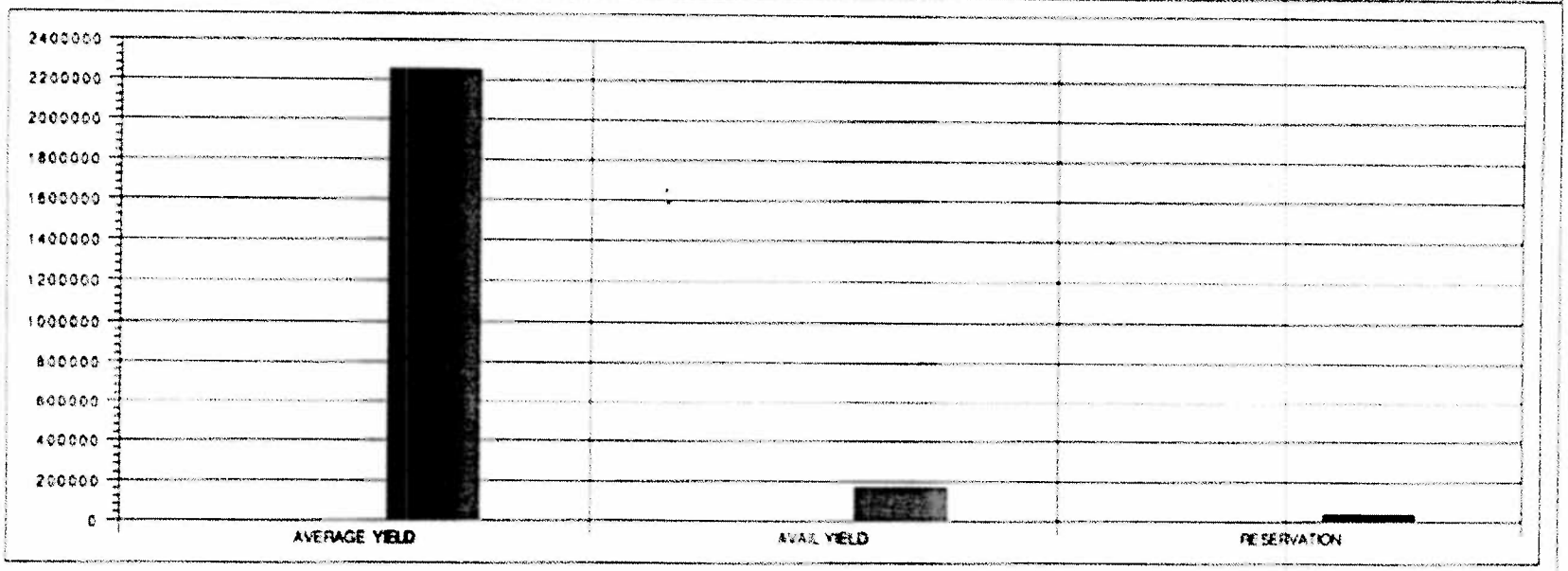
The attached map identifies the location of gaging stations used.

STATE OF OREGON - DEPARTMENT OF AGRICULTURE

GRANDE RONDE BASIN

COMPARISON OF ANNUAL YIELD vs. AVAILABLE YIELD vs. RESERVATION

AVERAGE YIELD ACRE FEET	AVAIL YIELD ACRE FEET	RESERVATION ACRE FEET	REQUEST %	IRRIGATION ACRE FEET	LIVESTOCK ACRE FEET	INDUSTRIAL ACRE FEET	AGRICULTURE ACRE FEET	MUNICIPAL ACRE FEET	DOMESTIC ACRE FEET	FISHERY ACRE FEET
2,254,000	172,000	40,800	23.8	25,000	500	1,000	1,000	7,000	400	6,000



	Grande Ronde River at Troy			1944 to 1987					
	Drainage Area Sq Miles:		3275						
Month	Ave Flow	50% Excedence	In-stream Use	Ave Diff.	50% Diff.	Acre Feet Available at Available Flow	Acre Feet Aavilable at 50% Excedence	Run-Off cfs per sq mi	Available Run-Off af per sq mi
January	2200	1470	800	1400	670	85,932	41,125	0.67	26.24
February	3120	2310	800	2320	1510	128,621	83,714	0.95	39.27
March	4140	3380	2000	2140	1380	131,353	84,704	1.26	40.11
April	6320	5850	5000	1320	850	78,408	50,490	1.93	23.94
May	7500	7080	5000	2500	2080	153,450	127,670	2.29	46.85
June	5950	5610	5000	950	610	56,430	36,234	1.82	17.23
Total / Ave	29,230	25,700	18,600	10,630	7,100	634,194	423,938	1.49	193.65

Grande Ronde River at Rondowa 13-3325 1927 to 1987

Drainage Area Sq Miles: 2555

Month	Ave Flow	50% excedence	In-stream Use	Ave Diff.	50% Diff.	Acre Feet Available at Average Flow	Acre Feet Available at 50% Excedence	Run-Off cfs per sq mi	Available Run-Off af per sq mi
December	1220	819	800	420	19	25,780	1,166		
January	1320	907	800	520	107	31,918	6,568	0.52	12.49
February	1840	1350	800	1040	550	57,658	30,492	0.72	22.57
March	2810	2290	2000	810	290	49,718	17,800	1.10	19.46
April	4280	3840	5000			0	0	1.68	0.00
May	5540	5150	5000	540	150	33,145	9,207	2.17	12.97
June	4700	4320	5000			0	0	1.84	0.00
	20,490	17,857	18,600	2,910	1,097	172,438	64,067	1.34	67.49

	Grande Ronde River near Elgin 13-3235				1956 to 1981					
	Drainage Area Sq Miles:		1250							
Month	Ave Flow	50% excedence	In-stream Use	Ave Diff.	50% Diff.	Acre Feet Available at Average Flow	Acre Feet Available at 50% Excedence	Run-Off cfs per sq ml	Available Run-Off af per sq ml	
December	398	214	300	98	0	6,015	0	0.32	4.81	
January	559	294	300	259	0	15,897	0	0.45	12.72	
February	822	611	300	522	311	28,940	17,242	0.66	23.15	
March	1110	832	300	810	532	49,718	32,654	0.89	39.77	
April	1760	1610	300	1460	1310	86,724	77,814	1.41	69.38	
May	1880	1790	300	1580	1490	96,980	91,456	1.50	77.58	
June	997	927	300	697	627	41,402	37,244	0.80	33.12	
	7,128	6,064	1,800	5,328	4,270	319,661	256,410	0.95	255.73	

Grande Ronde River at La Grande 13-3190 1918 to 1987

Drainage Area Sq Miles: 678

Month	Ave Flow	50% excedence	In-stream Use	Ave Diff.	50% Diff.	Acre Feet Available at Average Flow	Acre Feet Available at 50% Excedence	Run-Off cfs per sq mi	Available Run-Off af per sq mi
December	187	81	70	117	11	7,181	675		
January	245	110	70	175	40	10,742	2,455	0.36	15.84
February	369	198	70	299	128	16,577	7,096	0.54	24.45
March	768	550	100	668	450	41,002	27,621	1.13	60.47
April	1260	1080	300	960	780	57,024	46,332	1.86	84.11
May	1070	976	300	770	676	47,263	41,493	1.58	69.71
June	458	337	250	208	87	12,355	5,168	0.68	18.22
	4,170	3,251	1,090	3,080	2,161	184,962	130,165	1.03	272.80

Detailed Reports for Watershed ID #230

GRANDE RONDE R > SNAKE R - AB HAYWIRE CAN
GRANDE RONDE BASIN
Water Availability as of 5/7/2016

Watershed ID # 230 (Map)
Date: 5/7/2016

Exceedance Level [illegible]
Time: 2:45 PM

Water Availability Calculation

Monthly Streamflow in Cubic Feet per Second
Annual Volume at 50% Exceedance in Acre Feet

[illegible]	[illegible]	[illegible]	[illegible]	Reserved Stream Flow	Instream Flow Requirement	[illegible]
JAN	146.00	13.70	131.00	18.50	70.00	42.80
FEB	337.00	14.50	293.00	51.40	70.00	171.00
MAR	545.00	15.80	529.00	118.00	100.00	311.00
APR	976.00	18.00	958.00	131.00	300.00	527.00
MAY	989.00	21.70	987.00	107.00	300.00	560.00
JUN	385.00	21.00	364.00	8.77	300.00	55.20
JUL	86.00	16.50	69.50	0.00	100.00	30.50
AUG	39.90	14.20	25.70	0.50	30.00	4.29
SEP	37.00	13.70	23.30	0.00	30.00	6.75
OCT	44.80	13.30	31.50	1.22	30.00	0.27
NOV	67.30	13.40	53.90	0.00	70.00	16.10
DEC	100.00	13.50	86.50	10.00	70.00	6.47
ANN	224,000.00	11,400.00	213,000.00	26,900.00	88,600.00	101,000.00

Appendix B

Table 5-3.--Damsite Data Summary

Site Number	Site Name	Stream	Damsite Location Section	Township	Range	Drainage Area (square miles)	Capacity (acre-feet)	Construction Cost (million dollars)
1	Hunter Gulch	Catherine Creek	23	5S	41E	54	6,100	14.38
2	Two Oh Three	Catherine Creek	21	5S	41E	62	5,000	12.08
3	Guard Station	Catherine Creek	8	5S	41E	96	--	--
4	Corral Creek	South Fork Catherine Creek	28	5S	42E	14	--	--
5	Section 23	Sheep Creek	23	6S	35E	13	3,500	7.59
6	Mineral Spring	Sheep Creek	12	6S	35E	17	5,100	7.06
7	Section 1	Sheep Creek	1	6S	35E	19	3,800	5.19
8	Section 32	Sheep Creek	32	5S	35E	20	5,100	6.79
9	Section 33	Sheep Creek	33	5S	35E	22	6,100	7.91
10	Sheep Creek	Sheep Creek	34	5S	35E	26	5,000	7.48
11	West Fork	West Fork Chicken Creek	10	6S	35½E	9	2,800	4.58
12	Prospect	Chicken Creek	2	6S	35½E	17	4,500	8.42
13	Hey Ranch	Sheep Creek	26	5S	35E	55	5,000	7.36
14	Pack Trail	Little Fly Creek	3	6S	35E	9	4,700	5.64
15	Little Fly Creek	Little Fly Creek	19	5S	35E	19	3,100	5.52
16	Squaw Creek	Fly Creek	14	5S	34E	13	5,300	5.61
17	Fly Valley	Fly Creek	20	5S	35E	42	5,000	6.51
18	Railroad	Meadow Creek	35	3S	35E	160	10,000	10.53
19	Elkanah	Meadow Creek	3	4S	35E	96	--	--
20	Rattle Creek	Meadow Creek	8	4S	35E	72	9,300	11.60
21	Warm Spring	Meadow Creek	27	3S	34E	47	9,700	12.16
22	Marrows	Meadow Creek	30	3S	34E	39	5,800	8.55
23	Upper Meadows	Meadow Creek	23	3S	33½E	6	4,900	5.29
24	McCoy Creek	McCoy Creek	28	3S	35E	44	4,000	8.05
25	Upper McCoy	McCoy Creek	2	3S	34E	22	5,900	8.18
26	Beaver	Beaver Creek	31	3S	36E	58	10,000	9.68
27	Ridge	Beaver Creek	31	4S	37E	24	2,000	6.19
28	Middle Reservoir	Beaver Creek	16	4S	36E	44.2	6,200	12.12
29	Spring Creek	Spring Creek	2	3S	36E	24	6,000	7.00
30	Forks	Spring Creek	34	2S	36E	21	5,000	7.92
31	Three Cabin	Five Points Creek	18	2S	37E	35	8,600	13.90
32	Camp One	Five Points Creek	4	2S	37E	28	6,000	8.74
33	Carter's Hog	Five Points Creek	3	2S	37E	20	4,700	9.48
34	Mt. Emily	Five Points Creek	14	1S	37E	6	4,000	8.62
35	Limber Jim	Grande Ronde River	31	5S	36E	63	10,000	14.41
36	Jim	Limber Jim Creek	32	5S	36E	19	7,000	11.35
37	North Fork	Limber Jim Creek	29	5S	36E	14	4,500	8.61
38	Tailings	Grande Ronde River	9	6S	36E	24	8,300	9.95
39	Clear Creek	Grande Ronde River	9	6S	36E	39	7,000	9.51
40	Meadows	North Fork Catherine Creek	19	4S	42E	4.5	9,000	9.02

Water Conservation

One way to help meet water-related needs is to make more efficient use of present supplies through water conservation. Because irrigation uses the largest proportion of water in the study area and also has the greatest unfulfilled consumptive needs, the potential to conserve irrigation water should be seriously considered.

Systems for the conveyance and distribution of irrigation water provide a major means for conservation. As a general rule, open and unlined canals and ditches are the most wasteful conveyance systems because they are prone to significant leakage. High water losses can also occur as a result of inefficient onfarm distribution systems. The best water saving systems include those with enclosed conveyance systems combined with sprinkler irrigation. However, system changes may result in reduced return flows to ditches and streams and decreased aquifer recharge. Possible effects on fish and wildlife habitat along streams and ground-water resources should be investigated prior to system conversions.

SCHEDULE A

METHODOLOGY, STORAGE SITE ANALYSIS

Since the early days of settling the arid portions of Oregon, man has attempted to identify places to store water and ways to reduce flooding and to provide water during times of shortage. This endeavor has resulted in the construction of numerous reservoirs and also a seemingly un-ending list of potential storage sites.

This study could not include all potential sites ever considered due to the large number and also due to the lack of a central repository for the site data. The major sources used are; OWRD Basin Reports, Bureau of Reclamation Reports, Soil Conservation Service Reports, Corps of Engineers Reports, OWRD Water-shed Planning Reports, Soil and Water Conservation District Reports and inventories provided by Irrigation Districts or consultants.

For the purpose of this reservation request we selected from a list of available sites, those sites that best matched a set criteria that identified sites as most feasible and desirable. The criteria used as guidance in our selection is listed below:

1. Water must be available to be stored.
2. Sites are located in the upper stream reaches, off channel, or
3. Sites are located on streams having little known anadromous fish.
4. Sites are located on predominantly public land or have minimal impact upon private land use.
5. Sites have a high storage to cost ratio.
6. Sites do not adversely affect infra-structure such as roads, power lines and pipelines.
7. Sites have multi-purpose storage ability.
8. Sites provide for instream flow improvement as well as flat water recreation opportunities.
9. Sites provide some flood control benefit.

The attached map identifies the location of the storage sites deemed most feasible at the time of this request. Our request is not intended to limit the reservation of water to storage only at those sites however. Other sites may be determined more feasible during the term of this reservation.

Appendix C

Oregon
Kate Brown, Governor

Department of Agriculture
635 Capitol St NE
Salem, OR 97301-2532

Public Notice of Application for Extension of Term of Reservations of Unappropriated Water for Future Economic Development

Date: June 27, 2016

Subject: In accordance with OAR 690-079-0060 (10), this notice is to inform affected local governments that Oregon Department of Agriculture (ODA) will apply to extend the term of reservations of unappropriated water from expiring on February 7, 2017, to expire on February 7, 2037. The application for extension of term applies to the:

(a) Upper Grande Ronde Subbasin Reservation (OAR 690-508-0110):

- Fourteen thousand nine hundred (14,900) acre-feet of Meadows Creek and tributaries; and
- Twelve thousand (12,000) acre-feet of the Grande Ronde River and tributaries, including Fly Creek and tributaries, upstream of river mile 184 (in NE ¼ Sec. 14, T4S, R35E).

(b) Middle Grande Ronde Subbasin Reservation (OAR 690-508-0120):

- Middle Grande Ronde Subbasin Reservation (OAR 690-508-0120): Nine thousand (9,000) acre-feet of unappropriated water of Catherine Creek and tributaries above Ames Creek.

Action: No action is required and no comments are requested at this time. Information regarding opportunities for public comment, including further information about a public hearing to be held on July 27, 2016 at 4:00 PM in La Grande, OR, will be forthcoming.

Background: Reservations of unappropriated water were granted in 1997 and recorded in the Grande Ronde Basin Program (OAR 690-508-0110 and OAR 690-508-0120). The unappropriated water was reserved for 20 years with an option for extending the term up to an additional 20 years. Since demand has increased to use the reserved water, ODA, with assistance from landowners and stakeholders, is applying to extend the term of the reservations for an additional 20 years.

The extension will provide water users with greater certainty and time to plan, advance, and complete vital multipurpose water resources projects to enhance agricultural economic opportunity.

Contact For Information: Margaret Matter, Oregon Department of Agriculture

a) Office Phone: 503-986-4561
b) Email: mmatter@oda.state.or.us

Copies of the applications for extension of terms of the reservations in the Grande Ronde Basin are available upon request.

Affected Local Governments -

Extending Terms of the Grande Ronde Basin Reservations of Unappropriated Water

A. Irrigation Districts

(1) Powder Valley Water Control District

- Manager: Mr. Andrew Umpleby
- Address: 690 E St, North Powder, OR 97867
- Phone: 541-898-2366

B. Soil and Water Conservation District

Union County Soil and Water Conservation District

- District Manager: Ms. Kate Frenyea
- Address: 10507 North McAlister Road La Grande OR 97850
- Phone: 541-963-1313

C. Oregon Water Resources Congress

- Address: 795 Winter St NE, Salem, OR 97301
- Phone: 503-363-0121

D. Counties

Union County Commissioners

- Address: 1106 K Ave., La Grande 97850
  ATTN: Mr. Jack Howard, Chairman Union County Board of Commissioners
- Phone: 541-963-1001 (General)
- Fax: 541-963-1079
- Email: jhoward@union-county.org

E. Cities of Union County

(1) Cove, Oregon

- Mayor: Mr. Lyndon D. Rose
- Address: PO Box 8
  504 Alder St., 97824
- Phone: 541-568-4566
- Fax: 541-568-7747
- Email: citycove@uci.net

(2) Elgin, Oregon

- Mayor: Mr. Allan L. Duffy
- Address: PO Box 128
  180 N 8th Ave., 97827
- Phone: 541-437-2253
- Fax: 541-437-0131
- Email: mayor@cityofelginor.org

References

1. Beede, D.K., 1994. Water: The most important nutrient for dairy cattle. Proceedings of the 31st Florida Dairy Production Conference, Gainesville, Florida. Pp 83-98.

2. McIntosh, B.A., J.R. Sedell, J.E. Smith, R.C. Wissmar, S.E. Clarke, G.H. Reeves, and L.A. Brown. 1994. Management History of Eastside Ecosystems: Change in Fish Habitat Over 50 Years, 1935 to 1992. 1994. Forest Service, U.S. Department of Agriculture.

3. Oregon Climate Change Research Institute (2010; OCCRI), Oregon Climate Assessment Report, K.D. Dello and P.W. Mote (eds). College of Oceanic and Atmospheric Sciences, Oregon State University, Corvallis, OR.

