GSI Water Solutions, Inc.

Technical Memorandum

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

From: Adam Sussman, GSI Water Solutions, Inc.
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Re: **Task 4 – Water Right, Legal and Policy Opportunities and Impediments Associated with Options for Water Movement**

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1. Introduction

As part of the Upper Deschutes Basin Study (Basin Study), GSI Water Solutions (GSI) was assigned the following scope of work:

- Evaluate water right, legal and policy opportunities and impediments associated with options for water movement.

- Summarize and repackage water movement options developed in the Deschutes Water Planning Initiative (DWPI). These include but are not limited to transfers, leases, allocation of conserved water, exchanges, inter-district transfers, water management agreements, district policies and actions.

- Coordinate with the Technical Director/Basin Study Work Group to select the most feasible options from DWPI for further evaluation. Evaluate additional water movement options identified by the BSWG but not evaluated in DWPI.

GSI has developed the following Technical Memorandum that evaluates water right, legal and policy opportunities and impediments, from a water rights perspective, associated with options for water movement. Specifically, this memorandum focuses on potential sources of water supply for movement, and mechanisms for the movement of water rights, either on a permanent or temporary basis. These water movement options could include transfers, leases, allocations of conserved water, exchanges, water

management agreements, and district policies and actions. Finally, this memorandum presents examples of how these opportunities could be implemented within the basin.

Previous efforts have described the water management tools that can be implemented to move water rights to new locations. These efforts have been intended to provide a benefit to instream flows and to benefit water users with insecure water supplies. For example DWPI developed a "Water Supply & Water Movement Options Glossary (DWPI Glossary)," which describes options to obtain additional water supply and tools for moving water between uses and users. (See Attachment 1 for the DWPI summary of water movement options). DWPI also described that some tools can also be used create mitigation credits under the Deschutes Basin Groundwater Mitigation Program.

Finally, this memo cannot possibly describe every nuance of every possible iteration of water movement options. However, this memo will serve as a framework for water movement options as the Basin Study Work Group (BSWG) develops water management scenarios for modeling and analysis.

2. Sources of Water Supply for Movement

Several different circumstances occurring in the Deschutes Basin present opportunities to obtain existing water rights (on a temporary or permanent basis) and move the water right for use in other locations. The following is a description of some of the circumstances that may allow such water supply movement. (These sources of water supply are described in more detail in the full DWPI Glossary at http://www.deschutesriver.org/resources/deschutes-water-planning-initiative/.) Note that determining what tools would be best-suited to a particular situation will be case-specific.

2.1. Fallowing Lands/Forbearing Water Use

As with other basins in the state, portions of the lands with appurtenant water rights are not irrigated every year. As an example, according to Central Oregon Irrigation District (COID) staff, in any given year 800 to 1,400 acres of ground may be fallow. These lands may be left fallow and the appurtenant water rights may be available for use on other lands or instream. This situation can arise when a landowner simply chooses not to irrigate or enters into an agreement with a third party to voluntarily not irrigate. As further described in the Summit Conservation Strategies memo developed for the Basin Study Work Group "LPE Task 7 Market-Based Approaches as a Water Supply Alternative," (Task 7 Memo), financial incentives could increase the potential number of acres that would be fallowed, and the corresponding amount of water that could be made available for movement.

2.2. Land Use Changes (Urbanizing Land) and Remnant Parcels

Another opportunity for the movement of water and water rights results from changes to the use of land. For example, when agricultural land that has historically been irrigated is urbanized and is developed or receives water from a municipal water supplier, the water appurtenant irrigation water right can be moved for use at another location.

Similarly, when the majority of properties in an area no longer receive water from an irrigation district, "remnant parcels" can be left. These properties may be the only property still receiving water from an irrigation delivery system. This can result in the need for a significant amount of maintenance and large amounts of water being used to "push" water to the remaining water user on the ditch. Therefore, a significant water savings could potentially occur if the water user agreed to no longer receive water from the district.

As an example, as described in the Task 7 Memo, according to COID staff there are 1,725.6 acres of land in COID that are within the City of Bend urban growth boundary (UGB). As this land is urbanized, the appurtenant water rights could potentially provide a source of water supply for movement to other lands.

2.3. Conservation Projects Reducing Water Use

Another potential option for obtaining water supply to move to other locations or instream is through the implementation of conservation projects. These projects could be on-farm projects, such as converting from flood irrigation methods to more efficient methods such as sprinklers or drip irrigation. Additionally, conservation projects could be implemented by a district. For example, a district could line or pipe a canal that had significant water loss through evaporation and/or leakage. Currently the Farmers Conservation Alliance (FCA) is developing Irrigation Modernization Plans and System Improvement Plans for the largest Deschutes Basin irrigation districts and identifying the potential for water savings. The work conducted by FCA will be summarized in the Water Conservation Assessment being developed for the Basin Study.

2.4. Water Management Changes To Reduce Demand

A final potential source of water supply that could be moved to other lands or instream would result from water management changes that reduce water demand. For example, districts and some of its patrons could enter into agreements to reduce the amount of water that would be delivered, or districts could implement demand-based delivery systems that only deliver water when it is ordered by a patron. Districts could also implement rate schedules, such as increasing block rate pricing that would create a financial incentive for patrons to conserve water. In sum, these activities that reduce

demand could make water available to other uses, including use by water right holders with less secure supply.

3. Legal and Policy Pathways / Options for Water Movement

The following is a description of numerous methods by which water can be moved.[1] In addition, Table 1 (in Attachment 2) summarizes how these mechanisms for moving water can be used and which sources of water supply described above could be utilized with each of these mechanisms.

