**Memorandum of Understanding**
**R21MU13748**

**Between**
**The United States Department of the Interior Bureau of Reclamation**
**Columbia-Pacific Northwest Region Columbia-Cascades Area Office**
**and**
**The Washington State Department of Ecology**

**Related to**
**Management of Groundwater within the Pasco Basin of the**
**Columbia Basin Irrigation Project**

## I. INTRODUCTION

In 1943, the United States Congress passed the Columbia Basin Project Act[1], so that water made available by Grand Coulee Dam for irrigation purposes could be put to beneficial use. The State of Washington's historical and current position, as set forth in state legislation, executive orders, and other agreements, has been one of full cooperation with the Federal government to ensure that the Project's purpose of settling and developing agricultural lands within the area of the Project is realized.

With the development of the Columbia Basin Project (Project) by the U.S. Department of the Interior, Bureau of Reclamation (Reclamation), the groundwater characteristics within the Project boundaries have undergone significant change, including increased volume of groundwater storage resulting from Project operations commingling with natural groundwater. To ensure that the public interest is protected, including those with specific interests in groundwater within the Project boundary, Reclamation and the Washington State Department of Ecology (Ecology) have agreed to pursue co-management of the groundwater, where appropriate, and to allow it to be made available for beneficial uses consistent with RCW 89.12.170.

## II. DEFINITIONS

A. **Groundwaters**: All waters that exist beneath the land surface or beneath the bed of any stream, lake or reservoir, or other body of surface water within the boundaries of this state, whatever may be the geological formation or structure in which such water stands or

[1] 57 Stat. 14 (1943), 16 U.S.C. 835 (1958)

flows, percolates or otherwise moves. There is a recognized distinction between natural groundwater and artificially stored groundwater

B. **Natural groundwater:** water that exists in underground storage owing wholly to natural processes

C. **Artificially stored groundwater**: Water that is made available in underground storage artificially, either intentionally, or incidentally to irrigation and that otherwise would have been dissipated by natural processes

D. **Commingled groundwater**: Groundwater composed of natural groundwater and groundwater existing as a result of the Columbia Basin Project

E. **Groundwater management plan/groundwater co-management plan**: Plan for allocation and management of groundwater as part of a future Memorandum of Agreement (MOA) between Ecology and Reclamation under RCW 89.12.170

F. **Groundwater management program**: a comprehensive program designed to assure groundwater quantity and to provide for efficient management of water resources while recognizing existing groundwater rights and meeting future needs consistent with local, state, and Federal objectives, policies and authorities within a designated groundwater management area or subarea.

## III. PURPOSE AND SCOPE

This Memorandum of Understanding (MOU) is entered into by Reclamation and Ecology (collectively "the Parties") for the purposes stated below.

The Parties agree that there is need and value to cooperatively manage groundwater within the boundary of the Project, which includes the Pasco-Othello sub-area ("Pasco Basin"). The Pasco Basin is sometimes referred to as the "508-14 area." This term stems from chapter 508-14 Washington Administrative Code (WAC), which establishes this groundwater area as the southern portion of the Project. Co-management is in the mutual interest of Reclamation and Ecology, in order to serve the interested public, landowners, and water users within the Pasco Basin.

The purpose of this MOU is to establish the framework for Reclamation and Ecology to pursue a more formal second agreement (MOA)[2] under RCW 89.12.170 for co-management of groundwater within the Pasco Basin.

[2] There are two agreements referenced in this MOU. The first agreement is this MOU. The second agreement is yet to be created and is referred to as the Memorandum of Agreement in Section VI and Section V.B.2.i.b) below.

## IV. BACKGROUND

Columbia River water stored behind Grand Coulee Dam is conveyed through approximately 6,000 miles of canal, lateral, drain, and wasteway infrastructure that were installed as part of the construction and operation of the Project. This irrigation infrastructure currently conveys water supply to approximately 680,000 acres of irrigated farmland. Considerable quantities of Project water has leaked and influenced natural groundwater within the soil and substrata under the Project as a result of irrigation and related water supply conveyance infrastructure[3]. This increase to groundwater storage (originating as seepage and irrigation return flow from agricultural lands irrigated with water from the Project) has had the greatest influence on the sedimentary deposits that overlie the Columbia River Basalt Group in the Pasco Basin area[4].