4. Snyder, D.T. 2014. Technical Review of Managed Underground Storage of Water Study of the Upper Catherine Creek Watershed, Union County, Northeastern Oregon. U.S. Geological Survey Open-File Report 2014-1164.

5. Tennessee Extension Service, 2015. Cattle need more water during warmer months. University of Tennessee Extension, Institute of Agriculture newsletter; https://extension.tennessee.edu/WebPacket/Pages/WP-2015-03-CattleWatering.aspx).

6. Waggoner, P.E., and Revelle, R. R. 1990. "Summary". In Waggoner, P.E. (ed). Climate Change and U.S. Water Resources. New York: John Wiley and Sons.

Request for Extension of Terms for
Reservations of Water for Economic Development
Middle Grande Ronde Subbasin Reservation

DATE: June 30, 2016

(1) Requestor Name and Address

Oregon Department of Agriculture
635 Capitol Street NE
Salem, OR 97301

Contact: Margaret Matter, Water Resources Specialist
Phone: (503) 986-4561
Email: mmatter@oda.state.or.us

(2) Description of the existing reservation and applicable rule reference:

The Oregon Department of Agriculture (ODA) submitted a request to OWRD in 1993 that unappropriated waters of the Grande Ronde River and its tributaries be reserved for future economic development in agricultural. Copies of the 1993 water availability analysis and a recent (May 15, 2016) report from the OWRD Water Availability Reporting System for the Middle Grande Ronde River are included in Appendix A.

The Oregon Water Resources Department (OWRD) determined the following quantity of water was available and the Water Resources Commission (WRC) approved the request for the reservation:

- Middle Grande Ronde Subbasin Reservation (OAR 690-508-0120):
  Nine thousand (9,000) acre-feet of unappropriated water of Catherine Creek and tributaries above Ames Creek.

Based on 50% exceedance, nine thousand nine hundred (9,000) acre-feet of water are presumably available for storage during the months of October, December through February, and May-June for Catherine Creek and tributaries. However, the actual time of availability for out of stream uses may be influenced by instream flow restrictions discussed in OAR 690-033-0120. A new, site-specific water availability analysis will be conducted at the time that an application is submitted for a permit to store water from the reservation.

(3) Discussion of the continued current and future need for the reservation:

The Middle Grande Ronde Subbasin reservation offers opportunities to address some recognized water resources needs in the area, for example:

- Artificial Groundwater Recharge [OAR 690-300-0010 (4)]
- Aquatic Life Water Use [OAR 690-300 (3)]
- Irrigation [OAR 690-300 (26)]
- Stockwater Use [OAR 690-300 (46)]
- Municipal Water Use [OAR 690-300 (29)]
- Agricultural Water Use [OAR 690-300 (2)]
- Domestic Water Use [OAR 690-300 (14)]

The need for increased water supply storage is long standing, and is anticipated to persist into the future. However, other purposes may also emerge as demands increase over time. The reservations of unappropriated water in the Middle Grande Ronde Basin (the Basin) are an opportunity to meet some water supply needs and to promote economic development in agriculture, for example:

(a) Divert water when streamflow is high for storage (e.g., under- or above ground) to:
    - Augment low flows during the summer and early fall for fish passage, reduce stream temperatures and enhance aquatic ecosystem health;
    - Recharge groundwater reserves; and
    - Increase reliability of irrigation diversions;

(b) Promote ecosystem adaptation to changing hydrology and climate; and

(c) Foster economic resilience in agriculture through:
    - Adapting operations to varying climate and hydrologic conditions;
    - Contingency planning for and fostering resilience to prolonged dry and drought conditions;
    - Enhancing water quality; and
    - Improving reliability of late season diversions.

Locating suitable sites for under- and above ground facilities has been a challenge for stakeholders in the Basin. Two feasibility studies for managed underground storage have been conducted (GRMW 2010; GRMW 2013), and an in-depth investigation to identify suitable above ground storage sites is also necessary.

Background

The Grande Ronde River flows through Union County (the County) in northeastern Oregon. The watershed supports ranches, farms, and municipalities, as well as a variety fish and wildlife species. The County covers more than 1.3 million acres, and approximately 31.6% of the land area is in farms. About 258,000 acres are pasture or rangeland, and over 141,000 acres are cropland, of which 63,000 acres are irrigated (Oregon Employment Department; https://www.qualityinfo.org/-/snapshots-from-the-2012-census-of-agriculture, accessed May 7, 2016; NRCS; http://www.nrcs.usda.gov/wps/portal/nrcs/detail/or/programs/?cid=nrcs142p2_

044048, accessed May 7, 2015). Agriculture is an integral and valuable part of the Union County communities, contributing significantly to local and regional economies.

Estimated 2011 farm gate sales for agricultural products were:

- All crops: $69,767,000; and
- All animal products: $21,769,000,
- Together totaling $91,536,000 (OSU Extension, 2012).

Union County's mild climate and good soils support diverse agriculture. Field crops are among the top commodities, and include peppermint, seed potatoes, sugar beets, specialty crops; grass seed, grain crops, hay and pasture. Irrigation practices have increased, due in part to the need to improve productivity to meet growing demands for agricultural goods, and to decreases in annual precipitation (McIntosh et al. 1994).

Union County and the surrounding area also encompass vast tracts of public land that offer a wide range of recreational, fishing, and hunting opportunities for Union County residents and visitors to the region, for instance:

- Alpine and Nordic snow skiing;
- Fishing (e.g., trout, salmon, steelhead; sturgeon, bass, crappie, and walleye);
- Hiking, including hunting for mushrooms and huckleberries;
- Kayaking, canoeing; and other water activities; and
- Hunting (e.g., game birds and big game).

The Grande Ronde River system is snowmelt dominated, so streamflow magnitudes typically correspond with the snowmelt patterns. By late summer/early fall, snowmelt is nearly over and streamflows are typically low while water temperatures are often high. At some locations along the river, late season flows may be so low that it is difficult or even impossible to divert water for irrigation, and low flows impede fish migration.

Recent prolonged dry and drought conditions have highlighted the need for contingency plans and resources, including redundancy in water supply alternatives. Robust contingency plans that better position agriculture and communities to navigate through and recover from extended dry and drought conditions need to involve inclusive, collaborative, cooperative groups, such as those that operate in the Grande Ronde Basin.

Changes in Climate

Crops, livestock and municipalities will all require more water as temperatures increase into the future, which will require bolstering water supplies, including through increased diversions from streams and rivers (EPA 2015; https://www3.epa.gov/climatechange/impacts/water.html). As air temperatures increase, so do stream temperatures, even without diversions from streams and

rivers. Improving understanding of and anticipating future temperature and streamflow conditions is essential to informing management and mitigation strategies and actions to prevent and mitigate effects of high temperatures and low flows on fish species and aquatic ecosystems.

The US Bureau of Reclamation evaluated potential climate change impacts on water supply reliability in the basins in Oregon. They applied results from Phase 3 of the Coupled Model Intercomparison Program (CMIP3; 2007) in their model study. Since 2007, results from the 5th Phase of CMIP (CMIP5) were used to write the 5th IPCC Assessment Report (AR5).

Oregon Climate Change Research Institute (OCCRI; Kathie Dello, personal communications, Sept 2015) provided climate model projections from Phase 5 of the Coupled Model Intercomparison Program (CMIP5) of average monthly temperature changes for summer months during the 2080s (see Table 1).

Table 1. Projected Summertime Temperature Increases by the 2080s

Month	**Temperature Increase (deg F) in Mean Monthly Temperatures**
June	5-9
July	6-10
August	6-10
September	5-10

Rising temperatures will increase crop water use, or evapotranspiration (ET), and a useful approximation is, ET increases 5% for each degree F increase in temperature, all other factors remaining equal (Wagoner and Revelle 1990; OCCRI 2010). Warming will be highest during summer months (i.e., part of the growing season), and summer precipitation is expected to decrease 14%, on average, and shift more into winter months (OCCRI 2010).

Based on the general relationship between increasing temperature and ET, 25%-50% more water may be required during the summer months by the 2080s to raise the same crops grown today on the same acreage. On a daily basis, the estimates may be conservative since maximum daily temperatures during the growing season will have greater immediate impact on crops than mean monthly temperatures. Livestock water requirements also increase with temperature. The amount of water required for livestock varies with age, size and other factors. In general, under heat-stressing conditions, water needs increase 1.2 to 2 fold for each 10 deg F increase in temperature (Beede 1994; Tennessee Extension Service 2015; https://extension.tennessee.edu/WebPacket/Pages/WP-2015-03-CattleWatering.aspx).

Changes in climate will also influence drought intensity and duration. The attribution of human influenced climate change on drought conditions in Oregon has not been fully investigated, but Williams and others (2015) found that human

caused climate change contributed 8-27% to the drought in California during 2012-2014, and 5-18% in 2014. Adaptation to warmer, drier summer conditions and more intense winter precipitation in Oregon will require increased capacity to capture and store water, and manage runoff to meet increasing water demands for agriculture, municipal, fisheries and recreation.

(4) Description of actions taken to advance development of the reservation;

The original application to reserve unappropriated water in the Middle Grand Ronde River Basin, approved in 1997, identified potential storage sites in the Middle Grande Ronde Subbasin (Appendix A), and included a storage site analysis with a list of other potential water storage sites in the Grande Ronde Basin (Appendix B).

Stakeholders in the Grande Ronde Basin have conducted several investigations into potential solutions to water supply needs in the basin. The Upper Catherine Creek Storage Feasibility Study for Grande Ronde Model Watershed, completed in 2010, evaluated the potential for managed underground storage (MUS) alternatives in the upper Catherine Creek watershed to protect and enhance stream flows. MUS alternatives include aquifer storage and recovery (ASR) and artificial recharge (AR). In general, the proposed project would involve using water from a separate source (e.g., Upper Grande Ronde Subbasin reservation) to recharge an aquifer, or recharge to and store water in the aquifer in order to recover the water at a later time.

AR could potentially increase streamflows during the summer/early fall, which in turn, would facilitate fish passage, cool stream temperatures and improve reliability of late season irrigation diversions. ASR would accomplish the same objectives but entail slightly different steps. Water stored in the aquifer would be recovered for discharge into the stream to increase flows, cool stream temperatures, and enhance reliability of diversions for irrigation.

Constraints on potential viability of MUS in the Catherine Creek study area involve:

- Source water factors (e.g., quality, quantity and location);
- ASR/AR regulatory requirements (e.g., water rights and permitting); and
- Hydrogeological factors.

In addition to the Middle Grande Ronde Subbasin reservation, available water from the Upper Grande Ronde Subbasin reservation may also be used as source water for MUS alternatives.

The Upper Grande Ronde River Watershed Storage Feasibility Study (the 2013 Storage Feasibility Study), completed in 2013, evaluated whether managed underground storage (MUS) would be a viable alternative for storing water in the Upper Grande Ronde watershed. Water would be diverted when flows were available to store, then returned to the river system during times when streamflows were low. Results of the feasibility study showed that: (a) there are viable aquifer storage sites in the study area; and b) sufficient water is available in winter and spring months for storage. The study also revealed that existing groundwater well

data were insufficient to adequately characterize aquifer boundary conditions and other important attributes.

A technical review was conducted by the U.S. Geological Survey (Snyder 2014) of the Storage Feasibility Study. The technical review confirmed already identified data gaps as well as pointed out others; and made additional observations.

Most recently, Union County received a grant from Oregon Water Resources Department for a place-based planning pilot program to help communities address local water challenges through collaborative water planning. The place-based planning approach offers a framework for communities to understand current and future water needs, and develop an integrated water resources plan for securing the support and resources necessary to implement local solutions for people, local and regional economies, and the environment.

The Middle Grande Ronde Subbasin reservation of unappropriated water may be used by land owners and other stakeholders in the basin as a source of water for aquifer recharge, or may be among a suite of water supply options (e.g., the Upper Grande Ronde Subbasin reservation) meet water needs of agriculture, aquatic ecosystems, municipalities and agriculturally related industries in the basin.

(5) Discussion of challenges to developing the reservation.

Key challenges to developing the reservation of unappropriated water include:

- Lack of sufficient funding for water projects;
- Issues surrounding native and sensitive, threatened, and endangered fish;
- Opposition by some non-profit organizations; and
- Permitting and other regulatory requirements.

These factors handicap cooperation and restrict testing and development of innovative alternatives at scales necessary to achieve: (a) reliable water supplies; (b) secure food supplies; and (c) high levels of public health, while concomitantly promoting resilient, sustainable aquatic ecosystems. Procuring the necessary funding also requires considerable time and assurance that water is available for proposed projects.

(6) Description of actions that will need to be undertaken in the future in order to develop the reservation.

Actions necessary to undertake development of the reservations of unappropriated water include:

- Secure sufficient funding to equip agriculture at appropriate levels to meet rising demands of growing populations for food, fiber, shelter and water, and to support sustainable ecosystems;
- Promote integration of relevant new science into applicable resource management regulations so that they are germane to 21st Century challenges;
- Streamline regulatory processes to keep pace with rising demands;

- Improve coordination and partnerships with federal natural resource management agencies to facilitate development of water resources;
- Build new public/private partnerships to help support the water supply infrastructure necessary to provide for current and future demands; and
- Develop mechanisms to promote meaningful municipal water conservation while compensating for losses in revenue.

(7) Information on how the proposal is compatible with overall basin program goals and policies.

The WRC determined that the application for the reservation was compatible with the overall Grande Ronde Basin program goals and policies, and approved the reservation in 1997. In turn, the reservations were adopted into the Grande Ronde Basin Program [OAR 690-508-0110 to 690-508-0120].

The proposal to extend the terms of the reservations of unappropriated water in the Middle Grande Ronde Subbasin remains consistent with the Grande Ronde Basin Program goals and policies. Landowners have beneficially used water in the basin for over a century for multiple purposes including irrigation, livestock, domestic and commercial purposes; hydropower generation, fish and wildlife; and recreation. These beneficial uses are part of integrated operations, and consistent with the goals of the broader agricultural and cultural communities. As agriculture continues to incorporate technology into operations through modernizing facilities and increasing water and energy use efficiencies, they are able to maintain the highest and best use of water by 21st Century standards.

The economy of the Grande Ronde basin depends on vibrant and stable irrigated agriculture and related commercial enterprises; as well as healthy aquatic systems that contribute to supporting fishing, water recreation, tourism; the food and leisure industry; and other industries. Extending the term of the reservation of unappropriated water in the Middle Grande Ronde subbasin is an opportunity for irrigated agriculture and stakeholders in the basin to restore aquatic ecosystems, and to provide agriculture with additional certainty in future water supplies.

(8) Identification of affected local governments.

Oregon Department of Agriculture (ODA), with assistance from the Union County Soil and Water Conservation District; landowners; and The Farm Bureau in the Grande Ronde Basin, developed a list of affected local governments in the Grande Ronde Basin. ODA notified affected local governments by mail (i.e., June 27, 2016), and copies of the notification letters and the mailing list will be retained on file at ODA and OWRD. A copy of the list of affected local governments in the Grande Ronde Basin is included in Appendix C.

(9) Copies of letters notifying each local government of the intent to file an extension request that includes a description of the reservation and statement that an opportunity to provide comment will be provided at a future date:

A copy of the letter to affected local governments in the Grande Ronde Basin will be included in Appendix C. The letter includes a statement that an opportunity to provide comment, in person and by written comment, will be provided at a later date. Also, the date of the public hearing was provided.

(10) Description of expected economic benefits.

Irrigated agriculture and raising livestock are important economic drivers in Union County. The County covers more than 1.3 million acres, and approximately 31.6% of the land area is in farms. Approximately 258,000 acres are pasture or rangeland, over 141,000 acres are cropland, of which 63,000 acres are irrigated (Oregon Employment Department; https://www.qualityinfo.org/-/snapshots-from-the-2012-census-of-agriculture, accessed May 7, 2016; NRCS; http://www.nrcs.usda.gov/wps/portal/nrcs/detail/or/programs/?cid=nrcs142p2_044048, accessed May 7, 2015). Agriculture is an integral and valuable part of the community, and contributes significantly to local and regional economies.

Estimated farm gate sales in 2011 for agricultural products in the County were:

- All crops: $69,767,000; and
- All animal products: $21,769,000,
- For a total of $91,536,000 (OSU Extension, 2012).

Union County's mild climate and good soils support diverse agriculture in the regions. Field crops are among the top commodities, and include peppermint, seed potatoes, sugar beets, specialty crops; grass seed, grain crops, hay and pasture. Irrigation practices have increased, due in part to meeting growing demands for agricultural goods, and to decreases in annual precipitation (McIntosh et al. 1994).

Union County and the surrounding area also encompasses vast tracts of public land that offer diverse recreational, fishing, and hunting opportunities for Union County residents and visitors to the region, for instance:

- Alpine and Nordic snow skiing;
- Fishing (e.g., trout, salmon, steelhead; sturgeon, bass, crappie, and walleye);
- Hiking, including hunting for mushrooms and huckleberries;
- Kayaking, canoeing; and other water activities; and
- Hunting (e.g., game birds and big game).

The health of the economy, agriculture, raising livestock and the Grande Ronde River system are interwoven. The interrelationship is particularly evident in the late summer/early fall when streamflows are naturally low and warm, but irrigation diversions contribute further to lower streamflows, and warmer summertime stream temperatures. It is necessary to withdraw water from streams to meet water

demands of municipalities, industry, agriculture and other societal needs, but it is also important to balance with instream needs to sustain energy and nutrient cycling, which are vital to overall sustainability. The challenge is to balance timing and quantity of supply and demands.

Managed underground storage (MUS) projects in the Grande Ronde Basin are novel proposals to attain and support balance in streamflow and water quality (i.e., stream temperature) for instream values and irrigated agriculture.
The proposed MUS projects would increase late season flows, decrease stream temperatures and provide new underground water storage that also functions in aquifer recharge. Improved stream conditions in the summer/early fall will decrease the potential for curtailment of diversions for fisheries, and diversions can continue through the growing season to produce a good harvest.

Hired farm employees; farm implement and irrigation equipment sales, leases and service create temporary and permanent family wage employment; and boost the local economy. Improved reliability of water supplies allows farmers to plan and prepare for the future, for example, make investments in new implements and more efficient irrigation conveyance and application equipment, and improve instream values. Long-term viability in agriculture and related industries supports retention of agriculturally based jobs (e.g., 1 Full-Time Employee (FTE)/11 acres in agricultural production), as well as associated jobs in packing, delivery and sales of harvested products. Ample, reliable water supplies are essential to continuation of farms and the family wage jobs they support. The reserved water can serve an important role in a regional water use and management strategy that supports permanent jobs on agricultural lands that are vital to the Union County economy.

(11) Information on whether the reservation exists above or within a Scenic Waterway.