3.1. Summary of Permanent Movement Opportunities and Constraints

3.1.1. Permanent transfers between districts

Water right transfers provide a mechanism for changing the point of diversion, place of use, and character of use for a "water right subject to transfer."[2] This category includes a water right certificate, a water right evidenced by a decree, a water use permit for which a claim of beneficial use (COBU) has been approved by Oregon Water Resources Department (OWRD) but a certificate not yet issued, and an approved transfer for which proper proof of completion has been submitted to OWRD.

OWRD reviews water right transfer applications to determine whether they will cause injury to other existing water rights or enlargement of the water right to be transferred. The water right holder must also show that the water right has been used during the past 5 years or that the right is otherwise subject to transfer. If OWRD determines that the proposed change will not cause injury or enlargement, it can approve the transfer to change the water right. The other elements of a transferred water right, such as priority date and any conditions, remain unchanged following a transfer.

When evaluating a transfer application to change the character of use, OWRD will consider the maximum potential amount of beneficial use for the authorized purpose. OWRD will not approve a transfer for more than the maximum potential beneficial use to preclude enlargement of the right and avoid injury to other water rights. It can take nine months to a year for OWRD to complete its processing of a permanent transfer application.

[1] OWRD's publication Water Rights in Oregon (often referred to as "The Aqua Book") provides a good source of information about the water right transactions described below, as well as other topics, and is available on-line: http://www.oregon.gov/owrd/PUBS/docs/aquabook.pdf. The Aqua Book includes statutory citations to the legal authority for many of the water right transactions processed by the agency.

[2] This section considers "regular" water right transfers (under OWRD's Division 380 rules), as opposed to "district transfers" under OWRD's Division 385 rules.

If a supplemental irrigation right[3] is associated with a primary irrigation right that is to be transferred, the supplemental irrigation right must also be transferred, be canceled, or be transferred to other property to be supplemental to a primary water right with similar reliability. For example, a supplemental water right for the use of stored water could be transferred from its current place of use to a new place of use, if the primary irrigation water right at the new place of use was expected to have access to water at times and amounts similar to that available to the primary irrigation right at the current place of use. In other words, transferring the supplemental water right cannot increase the need or frequency to use supplemental water under that right.

A permanent transfer results in cancellation of the original water right and issuance of a new water right certificate after the right is fully developed as modified. (The water right is referred to as being "inchoate" while the approved change is implemented.)

Opportunities: Transfers provide an effective tool for longer-term water management goals.

Limitations: There are limitations to the changes that can be made to a water right through the transfer process. First, the source of water cannot be changed, even when the point of diversion is changed. (This does not preclude a water right holder from moving their point of diversion downstream from a tributary to the mainstem of the river.) As a result, the water diverted at the new point of diversion must have been available at the original point of diversion. A new point of diversion will need to comply with applicable fish passage and screening requirements. Further, the new point of diversion typically must be downstream from the original point of diversion. In theory, the new point of diversion could be upstream from the original location, but if there are intervening points of diversion or an instream water right, OWRD likely would consider this change to cause injury to the other water right(s).[4] In addition, if a water right is transferred to a new place of use water from the authorized source may not be used on the original place of use (or the transferred portion of the water right if applicable). Finally, when transferring the place of use of an irrigation water right, the new place of use will be limited to the same number of acres as the first place of use, and to all the terms and conditions of the original water right.

Water right holders also should be aware that if a transfer proposes to change the place of use or character or use, and the water right holder is ultimately unable to complete the changes proposed in the transfer, the water right cannot be reverted back to its original status. For example, if a water user transfers their irrigation right from irrigation use to quasi-municipal use in expectation of developing a subdivision, but no homes are ever built at the location, the water right holder will be unable to complete

[3] When there is insufficient water available from the source identified in the associated primary irrigation water right, a supplemental irrigation rights allows irrigation of the same lands from another water source.

[4] It is worth noting that there is a process under which the agency that requested an instream water right can consent to injury to that right.

the transfer and could lose the water right. As a result, water right holders considering changing the place of use or character of use on their water right should carefully evaluate their ability to complete the proposed change before applying for a water right transfer.

A permanent water right transfer is not a good tool for short-term situations and situations that require flexibility.

3.1.2. Instream transfer (with or without creation of mitigation credits)

Instream transfers permanently change a water right's authorized use to allow the water to be protected instream. When a water right is transferred instream, the right is canceled and a new certificate is issued in the name of the State of Oregon. The instream right is held by the state "for the benefit of the public" and OWRD is charged with enforcing and protecting the instream right. As part of the instream transfer, the water right holder could elect to obtain mitigation credits under OWRD's Deschutes Basin Groundwater Mitigation program. (See GIS's Task 6 memo - **Groundwater Mitigation under the Deschutes Basin Groundwater Mitigation Program; A Summary of Projected Supply and Demand, January 12, 2017**.)

Opportunities: Transferring a water right instream, particularly a relatively senior water right, allows the transferred water to be protected instream within the relative priority of the system. In other words, the OWRD watermaster can shepherd the water put instream past the points of diversion of junior (but not senior) water right holders. The water may be protected from the original point of diversion to the mouth of the stream and possibly lower in the system. Various state, federal, and private non-profit programs may provide funding for both transactional costs associated with transferring water instream, and as incentives to encourage these types of transfers in order to restore streamflows.

Limitations: An instream transfer is a permanent change to a water right that cannot be "undone" after it is approved by OWRD. Additionally, OWRD will not allow an instream transfer in all circumstances. As with other transfers, the water right holder will have to show that the water right has been used during the past 5 years or is otherwise subject to transfer, and that the proposed change will not result in enlargement of the water right or injury to other water rights.

Transferring a water right instream does not ensure that water will remain instream because the new instream right retains the original priority date and the instream right will receive the water available only after more senior water rights have been satisfied.