Chapter 508-14 WAC is a groundwater rule adopted by Ecology in 1967, and as amended several times, thereafter, establishes the Pasco Basin area, located in the southern portion of the Project. There are two other groundwater areas established within the Project, the Quincy groundwater management subarea established by chapter 173-124 WAC, and the Odessa groundwater management subarea established by chapter 173-128A WAC.

To better understand the water balance in the Pasco Basin, Ecology's Office of Columbia River entered into a funding relationship with the United States Geological Survey (USGS) to prepare a numerical model that quantified the amount and location of commingled groundwater in the Pasco Basin area. The USGS report and model refined our understanding of the hydrogeology and quantified the effect of anthropogenic recharge and groundwater withdrawals throughout the Pasco Basin area[5]. The USGS model estimates that groundwater storage has increased by 6.8 million acre-feet in the Pasco Basin area since the development of the Project. Of this quantity of stored groundwater, a lesser amount is likely to be available as sustained yield due to hydrogeologic complexities that would likely impede the recovery of the water. Reclamation discovered several flaws in the USGS model and is currently working on revising and re-calibrating the 2016 USGS model to reflect existing conditions and to better support modeling of different water management scenarios in the Pasco Basin.

## V. PROVISOS

A. A Party to this MOU will not be restrained in any way from any action regarding evidence introduced by third-parties to effectively defend a Party's interest. Participation in this MOU is not intended by either Party to be a concession as to the appropriate procedures for any future claim(s) of ownership of subject groundwater.

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[3] Reclamation considers this leaked Project water as "waste, seepage, and return flow" and references it as such in its contracts with the Project irrigation districts. This term is not included in RCW 90.44.130 or RCW 89.12.170. and, therefore, is not recognized by Ecology.

[4] Based on model results in USGS report http://pubs.usgs.gov/sir/2016/5026/sir20165026.pdf

[5] http://pubs.usgs.gov/sir/2016/5026/sir20165026.pdf

B. Both Parties agree to coordinate on a legal path forward that results in an effective groundwater co-management plan in the Pasco Basin using the coordinated approach described in RCW 89.12.170. Specifically, by entering into this MOU, Ecology and Reclamation agree on the following:

1. Reclamation agrees to pursue issuing Federal contracts to water users for water allocated and managed pursuant to an MOA under RCW 89.12.170.

2. The Parties agree to the following to pursue a co-management program under RCW 89.12.170:

i. The intended process after entering into this MOU is[6]:
   a) Ecology establishes the boundaries of the Pasco Basin groundwater subarea using the process established under RCW 90.44.130, with input from Reclamation and other stakeholders. In its order establishing the subarea, Ecology will state that, instead of receiving and considering declarations of claims to ownership of artificially stored groundwater in the subarea pursuant to RCW 90.44.130, Ecology will engage in negotiations with Reclamation pursuant to RCW 89.12.170 for the allocation of groundwater, and that, therefore, it will not be necessary for Reclamation to file any declaration of claim to ownership of artificially stored groundwater in the subarea;
   b) Ecology and Reclamation proceed with Phases 1 through 5 outlined under Section VI of this MOU to establish a specific groundwater management program by entering into a MOA under RCW 89.12.170;
   c) Ecology conducts rulemaking on groundwater co-management prior to finalizing the MOA.

ii. The approach includes public notice and provides members of the public the opportunity to comment; and

iii. The existing groundwater permits previously issued by Ecology under chapter 508-14 WAC that are determined to rely on groundwater that exists as a result of the Columbia Basin Project and agreed to be allocated under the MOA between Reclamation and Ecology will be amended or modified as appropriate to be incorporated in the proposed groundwater management plan as a part of Section V.B.2.i.c) OR through an alternate process agreed upon by the Parties that is established allowing for certification.

iv. Other matters as may be identified by the Parties.