The Middle Grande Ronde Subbasin reservation is above the Oregon Scenic Waterway Designation located in the segment of the Grande Ronde River from Rondowa, at the confluence of the Wallowa River with the Grande Ronde River, to the Umatilla National Forest boundary. In addition, the Grande Ronde River from the confluence with the Wallowa River to the Oregon-Washington border received federal designation in 1988 as a Wild and Scenic River.

While the 1988 Oregon Scenic Waterway designation predates approval of the Upper Grande Ronde Subbasin reservation, it was necessary to consider the Scenic Waterway in the water availability analysis conducted by OWRD prior to approval of the reservation request by the WRC.

(12) Statement that explains how the reservation and proposed water use(s) will promote the beneficial use of the water without waste.

Water users in the Grande Ronde Basin are committed to collaborative engagement to determine the best strategies to use water efficiently, effectively, and without

waste in order meet current and future water supply challenges in the basin. Meeting the challenges will need to occur on different fronts, including identifying and evaluating new recharge and storage options; water reuse; and improving water use efficiency. The newly funded place-based program will be a key accomplishing detailed supply and demand analysis, and using the data to design effective water management strategies and beneficial uses including: (a) Artificial Groundwater Recharge; (b) Aquatic Life Water Use; (c) Irrigation; (d) Stockwater Use; (e) Municipal Use; (f) Agricultural Water Use; and (g) Domestic Water Use.

Appendix A

DATE: March 8, 1993

TO: Martha Pagel, Director
Oregon Water Resources Department
3850 Portland Road NE
SALEM, OR 97310

FROM: Bruce Andrews, Director

SUBJECT: **REQUEST FOR RESERVATION** of the unappropriated waters of the **GRANDE RONDE RIVER** and its tributaries for future agricultural economic development.

The **OREGON DEPARTMENT OF AGRICULTURE, 635 CAPITOL STREET NE, SALEM, OREGON, 97310,** hereby requests the reservation of **40,900** acre feet of water from the Grande Ronde River and its tributaries. We request a reservation be established for the following sources and quantities. Potential storage sites are also listed. Other potential but less feasible sites are identified by attached schedule A.

SOURCE	QUANTITY	STORAGE SITE
GRANDE RONDE RIVER		
Grande Ronde River	7,000 acre feet	Clear Creek
Meadow Creek	10,000 acre feet	Railroad
Meadow Creek	4,900 acre feet	Upper Meadows
Little Fly Creek	4,700 acre feet	Pack Trail
Fly Creek	5,300 acre feet	Squaw Creek
CATHERINE CREEK		
North Fork Catherine Creek	9,000 acre feet	Meadows
Total	**40,900**	

The water is to be put to beneficial use for the following purposes and amounts during the time periods indicated, to support expanding agricultural enterprises and associated industries:

	PURPOSE	QUANTITY OF WATER - AF	SEASON OF USE
1.	IRRIGATION	25,000	MARCH 1 TO OCTOBER 31
2.	LIVESTOCK	500	YEAR ROUND
3.	INDUSTRIAL	1,000	"
4.	AGRICULTURE	1,000	"
5.	MUNICIPAL	7,000	"
6.	DOMESTIC	400	"
7.	FISHERY	6,000	"
TOTAL AF REQUESTED		40,900	

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SCHEDULE B

METHODOLOGY, WATER AVAILABILITY ANALYSIS

The methodology used to determine available water supply is very basic. The average yield and 50% excedence yield of a basin are determined for the proposed period of use or storage. Long-term stream gaging data from the US Geological Survey (USGS) and from the Oregon Water Resources Department (OWRD) is used.

Gaged flows are used where stream gaging stations are located at or near the bottom of a basin. Where gages are located elsewhere in a basin, yields are determined by estimating the runoff in acre feet per square mile for the ungaged portion of the basin resulting in an ungaged estimated yield which is added to the known yield.

The quantity of water needed to supply instream uses is calculated from minimum flows, instream water rights, instream water right applications and adopted flows for the scenic water ways for the same period of time as the yield. These instream flows are subtracted from the calculated or estimated yield of a given basin resulting in a quantity of water available for future economic development or other uses.

The quantity of water used upstream of the gage is not a necessary factor in determining water availability using this methodology. Likewise, return-flows from use, evaporation, seepage or other similar factors are not considered necessary. Gaged flows at the bottom of a basin record the total basin yield less consumptive use, plus return-flows.

As the analysis moves upstream to identify the source of the available supply or to find storage sites, then that analysis must also consider the nearly non-consumptive uses such as power and mining which create a demand at a point along a stream but eventually return all, or most, of the water to the stream.

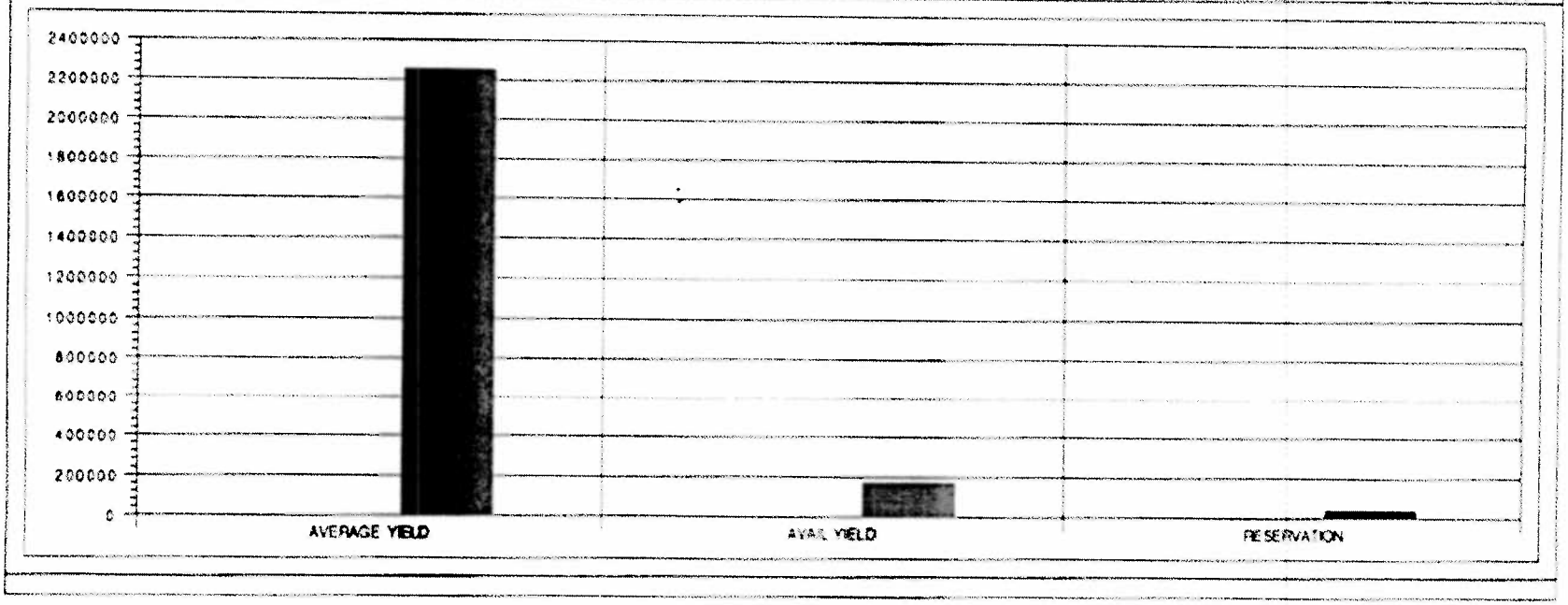
The attached map identifies the location of gaging stations used.

STATE OF OREGON - DEPARTMENT OF AGRICULTURE

GRANDE RONDE BASIN

COMPARISON OF ANNUAL YIELD vs. AVAILABLE YIELD vs. RESERVATION

AVERAGE YIELD ACRE FEET	AVAIL YIELD ACRE FEET	RESERVATION ACRE FEET	REQUEST %	IRRIGATION ACRE FEET	LIVESTOCK ACRE FEET	INDUSTRIAL ACRE FEET	AGRICULTURE ACRE FEET	MUNICIPAL ACRE FEET	DOMESTIC ACRE FEET	FISHERY ACRE FEET
2,254,000	172,000	40,800	23.8	25,000	500	1,000	1,000	7,000	400	6,000



	Grande Ronde River at Troy			1944 to 1987					
	Drainage Area Sq Miles:		3275						
Month	Ave Flow	50% Excedence	In-stream Use	Ave Diff.	50% Diff.	Acre Feet Available at Available Flow	Acre Feet Aavilable at 50% Excedence	Run-Off cfs per sq ml	Available Run-Off af per sq ml
January	2200	1470	800	1400	670	85,932	41,125	0.67	26.24
February	3120	2310	800	2320	1510	128,621	83,714	0.95	39.27
March	4140	3380	2000	2140	1380	131,353	84,704	1.26	40.11
April	6320	5850	5000	1320	850	78,408	50,490	1.93	23.94
May	7500	7080	5000	2500	2080	153,450	127,670	2.29	46.85
June	5950	5610	5000	950	610	56,430	36,234	1.82	17.23
Total / Ave	29,230	25,700	18,600	10,630	7,100	634,194	423,938	1.49	193.65

	Grande Ronde River at Rondowa 13-3325				1927 to 1987				
	Drainage Area Sq Miles:		2555						
						Acre Feet	Acre Feet		Available
Month	Ave Flow	50% excedence	In-stream Use	Ave Diff.	50% Diff.	Available at Average Flow	Available at 50% Excedence	Run-Off cfs per sq mi	Run-Off af per sq mi
December	1220	819	800	420	19	25,780	1,166		
January	1320	907	800	520	107	31,918	6,568	0.52	12.49
February	1840	1350	800	1040	550	57,658	30,492	0.72	22.57
March	2810	2290	2000	810	290	49,718	17,800	1.10	19.46
April	4280	3840	5000			0	0	1.68	0.00
May	5540	5150	5000	540	150	33,145	9,207	2.17	12.97
June	4700	4320	5000			0	0	1.84	0.00
	20,490	17,857	18,600	2,910	1,097	172,438	64,067	1.34	67.49

	Grande Ronde River near Elgin 13-3235				1956 to 1981					
	Drainage Area Sq Miles:		1250							
						Acre Feet	Acre Feet		Available
Month	Ave Flow	50% excedence	In-stream Use	Ave Diff.	50% Diff.	Available at Average Flow	Available at 50% Excedence	Run-Off cfs per sq ml	Run-Off af per sq ml
December	398	214	300	98	0	6,015	0	0.32	4.81
January	559	294	300	259	0	15,897	0	0.45	12.72
February	822	611	300	522	311	28,940	17,242	0.66	23.15
March	1110	832	300	810	532	49,718	32,654	0.89	39.77
April	1760	1610	300	1460	1310	86,724	77,814	1.41	69.38
May	1880	1790	300	1580	1490	96,980	91,456	1.50	77.58
June	997	927	300	697	627	41,402	37,244	0.80	33.12
	7,128	6,064	1,800	5,328	4,270	319,661	256,410	0.95	255.73

	Grande Ronde River at La Grande 13-3190				1918 to 1987					
	Drainage Area Sq Miles:		678							
Month	Ave Flow	50% excedence	In-stream Use	Ave Diff.	50% Diff.	Acre Feet Available at Average Flow	Acre Feet Available at 50% Excedence	Run-Off cfs per sq mi	Available Run-Off af per sq mi
December	187	81	70	117	11	7,181	675		
January	245	110	70	175	40	10,742	2,455	0.36	15.84
February	369	198	70	299	128	16,577	7,096	0.54	24.45
March	768	550	100	668	450	41,002	27,621	1.13	60.47
April	1260	1080	300	960	780	57,024	46,332	1.86	84.11
May	1070	976	300	770	676	47,263	41,493	1.58	69.71
June	458	337	250	208	87	12,355	5,168	0.68	18.22
	4,170	3,251	1,090	3,080	2,161	184,962	130,165	1.03	272.80

Detailed Reports for Watershed ID #30810408

CATHERINE CR > GRANDE RONDE R - AT MOUTH
GRANDE RONDE BASIN

Water Availability as of 5/15/2016

Watershed ID #: 30810408 (Map)
Date: 5/15/2016

Exceedance Level: 50%
Time: 5:37 PM

Water Availability Calculation

Monthly Streamflow in Cubic Feet per Second
Annual Volume at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Uses and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	87.30	3.22	84.10	5.15	0.00	78.90
FEB	180.00	4.69	175.00	10.90	0.00	164.00
MAR	188.00	4.96	183.00	0.00	0.00	183.00
APR	412.00	64.70	347.00	0.00	0.00	347.00
MAY	620.00	164.00	456.00	79.90	0.00	376.00
JUN	519.00	156.00	363.00	49.60	0.00	314.00
JUL	152.00	71.40	80.60	0.00	0.00	80.60
AUG	85.90	39.10	46.80	0.00	0.00	46.80
SEP	60.70	25.20	35.50	0.00	0.00	35.50
OCT	47.50	5.79	41.70	0.33	0.00	41.40
NOV	57.50	1.88	55.60	0.00	0.00	55.60
DEC	73.40	3.00	70.40	3.01	0.00	67.40
ANN	150,000.00	32,900.00	117,000.00	9,000.00	0.00	108,000.00

Appendix B

Table 5-3.--Damsite Data Summary

Site Number	Site Name	Stream	Damsite Location Section	Township	Range	Drainage Area (square miles)	Capacity (acre-feet)	Construction Cost (million dollars)
1	Hunter Gulch	Catherine Creek	23	5S	41E	54	6,100	14.38
2	Two Oh Three	Catherine Creek	21	5S	41E	62	5,000	12.08
3	Guard Station	Catherine Creek	8	5S	41E	96	--	--
4	Corral Creek	South Fork Catherine Creek	28	5S	42E	14	--	--
5	Section 23	Sheep Creek	23	6S	35E	13	3,500	7.58
6	Mineral Spring	Sheep Creek	12	6S	35E	17	5,100	7.06
7	Section 1	Sheep Creek	1	6S	35E	19	3,800	5.19
8	Section 32	Sheep Creek	32	5S	35E	20	5,100	6.79
9	Section 33	Sheep Creek	33	5S	35E	22	6,100	7.93
10	Sheep Creek	Sheep Creek	34	5S	35E	26	5,000	7.48
11	West Fork	West Fork Chicken Creek	10	6S	35½E	9	2,800	4.58
12	Prospect	Chicken Creek	2	6S	35½E	17	4,500	8.42
13	Key Ranch	Sheep Creek	26	5S	35E	55	5,000	7.36
14	Pack Trail	Little Fly Creek	3	6S	35E	9	4,700	5.64
15	Little Fly Creek	Little Fly Creek	19	5S	35E	19	3,100	5.52
16	Squaw Creek	Fly Creek	14	5S	34E	13	5,300	5.61
17	Fly Valley	Fly Creek	20	5S	35E	42	5,000	6.51
18	Railroad	Meadow Creek	35	3S	35E	160	10,000	10.53
19	Elkanah	Meadow Creek	3	4S	35E	90	--	--
20	Battle Creek	Meadow Creek	8	4S	35E	72	9,300	11.60
21	Warm Spring	Meadow Creek	27	3S	34E	47	9,700	12.16
22	Narrows	Meadow Creek	30	3S	34E	39	5,800	8.55
23	Upper Meadows	Meadow Creek	23	3S	33½E	6	4,900	5.29
24	McCoy Creek	McCoy Creek	28	3S	35E	44	4,000	8.05
25	Upper McCoy	McCoy Creek	2	3S	34E	22	5,900	8.18
26	Beaver	Beaver Creek	31	3S	36E	58	10,000	9.68
27	Ridge	Beaver Creek	31	4S	37E	24	2,000	6.19
28	Middle Reservoir	Beaver Creek	16	4S	36E	44.2	6,200	12.12
29	Spring Creek	Spring Creek	2	3S	36E	24	6,000	7.00
30	Forks	Spring Creek	34	2S	36E	21	5,000	7.92
31	Three Cabin	Five Points Creek	18	2S	37E	35	8,800	13.90
32	Camp One	Five Points Creek	4	2S	37E	28	6,000	8.74
33	Carter's Hog	Five Points Creek	3	2S	37E	20	4,700	9.40
34	Mt. Emily	Five Points Creek	14	1S	37E	6	4,000	8.62
35	Limber Jim	Grande Ronde River	31	5S	36E	63	10,000	14.41
36	Jim	Limber Jim Creek	32	5S	36E	19	7,000	11.35
37	North Fork	Limber Jim Creek	29	5S	36E	14	4,500	8.61
38	Tailings	Grande Ronde River	9	6S	36E	24	8,300	9.95
39	Clear Creek	Grande Ronde River	9	6S	36E	39	7,000	9.51
40	Meadows	North Fork Catherine Creek	19	4S	42E	4.5	9,000	9.02

Water Conservation

One way to help meet water-related needs is to make more efficient use of present supplies through water conservation. Because irrigation uses the largest proportion of water in the study area and also has the greatest unfulfilled consumptive needs, the potential to conserve irrigation water should be seriously considered.

Systems for the conveyance and distribution of irrigation water provide a major means for conservation. As a general rule, open and unlined canals and ditches are the most wasteful conveyance systems because they are prone to significant leakage. High water losses can also occur as a result of inefficient onfarm distribution systems. The best water saving systems include those with enclosed conveyance systems combined with sprinkler irrigation. However, system changes may result in reduced return flows to ditches and streams and decreased aquifer recharge. Possible effects on fish and wildlife habitat along streams and ground-water resources should be investigated prior to system conversions.

SCHEDULE A

METHODOLOGY, STORAGE SITE ANALYSIS

Since the early days of settling the arid portions of Oregon, man has attempted to identify places to store water and ways to reduce flooding and to provide water during times of shortage. This endeavor has resulted in the construction of numerous reservoirs and also a seemingly un-ending list of potential storage sites.

This study could not include all potential sites ever considered due to the large number and also due to the lack of a central repository for the site data. The major sources used are; OWRD Basin Reports, Bureau of Reclamation Reports, Soil Conservation Service Reports, Corps of Engineers Reports, OWRD Water-shed Planning Reports, Soil and Water Conservation District Reports and inventories provided by Irrigation Districts or consultants.

For the purpose of this reservation request we selected from a list of available sites, those sites that best matched a set criteria that identified sites as most feasible and desirable. The criteria used as guidance in our selection is listed below:

1. Water must be available to be stored.
2. Sites are located in the upper stream reaches, off channel, or
3. Sites are located on streams having little known anadromous fish.
4. Sites are located on predominantly public land or have minimal impact upon private land use.
5. Sites have a high storage to cost ratio.
6. Sites do not adversely affect infra-structure such as roads, power lines and pipelines.
7. Sites have multi-purpose storage ability.
8. Sites provide for instream flow improvement as well as flat water recreation opportunities.
9. Sites provide some flood control benefit.