Instream transfers would require the water right holder to preclude water use from the authorized source on the original place of use. OWRD likely would evaluate whether all or a portion of the original place of use would still receive water from the source after irrigation is terminated as a result of canal leakage or other reasons. If the place of

use cannot be prevented from receiving water from the original source, the water right (or portion of the water right) could not be transferred.

Finally, water right holders should be aware that it can take one to two years for OWRD to complete its processing of instream transfer applications. Instream transfer applications that establish mitigation under the Deschutes Basin Groundwater Mitigation Program can take even longer.

3.1.3. Allocation of conserved water

When a water right holder implements a water conservation project, the water conserved cannot automatically be used for other purposes or on other lands, such as irrigation of other lands or for instream use. To put the conserved water to a new use, the water right holder must apply for an "allocation of conserved water." Under the Allocation of Conserved Water Program, a water right holder can apply for authorization to use a portion of the water conserved as the result of a conservation project. OWRD generally completes processing of an allocation of conserved water application within a few months. The new use could be irrigation of additional lands, other beneficial uses, or all of the conserved water could be protected instream. A water right holder has up to 5 years after implementation of a conservation project to apply for an allocation of conserved water.

Under the Allocation of Conserved Water Program, a percentage of the conserved water must be used to create an instream water right. The proportion of conserved water required to be placed instream varies depending on the water right holder's preferences and how the conservation project is funded and the amount of water remaining after mitigating impacts on other water rights. At least 25 percent of the conserved water is allocated to the state unless the water right holder offers a higher percentage to the state or more than 25 percent of the funding for the conservation project is from state or federal public funds. In the latter case, the portion of the conserved water allocated to the state equals the percentage of the funding from a public source, up to 75 percent. (In other words, the water right holder can receive a minimum of 25 percent of the conserved water for a new use, although many water right holders elect to dedicate all the conserved water for instream use.) The water right holder can elect to make the conserved water have a more junior priority date (by 1 minute) so that the originating water right will not be regulated to benefit the newly created instream water right.

As an example, an irrigator could replace a leaky ditch from their point of diversion to their pasture with a pipe that would nearly eliminate conveyance losses (water diverted by the source that does not reach the place of use because of evaporation, seepage into the ground, or other reasons). The eliminated conveyance losses would be the "conserved water." If only 25 percent of the funding for the project was from public funds, the irrigator could use 75 percent of the conserved water to irrigate an additional area (after mitigating for effects on other water rights). So, for purposes of demonstration, if the irrigator's project reduced water loss by 1 cubic foot per second

(cfs), the irrigator could use 0.75 cfs to irrigate an additional 30 acres (at 1/40 of a cfs per acre).

Opportunities: The allocation of conserved water process provides the only method for legally expanding use of an existing water right. This process allows water right holders to expand their water use as the result of conserving water and to provide streamflow benefits at the same time.

Limitations: A "conservation project," which can be expensive, is required for this process to be available. OWRD currently does not recognize the change in management practices to constitute a conservation project. Instead, the agency requires some type of physical change to the water right holder's diversion or distribution system. In addition, the change must result in a reduced rate of water use and not just a reduction in the total volume of water used during the year.

Moreover, OWRD will closely evaluate the project and historic consumptive use and return flows to ensure the proposed use of conserved water does not cause injury to existing rights. In some cases, the "mitigation" required to address injury significantly reduces the benefit of the project.

3.1.4. Exchange

An exchange allows a water right holder to use water from a source other than the source authorized by their water right by exchanging sources with the holder of a water right that authorizes use from the new source. The water user must provide an equal amount of water to the holder of the second water right. Surface water, groundwater and stored water can all be eligible sources for an exchange.

OWRD has authority to allow some water right holders to use water from another source in exchange for supplying water in an equal amount to satisfy "prior appropriations from the other source" under some conditions. In the Deschutes Basin, holders of certificates (or a water right for which proof of beneficial use has been approved) may apply for an exchange if the applicant's source is sometimes insufficient; or better conservation could be accomplished. OWRD can approve an application for an exchange unless the exchange (1) would adversely affect other water users, (2) would be too difficult to administer, (3) would adversely affect the public interest, or (4) if sufficient water would not be available to replace the water to be used under the exchange.

Opportunities: Exchanges can provide a tool for trading water sources with another water right. This may be useful in circumstances when delivery from a different source is more efficient.

Limitations: Exchanges only provide an opportunity to change the source of water used and do not function to allow the movement of a water right from one location (place of use) to another.

3.1.5. Long-term forbearance agreement

A forbearance agreement is a private agreement in which a water right holder agrees to reduce or terminate water use for some period of time. If a forbearance agreement allowed continued, but reduced, irrigation, the reduction could be based on agreement to use water only during a portion of the irrigation season, irrigate only a portion of the place of use, or use only a portion of the maximum authorized rate and/or volume of water to which the water right holder is entitled. For example, an irrigation district could agree to reduce the volume of water per acre that it delivered to its patrons. This water could in turn (potentially through a contractual agreement) become available for other water users to divert.

Forbearance agreements do not need approval from OWRD, and the agency does not enforce the terms of such agreements. As a result, if a party does not comply with the terms of the agreement, it must be enforced by the courts.

A water right holder also could agree to only divert water when certain conditions (such as amounts of streamflow) are met. A water right that is the subject of a forbearance agreement is not modified, and such agreements are often time-limited in nature.

Opportunities: A forbearance agreement could be used to reduce demand and potentially generate supply for another water user. The contents of such agreements could potentially contain a broad variety of terms, although they could not be inconsistent with OWRD regulatory requirements. Thus, this tool could provide broad flexibility compared to many other water movement tools.

Limitations: Water not diverted for use under the terms of a forbearance agreement is not protected instream. Rather, the water becomes available for use by downstream (instream or out-of-stream) water rights. Thus, these agreements would likely require other water right holders within the applicable reach to join in the agreement regarding how the additional water would be used or managed.