[6]Section V.B.2.i(a-c) are not required to occur sequentially. It may be beneficial to start rulemaking before developing the MOA or earlier.

C. Reclamation recognizes that Ecology has existing authority under RCW 90.44.130 to establish groundwater management subareas, and process declarations of claims to ownership of artificially stored groundwater in such subareas. Through this MOU, Reclamation and Ecology intend to establish the Pasco Basin Groundwater Subarea, and an effective plan for co-management of groundwater in the subarea, through RCW 89.12.170. If joint efforts under RCW 89.12.170 do not result in concurrence on a path forward to establish a co-management plan, through an agreement pursuant to that statute, and Ecology decides to proceed exclusively under its authority under RCW 90.44.130, Ecology would provide Reclamation with a 45 day notice of such intent to pursue establishment of a Pasco Basin groundwater management subarea in accordance with the established process laid out under RCW 90.44.130, and chapters 173-100 and 173-136 WAC. Accordingly, under RCW 90.44.130, Ecology would issue a new order establishing the Pasco Basin groundwater subarea, which would commence a new period for the filing of declarations of claims to ownership of artificially stored groundwater in the subarea open to Reclamation and/or other parties.

D. Both Parties agree that pursuing a co-management plan for the Pasco Basin does not set a precedent for approaching management of commingled water in other areas of the state.

E. Ecology and Reclamation agree to the following to implement this MOU:

1. Invest the necessary resources to the extent authorized by their respective laws

2. Ecology will establish a groundwater subarea boundary as part of Section V.B.2.i.a) as soon as practicable after this MOU is mutually agreed upon

3. Implement the agreed strategy and develop a detailed implementation plan to be outlined in a formal MOA as soon as practicable after a boundary is established

4. Ecology and/or Reclamation will notify the interested public, landowners and water users and allow for public input[7] into the development of an implementation plan and associated tasks.

## VI. CO-AGENCY GROUNDWATER MANAGEMENT STRATEGY

After the groundwater subarea boundary is established under RCW 90.44.130, the implementation of a Pasco Basin groundwater management program would move forward in phases co-managed by Reclamation and Ecology. Each phase of the program outlined below would be further evaluated and mutually agreed upon by both Parties.

[7] Formal public processes including required public notice and comment periods will be associated with proposed rulemaking efforts.

Phase 1 – The USGS completed a scientific study to simulate groundwater storage changes in the Pasco Basin to inform the Parties of location, quantities, depth and geological units that store commingled groundwater and may be suitable for further withdrawal for beneficial uses. Concurrent with phases 1 and 2, Reclamation works on revisions to and re-calibration of the original USGS model that will update the results and provide additional modeled scenarios to help inform groundwater co-management options. Ecology will provide input and review to Reclamation on model updates and Parties will work together and seek a third-party scientifically based review and input in accordance with Reclamation's peer review policy. Third-party scientifically based review (which may be the USGS) and concurrence among Parties will be required before relying on a revised model and proceeding with a co-management strategy.

Phase 2 – In consultation with a third-party, (which may be the USGS), Reclamation and Ecology will work together to identify specific areas within the Pasco Basin and target geological units in which commingled groundwater withdrawals may be practical for physical withdrawal and effectively managed. And, Reclamation, with input from Ecology and the third-party as technical reviewer can then simulate the effects of groundwater management scenarios.

Phase 3 – Based on the results of groundwater management simulations and potential subsequent test wells, Reclamation and Ecology will develop an estimate of the total sustainable volume, availability, location(s) and depths of groundwater existing as a result of the Project that would be allocated under the groundwater co-management plan. Groundwater withdrawals from new wells would be authorized in accordance with a groundwater co-management plan and permitting pathway developed in Phase 4 and agreed to by both Parties through an MOA under RCW 89.12.170. Ecology rulemaking and associated environmental review under the State Environmental Policy Act (SEPA) will proceed as part of Phase 3 and will be completed prior to finalizing and executing an MOA in Phase 4. Reclamation will lead the environmental review under the National Environmental Policy Act (NEPA) during Phase 3. Ecology and Reclamation intend to coordinate on their respective environmental review processes, and, if appropriate, pursue a joint SEPA/NEPA review. Issuance of permits by Ecology will be subject to the amount of water identified as available for allocation as groundwater existing as a result of the Columbia Basin Project pursuant to a future MOA under RCW 89.12.170 and will be contingent upon the permittees entering into water service contracts with Reclamation.