The attached map identifies the location of the storage sites deemed most feasible at the time of this request. Our request is not intended to limit the reservation of water to storage only at those sites however. Other sites may be determined more feasible during the term of this reservation.

Appendix C

Oregon
Kate Brown, Governor

Department of Agriculture
635 Capitol St NE
Salem, OR 97301-2532

Public Notice of Application for Extension of Term of Reservations of Unappropriated Water for Future Economic Development

Date: June 27, 2016

Subject: In accordance with OAR 690-079-0060 (10), this notice is to inform affected local governments that Oregon Department of Agriculture (ODA) will apply to extend the term of reservations of unappropriated water from expiring on February 7, 2017, to expire on February 7, 2037. The application for extension of term applies to the:

(a) Upper Grande Ronde Subbasin Reservation (OAR 690-508-0110):

- Fourteen thousand nine hundred (14,900) acre-feet of Meadows Creek and tributaries; and
- Twelve thousand (12,000) acre-feet of the Grande Ronde River and tributaries, including Fly Creek and tributaries, upstream of river mile 184 (in NE ¼ Sec. 14, T4S, R35E).

(b) Middle Grande Ronde Subbasin Reservation (OAR 690-508-0120):

- Middle Grande Ronde Subbasin Reservation (OAR 690-508-0120): Nine thousand (9,000) acre-feet of unappropriated water of Catherine Creek and tributaries above Ames Creek.

Action: No action is required and no comments are requested at this time. Information regarding opportunities for public comment, including further information about a public hearing to be held on July 27, 2016 at 4:00 PM in La Grande, OR, will be forthcoming.

Background: Reservations of unappropriated water were granted in 1997 and recorded in the Grande Ronde Basin Program (OAR 690-508-0110 and OAR 690-508-0120). The unappropriated water was reserved for 20 years with an option for extending the term up to an additional 20 years. Since demand has increased to use the reserved water, ODA, with assistance from landowners and stakeholders, is applying to extend the term of the reservations for an additional 20 years.

The extension will provide water users with greater certainty and time to plan, advance, and complete vital multipurpose water resources projects to enhance agricultural economic opportunity.

Contact For Information: Margaret Matter, Oregon Department of Agriculture

a) Office Phone: 503-986-4561
b) Email: mmatter@oda.state.or.us

Copies of the applications for extension of terms of the reservations in the Grande Ronde Basin are available upon request.

Affected Local Governments -

Extending Terms of the Grande Ronde Basin Reservations of Unappropriated Water

A. Irrigation Districts

(1) Powder Valley Water Control District

- Manager: Mr. Andrew Umpleby
- Address: 690 E St, North Powder, OR 97867
- Phone: 541-898-2366

B. Soil and Water Conservation District

Union County Soil and Water Conservation District

- District Manager: Ms. Kate Frenyea
- Address: 10507 North McAlister Road La Grande OR 97850
- Phone: 541-963-1313

C. Oregon Water Resources Congress

- Address: 795 Winter St NE, Salem, OR 97301
- Phone: 503-363-0121

D. Counties

Union County Commissioners

- Address: 1106 K Ave., La Grande 97850
  ATTN: Mr. Jack Howard, Chairman Union County Board of Commissioners
- Phone: 541-963-1001 (General)
- Fax: 541-963-1079
- Email: jhoward@union-county.org

E. Cities of Union County

(1) Cove, Oregon

- Mayor: Mr. Lyndon D. Rose
- Address: PO Box 8
  504 Alder St., 97824
- Phone: 541-568-4566
- Fax: 541-568-7747
- Email: citycove@uci.net

(2) Elgin, Oregon

- Mayor: Mr. Allan L. Duffy
- Address: PO Box 128
  180 N 8th Ave., 97827
- Phone: 541-437-2253
- Fax: 541-437-0131
- Email: mayor@cityofelginor.org

(3) Imbler, Oregon
- Mayor: Mr. Mike McLean
- Address: PO Box 40
  180 Ruckman Ave., 97841
- Phone: 541-534-6095
- Fax: 541-534-2343

(4) Island City, Oregon
- Mayor: Mr. Delmer Hanson
- Address: 10605 Island Ave., 97850
- Phone: 541-963-5017
- Fax: 541-963-3482
- Email: judy@islandcityhall.com

(5) La Grande, Oregon
- Mayor: Mr. Steve Clements
- PO Box 670
  1000 Adams Ave., 97850
- Phone: 541-962-1309
- Fax: 541-963-3333
- Email: mayor@cityoflagrande.org

(6) North Powder, Oregon
- Mayor: Ms. Bonita Hebert
- Address: PO Box 309
  635 3rd St., 97867
- Phone: 541-898-2185
- Fax: 541-898-2647
- Email: cityofnp@eoni.com

(7) Summerville, Oregon
- Mayor: Ms. Sheri Rogers
- Address: PO Box 92
  301 Main St., 97876
- Phone: 541-534-6701
- Email: summerville@eoni.com

(8) Union, Oregon
- Mayor: Mr. Ken McCormack
- Address: PO Box 529
  342 S Main, 97883
- Phone: 541-562-5197
- Fax: 541-562-5196
- Email: mccormackk@aol.com

References

1. Beede, D.K., 1994. Water: The most important nutrient for dairy cattle. Proceedings of the 31st Florida Dairy Production Conference, Gainesville, Florida. Pp 83-98.

2. McIntosh, B.A., J.R. Sedell, J.E. Smith, R.C. Wissmar, S.E. Clarke, G.H. Reeves, and L.A. Brown. 1994. Management History of Eastside Ecosystems: Change in Fish Habitat Over 50 Years, 1935 to 1992. 1994. Forest Service, U.S. Department of Agriculture.

3. Oregon Climate Change Research Institute (2010; OCCRI), Oregon Climate Assessment Report, K.D. Dello and P.W. Mote (eds). College of Oceanic and Atmospheric Sciences, Oregon State University, Corvallis, OR.

4. Snyder, D.T. 2014. Technical Review of Managed Underground Storage of Water Study of the Upper Catherine Creek Watershed, Union County, Northeastern Oregon. U.S. Geological Survey Open-File Report 2014-1164.

5. Tennessee Extension Service, 2015. Cattle need more water during warmer months. University of Tennessee Extension, Institute of Agriculture newsletter; https://extension.tennessee.edu/WebPacket/Pages/WP-2015-03-CattleWatering.aspx).

6. Waggoner, P.E., and Revelle, R. R. 1990. "Summary". In Waggoner, P.E. (ed). Climate Change and U.S. Water Resources. New York: John Wiley and Sons.

Oregon
Kate Brown, Governor

Department of Agriculture
635 Capitol St NE
Salem, OR 97301-2532

May 31, 2016

Tom Byler, Director
Water Resources Department
725 Summer Street NE; Suite A
Salem, Oregon 97301

Dear Director Byler:

The Department of Agriculture (ODA), in accordance with OAR 690-079-0060, requests a 20-year extension of the terms for the following reservations of unappropriated water for future economic development in agriculture:

- **Malheur Reservations (OAR 690-510-0110):**
  (1) Thirty five thousand (35,000) acre-feet of the Malheur River and tributaries, excluding the North Fork and South Fork Malheur Rivers and tributaries, are reserved.
  (2) Thirteen thousand two hundred (13,200) acre-feet of the South Fork Malheur River and tributaries are reserved.

Application information called for in the form, Request for Extension of Reservation, is provided for the Malheur Reservations. Please contact Margaret Matter if additional information is needed for consideration of this request.

The original applications for reservations were approved in the 1990's and since that time, changes in Oregon have increased the likelihood of realizing water storage projects, for example:

- New public and private programs for planning, technical assistance and funding for water resources projects;
- Biological opinions and conservation plans for anadromous fish have been completed;
- Over a decade of prevailing dry conditions followed by extreme drought, and effects of climate change have underscored the need for additional storage to help mitigate effects of more intense droughts as well as manage floods;
- With additional staff, ODA has been actively engaged in informing and reminding agricultural communities about their reservations of unappropriated water and the potential opportunities the reservations offer.

The 20-year extensions of reservation terms would provide agricultural water users in the Malheur Basin with certainty and time to advance and complete vital multipurpose water resources projects.

Sincerely,

Katy Coba
Director

Request for Extension of Terms for
Reservations of Water for Economic Development
Malheur Basin Reservations

DATE: May 31, 2016

(1) Agency Name and Address

Oregon Department of Agriculture
635 Capitol Street NE
Salem, OR 97301

Contact: Margaret Matter, Water Resources Specialist
Phone: (503) 986-4561
Email: mmatter@oda.state.or.us

(2) Description of the existing reservation and applicable rule reference:

The Oregon Water Resources Department (OWRD) conducted a water availability analysis for the application to reserve unappropriated water in the Malheur River Basin in 1997. OWRD determined the following quantity of water was available for the reservation, and the Water Resources Commission (WRC) approved the request:

- Malheur Reservations (OAR 690-510-0110):
  (1) Thirty five thousand (35,000) acre-feet of the Malheur River and tributaries, excluding the North Fork and South Fork Malheur Rivers and tributaries, are reserved.
  (2) Thirteen thousand two hundred (13,200) acre-feet of the South Fork Malheur River and tributaries are reserved.

The original (1997) water availability analysis and a recent report from the OWRD Water Availability Reporting System for the Malheur Basin are included in Appendix A. Thirty five thousand (35,000) and thirteen thousand two hundred (13,200) acre-feet of water are presumably available at 50% exceedance for storage from the Malheur River and the South Fork Malheur River, respectively, during the months of March through April. However, the actual time of availability for out of stream uses may be influenced by instream flow restrictions discussed in OAR 690-033-0120. A new, site-specific water availability analysis will be conducted at the time that an application is submitted for a permit to store water from a reservation.

(3) Discussion of the continued current and future need for the reservation:

Current needs for water have been identified and are anticipated to be similar to future needs. The Malheur River Basin reservation offers opportunities to meet some water needs including:

- Irrigation [OAR 690-300-0010 (26)]
- Municipal Water Use [OAR 690-300-0010 (29)]

- Commercial Water Use [OAR 690-300-0010 (6)]
- Industrial Water Use [OAR 690-300-0010 (25)]
- Recreation Water Use [OAR 690-300-0010 (43)]

The reservations of unappropriated water are intended for future agriculturally related economic development, and in the Malheur River Basin that may involve:

(a) Promoting economic sustainability and resilience in agriculture through
- Enhancing irrigation water supply reliability (e.g., supplemental);
- Re-establishing balance between irrigation water distribution and on-farm water need (reduced return flows, as a consequence of increased efficiency, no longer contribute to on-farm or downstream irrigation water supply);
- Adaptation to changing climate and hydrologic conditions;
- Contingency planning for mitigation and flexibility during prolonged dry and drought conditions.

(b) Supporting agricultural communities in the basin through
- Improved reliability of municipal water supplies that:
  - Promotes community health and well-being,
  - Fortifies property values,
  - Attracts and supports agriculturally related commercial businesses and industry; and
  - Provides recreational opportunities for local and regional communities and visitors, and encourages related business prospects.

Background

The Malheur Basin is located mainly within the borders of Malheur County in southeastern Oregon. The area has rich, fertile soils, favorable climate conditions and good, yet highly variable, water supplies that, through irrigation, support diverse and productive agriculture and ranching in the region. Crops grown in the County include onions; sugar beets; a variety of grains; potatoes, beans, sweet corn, alfalfa seed; hay and pasture; as well as dairy production, and raising beef cattle, buffalo, and other livestock.

Agricultural is foundational to the economy of Malheur County, with farm gate values exceeding $370 million, and generating over $1 billion dollars from related sales, processing, packing and services, according to Oregon State University (OSU Extension, OAIN, 2013; http://oain.oregonstate.edu/EconInfo/sr790-2013.pdf). But robust agriculture depends on ample, reliable water supplies, and annual flows of the Owyhee River are highly variable. Reservoir storage and irrigation are key factors in ample and more reliable water supplies for productive agriculture.

Owyhee, Warmsprings, and Vale Oregon irrigation districts are the three major water projects in Malheur County that provide most of the water to about 256,000 cultivated acres in the area, mainly on family farms. Several smaller irrigation

districts also operate in the area, and include Orchard Water District, Harper South Side Irrigation District, and Old Owyhee Ditch Improvement District. The irrigation districts depend on one another through agricultural use of water and infrastructure. For example:

(a) Irrigation water is delivered by one irrigation district to other districts;
(b) Some smaller districts are located within larger irrigation districts; and
(c) Irrigation return flows from one district may become part of the irrigation supply for the next district.

Re-use of runoff and drainage outflow from irrigation is essential to balance water availability among irrigation district users. As on-farm irrigation application becomes more efficient through improved irrigation systems, (i.e., convert to drip and sprinkler systems, improved water management), irrigation runoff is reduced so less water is available to use downstream either on-farm or for irrigation on the next farm. This upsets the established balance between irrigation water distribution and on-farm water needs, thereby necessitating further water conservation measures. Lower lands in the Malheur irrigation districts have historically relied on as much as 30% of their irrigation water supply to come from upstream irrigation runoff returns. For example, Warmsprings Irrigation District relies on irrigation runoff, or return flows, from Vail Oregon Irrigation District as water supply to their farms. Additional sources of available water, such as from the Malheur Reservations, would supplement irrigation supplies and help re-establish balance between irrigation water distribution and on-farm water needs.

Water to support agriculture in the region arrives primarily in the form of snow during the winter and early spring. The Malheur River Basin receives an average of 10 inches of precipitation annually, and runoff from snowmelt and spring rain is captured in district reservoirs for release during the growing season. Some reservoirs in the Malheur Basin were designed to store more than one year's supply of water. Carry over storage from irrigation season to the next acts as a buffer against low runoff and water supply in subsequent years. Climate and hydrology have changed significantly, however, especially during the 21st Century.

During the past six consecutive years or more, the Malheur basin has suffered severe and extreme drought. The reservoirs in the Malheur Basin have failed to refill by significant margins, and any additional irrigation supplies, such as carry over storage, have been much lower than usual; closer to 1.5% to 2% of typical volumes.

Irrigators have experienced previous droughts so they plan accordingly for water-short years. Yet, water allotments have been reduced in recent years from 4 acre-feet per acre to about one-third, or 1.3 acre-feet per acre. Some farms even went without water in 2015. Irrigation allotments ended almost a month early in 2015, and storage reservoirs were nearly empty.

Immediate strategies to cope with low reliability of water supplies include:

- Fallowing acreage to save water to use on other crops;
- Planting less water consumptive crops (e.g., wheat instead of onions); and
- Planting crops that mature earlier (e.g., Short day corn, Barley, Oats and Triticale).

Up to 30% of irrigated acreage was fallowed each year for the past five years or more in the Malheur Basin. That equates roughly to reductions in annual farm income of approximately 30% for the duration of the drought.

Cumulative effects of consecutive years of extremely dry conditions have taken a heavy toll in crop loss, reduced production, and non-production as a result of crops fallowed to save water. Subsequent economic impacts extend form individual farm operations to local and regional economies. For some farmers with junior water rights, effects of prolonged drought were devastating. However, other farmers were able to extend meager water supplies because of aggressive investments in water conservation.

Local irrigation districts and the farmers have partnered in many places to replace formerly open canals with pipes to carry irrigation water. Using pipes to convey water eliminated canal seepage, and allowed the irrigation districts to deliver pressurized water to farms. In turn, many of the irrigation districts' farmers installed high efficiency drip irrigation and pivot irrigation systems on their farms, making it possible for farmers to irrigate the same amount of land far more efficiently than by flood irrigation. Farmers have also begun installing recapture and recirculation systems to collect and contain field runoff, and re-use the water multiple times. Aggressively implementing technology to better use and manage scarce water resources has allowed many farmers to stay in business despite the severe drought conditions. In addition, these changes have improved water quality in the area, minimizing or eliminating nutrient-laden runoff into the Malheur River.

Since climate change is predicted to lead to more frequent, intense and prolonged periods of drought, it is increasingly important to make further investments in water conservation, re-use and supplemental water storage. This will take commitments to building and maintaining partnerships, such as those in the Malheur River Basin, that have been built among private industry, government, and conservation groups to bring resources to the table and to invest them wisely.

Changes in Climate

Water requirements of crops, livestock and people increase as temperatures increase (EPA 2015; https://www3.epa.gov/climatechange/impacts/water.html). In order to meet increasing water demands as temperature trends continue to increase into the future, water conservation and storage will also need to increase. Stream temperatures will increase as a consequence warmer temperatures associated with climate change even without diversions from streams and rivers. It is then critically important to anticipate and understand future temperature and

streamflow conditions in order to inform management, mitigation strategies and actions to prevent or mitigate effects of high temperatures and low flows on fish species and aquatic ecosystems.

The US Bureau of Reclamation (USBR) evaluated potential climate change impacts on water supply reliability in the basins in Oregon. They applied results from Phase 3 of the Coupled Model Intercomparison Program (CMIP3, 2007) in their model study. Since 2007, results from the 5th Phase of CMIP (CMIP5) were used to write the 5th IPCC Assessment Report (AR5).

Oregon Climate Change Research Institute (OCCRI; Kathie Dello, personal communications, Sept 2015) provided climate model projections from Phase 5 of the Coupled Model Intercomparison Program (CMIP5) of average monthly temperature changes for summer months during the 2080s (see Table 1). Rising temperatures will increase crop water use, or evapotranspiration (ET), approximately 5% for each degree F increase in temperature, all other factors remaining equal (Wagoner and Revelle 1990; OCCRI 2010). Warming will be highest during summer months (part of the growing season), and summer precipitation is expected to decrease 14%, on average, and shift more into the winter (OCCRI 2010).

Table 1. Projected Summertime Temperature Increases by the 2080s

Month	Temperature Increase (deg F) in Mean Monthly Temperatures
June	5-9
July	6-10
August	6-10
September	5-10

Based on the general relationship between increasing temperature and ET, 25%-50% more water may be required during the summer months by the 2080s to raise the same crops grown today on the same acreage. On a daily basis, the estimates may be conservative since maximum daily temperatures during the growing season will have greater immediate impact on crops than mean monthly temperatures.

Livestock water requirements also increase with temperature. The amount of water required varies with age, size and other factors. In general, under heat-stressing conditions, water needs increase 1.2 to 2 fold for each 10 deg F increase in temperature (Beede 1994; Tennessee Extension Service 2015; https://extension.tennessee.edu/WebPacket/Pages/WP-2015-03-CattleWatering.aspx).

Changes in climate will also influence drought intensity and duration. The contribution of anthropogenic climate change on drought conditions (e.g., intensity, duration and location) in Oregon has not been fully investigated, but Williams and others (2015) found that effects of human-influenced climate change contributed 8-27% to the drought in California during 2012-2014, and 5-18% in 2014. Adaptation

to warmer, drier summer conditions, more intense winter precipitation, and winter precipitation falling more often in the form of rain rather than snow in Oregon will require increased capacity to capture and store water, and manage runoff to meet increasing water demands for agriculture, municipalities, agriculturally-related commercial operations, recreation and fisheries.