Finally, if a water right is not used for 5 consecutive years based on a forbearance agreement, the water right potentially could be subject to an allegation of forfeiture for non-use. Consequently, it is not advisable for a water right holder to enter into a forbearance agreement that requires complete cessation of water use for a period of 5 or more years.

3.2. Summary of Temporary Water Movement Opportunities and Constraints

3.2.1. Temporary transfers between districts

A temporary transfer can change the place of use (and point of diversion if necessary to convey water to the new place of use).[5] When OWRD approves a temporary transfer, the agency issues a final order approving the requested change for a period of up to 5 years. The original water right is not canceled, and OWRD does not issue a new certificate. OWRD generally completes processing of temporary transfer applications very quickly; often within a couple of months.

Opportunities: A temporary transfer is a useful mechanism for making short-term changes to a water use. For example, if an irrigator is implementing a change in land management that temporarily eliminates the need for irrigation, the irrigator could obtain temporary authorization to use water on another place of use under their water right.

Limitations: The limitations for temporary transfers are similar to those for regular transfers. For instance, the source of water cannot be changed, even when the point of diversion is changed. When transferring the place of use of an irrigation water right, the new place of use will be limited to the same number of acres as the first place of use.

3.2.2. Instream lease (with or without creation of temporary mitigation credits)

Water right holders can use instream leases to protect water rights (or portions of water rights) not being put to beneficial use, and provide streamflow benefits. These leases protect water instream based on the water right's priority date. This process is available to "water rights subject to transfer" (generally certificated water rights.). Unlike permanent transfers, the duration of an instream lease is limited to a period of 1 to 5 years; however, a lease can be renewed an infinite number of times. Additionally, the water right is not held by the state in trust for the public. Instead, the lessor (or lessee if a conservation group) would be responsible for requesting regulation to protect the water leased instream. OWRD typically completes its processing of instream lease applications within six months. As part of the instream lease, the water right holder could elect to establish temporary mitigation credits under OWRD's Deschutes Basin Groundwater Mitigation program. All temporary mitigation credits must be administered through the Deschutes River Conservancy's Groundwater Mitigation Bank.

[5] This section considers "regular" water right transfers (under OWRD's Division 380 rules), as opposed to "district transfers" under OWRD's Division 385 rules.

OWRD does not cancel a water right when it is leased. The agency issues an order protecting the water instream for a stated period of time. If a primary irrigation right is leased instream, any associated supplemental irrigation rights are not required to be canceled, leased, or transferred. Further, associated supplemental rights are protected from forfeiture while the primary right is leased instream. The supplemental right cannot, however, be used to irrigate the original place of use during the lease period.

Opportunities: Instream leases allow water right holders to protect water instream temporarily and without a significant amount of paper work or cost. This process protects the subject water right from allegations of forfeiture during the time the water is not used for its original beneficial use (such as irrigation).

Instream leases are a good mechanism for landowners to test protecting some or all of their water right instream on a temporary basis. They may provide a good "first step" before a water right holder commits to transfer a water right instream on a permanent basis.

Instream leases may be particularly useful when a landowner is implementing a new land management practice and is not yet certain how much water will be needed for irrigation purposes. The short-term nature of a lease (potentially only for 1 year) allows the water right holder to potentially adjust the amount of water included in the lease on an annual basis.

Limitations: When a water right is leased instream, the place of use for the water right cannot be irrigated under the leased water right for the period during which the lease is in effect. Instream leases do not allow a water right to be used for both irrigation and instream uses during the same year. The water could be used for only a single purpose during each year. In addition, a lease cannot include only a portion of the duty associated with the subject place of use. (OWRD requires that the place of use associated with the leased water right not be irrigated during the period of the lease, including by any supplemental water right.)

As with instream transfers, leasing a water right instream does not necessarily ensure that water will remain instream because the new right retains the original priority date and will receive only the water available after more senior water rights have been satisfied.

3.2.3. Split-season instream lease

As an alternative to leasing a water right instream for several years or one entire irrigation season, a water right holder can enter into a split-season lease. Under this process, an irrigator can use a water right for irrigation purposes during a portion of the year and lease the water instream for the remaining portion of the year. (The water right holder cannot use the water right for both purposes at the same time.) An application must be submitted to OWRD at least 2 weeks before use of water under the

water right. The applicant must work with the relevant watermaster prior to submitting the application and must identify the time period for each use in the application to OWRD. The water right holder will be required to measure and report the use of water for both the existing purpose and the instream use. Split-season leases are, otherwise, similar to other instream leases, which are described above. OWRD typically completes its processing of split-season instream lease applications within six months.

Opportunities: Split-season leases allow water right holders to obtain some benefit from their water right during the year, before protecting the water instream. Similar to instream leases, split-season lease applications can be developed and approved in a relatively short period of time.

Limitations: As with regular instream leases, a split-season lease does not necessarily ensure that water will remain instream because the water will be available for use by senior water right holders. Moreover, the requirement to measure the water use can create additional expense (including the cost to install a measuring device) and effort for the water user.

3.2.4. Time-limited instream transfer

A time-limited instream transfer protects water instream on a temporary basis. The original water right is not cancelled. The instream use can end after a stated period of time or when an identified event occurs, such as the water right holder notifying OWRD that the instream transfer is to be terminated. Thus, the difference between an instream lease and a time-limited instream transfer is that the latter can be for an extended (longer than 5-year) period of time. OWRD typically completes processing of time-limited transfers in approximately one year.

Opportunities: The opportunities associated with a time-limited instream transfer are similar to those for permanent instream transfers. Time-limited instream transfers have the added benefit of allowing the water right holder to terminate the instream transfer. As a result, time-limited instream transfers may provide a good tool for water right holders who are making short-term changes to a water use. For example, if an irrigator is implementing a change in land management that temporarily eliminates the need for irrigation, the irrigator could obtain temporary authorization to protect water instream under the associated water right.