Phase 4 – Reclamation and Ecology will develop details of a groundwater management program for the Pasco Basin through a final signed MOA. The MOA will support development of groundwater withdrawals in specific locations, at specific depths and quantities, based on Reclamation and Ecology input associated with the revised model and information that has been vetted through Phase 1 and Phase 2. Reclamation and Ecology will provide public notice and outreach in the development of a groundwater

management program for the Pasco Basin. The details of the plan will be documented in the MOA and within the requirements of the Ecology rule formalized under Phase 3. Permits under an MOA and new rule will not be issued until after rulemaking under Section V.B.2.i.c) is completed[8]. Any permits issued prior to finalizing the MOA and Ecology rulemaking will issue according to existing procedures and in full coordination and agreement among the Parties.

Phase 5 – Reclamation and Ecology will, on a frequency decided during program implementation, or otherwise by mutual agreement, review the procedures developed in the groundwater management program and determine if further changes in co-management strategy are needed. Such changes may result in new rulemaking efforts.

## VII. OTHER PROVISIONS

A. Nothing herein is intended to quantify, diminish, or define the State of Washington's or U.S. Bureau of Reclamation's water rights.

B. This MOU shall be terminable by either Party upon thirty (30) days written notice to the other Party.

The Parties agree that a termination shall not lead to the automatic cessation of cooperative efforts begun under this MOU. In the event of a termination, each Party, in its sole discretion, will evaluate and decide whether to continue or cease cooperative efforts begun under this MOU.

C. Immunity and defenses retained. Each Party retains all immunities and defenses provided by law with respect to any action based on or occurring as a result of this MOU and cooperative work relating to the Pasco Basin.

D. Legal liabilities and other liability. Nothing in the MOU shall require any of the Parties to assume any legal liabilities or other liabilities on behalf of any other Party.

E. All actions and schedules called for by this MOU are subject to and contingent upon the availability and allocation of future Federal and state appropriations, existing and future limitations on a Party's statutory authorities, and state and Federal regulatory approvals as needed. The Parties agree that if any necessary authority and/or funding is not forthcoming, the schedules identified in this MOU will be reviewed and adjusted as necessary, by mutual consent.

[8] Rulemaking may occur during Phases 1-4 and is not limited to occurring during a single phase.

F. Entirety of the MOU. This MOU, consisting of seven (7) pages, represents the entire understanding among the Parties and supersedes all prior negotiations, representations, and agreements, whether written or oral.

G. The Parties' points of contact are:

Thomas Tebb, Director, Office of Columbia River, Department of Ecology.

Marc Maynard, Ephrata Field Office Manager, United States Bureau of Reclamation.

H. Approval. This MOU becomes effective on the date of the last signature and will remain in effect unless modified or terminated as provided for herein.

I. Counterparts. This instrument may be executed in counterpart: each of which is deemed to be an executed original even if all signatures do not appear on the same counterpart. Facsimile and photocopies of this instrument will have the same force and effect as an original.

J. Modifications. Modifications within the scope of this MOU shall be made by mutual consent of the Parties, by the issuance of a written modification, signed and dated by all Parties, prior to any changes being performed.

## VIII. SIGNATORY AUTHORITY

The Parties to this MOU, through their duly authorized representatives, have executed this MOU on the dates set out below, and certify that they have read, understood, and agreed to the terms and conditions of this MOU, as set forth herein.

Laura Watson Digitally signed by Laura Watson Date: 2022.06.06 09:01:36 -07'00'

Laura Watson
Director
WA State Department of Ecology
Date:

TALMADGE OXFORD Digitally signed by TALMADGE OXFORD Date: 2022.06.22 06:27:39 -07'00'

Talmadge Oxford
Columbia-Cascades Area Manager
US Bureau of Reclamation
Date: (Date included in digital signature)

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