(4) Description of actions taken to advance development of the reservation:

Stakeholders in Malheur County, including the irrigation districts, landowners, Malheur County Soil and Water Conservation District, watershed councils; partners from federal, state and local governments and others, formed the Systems Analysis Team over a decade ago to collaboratively address water resources and related challenges as a community. Since water quantity, use and quality issues typically overlap to some extent, members of the Systems Analysis Team are also active members on the Water Quality Local Advisory Councils and related annual reviews of water quality and associated issues. The groups have pursued and secured grants to combine with matched funds and in-kind services for projects to improve water conservation (e.g., irrigation efficiency improvements, water re-use); best management practices; watershed restoration; water quality and other concerns.

Restoration
Malheur Watershed Council (MWC) has partnered with the Oregon Watershed Enhancement Board (OWEB) for more than 15 years to secure funds for Malheur Basin restoration work. Several hundred large and small restoration projects have been implemented throughout the Malheur watershed during that time.

In addition to OWEB, cost-share partners on projects were private landowners, irrigation districts, the Natural Resources Conservation Service (NRCS), and Malheur County Soil and Water Conservation District (SWCD). They collaboratively worked to improve watershed process and function.

Vale Oregon Irrigation District (VOID) has been very proactive in their conservation measures. VOID installed over 120 miles of pipelines in the last 20 years. These pipelines eliminate open laterals and ditches and reduce erosion, seepage as well as evaporation. VOID has created the main infrastructure for farmers to be able to pressurize a large portion of their on-farm irrigation systems.

A few of examples of projects proposed to accomplish multiple objectives, such as water conservation, protecting and improving water quality, increased irrigation efficiency, and watershed restoration, are:

(a) 2016 Application to the Oregon Water Resources Department Water Supply Development Account Loan and Grant Program for the Willow Creek: Piping Irrigation Laterals project;
(b) 2013 USBR WaterSMART Program for the Willow Creek Pipeline Project;
(c) 2011 OWEB Special Investment Partnership Concept Proposal for the Willow Creek Piping Project; and

(d) 2009 NRCS Willow Creek Agricultural Water Enhancement Program (AWEP) Project to help landowners in the Lower Willow Creek Watershed, Malheur County convert to water-saving irrigation systems, reduce irrigation runoff, and improve water quality in Willow Creek and Malheur River.

Irrigation Water Re-Use and Best Management Practices

The re-use of runoff and drainage outflow is essential to balance water availability to district users. Vale Irrigation has the ability to use some of it's own return flow up to ***7 times***. As on-farm irrigation application becomes more efficient through improved irrigation systems (i.e. convert to drip and sprinkler systems) and improved irrigation water management, less runoff becomes available thereby upsetting the existing distribution versus on-farm needs, necessitating additional water conservation measures. Lower lands in the Vale Irrigation District rely on 70% of the water supply to come from runoff returns. Warmsprings Irrigation District also relies on return flow from the Vale District. The irrigation districts have partnered to conserve the shared limited resources and more effectively deliver water to irrigated lands.

Water Supply Storage

The original application to reserve unappropriated water in the Malheur River Basin, approved in 1997, included a storage site analysis and identified potential storage sites, including McRea Ranch on Granite Creek, tributary to the South Fork Malheur River, and Vines Reservoir on the Malheur (see Appendix A), as well as other potential sites in the Malheur and Owyhee Basins (see Appendix B). The potential role of conservation in meeting water supply irrigation demands was also discussed in the original application. Conservation can be effective over the long term, however recent prolonged dry and drought conditions have underscored the necessity of additional stored water to supplement when allotments are too short to meet crop water demands.

Alternatives for water storage, in particular for available water of the Malheur Reservations, include: (a) increasing the height of one or more existing dams (e.g., Agency Valley or Bully Creek dams); (b) dredging one or more of the existing reservoir (e.g., Beulah or Bully Creek reservoirs) to regain storage lost to sedimentation; and (c) constructing new storage facility (e.g., Vines Reservoir) to capture runoff from storm events.

The USBR conducted an appraisal study for increasing the height of Agency Valley Dam, and summarized the results in a 2012 report. The feasibility study was in response to the U.S. Fish and Wildlife Service's Biological Opinion issued in 2005 that recommended increasing carryover storage behind Agency Valley Dam on the North Fork Malheur River and Warm Springs Creek to aid bull trout protected under the Endangered Species Act.

The report documented appraisal-level design alternatives developed to raise Agency Valley Dam and pass the necessary outflows associated with the additional storage. Ranking at the top, raising the dam embankment by 4 feet to increase the

total reservoir volume by 8,000 acre-feet was the preferred alternative. This study is the second related to raising the height of Agency Valley, underscoring the potential viability of the alternative.

Lidar Mapping
The local irrigation districts were at the forefront of acquiring LiDAR (or lidar, i.e., light detection and ranging) imagery maps of the districts. Lidar maps are high resolution relief maps created by emitting light in the form of pulsed laser onto the earth surface. The distance between the laser light source and the earth surface is measured with high accuracy. Since lidar also filters vegetation, the images reveal tremendous land surface detail, such as natural as well as constructed flow paths, drainage areas, depressions, and other surface features. The information is used to inform decisions on improving conveyance, drainage, irrigation efficiency, water capture and re-use; potential storage sites, and other uses.

(5) Discussion of challenges to developing the reservation:

Key challenges to developing the reservation of unappropriated water have been:

- Cost of projects and lack of adequate funding for water projects;
- Regulatory requirements;
- Opposition by some non-profit organizations (e.g., some environmental organizations);
- Bull Trout; and
- Sage Grouse conservation issues.

The challenging factors can hamper realization of innovative and timely alternatives at scales necessary to achieve reliable water supplies, food security and public health. They also affect ecosystem adaptation to changes in climate and hydrology, and limit sustainable ecosystem services. Addressing environmental requirements and obtaining necessary permits are anticipated to require substantive expenditures of time and money.

Securing sufficient funding for water projects requires considerable time and assurance that water is available for proposed projects. Before proposed projects even begin to proceed, costly mitigation may be required. It is not uncommon that required mitigation is often based on archaic scientific methods and obsolescent data. Although such resource management practices may have been state-of-the-science 20 years ago or more, they may now be out of synch with evolving science, unsuited to local conditions, and may be counter-productive to target species. Often, resource management regulations are also in need of updating.

Even though irrigation districts, landowners and other community stakeholders are interested in innovative solutions, litigation is still a tool used by some organizations to prevent water supply development. Such practices damage stakeholder trust and good will, thereby prolonging efforts and unnecessarily increasing expenditures to achieve resolutions to vital water resources issues.

(6) Description of actions that will need to be undertaken in the future in order to develop the reservation:

Necessary actions to undertake in order to develop the reservations of unappropriated water include:

- Establish working partnerships with federal, state and local agencies;
- Conduct studies and collect other relevant data and information that are necessary to: (a) plan and design projects; (b) negotiate with federal, state and local agencies; and (c) secure project funding.

(7) Information on how the proposal is compatible with overall basin program goals and policies:

The WRC determined in 1997 that the application for the reservation of unappropriated water was compatible with the Malheur Basin program goals and policies, and approved the reservation. The reservations were subsequently adopted into the Malheur Basin Program [OAR 690-510-0110]. The proposal to extend the term of the Malheur Reservations remains consistent with the Malheur Basin Program goals and policies. Landowners in the Malheur Basin have beneficially used water for over a century for multiple purposes including irrigation, livestock, domestic and commercial purposes; hydropower generation, fish and wildlife; and recreation. These beneficial uses are part of integrated operations, and are consistent with goals of the broader agricultural and cultural communities. As agriculture continues to incorporate technology through:

- Modernizing facilities;
- Upgrading aging infrastructure, and
- Increasing water and energy use efficiencies,

as well as securing supplemental water supplies from the Malheur Reservations that will foster robust, resilient economies in the area; they attain the highest and best use of water by 21st Century standards.

(8) Identification of affected local governments:

Oregon Department of Agriculture (ODA), with assistance from irrigation districts, soil and water conservation districts, and watershed councils in the Malheur River Basin developed a list of affected local governments in the Basin. ODA notified affected local governments by mail (May 31, 2016), and copies of the notification letter will be retained on file at ODA and OWRD, and are included in Appendix C.

(9) Copies of letters notifying each local government of the intent to file an extension request that includes a description of the reservation and statement that an opportunity to provide comment will be provided at a future date:

The letter notifying each local government of the intent to file an application to extend the term of the reservation included a description of the reservation, and a statement that an opportunity to provide comment will be announced at a future date. In this case, the date, time and location of a public hearing where the public

would have the opportunity to comment on the extension of the term of the Malheur Reservation was included. A copy of the letter was mailed on May 31, 2016 to affected local governments in the Malheur Basin, and is included in Appendix C, and will be retained on file at ODA and OWRD.

(10) Description of expected economic benefits:

Economic benefits from developing water from the Malheur Reservations are expected to accrue from:

- Increased production in years that are not water short, as well as
- Reduced losses in drier conditions;
- Flood control;
- Agriculturally related commercial business and industry; and
- Recreation.

In 2016 dollars, the original estimates of overall annual economic value of the reservation request are:

- $6.5 million in increased agricultural crop production (or decreased loss);
- $17.7 dollars in increased processing, marketing and transportation of products; and
- $14.3 dollar increase in land values due to the many improvements.

The analysis does not evaluate other important benefits such as flood control, tourism and flatwater recreation. For comparison purposes, the Malheur project provided an accumulated $33,010,000 in flood control benefits from 1950 to 1998. Recreational opportunities provide benefits that may be derived from:

- An excellent warm-water fishery;
- Boating (recreational and fishing);
- Excellent waterfowl hunting;
- Surrounding hills and canyons are home to upland game birds;
- Hiking, camping and backpacking;
- Wildlife and waterfowl viewing (e.g. wild horses, bighorn sheep, golden eagles, pelicans, and cormorants); and
- Bird watching.

Many of the recreational activities have associated economic benefits to the community and region including food and beverages; gear and equipment sales; boat and other recreational vehicle rentals; lodging; gasoline; groceries; and souvenirs and gifts.

Similar to area agriculture, municipalities and businesses also depend on a sustainable water supply, and would benefit from access to the Malheur Reservations. An uncertain municipal water supply deters prospective residents from relocating to the area, thereby suppressing the housing market. Improving reliability of water supply would help attract new residents and business to the area, which in turn would support local economic activity. Maintaining a reliable

water supply therefore contributes to job growth and retention, and increases economic activity through processing and packaging; transportation and handling; marketing, management and local tax revenues.

Economic Impact of Loss Prevention

Irrigation districts in the Malheur and Malheur basins have been increasing the efficiencies of water management, control, conveyance, and irrigation application for decades. They have also been partners in restoration and other conservation projects in the basins. The restoration projects have been effective in reconnecting the hydrologic system, which in turn has improved streamflow reliability and mitigated impacts of drought in the system. For example:

Economic Effects of the 2015 Drought—Mitigative Effects of Efficiency & Management

Scott Jenson, University of Idaho Owyhee County Extension Agent, estimated impacts of the drought on irrigated lands of the Owyhee and Vale (Malheur Basin) Projects (i.e., Owyhee, Vale Oregon and Warmsprings irrigation districts) for 2014-2015. The majority of crops grown in Malheur County during 2014-2015 were feed crops, although high value crops, such as mint, onions, sugar beets beans, and seed crops were also grown. However, growers moved locations in which they planted high value crops to areas where the crops would receive the most water.

Approximately 35,000 acres in the Vale Irrigation District and 19,949 acres in the Warmsprings Irrigation District were affected by drought. Crop losses, due to total acres fallowed and reductions in yield, ranged between 20% and 40%. Economic impacts from crop losses totaled $27,154,751 for VOID, and $15,948,029 for Warmsprings irrigation districts.

Although total agricultural losses in 2015 were high, the irrigation districts believed that losses would have been much higher had the districts not made large investments in water conservation, system and management improvements, as well changes in patterns in cropping and types of crops planted (e.g., crops with lower water demands or earlier maturing crop types).

Available water from the Malheur Reservations may serve as a supplemental supply, or serve in a suite of options in a comprehensive water management and use strategy to prevent or mitigate impacts of prolonged dry and drought periods, and from effects of climate and hydrologic changes.

(11) Information on whether the reservation exists above or within a Scenic Waterway:

The reservations do not exist above or within a Scenic Waterway.

(12) Statement that explains how the reservation and proposed water use(s) will promote the beneficial use of the water without waste:

Land owners, irrigation districts, Malheur SWCD, Malheur Watershed Council and stakeholders propose that available water from the Malheur Reservation be used for multiple beneficial uses as described in question (2). Water resources in the Malheur Basin are limited, necessitating integrated, cooperative, and efficient use of existing resources, including water re-use, and securing additional available sources. New sources of available water, such as from the Malheur Reservations, would supplement irrigation supplies during dry and drought conditions, and help re-establish balance between irrigation water distribution and on-farm water needs.

Appendix A

Detailed Reports for Watershed ID #31011701

MALHEUR R > SNAKE R - AT MOUTH
MALHEUR BASIN

Water Availability as of 5/23/2016

Watershed ID #: 31011701 (Map)
Date: 5/23/2016

Exceedance Level: 50%
Time: 9:01 AM

Water Availability Calculation

Monthly Streamflow in Cubic Feet per Second
Annual Volume at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	252.00	427.00	-175.00	0.00	0.00	-175.00
FEB	616.00	626.00	-9.67	0.00	0.00	-9.67
MAR	1,080.00	911.00	169.00	329.00	0.00	-161.00
APR	1,380.00	1,060.00	322.00	470.00	0.00	-148.00
MAY	846.00	957.00	-111.00	0.00	0.00	-111.00
JUN	505.00	857.00	-352.00	0.00	0.00	-352.00
JUL	195.00	686.00	-491.00	0.00	0.00	-491.00
AUG	120.00	540.00	-420.00	0.00	0.00	-420.00
SEP	110.00	376.00	-266.00	0.00	0.00	-266.00
OCT	143.00	209.00	-65.80	0.00	0.00	-65.80
NOV	180.00	223.00	-42.90	0.00	0.00	-42.90
DEC	202.00	297.00	-95.50	0.00	0.00	-95.50
ANN	338,000.00	432,000.00	29,500.00	48,200.00	0.00	0.00

South Fork Malheur River Reservation

Detailed Reports for Watershed ID #31011723

MALHEUR R > SNAKE R - AB HOG CR
MALHEUR BASIN

Water Availability as of 5/23/2016

Watershed ID #: 31011723 (Map)
Date: 5/23/2016

Exceedance Level: 50%
Time: 9:01 AM

Water Availability Calculation

Monthly Streamflow in Cubic Feet per Second
Annual Volume at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	193.00	343.00	-150.00	0.00	0.00	-150.00
FEB	399.00	504.00	-105.00	0.00	0.00	-105.00
MAR	715.00	677.00	38.40	101.00	0.00	-62.90
APR	1,090.00	770.00	320.00	117.00	0.00	203.00
MAY	701.00	670.00	31.30	0.00	0.00	31.30
JUN	399.00	805.00	-206.00	0.00	0.00	-206.00
JUL	158.00	582.00	-424.00	0.00	0.00	-424.00
AUG	104.00	478.00	-374.00	0.00	0.00	-374.00
SEP	97.60	315.00	-217.00	0.00	0.00	-217.00
OCT	128.00	152.00	-24.30	0.00	0.00	-24.30
NOV	155.00	196.00	-41.00	0.00	0.00	-41.00
DEC	166.00	248.00	-81.60	0.00	0.00	-81.60
ANN	259,000.00	334,000.00	23,300.00	13,200.00	0.00	14,000.00

DATE: March 6, 1991

TO: Martha Pagel, Director
Oregon Water Resources Department
1850 Portland Road NE
SALEM, OR 97310

FROM: Bruce Andrews, Director

SUBJECT: **REQUEST FOR RESERVATION** of the unappropriated waters of the **MALHEUR RIVER** and its tributaries for future agricultural economic development.

The **OREGON DEPARTMENT OF AGRICULTURE, 635 CAPITOL STREET NE, SALEM, OREGON, 97310,** hereby requests the reservation of **65,000** acre feet of water from the Malheur River Basin. We request a reservation be established for the following sources and quantities. Potential storage sites are also listed. Other potential but less feasible sites are identified by attached schedule A.

SOURCE	QUANTITY	STORAGE SITE
South Fork Malheur River	50,000 acre feet	McDea Ranch (Granite Cr)
Malheur River	15,000 acre feet	Vines Canyon
	Total **65,000** acre feet	

The water is to be put to beneficial use for the following purposes and amounts during the time periods indicated, to support existing and expanding agricultural enterprises and associated industries:

	PURPOSE	QUANTITY OF WATER - AF	SEASON OF USE
1.	IRRIGATION	60,000	MARCH 1 TO OCTOBER 31
2.	LIVESTOCK	1,000	YEAR ROUND
3.	INDUSTRIAL	1,000	"
4.	AGRICULTURE	1,000	"
5.	MUNICIPAL	8,000	"
6..	FISHERY	10,000	"
TOTAL AF REQUESTED		65,000	

page 1

PROPOSED LOCATION OF USE:

The uses proposed will occur in Malheur County.

Irrigation will most likely occur as a supplemental supply to existing projects such as those of irrigation districts and private users. The water may also be used for development of some new lands as an expansion of existing projects and districts.

The other uses within this reservation request will likely occur as a result of the expansion of existing public and private water delivery systems. As agricultural land development occurs along the Malheur River, so will the water needs for many related purposes and services, principally, food processing.

DURATION OF RESERVATION

We expect the development and subsequent appropriation of the reserved water to begin soon after the reservation request is approved. We do not expect the reserved water to be fully developed or appropriated for 40 or more years.

WATER SOURCE ALTERNATIVES

Our analysis has found very little water available within the Malheur River basin. Our first consideration, as an alternative, is conserving existing resources. This appears to be feasible only in the long term and does not provide for the fishery aspect of our request. There is an immediate need for a supplemental supply for existing districts Our analysis identified that the South Fork Malheur River had winter runoff that could be stored during periods of high flows.

Our second consideration is to reserve water from Snake River according to the reservations set by classification. OAR 690-510-001 (2) classified 1,454,000 acre feet from Snake River for domestic, livestock, municipal and irrigation use.

Ground water appears to be a limited resource and is not considered an alternative to meet future economic needs of the area.

LAND USE COMPATABILITY

All present and future land use zoning will be compatible with the uses of water described for economic development. The use of irrigation water applied to croplands and other lands presently dry farmed, and supplemental water applied to lands presently irrigated, will allow the full development potential of the exclusive farm use lands.