Limitations: Time-limited instream transfers have many of the same limitations as permanent instream transfers. OWRD will require a water right holder to demonstrate that the water right has been used during the past 5 years or otherwise subject to transfer, and the proposed change cannot result in enlargement of the water right or injury to other water rights. Again, the water right holder must be able to prevent the place of use from receiving water from the original source. The water transferred instream may be appropriated by other senior water users because the instream right

will receive the water available only after more senior water rights have been satisfied. Similar to an instream lease, a time-limited instream transfer only establishes temporary mitigation credits.

3.2.5. Short-term forbearance agreement

A short-term forbearance is the same as a long-term forbearance agreement, described above, but is in effect for only a short period of time. A short-term agreement could provide a good opportunity to test the effectiveness or the mechanism, and the irrigator's ability to reduce or eliminate irrigation. Such a short-term agreement would have the same opportunities and limitations as a long-term agreement.

4. Examples of Opportunities for Implementing Temporary and Permanent Water Movement Pathways / Options:

The following provides examples of some opportunities to use some of the above-described water movement options to address the need for additional water supply in the Deschutes Basin. As discussed above, the use of these water movement tools are case-specific; these examples provide a framework that the Basin Study Work Group can use in developing water management scenarios for further modeling and analysis.

4.1 Fallowing Lands – Lease Water Instream/Forbearance for Instream Benefit

One opportunity to increase instream flows is to focus on lands with irrigation water rights that are fallowed in any given year. Under this scenario, the "unused" water could be protected instream through an instream lease or time-limited transfer, or a temporary forbearance agreement could be used whereby the irrigator simply agreed to not use water for a specified period of time. (As described above, using the latter option would not protect the water instream so an agreement with water users within a reach would be needed to ensure that the "unused" water remained instream throughout the reach.) This type of approach would have the benefit of flexibility, given the lower effort of transactions with OWRD.

There are, however, challenges associated with this option. Historically, the number of fallowed acres has varied by year and the overall number of acres would not likely yield significant amounts of water. (As previously mentioned, the Task 7 Memo notes that financial incentives may enhance this opportunity.) Another likely issue is that until the basin's irrigation districts make significant improvements in delivery systems, the loss of "carry water" from fallowed lands may adversely impact the ability to deliver water to other patrons on the same ditch. In the past irrigation district representatives have also expressed concern that non-irrigated fallow lands can attract invasive plant species and weeds that can adversely impact surrounding lands.

Finally, according to representatives of some districts, due to insufficient water supplies (such as reduced access to stored water associated with the on-going law suit, settlement agreement and Biological Opinion) any water not used by one district patron may potentially be required to meet another patron's (or another irrigation district patron's) irrigation demands. Thus, some districts will have greater ability than others to put instream "unused" water from fallowed lands.

4.2 Urbanizing/Remnant Parcel – Water Right Transfer Between Districts / District To Instream Transfer

A secondary scenario in which water right tools could be used to move water rights is in a situation where irrigated lands are being urbanized. This situation can also result in "remnant parcels" that are still in agricultural use when surrounding areas have all been urbanized. These situations may provide an opportunity to transfer the appurtenant water rights to another district[6] or to protect the water instream through an instream transfer.

As an example, an urbanizing parcel (Property A) that receives Deschutes River water served by COID gets developed and now will obtain its water supply from a municipal water supplier. The portion of the COID water right that was appurtenant to Property A could then be transferred to other lands (Property B) within North Unit Irrigation District (NUID). The portion of the NUID water right for the use of stored water from Wickiup Reservoir that is appurtenant to the receiving lands (Property B) could then be transferred instream (perhaps even during non-irrigation season months) to benefit instream needs.[7] (As a side note, in the future it may even be possible to use the stored water in this example to establish mitigation credits under the Deschutes Basin Groundwater Mitigation Program).

According to Summit Conservation Strategies draft memo developed for the Basin Study Work Group "LPE Task 7 Market-Based Approaches as a Water Supply Alternative," there is significant overlap between COID and the UGB of Bend and Redmond - approximately 720.8 acres and 1,725.6 acres that fall within the Bend UGB and Redmond UGB, respectively. As with other options discussed, the transfer of urbanizing water rights is fact-specific. Moreover, the transfer of urbanizing water rights depends on clear district agreements between surrounding cities and future development interests.

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[6] This section considers "regular" water right transfers (under OWRD's Division 380 rules), as opposed to "district transfers" under OWRD's Division 385 rules.

[7] Despite the current federal authorizations, there may be an opportunity to obtain federal authorization to protect this water instream under the 1920 Act (US Code Title 43 Chapter 12 Subchapter XIII ~ 521. Sale of surplus waters generally). We understand that Bureau of Reclamation staff have previously agreed the water could be used for additional purposes under a "sale of surplus waters" if specific criteria were met. (See the technical memorandum for Task 2, Part 2 – Water Right, Legal and Policy Opportunities and Impediments for Stored Water, Forbearance, Instream Flow Protection, and Mitigation.)

According to representatives of the districts, the opportunities associated with remnant parcels are more limited than urbanizing lands. If these parcels gave-up their water supply and received municipal water supply and no longer required water from the irrigation districts, this water could become available for transfer either instream or to provide water supply to other districts. The challenge associated with this concept is that it is very costly to use municipal water supply as a replacement water source. Additionally, the districts cannot force their patrons to give up their district water rights; however, even though districts are supposed to have consistent patron rates, in some circumstances there may be an opportunity to form sub-districts to create financial incentives to give up district water rights that have a high operations and maintenance cost due to it being a remnant parcel.

4.3 Fallowing Lands / Urbanization/Terminating Service to Remnant Parcels to Create a "Pool" of Water – Put Water Instream or Provide to Another District (Temporary)

Another potential opportunity to increase streamflow or to provide additional irrigation water supply is to gather water from a variety of sources, such as fallowed lands, urbanized lands, and remnant parcels and to create a "pool" of water that could be moved via water right transactions from one year to the next. In some years, water could be protected instream, while in drier years the water would be needed to supplement less secure sources of supply (such as water supply to an irrigator that has lost access to stored water).

The benefit of this concept is that it provides flexibility to direct water supply to instream or irrigation as needed and can adapt to current water supply conditions. A potential impediment is that experience has demonstrated that the effort to complete annual instream transactions may make the concept of redistributing a pool of water on an annual basis through OWRD's processes unrealistic. Using contractual agreements could avoid this problem, but the water would only be protected from appropriation if all water users within the applicable reach were party to the agreement.

A related opportunity may be to implement demand management to reduce the amount of water used per acre. Water saved in this way, along with water from the above-described sources could potentially be used by other water users. This water would, however, only be available for other uses through contractual arrangements. Since this water would not be "moved" through a water right transaction, but would be left instream for other users, the water would not be protected from appropriation by users not party to the agreement, and any acres not irrigated for more than five years could become subject to forfeiture for non-use.

4.4 Water Conservation Projects – Allocation of Conserved Water

Under this option, a landowner or a district would develop a conservation project to reduce the rate and volume of their water use. For example, if COID piped some of its canals, it could conserve some of the water it currently diverts but is lost due to seepage and evaporation. A minimum 25 percent portion of the amount of water conserved would be protected instream in the Deschutes River. The remaining portion of the conserved water (up to 75 percent) could be used for irrigation purposes on other lands, after mitigating for impacts on other water rights.[8] The conserved water could be used to authorize irrigation within NUID, which currently uses water from Wickiup Reservoir. The NUID could then transfer its stored water from Wickiup Reservoir instream. NUID could potentially get mitigation credits for the instream transfer.

5. Conclusion

This memorandum focuses on potential sources of water supply for movement, and mechanisms for the movement of water rights, either on a permanent or temporary basis. These water movement options could include transfers, leases, allocations of conserved water, exchanges, water management agreements, and district policies and actions. A summary of the water movement options described above are in Table 1. (Attachment 2) This memo will serve as a framework for water movement options as the Basin Study Work Group develops water management scenarios for modeling and analysis.

[8] This example assumes the project is paid for with private funds so that the water right holder receives the maximum amount of conserved water possible (75 percent).

Attachment 1

Deschutes Water Planning Initiative Summary of Water Movement Options

WATER MOVEMENT OPTIONS

STATE-CERTIFIED

We define "state-certified" water movement options as transactions that go through the Oregon Water Resources Department administrative process. These include transfers and leases of water rights, as well as allocations of conserved water using the State's Allocation of Conserved Water Statute. These are tools that have been used frequently in the Deschutes Basin to protect water instream, to move water between users, and to generate temporary and permanent groundwater mitigation credits.

WATER TRANSFERS

DISTRICT-DISTRICT PERMANENT

This option allows a district to move available water rights to another district on a permanent basis.[1]

Urbanization, conservation, and other reasons can result in a district not requiring all of the water rights that it holds. Districts could transfer some of its water rights to another district that is in need of more water. This could provide revenue for the district with available water rights.

Conservation efforts (or other reasons) can result in a district not needing all of its stored supplemental water supply; the district could transfer some/all of its supplemental rights to another district that needs additional stored water.

DISTRICT-DISTRICT TEMPORARY

This option allows one district to temporarily transfer a water right to another district.[2]

A district may have available water rights if their patrons were not expected to require all of the acres held by the district; it could transfer some of this available water to another district on a year-to-year basis.

DISTRICT-INSTREAM PERMANENT TRANSFER FOR MITIGATION

This option allows a district to transfer water rights instream to generate mitigation credits. A municipality, or other water provider, needing mitigation credits could pay a district to transfer available water rights instream in exchange for receiving the mitigation credits. With all mitigation projects, the water right transferred instream needs to be within the same zone of impact as the required mitigation zone of impact of the water right needing mitigation.

DISTRICT-INSTREAM PERMANENT TRANSFER FOR RESTORATION

This option allows a district to transfer water rights instream to increase instream flow. Groups interested in restoring streamflows could pay a district to transfer available water rights permanently instream for restoration purposes (i.e. no mitigation credits awarded).

DISTRICT-MUNICIPAL SURFACE SUPPLY AGREEMENT

This option allows a district to provide water use to a municipality, or other water provider, while still retaining the water on the district water right certificate through a long-term use agreement.

Locally, this could provide a pathway for a district with available rights to transfer water instream under a long-term time-limited transfer which would provide mitigation credits to a municipality requiring mitigation for groundwater pumping. The district would still retain "ownership" of the rights and would be able to use the water on-farm after the time-limited transfer was expired or mutually cancelled.

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[1] These transfers would be done under the "regular" transfer process (in OWRD's division 380 rules) as opposed to the "district transfer" process (in OWRD's division 385 rules).

[2] These transfers would be done under the "regular" transfer process (in OWRD's division 380 rules) as opposed to the "district transfer" process (in OWRD's division 385 rules).

Currently, a time-limited transfer generating mitigation credits would be considered temporary mitigation and would be subject to the 2 for 1 rule. A temporary mitigation project is required to be processed through an authorized mitigation bank.

Allocation of Conserved Water Instream for Mitigation Credits

A district could implement a conservation project, such as implementing an on-farm efficiency project,[3] and submit an application for an allocation of conserved water, which requires a portion of the conserved water to be transferred instream. Mitigation credits could then be received for transferring the conserved water instream. A municipality in need of mitigation credits could fund a district conservation project in which the conserved water would be transferred instream to generate credits.