This reservation request and its later development will be coordinated with districts, cities and the county.

Appendix B

SCHEDULE A

METHODOLOGY, STORAGE SITE ANALYSIS

Since the early days of settling the arid portions of Oregon, man has attempted to identify places to store water and ways to reduce flooding and to provide water during times of shortage. This endeavor has resulted in the construction of numerous reservoirs and also a seemingly un-ending list of potential storage sites.

This study could not include all potential sites ever considered due to the large number and also due to the lack of a central repository for the site data. The major sources used are: OWRD Basin Reports, Bureau of Reclamation Reports, Soil Conservation Service Reports, Corps of Engineers Reports, OWRD Water-shed Planning Reports, Soil and Water Conservation District Reports and inventories provided by Irrigation Districts or consultants.

For the purpose of this reservation request we selected from a list of available sites, those sites that best matched a set criteria that identified sites as most feasible and desirable. The criteria used as guidance in our selection is listed below:

1. Water must be available to be stored.
2. Sites are located in the upper stream reaches, off channel, or
3. Sites are located on streams having little known anadromous fish.
4. Sites are located on predominantly public land or have minimal impact upon private land use.
5. Sites have a high storage to cost ratio.
6. Sites do not adversely affect infra-structure such as roads, power lines and pipelines.
7. Sites have multi-purpose storage ability.
8. Sites provide for instream flow improvement as well as flat water recreation opportunities.
9. Sites provide some flood control benefit.

The attached map identifies the location of the storage sites deemed most feasible at the time of this request. Our request is not intended to limit the reservation of water to storage only at those sites however. Other sites may be determined more feasible during the term of this reservation.

Appendix C

Oregon
Kate Brown, Governor

Department of Agriculture
635 Capitol St NE
Salem, OR 97301-2532

Public Notice of Application for Extension of Term of Reservations of Unappropriated Water for Future Economic Development

Date: May 31, 2016

Subject: In accordance with OAR 690-079-0060 (10), this notice is to inform affected local governments that Oregon Department of Agriculture (ODA) will apply to extend the term of reservations of unappropriated water from expiring on January 7, 2017, to expire on January 7, 2037. The application for extension of term applies to the Malheur Reservations (OAR 690-510-0110):

- Malheur River and tributaries (35,000 acre-feet), and
- South Fork Malheur River and tributaries (13,200 acre-feet).

Action: No action is required and no comments are requested at this time. Information regarding opportunities for public comment, including further information about a public hearing to be held on July 28, 2016, at 4:00 PM in Ontario, OR, will be forthcoming.

Background: Reservations of unappropriated water were granted in 1996 and recorded in the Malheur Basin Program (OAR 690-510-0110). The unappropriated water was reserved for 20 years with option for extending the term up to an additional 20 years. Demand has increased to use the reserved water for irrigation, groundwater recharge, augment streamflow, and municipal supply.

Extending the reservations for an additional 20 years would provide agricultural water users with greater certainty and time to plan, advance, and complete vital multipurpose water resources projects to enhance economic opportunity in agriculture.

Contact For Information: Margaret Matter, Oregon Department of Agriculture

a) Office Phone: 503-986-4561
b) Email: mmatter@oda.state.or.us

Copies of the applications for extension of terms of the reservations in the Malheur Basin are available upon request.

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Malheur County
215 B Street West, #12
Vale, OR 97918

Malheur SWCD
Linda Rowe, District Manager
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Ontario, OR 97914

Malheur Watershed Council
Kelly Weideman, Director
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Owyhee Watershed Council
Nicole Sullivan, Director
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Vale Oregon Irrigation District
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Owyhee Irrigation District
Jay Chamberlin, Manager
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Nyssa, OR 97913

Warm Springs Irrigation District
Randy Kinny, Manager
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Orchard Water District
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Harper South Side Irrigation
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Old Owyhee Ditch Improve. Dist.
Mike Blackaby
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M. Adele Dockter
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Tori Barnett
Ontario Interim City Manager
444 SW Fourth Street
Ontario, OR 97914

Mike McLaughlin
Vale Mayor
252 B Street West
Vale, OR 97918

Malheur Basin Reservations
Of Unappropriated Water
Mailed May 31, 2016

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Oregon
Kate Brown, Governor

Department of Agriculture
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- South Fork Malheur River and tributaries (13,200 acre-feet).

Action: No action is required and no comments are requested at this time. Information regarding opportunities for public comment, including further information about a public hearing to be held on July 28, 2016, at 4:00 PM in Ontario, OR, will be forthcoming.

Background: Reservations of unappropriated water were granted in 1996 and recorded in the Malheur Basin Program (OAR 690-510-0110). The unappropriated water was reserved for 20 years with option for extending the term up to an additional 20 years. Demand has increased to use the reserved water for irrigation, groundwater recharge, augment streamflow, and municipal supply.

Extending the reservations for an additional 20 years would provide agricultural water users with greater certainty and time to plan, advance, and complete vital multipurpose water resources projects to enhance economic opportunity in agriculture.

Contact For Information: Margaret Matter, Oregon Department of Agriculture

a) Office Phone: 503-986-4561
b) Email: mmatter@oda.state.or.us

Copies of the applications for extension of terms of the reservations in the Malheur Basin are available upon request.

Alvin Scott, Planning Director
Malheur County
215 B Street West, #12
Vale, OR 97918

Malheur SWCD
Linda Rowe, District Manager
2925 SW Sixth Avenue, Suite 2
Ontario, OR 97914

Malheur Watershed Council
Kelly Weideman, Director
710 SW Fifth Avenue
Ontario, OR 97914

Owyhee Watershed Council
Nicole Sullivan, Director
PO Box 275
Adrian, OR 97901

Vale Oregon Irrigation District
Dan Fulwyler, Manager
521 A Street West
Vale, OR 97918

Owyhee Irrigation District
Jay Chamberlin, Manager
17 S First Street
Nyssa, OR 97913

Warm Springs Irrigation District
Randy Kinny, Manager
344 Main Street N
Vale, OR 97918

Orchard Water District
Toby McBride
PO Box 54
Jamieson, OR 97909

Harper South Side Irrigation
PO Box 349
Harper, OR 97906

Old Owyhee Ditch Improve. Dist.
Mike Blackaby
PO Box 280
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Oregon Water Resources Congress
April Snell, Executive Director
795 Winter Street NE
Salem, OR 97301

US Bureau of Reclamation
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1150 North Curtis Rd, Suite 100
Boise, ID 83706-1234

M. Adele Dockter
Adrian City Council President
PO Box 226
Adrian, OR 97901

Marie Kershner
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Roberta Vanderwall
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301 Main Street
Nyssa, OR 97913

Tori Barnett
Ontario Interim City Manager
444 SW Fourth Street
Ontario, OR 97914

Mike McLaughlin
Vale Mayor
252 B Street West
Vale, OR 97918

Malheur Basin Reservations
Of Unappropriated Water
Mailed May 31, 2016

Oregon
Kate Brown, Governor

Department of Agriculture
635 Capitol St NE
Salem, OR 97301-2532

May 31, 2016

Tom Byler, Director
Water Resources Department
725 Summer Street NE; Suite A
Salem, Oregon 97301

Dear Director Byler:

The Department of Agriculture (ODA), in accordance with OAR 690-079-0060, requests a 20-year extension of the terms for the following reservations of unappropriated water for future economic development in agriculture:

- **Owyhee Reservations (OAR 690-511-0110):**
  Sixty thousand (60,000) acre-feet of unappropriated water of the Owyhee River and tributaries are reserved.

Application information called for in the form, Request for Extension of Reservation, is provided for the Owyhee Reservations. Please contact Margaret Matter if additional information is needed for consideration of this request.

The original applications for reservations were approved in the 1990's and since that time, changes in Oregon have increased the likelihood of realizing water storage projects, for example:

- New public and private programs for planning, technical assistance and funding for water resources projects;
- Biological opinions and conservation plans for anadromous fish have been completed;
- Over a decade of prevailing dry conditions followed by extreme drought, and effects of climate change have underscored the need for additional storage to help mitigate effects of more intense droughts as well as manage floods;
- With additional staff, ODA has been actively engaged in informing and reminding agricultural communities about their reservations of unappropriated water and the potential opportunities the reservations offer.

The 20-year extensions of reservation terms would provide agricultural water users in the Owyhee Basin with certainty and time to advance and complete vital multipurpose water resources projects.

Sincerely,

Katy Coba
Director

RECEIVED
MAY 31 2016
WATER RESOURCES DEPT
SALEM, OREGON

Request for Extension of Terms for
Reservations of Water for Economic Development
Owyhee Basin Reservations

DATE: May 31 2016

(1) Agency Name and Address

Oregon Department of Agriculture
635 Capitol Street NE
Salem, OR 97301

Contact: Margaret Matter, Water Resources Specialist
Phone: (503) 986-4561
Email: mmatter@oda.state.or.us

(2) Description of the existing reservation and applicable rule reference:

The Oregon Water Resources Department (OWRD) conducted a water availability analysis for the application to reserve unappropriated water in the Owyhee River Basin in 1997. OWRD determined the following quantity of water was available for the reservation, and the Water Resources Commission (WRC) approved the request:

- Owyhee Reservations (OAR 690-511-0110):
  Sixty thousand (60,000) acre-feet of unappropriated water of the Owyhee River and tributaries are reserved.

The original (1997) water availability analysis and a recent report from the OWRD Water Availability Reporting System for the Owyhee Basin are included in Appendix A. Sixty thousand (60,000) acre-feet of water are presumably available at 50% exceedance for storage during the months of February through May. However, the actual timing of availability for out of stream uses may be influenced by instream flow restrictions discussed in OAR 690-033-0120. A new, site-specific water availability analysis will be conducted at the time that an application is submitted for a permit to store water from a reservation.

(3) Discussion of the continued current and future need for the reservation:

Current water resources needs identified are anticipated to be ongoing or similar to future needs. The Owyhee River Basin reservation offers opportunities to meet some water supply needs including for:

- Irrigation [OAR 690-300-0010 (26)]
- Stockwater Use [OAR 690-300 (46)]
- Municipal Water Use [OAR 690-300-0010 (29)]
- Agricultural Water Use [OAR 690-300-0010 (2)]
- Commercial Water Use [OAR 690-300-0010 (25)]
- Domestic Water Use [OAR 690-300-0010 (14)]

- Aquatic Life Water Use [OAR 690-300-0010 (3)]
- Recreation Water Use [OAR 690-300-0010 (43)]

The reservations of unappropriated water are intended for future economic development in agriculture, and in the Owyhee River Basin that may involve:

(a) Promoting economic sustainability and resilience in agriculture through
- Enhancing water supply reliability (e.g., supplemental);
- Adaptation to changing climate and hydrologic conditions;
- Contingency planning for mitigation and flexibility during prolonged dry and drought conditions.

(b) Supporting agricultural communities in the basin through
- Improved reliability of municipal water supplies that:
  - Promotes community health and well-being,
  - Fortifies property values,
  - Attracts and supports agriculturally related commercial businesses and industries; and
  - Provides recreational opportunities for local and regional communities and visitors, and encourages related business prospects.

Background

The Owyhee Basin in Oregon lies mainly within the borders of Malheur County. The area has rich, fertile soils and favorable climate conditions for agriculture, and good, although highly variable, water supplies that support diverse and productive agriculture and ranching in the region. Crops raised on irrigated farms include onions; sugar beets; a variety of grains; potatoes, beans, sweet corn, alfalfa seed; hay and pasture. Irrigation also supports dairy production, and raising beef cattle, buffalo, and other livestock.

Agricultural is foundational to the economy of Malheur County, with farm gate values exceeding $370 million, and generating over $1 billion dollars from related sales, processing, packing and services, according to Oregon State University (OSU Extension, OAIN, 2013; http://oain.oregonstate.edu/EconInfo/sr790-2013.pdf). But robust agriculture depends on ample, reliable water supplies, and annual flows of the Owyhee River are highly variable. Reservoir storage and irrigation are key factors in ample and more reliable water supplies for productive agriculture.

Owyhee, Warmsprings and Vale irrigation districts are the three major water projects in Malheur County. The irrigation districts provide most of the water to about 256,000 cultivated acres in the area, mainly on family farms. Other smaller irrigation districts also operate in the area, including Old Owyhee Ditch Improvement District and Ridgeview Irrigation District/South Board of Control. The irrigation districts depend on one another through agricultural use of water and infrastructure. For example:

(a) Irrigation water is delivered by one irrigation district to other districts;
(b) Some smaller districts are located within larger irrigation districts; and

(c) Irrigation return flows from one district may become part of the irrigation supply for the next district.

The water arrives primarily in the form of snow during the winter and early spring. The Owyhee River Basin receives 10 inches of precipitation annually on average. Runoff from snowmelt and spring rains is captured in the irrigation district reservoirs for release during the growing season. Some reservoirs, like the Owyhee Reservoir, were designed to store more than one year's supply of water. At the end of a growing season, water remaining in the reservoirs is carried over in storage for the next growing season. Owyhee Reservoir historically carries over 350,000 to 500,000 acre-feet. However more recently, climate and hydrology have changed significantly, and volumes of water carried over to the next season have been closer to 1.5% to 2% of typical volumes (5,250-10,000 ac-ft).

Prevailing climate conditions have been warmer and drier for more than 15 years, resulting in less runoff to fill reservoirs. In addition, warmer temperatures increase crop water demands; evaporative and seepage losses from canals and reservoirs. During the past six consecutive years or more, the Owyhee and Malheur basins have suffered severe to extreme drought. The reservoirs in the Owyhee Basin have failed to refill by significant margins, and any additional irrigation supplies, such as carry over storage, have been exhausted.

Irrigators have experienced previous droughts so they plan accordingly for water-short years. Yet water allotments have been reduced in recent years from 4 acre-feet per acre to about one-third, or 1.3 acre-feet per acre. Some farms even went without water in 2015. Irrigation allotments ended almost a month early in 2015, and irrigations storage in Owyhee Reservoir was nearly empty. Immediate strategies to cope with low water supplies include:

- Fallowing acreage to save water to use on other crops;
- Planting less water consumptive crops (e.g., wheat instead of onions); and
- Planting crops that mature earlier (e.g., corn).

Up to 30% or more of irrigated acreage was fallowed each year for the past six years in the Owyhee Basin. That equates roughly to annual farm incomes reduced by approximately 30% annually for the duration of the drought.

Cumulative effects of consecutive years of extremely dry conditions have taken a heavy toll in crop loss, reduced production, and non-production as a result of crops fallowed to save water. Subsequent economic impacts ripple local and regional economies. For some farmers with junior water rights, effects of prolonged drought were ruinous. Yet many farmers were able to stretch the meager water supplies because they had aggressively invested in water conservation.

Water Resources Conservation

The local irrigation districts and the farmers have partnered in many places to replace formerly open canals with pipes to carry irrigation water. Using pipes to convey water eliminated canal seepage, and allowed the irrigation districts to

deliver pressurized water to farmers. In turn, approximately 70 percent of the irrigation districts' farmers have installed high efficiency drip irrigation and pivot irrigation systems on their farms, making it possible for the farmers to irrigate the same amount of land far more efficiently than by flood irrigation. Farmers have also begun installing recapture and recirculation systems to collect and contain field runoff, and reuse the water multiple times.

Aggressively implementing technology to better use and manage scarce water resources has allowed many farmers to stay in business despite severe drought conditions. In addition, these changes have improved water quality in the area, minimizing or eliminating nutrient-laden runoff into the Owyhee and Snake Rivers.

With the looming potential that changes in climate and hydrology will lead to more frequent, intense and prolonged periods of drought, it is increasingly important to make further investments in water conservation, reuse and supplemental water storage. This will require commitments to building and maintaining partnerships, such as those in the Owyhee River Basin, that have been built among private industry, government, and conservation groups to bring resources to the table and to invest them wisely.

Changes in Climate

Water requirements of crops, livestock and people increase as temperatures increase (EPA 2015; https://www3.epa.gov/climatechange/impacts/water.html). In order to meet increasing water demands as temperature trends continue to increase into the future, water conservation and storage will also need to increase. Stream temperatures will increase as a consequence warmer temperatures associated with climate change even without diversions from streams and rivers. It is then critically important to anticipate and understand future temperature and streamflow conditions in order to inform management, mitigation strategies and actions to prevent or mitigate effects of high temperatures and low flows on fish species and aquatic ecosystems.

The US Bureau of Reclamation evaluated potential climate change impacts on water supply reliability in the basins in Oregon. They applied results from Phase 3 of the Coupled Model Intercomparison Program (CMIP3, 2007) in their model study. Since 2007, results from the 5th Phase of CMIP (CMIP5) were used to write the 5th IPCC Assessment Report (AR5).

Oregon Climate Change Research Institute (OCCRI; Kathie Dello, personal communications, Sept 2015) provided climate model projections from Phase 5 of the Coupled Model Intercomparison Program (CMIP5) of average monthly temperature changes for summer months during the 2080s (see Table 1). Rising temperatures will increase crop water use, or evapotranspiration (ET), approximately 5% for each degree F increase in temperature, all other factors remaining equal (Wagoner and Revelle 1990; OCCRI 2010). Warming will be highest

Table 1. Projected Summertime Temperature Increases by the 2080s	
Month	**Temperature Increase (deg F) in Mean Monthly Temperatures**
June	5-9
July	6-10
August	6-10
September	5-10

during summer months (part of the growing season), and summer precipitation is expected to decrease 14%, on average, and shift more into the winter (OCCRI 2010).

Based on the general relationship between increasing temperature and ET, 25%-50% more water may be required during the summer months by the 2080s to raise the same crops grown today on the same acreage. On a daily basis, the estimates may be conservative since maximum daily temperatures during the growing season will have greater immediate impact on crops than mean monthly temperatures.

Livestock water requirements also increase with temperature. The amount of water required varies with age, size and other factors. In general, under heat-stressing conditions, water needs increase 1.2 to 2 fold for each 10 deg F increase in temperature (Beede 1994; Tennessee Extension Service 2015; https://extension.tennessee.edu/WebPacket/Pages/WP-2015-03-CattleWatering.aspx).

Changes in climate will likely influence drought intensity and duration. The contribution of anthropogenic climate change on drought conditions (e.g., intensity, duration and location) in Oregon has not been fully investigated, but Williams and others (2015) found that effects of human-influenced climate change contributed 8-27% to the drought in California during 2012-2014, and 5-18% in 2014. Adaptation to warmer, drier summer conditions, more intense winter precipitation, and winter precipitation falling more often in the form of rain rather than snow in Oregon will require increased capacity to capture and store water, and manage runoff to meet increasing water demands for agriculture, municipalities, agriculturally-related commercial operations, recreation and fisheries.