Under OAR 690-505-0610, allocations of conserved water are acceptable to use as mitigation projects. However, using conserved water to generate mitigation credits could result in impairment of flows; if necessary, several projects could be combined to mitigate for any impairment.

Allocation of Conserved Water Instream for Restoration

This option allows water right holders to use conserved water projects to increase streamflows. Entities interested in increasing streamflows could pay the cost of a conservation project. All, or a portion, of the water conserved could be transferred instream. Allocation of conserved water projects must reduce the rate and volume at which water is used under the original water right.

Allocation of Conserved Water to Another District

A conserved water project could be conducted by one district and the water saved could be transferred to another irrigation district in need of additional water rights. A district that implemented a conservation project, but did not need the conserved water for its own use, could transfer the conserved water to another district. Allocations of conserved water cannot "harm" existing water rights, including instream water rights. A minimum of 25% of the conserved water must go instream.

"Exchange" of Water for Restoration

A district, or other water user, could use a water right from a new source in order to increase streamflows in the source for its original water right.

A water user could enter into an exchange with ODFW that would exchange an instream water right in a waterway with sufficient flows for a consumptive right from a waterway with insufficient flows. The result would allow the water user to divert water from the waterway that had sufficient flows and protect water instream in the waterway with insufficient flows.

To our knowledge, no one has implemented an exchange with an instream water right but ORS 540.533 describes instream water rights and permits as authorized rights available for applications for exchange of water.

Temporary Allocation of Existing Permanent Mitigation Credits

A water user that holds mitigation credits assigned to them could allow another water user to apply the mitigation credits for a period of time. The ability to rent or lease mitigation credits would allow additional use of groundwater with the mitigation credits already in existence, since some entities hold significant amounts of credit that they do not currently use. Under current groundwater mitigation rules, once mitigation credits are assigned, OWRD does not currently allow the credits to be used under a different water right.

Conjunctive Use (Temporary "Exchange")

This option would allow the use of groundwater, in place of surface water, in the later portion of the irrigation season when streamflows are low. Water users that have access to groundwater, whose water rights are from surface water, can

[3] OWRD has indicated that the allocation of conserved water program could not be used to establish mitigation through projects such as canal lining, except to the extent that the effect on existing water users can be mitigated, because there is no actual consumptive use associated with seepage losses.

potentially rely on groundwater in the late summer to offset low streamflows in their authorized source. (For example, Three Sisters Irrigation District exchange- pumped groundwater in late summer to keep surface flows high; mitigation permit was in place). There may be possibilities to connect groundwater pumping with winter reservoir releases.

WATER LEASES

DISTRICT-INSTREAM RESTORATION

A district could lease water instream to restore flows. This option is useful for districts to retain their water rights if not needed on-farm, as instream use is defined as a beneficial use of water. Leases are for time periods of 1 to 5 years and can be renewed after the lease expires.

DISTRICT-INSTREAM MITIGATION

Water could be leased instream for temporary mitigation credits.

A district that does not require the use of all of their water rights could place the water rights instream through the instream leasing program. This option provides the benefit of protecting the water right as leasing in Oregon is a beneficial use. Instream leases result in temporary mitigation credits; temporary credits have to be held at a 2 to 1 ratio (2 generated credits for every 1 used). A temporary mitigation project is required to be processed through an authorized mitigation bank.

SPLIT-SEASON INSTREAM LEASES

A water right could be used for irrigation during one portion of the irrigation season, and leased instream during another portion of the irrigation season. This option could allow irrigation during a portion of the year, such as the early portion of the irrigation season, which could allow some production from these lands, such as a first cutting of hay, but protect water instream during the time when streamflows are typically lowest.

CONTRACTUAL AGREEMENTS (NOT STATE-CERTIFIED)[4]

DISTRICT-DISTRICT MANAGEMENT AGREEMENTS

SHORT-TERM

One senior district could share water with a more junior district on a short-term basis by voluntarily deciding to use less water in a particular year and to reduce its diversion, accordingly. Water not diverted by the senior district would become available for diversion by the junior district. This option promotes flexibility and allows a district to respond to the needs of other districts on a year-to-year basis according variable climate and economic conditions.

LONG-TERM

One senior district could share water with a more junior district on a short-term basis by voluntarily deciding to use less water in a particular year and to reduce its diversion, accordingly. Water not diverted by the senior district would become available for diversion by the junior district. This option promotes flexibility and allows a district to respond to the needs of other districts on a year-to-year basis according variable climate and economic conditions.

MINIMUM STREAM FLOW AGREEMENTS

SHORT-TERM

A water right holder, or group of water right holders, could enter into an agreement to allow the passage of a certain amount of flow to stay instream for a short period of time. This option provides instream flows on a temporary basis. This tool can be adapted to the water year. This option could also be used to provide instream flows in critical periods during the authorized period of use; agreements would not need to be for entire irrigation season.

[4] "Not state-certified" water movement options are transactions that do not go through the Oregon Water Resources Department administrative process.

Water left instream without the protection of a state sanctioned transaction is subject to use by downstream junior users, so agreements with all users would need to be in place. This option requires trust among participants as the State cannot enforce agreements of this nature. This option is most applicable to winter releases from reservoirs where there are few, if any, other diverters.

Long-term

A water right holder, or group of water right holders, could enter into an agreement to allow the passage of a certain amount of flow to stay instream for a long period of time. This option provides instream flows on a temporary basis. This tool can be adapted to the water year. This option could also be used to provide instream flows in critical periods during the authorized period of use; agreements would not need to be for entire irrigation season.

Water left instream without the protection of a state sanctioned transaction is subject to use by downstream junior users, so agreements with all users would need to be in place. This option requires trust among participants as the State cannot enforce agreements of this nature. This option is most applicable to winter releases from reservoirs where there are few, if any, other diverters.

Banking

Banking Urbanized Water

When lands are urbanized, the appurtenant water rights could be placed in a bank. Other water users could then come to the bank to acquire needed water rights. Districts experiencing urbanization would have a mechanism for conveying its excess water rights to other water users, and obtaining revenue. Currently, a water right that "sat in the bank" for five years or more could be assumed to be subject to forfeiture for non-use, although it could be leased instream to preserve its beneficial use. Once the water right was acquired by another water user, a water right transfer would be required to change the place of use, etc.

Banking Conserved Water

As conserved water projects are finalized, the conserved water could be placed in a bank. The conserved water would then be available to entities seeking additional water rights, either for instream or on land. Upon completion of a conserved water project, a district (or other water right holder) that did not need the conserved water could make it available to other water users through the bank. The conserved water would need to be temporarily protected instream until it is transferred to a permanent place of use. The district generating conserved water would need to seek its own financing for the capital projects costs if it was unsure about the purpose for the conserved water.

Banking Mitigation Credits

When credits are assigned to a mitigation project, the credits could be put into a bank. The mitigation credits would be available to entities required to provide mitigation to meet water right conditions. Water right holders that complete mitigation projects that do not need the mitigation credits could make those credits available to other water right holders requiring mitigation. Mitigation credits are issued for particular zones of impact and the entity purchasing credits from the bank for a water right would need to make certain the zone of impact is the same as the zone they are required to mitigate in. Under current groundwater mitigation rules, once permanent mitigation credits are assigned, OWRD does not currently allow the credits to be used under a different water right.

Attachment 2

Summary Table of Options for Water Movement

Table 1. Summary of Options for Water Movement

	Action	Source[1]	Opportunities	Limitations	Timing	Implementation Pathway[2]	Potential Amount	Cost	Enforcement
Permanent	**District to District Transfer**	Fallowing, Land use changes, and management changes	Effective mechanism to reflect changed water use	Cannot change source, or cause injury or enlargement. Risk of loss of right if change cannot be completed	Cannot be implemented quickly (OWRD generally completes processing in 9—12 months)	Permanent, Administrative	To be filled in during water management scenario development process	To be filled in during water management scenario development process	OWRD
	Instream Transfer (with or without mitigation)	Fallowing, Land use changes, and management changes	Effective mechanism to protect water instream. Funding may be available for transactional costs.	Cannot be reversed after approval. Cannot cause injury or enlargement. "From lands" cannot receive water from right transferred instream. Protection instream based on priority date; does not ensure water will remain instream.	Cannot be implemented quickly (OWRD generally complete processing in 1—2 years)	Permanent, Administrative			OWRD
	Allocation of Conserved Water	Conservation projects	Only opportunity to legally "spread" water and to provide instream benefits.	Must result from a physical conservation project that reduces rate and volume of use (not a management change).	Can be implemented quickly (OWRD generally completes processing in a few months)	Permanent, Administrative			OWRD
	Exchange	No reduction required	Opportunity to trade sources with another water right.	Does not authorize movement of a water right to a different location	Cannot be implemented quickly	Time can vary, Administrative			OWRD
	Long-term Forbearance	All	Opportunity to make water available for other uses as a result of reduced water use. Agreements could potentially contain a broad variety of terms.	Risk of forfeiture if non-use longer than 5 years. Does not protect water instream.	Could potentially be implemented quickly if all parties agree to terms	Time can vary, Contractual			Civil action
Temporary	**District to District Temporary Transfer**	Fallowing, Land use changes, and management changes	Allows water movement on short-term basis.	Cannot change source, increase irrigated acreage, or cause injury or enlargement.	Can usually be implemented quickly. (OWRD generally completes processing in a few months.)	Temporary, Administrative			OWRD
	District to Instream Lease	Fallowing, Land use changes, and management changes	Allows protection of water instream on short-term basis (1—5 years).	Cannot cause injury or enlargement. "From lands" cannot receive water from right leased instream. Protection instream based on priority date; does not ensure water will remain instream.	Could potentially be implemented quickly. (OWRD generally complete processing of a lease within 6 months.)	Temporary, Administrative			OWRD, but lessor must request enforcement
	Split-Season Instream Lease	Fallowing, Land use changes, and management changes	Allows protection of water instream during a portion of an irrigation season.	Cannot cause injury or enlargement. Protection instream based on priority date; does not ensure water will remain instream.	Could potentially be implemented quickly. (OWRD generally complete processing of a lease within 6 months.)	Temporary, Administrative			OWRD, but lessor must request enforcement

	Action	Source[1]	Opportunities	Limitations	Timing	Implementation Pathway[2]	Potential Amount	Cost	Enforcement
	Time-Limited Instream Transfer	Fallowing, Land use changes, and management changes	Allows protection of water instream temporarily but potentially longer than 1—5 years.	Cannot cause injury or enlargement. "From lands" cannot receive water from right transferred instream. Protection instream based on priority date, so does not ensure water will remain instream.	Cannot be implemented quickly. (OWRD generally complete processing in 1 year.)	Temporary, Administrative	To be filled in during water management scenario development process	To be filled in during water management scenario development process	OWRD
	District to District Forbearance Agreement	All	Opportunity to make water available for other uses as a result of reduced water use.	Risk of forfeiture if non-use longer than 5 years. Water is not protected.	Could potentially be implemented quickly.	Time can vary, Contractual			Civil action
	District to Instream Forbearance Agreement	All	Opportunity to make water available for instream use as a result of reduced water use.	Risk of forfeiture if non-use longer than 5 years. Water is not protected.	Could potentially be implemented quickly.	Time can vary, Contractual			Civil action

Notes: [1]Potential sources include fallowing land (forbearing water use), land use changes, water conservation projects, and water management changes.
[2] Permanent or temporary, and contractual or administrative.