(4) Description of actions taken to advance development of the reservation:

Stakeholders in Malheur County, including the irrigation districts, landowners, Malheur County Soil and Water Conservation District, watershed councils; partners from federal, state and local governments and others, formed the Systems Analysis Team over a decade ago to collaboratively address water resources and related challenges as a community. Since water quantity, use and quality issues typically overlap to some extent, members of the Systems Analysis Team are also active members on the Water Quality Local Advisory Councils and related annual reviews of water quality and associated issues. The groups have pursued and secured grants to combine with matched funds and in-kind services for projects to improve water

conservation (e.g., irrigation efficiency improvements, water re-use); best management practices; watershed restoration; water quality and other concerns.

Water supplies in the Owyhee Basin are highly variable, complicating management of water and related resources. The original application to reserve unappropriated water in the Owyhee River Basin, approved in 1997, identified a potential storage site in the Jordan Creek Basin (Appendix A), and included a storage site analysis with a list of other potential water storage sites in the Owyhee and Malheur Basins (Appendix B). A water availability analysis accompanying the application showed limited additional surface water reserves in the Basin. Thus water conservation would be important in meeting water needs. While water conservation can be effective over the long term, recent prolonged dry and drought conditions have underscored the need for supplemental water supplies at times when existing water rights are insufficient to meet crop demands.

Water Resources Conservation
Local irrigation districts and the farmers have partnered to replace formerly open canals with pipes to carry irrigation water. Over the past 10 years, the USBR funded the Owyhee Irrigation District (OID) and South Board of Control with $1.8 million for piping and other improvement projects. OID received an additional $352,000 for pipeline installation. Using pipes to convey water eliminated canal seepage, and allowed the irrigation districts to deliver pressurized water to farmers. Approximately 70 percent farmers in the irrigation districts have upgraded to high efficiency drip and pivot irrigation systems on their farms, allowing farmers to irrigate the same amount of land far more efficiently than by flood irrigation. Farmers have also begun installing recapture and recirculation systems to collect and contain field runoff, and reuse the water multiple times.

Aggressively implementing technology to better use and manage scarce water resources has enabled many farmers to stay in business despite severe drought conditions. In addition, these changes have improved water quality in the area, minimizing or eliminating nutrient-laden runoff into the Owyhee and Snake rivers.

Lidar Mapping
The local irrigation districts were at the forefront of acquiring LiDAR (or lidar, i.e., light detection and ranging) imagery maps of the districts. Lidar maps are high resolution relief maps created by emitting light in the form of pulsed laser onto the earth surface. The distance between the laser light source and the earth surface is measured with high accuracy. Since lidar also filters vegetation, the images reveal tremendous land surface detail, such as natural as well as constructed flow paths, drainage areas, depressions, and other surface features. The information is used to inform decisions on improving conveyance, drainage, irrigation efficiency, water capture and re-use; potential storage sites, and other uses.

Water Storage Options
To complement water conservation, available water could be stored in Owyhee Reservoir. During drier or drought conditions, water allotments may be reduced, so

the stored reservation water could be used to supplement short water allotments. Potential alternatives for storing available water from the Owyhee Reservations include:

- Raising the height of Owyhee Dam;
- Building a new storage facility; and
- Using accessible subsurface storage.

USBR and OWRD studies evaluated the feasibility of creating additional storage space in Lake Owyhee by increasing the height of Owyhee Dam. The viable option would permit storage of available reserved water in existing Owyhee Reservoir.

Pumped Back Storage and Power Generation
The Owyhee River is also one of several locations recognized for potential pumped storage and power generation that would function as a system of batteries and shock absorbers to balance the volatile, irregular output of the Northwest's burgeoning fleet of wind farms. Available reservation water would be stored and cycled in pumped storage reservoirs in the Owyhee River system for power generation, supplemental irrigation and other beneficial purposes.

Water Quality Uses
A uranium mining operation, the Aurora Mine, is proposed in the Basin upstream of Owyhee Reservoir. After the uranium is leached with sulfuric acid from crushed rock ore, chemical reactions between the acid and crushed rock continue for decades, potentially releasing acid and other harmful substances into the environment. Mercury is naturally occurring in the native substrate of the Owyhee Basin, and natural erosion from snowmelt and rainfall transports uranium downstream in the Owyhee River system. Owyhee Dam and reservoir slow streamflow transport, and mercury associated with sediments accumulate in Owyhee reservoir. Water from the Owyhee reservation may be used to supplement storage in Owyhee Reservoir and maintain low mercury levels.

Aquifer Storage Potential
Other potential options include aquifer storage. The 2009 *Oregon Water Supply and Conservation Initiative: Inventory of Potential Below Ground Storage Sites* showed that the Owyhee Basin Late Tertiary Basalt Aquifers, though not the strongest candidates for storage, had an estimated storage capacity of 33,000 acre-feet.

Committed Partnerships
Impending effects of climate variability and change will increase drought frequency, intensity and duration of drought, thus it will be increasingly important to continue to make investments in water conservation, reuse and supplemental water storage. This will require commitments, as demonstrated by those in the Owyhee River Basin, to building and maintaining partnerships among stakeholders, private industry, government, and conservation groups to bring resources and ideas to the table and use wisely.

(5) Discussion of challenges to developing the reservation:

Key challenges to developing the reservation of unappropriated water have been:

- Cost of projects and lack of adequate funding for water projects;
- Regulatory requirements;
- Opposition by some non-profit organizations (e.g., some environmental groups);
- National monument designation;
- Sage Grouse conservation issues; and
- Aging water management infrastructure.

The challenging factors can hamper realization of innovative and timely alternatives at scales necessary to achieve reliable water supplies, food security and public health. They also affect ecosystem adaptation to changes in climate and hydrology, and limit sustainable ecosystem services. Addressing environmental requirements and obtaining necessary permits are anticipated to require substantive expenditures of time and money.

Securing sufficient funding for water projects requires considerable time and assurance that water is available for proposed projects. Before proposed projects even begin to proceed, costly mitigation may be required. It is not uncommon that required mitigation is often based on archaic scientific methods and obsolescent data. Although such resource management practices may have been state-of-the-science 20 years ago or more, they may now be out of synch with evolving science, unsuited to local conditions, and may be counter-productive to target species. Often, resource management regulations are also in need of updating.

Even though irrigation districts, landowners and other community stakeholders are interested in innovative solutions, litigation is still a tool used by some organizations to prevent water supply development. Such practices damage stakeholder trust and good will, thereby prolonging efforts and unnecessarily increasing expenditures to achieve resolutions to vital water resources issues.

Finally, most of the water supply and management infrastructure in the Owyhee Basin was built in the early 20th Century, and has lasted beyond its design life. To achieve optimal efficiency in water management, conservation and use, it is necessary to first repair, upgrade and potentially replace of some structures.

(6) Description of actions that will need to be undertaken in the future in order to develop the reservation:

Necessary actions to undertake in order to develop the reservations of unappropriated water include:

- Establish working partnerships with federal, state and local agencies (e.g., pursue Place Based Planning support and approach);
- Conduct studies and collect other relevant data and information that are necessary to: (a) plan and design projects; (b) negotiate with federal, state and local agencies; and (c) secure project funding.

(7) Information on how the proposal is compatible with overall basin program goals and policies:

The WRC determined in 1997 that the application for the reservation of unappropriated water was compatible with the Owyhee Basin program goals and policies, and subsequently approved the reservation. The reservations were subsequently adopted into the Owyhee Basin Program [OAR 690-511-0110]. The proposal to extend the term of the Owyhee Reservations remains consistent with the Owyhee Basin Program goals and policies. Landowners in the Owyhee Basin have beneficially used water for over a century for multiple purposes including irrigation, livestock, domestic and commercial purposes; hydropower generation, fish and wildlife; and recreation. These beneficial uses are part of integrated operations, and are consistent with goals of the broader agricultural and cultural communities. As agriculture continues to incorporate technology into operations through modernizing facilities; upgrading aging infrastructure and increasing water and energy use efficiencies, they attain the highest and best use of water by 21st Century standards.

(8) Identification of affected local governments:

Oregon Department of Agriculture (ODA), with assistance from irrigation districts, soil and water conservation districts, and watershed councils in the Owyhee Basin developed a list of affected local governments in the Basin (see Appendix C). ODA notified affected local governments by mail (May 31, 2016), and copies of the notification letter will be retained on file at ODA and OWRD, and are included in Appendix C.

(9) Copies of letters notifying each local government of the intent to file an extension request that includes a description of the reservation and statement that an opportunity to provide comment will be provided at a future date:

The letter notifying each local government of the intent to file an application to extend the term of the Owyhee Reservation included a description of the reservation, and a statement that an opportunity to provide comment will be announced at a future date. In this case, a date, time and location of a hearing where the public would have an opportunity to comment on the Owyhee Reservations

extension application was included. A copy of the letter was mailed on May 31, 2016 to affected local governments in the Owyhee Basin, and is included in Appendix C, and will be retained on file at ODA and OWRD.

(10) Description of expected economic benefits:

Economic benefits from developing water from the Owyhee Reservations are expected to accrue from:

- Increased production in years that are not water short, as well as
- Reduced losses in drier conditions;
- Hydropower generation;
- Flood control; and
- Recreation.

In 2016 dollars, original estimates of overall annual economic value of the reservation request are:

- $6.5 million in increased agricultural crop production;
- $17.7 dollars in increased processing, marketing and transportation of products; and
- $14.3 dollar increase in land values due to the many improvements.

The analysis does not evaluate other important benefits such as flood control, tourism and flatwater recreation. For comparison purposes, the Owyhee project provided an accumulated $33,010,000 in flood control benefits from 1950 to 1998. Recreational opportunities provide benefits that may be derived from:

- An excellent warm-water fishery;
- Boating (recreational and fishing);
- Excellent waterfowl hunting;
- Surrounding hills and canyons are home to upland game birds;
- Hiking, camping and backpacking;
- Wildlife and water foul viewing (e.g. wild horses, bighorn sheep, golden eagles, pelicans, and cormorants); and
- Bird watching.

Many of the recreational activities have associated economic benefits to the local community as well as the region including sales of food, beverages; gear, equipment, gasoline; groceries; souvenirs and gift; boat and other recreational vehicle rentals; lodging; and other services.

Similar to area agriculture, municipalities and businesses also depend on a sustainable water supply, and may benefit from access to the Owyhee Reservations. An uncertain municipal water supply deters prospective residents from relocating to the area, thereby suppressing the housing market and impeding economic vitality in the community. Improving reliability of water supply would help attract new residents and business to the area, which in turn would support local economic activity. Maintaining a reliable water supply therefore contributes to job growth and

retention, and increases economic activity through processing and packaging; transportation and handling; marketing, management of agricultural products, and through local tax revenues.

Economic Impact of Loss Prevention

Irrigation districts in the Owyhee Basin have been increasing efficiencies of water management, control, conveyance, and irrigation application for decades. They have also been partners in restoration and other conservation projects in the Basin. The restoration projects have been effective in reconnecting the hydrologic system, which in turn has improved streamflow reliability and mitigated impacts of drought in the system.

Restoration
Owyhee Watershed Council (OWC) has partnered with the Oregon Watershed Enhancement Board (OWEB) for more than 15 years to secure $7,873,764 for Owyhee Basin restoration work. Two hundred and six (206) large and small restoration grants have been implemented throughout the Owyhee watershed during that time.

In addition to OWEB, cost-share partners on projects were private landowners, irrigation districts, the Natural Resources Conservation Service (NRCS), and Malheur County Soil and Water Conservation District (SWCD). They collaboratively worked to improve watershed process and function. Most of the OWC focus has been on irrigation system improvements within the Lower Owyhee Basin area to improve water quality and irrigation distribution efficiency. OWC also worked in the watershed to improve wildlife habitat, rangeland and riparian areas in the upper reaches of the watershed. Another important function of the OWC has been to provide outreach to watershed residents on many different topics and natural resource restoration priorities.

Irrigation Efficiency and Best Management Practices
Most recently and specifically related to irrigation, the OWC partnered with landowners, irrigation districts, the Natural Resources Conservation Service (NRCS) and Malheur County Soil and Water Conservation District (SWCD) to focus on irrigation improvements and implementing on-farm best management practices (BMP) related to water quality and water use efficiency in five priority geographical areas. Projects include:

(a) *Cow Hollow*: 1 Pressurized lateral system, and converted approximately 400 acres from flood to sprinkler or drip systems;
(b) *Black Jack Butte*: 2 Pressurized lateral pipeline systems, and converted approximately 826 acres from flood to sprinkler or drip systems;
(c) *Newell*: 1 Pressurized lateral pipeline system; and converted approximately 319 acres from flood to sprinkler or drip systems;
(d) *Fletcher*: 1 Pressurized lateral pipeline system; and converted approximately 744 acres from flood to sprinkler or drip systems;

(e) *Twilight*: Currently under implementation; 1 Pressurized lateral pipeline system; affecting 850 acres in a priority area.

It is important to note that the acreages listed above are only those converted from flood to sprinkler through OWC cost-share program. There have been many landowners within and outside of the priority areas who have made on-farm irrigation system management changes with their own funding, or have worked with another entity to implement projects. It is also important to note that the acreages and projects listed above are examples of cost-share projects with OWEB support, and thus represent only portion of all the work that has been completed in the region.

Economic Effects of the 2015 Drought—Mitigative Effects of Efficiency & Management

The University of Idaho Owyhee County Extension Service estimated impacts of the drought on irrigated lands of the Owyhee and Vale Projects (i.e., Owyhee Irrigation District, Vale Oregon Irrigation District, and Warmsprings Irrigation District) for 2014-2015. Total Owyhee and Vale project area affected by the drought was 149,384 acres. The majority of the crops grown in Malheur County during that time were feed crop, since less they require less irrigation water than high value crops. Nonetheless, high value crops, such as mint, onions, sugar beets beans, and seed crops were also grown in drought affected areas. Growers moved the locations in which they planted high value crops to areas where the crops would receive the most water. Economic losses due to acres left fallowed and reductions in yield, ranging between 20% and 40% for the Owyhee Project and the Vale Project:

- Owyhee Project: $50,275,650
- Vale Project: $43,102,780
- Total: $93,378,430.

Although the total loss to agriculture in 2015 was high, the irrigation districts believe the losses would have been much higher had the districts not made high investments in water conservation, system and management improvements, as well changes in types of crops planted (e.g., lower water demands or earlier maturing crop types), and patterns in cropping.

When water from the Owyhee Reservations is available, the water supply may serve as a supplemental supply option in a comprehensive water management and use strategy to mitigate impacts of prolonged dry and drought periods, and effects of changing climate and hydrology.

(11) Information on whether the reservation exists above or within a Scenic Waterway:

In 1984, Congress designated 120 miles of the Owyhee River system in Oregon as a wild river component of the National Wild and Scenic River System.

The designated "wild" reach is:

- From Three Forks downstream to China Gulch.
- Crooked Creek to the Owyhee Reservoir.
- The South Fork from the Idaho-Oregon border downstream to Three Forks.

(12) Statement that explains how the reservation and proposed water use(s) will promote the beneficial use of the water without waste:

Land owners, irrigation districts, Malheur County SWCD, watershed councils and other stakeholders propose that available water from the Owyhee Reservations be used for multiple beneficial uses as described in question (2) and discussed in question (3). Since water resources in the Owyhee Basin are limited, landowners in the Owyhee Basin have been aggressively implementing water conservation measures (e.g., improved conveyance and on-farm efficiencies and re-use), and investigating options for new reserves of water to:

(a) Prevent or mitigate effects of prolonged dry and drought conditions;
(b) Help re-establish balance between irrigation water distribution and on-farm water needs that develop as a consequence of increased efficiencies in irrigation water conveyance and on-farm application that reduce irrigation return flows that historically contributed to irrigation supplies to downstream farmers or other irrigation districts;
(c) Increase recreational opportunities;
(d) Encourage agricultural and related business and industry.

Additional sources of available water, such as from the Owyhee Reservations, would supplement irrigation supplies during dry and drought conditions, and may help re-establish balance between irrigation water distribution and on-farm water needs. As agriculture continues to modernize facilities; upgrade aging infrastructure; increase water and energy use efficiencies and develop the Owyhee Reservations to increase water supply reliability and promote economic sustainability in the Basin, they attain the highest and best use of water by 21st Century standards.

Appendix A

Detailed Reports for Watershed ID #31111001

OWYHEE R > SNAKE R - AT MOUTH
OWYHEE BASIN

Water Availability as of 5/15/2016

Watershed ID #: 31111001 (Map)
Date: 5/15/2016

Exceedance Level: 50%
Time: 6:35 PM

Water Availability Calculation

Monthly Streamflow in Cubic Feet per Second
Annual Volume at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	463.00	714.00	-251.00	0.00	0.00	-251.00
FEB	1,220.00	1,090.00	131.00	79.40	0.00	51.70
MAR	2,130.00	1,440.00	687.00	380.00	0.00	307.00
APR	2,580.00	1,750.00	830.00	459.00	0.00	371.00
MAY	2,320.00	2,210.00	111.00	79.20	0.00	32.30
JUN	1,100.00	1,890.00	-785.00	0.00	0.00	-785.00
JUL	321.00	1,500.00	-1,180.00	0.00	0.00	-1,180.00
AUG	240.00	1,310.00	-1,070.00	0.00	0.00	-1,070.00
SEP	180.00	875.00	-695.00	0.00	0.00	-695.00
OCT	210.00	460.00	-250.00	0.00	0.00	-250.00
NOV	337.00	396.00	-58.90	0.00	0.00	-58.90
DEC	426.00	569.00	-143.00	0.00	0.00	-143.00
ANN	694,000.00	657,000.00	106,000.00	60,000.00	0.00	45,800.00

DATE: March 8, 1993

TO: Martha Pagel, Director
Oregon Water Resources Department
1850 Portland Road NE
SALEM, OR 97310

FROM: Bruce Andrews, Director

SUBJECT: **REQUEST FOR RESERVATION** of the unappropriated water of the **OWYHEE RIVER** and its tributaries for future agricultural economic development..

The OREGON DEPARTMENT OF AGRICULTURE, 635 CAPITOL STREET NE, SALEM, OREGON, 97310, hereby requests the reservation of **60,000** acre feet of water from the Owyhee River Basin. We request a reservation be established for the following sources and quantities. Potential storage sites are also listed. Other potential but less feasible sites are identified by attached schedule A.

SOURCE	QUANTITY	STORAGE SITE
Jordan Creek (Idaho)	60,000 acre feet	Jordan Creek

Total **60,000** acre feet

The water is to be put to beneficial use for the following purposes and amounts during the time periods indicated, to support existing and expanding agricultural enterprises and associated industries:

	PURPOSE	QUANTITY OF WATER - AF	SEASON OF USE
1.	IRRIGATION	50,000	MARCH 1 TO OCTOBER 31
2.	LIVESTOCK	1,000	YEAR ROUND
3.	INDUSTRIAL	3,000	"
4.	AGRICULTURE	3,000	"
5.	MUNICIPAL	3,000	"
TOTAL AF REQUESTED		60,000	

EXPLANATION OF HOW THE PROPOSED USE RELATES TO THE FUTURE NEEDS OF AGRICULTURE:

1. Irrigation . . . Water applied to cultivated crops, native pastures and improved pastures to benefit plant growth. Water may also be applied to cultivated lands to build the soil moisture profile for subsequently planted crops and to prohibit or minimize erosion and blowing dust.

2. Livestock . . . Water stored for or delivered to domesticated animals for the animals' consumption.

3. Industrial . . . Water used for, but not limited to, food processing, heating, cooling, dust control, humidity control and washing.

4. Agriculture . . . Water used for any related purpose other than for plant growth; such as, but not limited to: frost control, heat control, nursery operations, dust control, erosion control and chemical application.

5. Municipal . . . Water delivered through a municipal or quasi-municipal water system and used primarily for, but not limited to, agri-industries.

WATER AVAILABILITY

Water is available for the proposed reservation at the potential storage site listed herein. In summary, The Owyhee River discharges an average of 741,000 acre feet into Owyhee Reservoir annually. This inflow is less than the 1,120,000 capacity of Owyhee Reservoir by 379,000 acre feet. However, the average annual use from the reservoir is about 457,000 acre feet. Owyhee reservoir capacity is about 2.5 years of irrigation supply.

Owyhee River above the lake was gaged during the period 1931 to 1951. The average annual yield recorded was 616,000 acre feet. Records of flow gaged at Rome, several miles above the lake, during the period 1951 to 1987 shows an average annual yield of 739,700 acre feet. When this flow is adjusted for downstream diversion and inflow, the present inflow into Lake Owyhee is about 741,000 acre feet. This represents an increase of about 124,000 acre feet. Interestingly, during this same time, over 100,000 acre feet of storage was developed at Antelope and Wildhorse Reservoirs both upstream of the gaged flows.

It appears that the water stored and used upstream of Lake Owyhee does not significantly deplete the resource. This was also the conclusion of the State Engineer in 1954 as reported by the Bureau of Reclamation in their Reconnaissance Report of 1965 on the Upper Owyhee Project. The potential of this project clearly requires an opportunity for further study.

CLASSIFICATION

OAR Chapter 690, Division 510, last amended January 17, 1986, governs the storage and appropriation of water in the Owyhee River Basin. These rules specifically allow the storage and use of the water as requested herein. A copy of the applicable rules is attached a schedule C.

Appendix B

Table 39.--Potential reservoir sites within Malheur and Owyhee Drainage Basins, Oregon

Watershed Map Index Project Name	Location Township	Range	Section	Stream	Drainage Area Acres	Estimated Annual Yield Acre Feet	Storage Capacity 1/ Acre Feet	Maximum Water Depth Feet	Reservoir Surface Area Acres	Estimated Embankment Volume Cubic Yard	Fill Divided By Storage 2/ Cu Yd /Ac Ft	Use 3/	Investigating Agency 4/
14-6 WILDER JUNCTION													
19 Birch Creek	15S	44E	16	Birch Creek	47,600	1,740	16,000	80	850	215,500	14	I	BR
14a-1 NORTH FORK MALHEUR													
36 Summit Prairie	16S	36E	3	Summit Creek	9,200	8,000	22,200	90	800	291,700	11	R	FS
37 Crane Prairie 5/	16S	35E	10	Crane Creek	7,200	3,600	----	--	---	-----	--	I,R	FS
14a-2 UPPER MALHEUR													
5 Bridge Site	19S	36E	19	Malheur River	147,200	60,000	13,000	65	360	534,000	41	I,R	CE,FS
30 Calamity Creek	18S	33E	30	Calamity Creek	8,000	7,000	1,300	35	95	16,200	12	I,F,R	FS
33 Bogo's Bar	17S	33½,34	11,18	Malheur River	31,000	30,000	1,100	55	30	45,100	41	I,R,F	FS
34 Logan Valley	17S	33½	2	Malheur River	45,800	27,000	16,000	60	1,100	190,200	6	I,F,R	FS
35 Summit Creek	16S	36E	31	Summit Creek	13,000	11,000	4,600	90	130	179,200	29	I,R	FS
39 Bosenberg 6/	16S	33½,34E	12,7	Bosenberg Creek	1,300	1,000	260	60	10	63,000	181	R	FS
40 Von	19S	33½E	4	Wolf Creek	83,300	28,000	4,000	50	360	30,000	8	I,F,R	SCS,FS
41 Crawfield	18S	33E	25	Calamity Creek	34,000	17,500	2,700	76	190	35,600	10	I,F,R	SCS,FS
42 Wheelers Bend	17S	33½E	13	Malheur River	58,000	36,000	700	35	50	22,200	32	I,F,R	SCS,FS
43 Cliffs	17S	34E	18	Malheur River	75,000	31,000	990	55	45	33,000	34	I,F,R	SCS,FS
14a-4 PINE-MUDDY CREEK													
6 Grange Site	20S	36E	5	Malheur River	367,300	110,000	60,000	60	2,630	583,000	10	I	CE,FS
14 Pine Creek	20S	36E	31	Pine Creek	67,800	15,000	5,500	74	170	438,000	80	I,F	CE,FS
51 Alkali	20S	33E	5	Pine Creek	12,900	5,000	6,600	60	195	139,600	20	I,F,R	FS
52 Upper Pine Creek	20S	33E	23	Pine Creek	21,900	10,000	3,300	55	165	39,600	12	I,F,R	FS
74 Pat Gap	20S	33	26	Pine Creek	23,900	11,000	3,900	70	150	30,000	10	I,F,R	SCS,FS
14a-5 WARM SPRINGS													
3 Stinkingwater Creek	20S	35E	33	Stinkingwater Creek	112,000	22,000	22,800	77	1,330	265,000	12	I,F	CE
14a-6 MIDDLE MALHEUR													
7 McNee Ranch	24S	37E	9	S.F. Malheur River	332,000	90,000	39,000	93	2,400	692,000	18	I,F	CE
8 South Fork 5/	24S	37E	21	S.F. Malheur River	96,000	42,000	----	--	---	----	--	I,F	BR
13 Riverside	23S	37E	23	Malheur River	1,100,000	191,000	230,000	145	3,070	2,600,000	10	I	CE
16 Juniper 5/	21S	38E	9	Malheur River	376,000	160,000	----	--	---	-----	--	I,F	BR
14a-8 SAND HOLLOW													
17 Little Valley 5/	19S	42E	35	Malheur River	473,100	284,000	----	--	---	-----	--	I,F	BR
18 Harper 5/	19S	43E	17	Malheur River	481,800	135,000	80,000	--	---	----	--	I	BR
48 Hanging Rock 6/	21S	43E	1	Bigger Rock Creek	N/A	N/A	45,000	175	660	2,874,800	64	I	SCS,BOR
49 Poison Springs 6/	21S	43E	14,23	Bigger Rock Creek	N/A	N/A	179,600	190	2,365	4,931,100	27	I	SCS
14a-9 COTTONWOOD CREEK													
9 Star Mountain 5/	22S	41E	5	Cottonwood Creek	84,700	5,400	----	--	---	----	--	I	CE
30 Upper Cottonwood	22S	41E	7	Cottonwood Creek	38,600	3,600	3,900	55	120	123,000	34	I	SCS
31 Middle Cottonwood 5/	21S	41E	14	Cottonwood Creek	71,900	6,000	----	--	---	----	--	I	SCS
32 Lower Cottonwood	21S	42E	6	Cottonwood Creek	80,700	6,700	4,000	93	100	440,000	110	I	SCS
14a-10 CRANE-COLEMAN CREEKS													
10 Coleman Creek	24S	36E	28	Coleman Creek	17,300	3,000	3,000	85	115	998,000	333	I	CE
14a1-1 UPPER BULLY CREEK													
19 Jenkins	17S	39E	28	Bully Creek	32,400	3,000	4,200	85	50	332,000	80	I,F	BR
20 Upper John Sutz	18S	40E	3	Bully Creek	57,300	5,000	1,900	50	103	62,100	33	I,F	SCS
21 Lower John Sutz	18S	40E	11	Bully Creek	59,900	11,300	5,900	64	260	132,600	23	I,F	SCS

1/ Reservoir sites with storage capacity less than 100 acre feet not included
2/ A comparative figure derived from dividing the estimated earth fill in cubic yards by the estimated water storage capacity in acre feet
3/ I - Irrigation, F - flood protection, R - recreation (fishing, hunting, and boating)
4/ Source: SCS - Soil Conservation Service, BR - Bureau of Reclamation, CE - Corps of Engineers, FS - Forest Service, SWRB - State Water Resources Board
5/ Data not available for engineering evaluation
6/ Pump storage
7/ Off-channel storage
8/ Rehabilitation of existing structure

SCHEDULE A

METHODOLOGY, STORAGE SITE ANALYSIS

Since the early days of settling the arid portions of Oregon, man has attempted to identify places to store water and ways to reduce flooding and to provide water during times of shortage. This endeavor has resulted in the construction of numerous reservoirs and also a seemingly un-ending list of potential storage sites.

This study could not include all potential sites ever considered due to the large number and also due to the lack of a central repository for the site data. The major sources used are; OWRD Basin Reports, Bureau of Reclamation Reports, Soil Conservation Service Reports, Corps of Engineers Reports, OWRD Water-shed Planning Reports, Soil and Water Conservation District Reports and inventories provided by Irrigation Districts or consultants.

For the purpose of this reservation request we selected from a list of available sites, those sites that best matched a set criteria that identified sites as most feasible and desirable. The criteria used as guidance in our selection is listed below:

1. Water must be available to be stored.
2. Sites are located in the upper stream reaches, off channel, or
3. Sites are located on streams having little known anadromous fish.
4. Sites are located on predominantly public land or have minimal impact upon private land use.
5. Sites have a high storage to cost ratio.
6. Sites do not adversely affect infra-structure such as roads, power lines and pipelines.
7. Sites have multi-purpose storage ability.
8. Sites provide for instream flow improvement as well as flat water recreation opportunities.
9. Sites provide some flood control benefit.

The attached map identifies the location of the storage sites deemed most feasible at the time of this request. Our request is not intended to limit the reservation of water to storage only at those sites however. Other sites may be determined more feasible during the term of this reservation.

PROPOSED LOCATION OF USE:

The uses proposed will occur in Malheur County.

Irrigation will most likely occur as a supplemental supply to existing projects such as those of irrigation districts and private users. The water may also be used for development of some new lands as an expansion of existing projects and districts.

The other uses within this reservation request will likely occur as a result of the expansion of existing public and private water delivery systems. As agricultural land development occurs along Jordan Creek and the Owyhee River, so will the water needs for many related purposes and services, principally, food processing.

DURATION OF RESERVATION

We expect the development and subsequent appropriation of the reserved water to begin soon after the reservation request is approved. We do not expect the reserved water to be fully developed or appropriated for 40 or more years.

WATER SOURCE ALTERNATIVES

Our analysis has found very little surface water available. Our first consideration, as an alternative, is by conserving existing resources. This appears to be feasible only in the long term. There is an immediate need for a supplemental supply for existing districts.

Ground water appears to be a limited resource and is not considered an alternative to meet future economic needs of the area.

LAND USE COMPATABILITY

All present and future land use zoning will be compatible with the uses of water described for economic development. The use of irrigation water applied to croplands and other lands presently dry farmed, and supplemental water applied to lands presently irrigated, will allow the full development potential of the exclusive farm use lands.

This reservation request and its later development will be coordinated with districts, cities and the county.

SCENIC WATERWAYS

The established scenic waterway on the Owyhee River is upstream of all proposed potential storage sites. The scenic waterway does not affect this request.

Appendix C

Oregon
Kate Brown, Governor

Department of Agriculture
635 Capitol St NE
Salem, OR 97301-2532

Public Notice of Application for Extension of Term of Reservations of Unappropriated Water for Future Economic Development

Date: May 31, 2016

Subject: In accordance with OAR 690-079-0060 (10), this notice is to inform affected local governments that Oregon Department of Agriculture (ODA) will apply to extend the term of reservations of unappropriated water from expiring on January 7, 2017 to expire on January 7, 2037. The application for extension of term applies to the Owyhee Reservations (OAR 690-511-0110):

- Sixty thousand (60,000) acre-feet of unappropriated water of the Owyhee River and tributaries.

Action: No action is required and no comments are requested at this time. Information regarding opportunities for public comment, including further information about a public hearing to be held on July 28, 2016 at 6:00 PM in Adrian, OR., will be forthcoming.

Background: Reservations of unappropriated water were granted in 1996 and recorded in the Owyhee Basin Program (OAR 690-511-0110). The unappropriated water was reserved for 20 years with option for extending the term up to an additional 20 years. Demand has increased to use the reserved water for irrigation, groundwater recharge, augment streamflow and municipal supply.

Extending the reservations for an additional 20 years would provide agricultural water users with greater certainty and time to plan, advance and complete vital multipurpose water resources projects to enhance economic opportunity in agriculture.

Contact For Information: Margaret Matter, Oregon Department of Agriculture

a) Office Phone: 503-986-4561
b) Email: mmatter@oda.state.or.us

Copies of the applications for extension of terms of the reservations in the Owyhee Basin are available upon request.

Affected Local Governments -
Extending Terms of the Owyhee Basin Reservations of Unappropriated Water

1. Malheur County
Address:
Alvin Scott, Planning Director
251 B St. West, #12
Vale, OR 97918

Phone: (541) 473-5183 (General)

2. Malheur County Soil and Water Conservation District
Address:
Linda Rowe, District Manager
2925 SW Sixth Ave., Suite 2
Ontario, OR 97914

Email: lrowe@malcoswcd.org
Phone: (541) 889-2588, extension 114

3. Oregon Water Resources Congress
Address:
April Snell, Executive Director
795 Winter St NE
Salem, OR 97301

Email: Aprils@owrc.org
Phone: (503) 363-0121

4. Owyhee Watershed Council
Address:
Nicole Sullivan, Director
PO Box 275
Adrian OR 97901

Email: nsullivanowc@qwestoffice.net
Phone: (541) 372-5782

5. Malheur Watershed Council

Address:
Kelly Weideman, Director
710 SW 5th Ave
Ontario OR 97914

Email malheurwc@hotmail.com
Phone: (541) 881-1417 x 105

6. Irrigation Districts

(a) Owyhee Irrigation District
Address:
Jay Chamberlin, Manager
17 S 1st St
Nyssa, OR 97913

Phone: (541) 372-3540 Ext: 102; (208) 740-0143
Email: oidh20@fmtc.com; jay@owyheeirrigation.org

(b) Vale Oregon Irrigation District
Address:
Dan Fulwyler, Manager
521 A St West
Vale, OR 97918

Phone: (541) 473-3243
Email: void@valeid.com

(c) Warmsprings Irrigation District
Address:
Randy Kinny, Manager
344 Main St N
Vale, OR 97918

Phone: (541) 473-3951
Email: wid4water@qwestoffice.net

(d) Ridgeview Irrigation District/South Board of Control
Address:
P.O. Box 67
Homedale, Idaho 83628

Email: office@southboardofcontrol.com

(c) Nyssa
Address:
Roberta Vanderwall, City Manager
301 Main St.
Nyssa, OR 97913

Phone: (541) 372-2264 ext. 6
Email: nyssamanager@nyssacity.org

(d) Ontario
Address:
Tori Barnett, MMC, City Recorder (Interim City Manager)
444 SW 4th St.
Ontario, OR 97914

Phone: (541) 881-3232
Email: tori.barnett@ontariooregon.org

(e) Vale
Address:
Mike (Mac) McLaughlin, Mayor
252 B St. West
Vale, OR 97918

Phone: (541) 473-3133
Email: mayor@cityofvale.com

References

1. Beede, D.K., 1994. Water: The most important nutrient for dairy cattle. Proceedings of the 31st Florida Dairy Production Conference, Gainesville, Florida. Pp 83-98.

2.Oregon Climate Change Research Institute (2010; OCCRI), Oregon Climate Assessment Report, K.D. Dello and P.W. Mote (eds). College of Oceanic and Atmospheric Sciences, Oregon State University, Corvallis, OR.

3. Oregon State University Extension Service, 2013. Oregon County and State Agricultural Estimates (2012). Oregon Agricultural Information Network (OAIN), Extension Economic Information Office, Department of Agricultural Resource Economics, Oregon State University (http://oain.oregonstate.edu/EconInfo/sr790-2013.pdf).

4. Oregon Water Resources Department, 2009. *Oregon Water Supply and Conservation Initiative: Inventory of Potential Below Ground Storage Sites.*

5. Tennessee Extension Service, 2015. Cattle need more water during warmer months. University of Tennessee Extension, Institute of Agriculture newsletter; https://extension.tennessee.edu/WebPacket/Pages/WP-2015-03-CattleWatering.aspx).

6. Waggoner, P.E., and Revelle, R. R. 1990. "Summary". In Waggoner, P.E. (ed). Climate Change and U.S. Water Resources. New York: John Wiley and Sons.

7. Williams, A.P., Seager, R., Abatzoglou, J.T., Cook, B.I., Smerdon, J.E., and Cook, E.R., 2015. Geophysical Research Letters, 42, 6919-6828, doi: 10.1002/2015GL0649224.

Oregon
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Alvin Scott, Planning Director
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215 B Street West, #12
Vale, OR 97918

Malheur SWCD
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Ontario, OR 97914

Malheur Watershed Council
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Owyhee Watershed Council
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Nyssa, OR 97913

Warm Springs Irrigation District
Randy Kinny, Manager
344 Main Street N
Vale, OR 97918

Ridgeview Irrigation District
South Board of Control
PO Box 67
Homedale, ID 83628

Bureau of Indian Affairs
Stanley M. Speaks, Regional Director
911 NE 11th Street
Portland, OR 97232-4169

Old Owyhee Ditch Improve. Dist.
Mike Blackaby
PO Box 280
Ontario, OR 97914

Oregon Water Resources Congress
April Snell, Executive Director
795 Winter Street NE
Salem, OR 97301

US Bureau of Reclamation
Lorri Lee, Regional Director
1150 North Curtis Rd, Suite 100
Boise, ID 83706-1234

M. Adele Dockter
Adrian City Council President
PO Box 226
Adrian, OR 97901

Marie Kershner
Jordan Valley Mayor
PO Box 187
Jordan Valley, OR 97910

Roberta Vanderwall
Nyssa City Manager
301 Main Street
Nyssa, OR 97913

Tori Barnett
Ontario Interim City Manager
444 SW Fourth Street
Ontario, OR 97914

Mike McLaughlin
Vale Mayor
252 B Street West
Vale, OR 97918

Bureau of Indian Affairs
Bryan Bowker, Regional Director
2600 N Central Ave., 4th Fl Mailrm
Phoenix, AZ 85001

Owyhee Basin Reservations
Of Unappropriated Water
Mailed May 31, 2016