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Water Conservation & Protection Pathways for Irrigation Modernization Projects in the Upper Deschutes Basin

Irrigation modernization projects in the Deschutes Basin seek multi-benefit project outcomes through reducing canal transmission losses. Projects seek to provide environmental benefit by conserving water no longer needed for operations, increasing wintertime instream flows from Wickiup Reservoir in accordance with the conservation measures of the Habitat Conservation Plan and providing economic and social benefits by ensuring North Unit Irrigation District (NUID) water rights are not unintentionally impacted by the protection of senior water rights instream. In addition to project outcomes, districts and OWRD have noted the need for transparent accounting structures and permanent conserved water transactions.

A number of pathways to realize multi-benefit project outcomes have been analyzed for alignment with Oregon water law, OWRD water management policies, and grant program rules. While there are several pathways, only one ensures that proposed benefits and organizational needs are realized. First, structural corrections to existing storage accounts in Wickiup Reservoir are needed to allow implementation of any water conservation pathway:

1. Formalize the revised 1938 agreement through changes to district secondary storage rights. This will document all relevant irrigation district storage secondary uses and lands in Wickiup Reservoir.
2. NUID complete a transfer of character of use of total storage right in Wickiup to either multipurpose storage, or combination irrigation and flow augmentation.

Project proponents could then take the following steps to conserve and protect water resulting from projects:

1. Reduce water right certificate by up to 100% of the conserved water resulting from the project.
2. Apply for new secondary storage right in Wickiup Reservoir for flow augmentation totaling up to 100% of conserved water resulting from project.
3. Reduce existing secondary storage right in Wickiup for irrigation by amount equal to new flow augmentation secondary right.

This pathway allows for the proposed multi-benefit project outcomes to be realized, while also allowing OWRD to accurately account for and regulate the water in question. Projects do not have to follow this pathway. Additional details on the recommended pathway, grant evaluation guidance and other options can be found in Attachment 1.

Attachment 1

Water Conservation & Protection Pathways for Irrigation Modernization Projects in the Upper Deschutes Basin

Purpose

This attachment provides details on the recommended pathway to permanently protect and conserve water in Wickiup Reservoir resulting from irrigation modernization projects in the Deschutes Basin, along with grant evaluation guidance and other pathway options.

Context

Irrigation modernization projects in the Deschutes Basin in recent years have sought multi-benefit project outcomes through reducing canal transmission losses. Early projects used the Allocation of Conserved Water Program to legally protect water instream during the irrigation season. After several years of drought and the issuance of the Deschutes Habitat Conservation Plan (HCP), the goals of the projects have changed. Projects now seek to provide environmental benefit by increasing wintertime instream flows from Wickiup Reservoir in accordance with the conservation measures of the HCP and provide economic and social benefits by ensuring North Unit Irrigation District (NUID) water rights are not unintentionally impacted by the protection of senior water rights instream. In addition to project outcomes, districts and OWRD have noted the need for transparent accounting structures and permanent conserved water transactions.

Several of these projects have been awarded funds through OWRD's Water Project Grants and Loans Program and OWRD continues to receive applications for future projects. Some existing grants have language written into them to provide flexibility on future process refinement. Existing Deschutes irrigation modernization project language includes "(conserved water)…shall be leased for instream use in perpetuity until a permanent pathway exists".

Due to the growing number of multi-benefit water conservation projects in the Deschutes, and OWRD need to assure stated project benefits from funded projects, pathways to assure permanent water conservation and protection of the water conserved have been analyzed for alignment with Oregon water law, OWRD water management policies, and grant program rules. The recommendations in this document reflect OWRD's current understanding of project proponent goals and organizational needs.

Preface

Deschutes Basin irrigation districts follow a revised 1938 interdistrict agreement to organize water rights and distribution in the upper basin. The 1938 interdistrict agreement was revised approximately 5 years ago around the inception of the HCP to reflect changes in storage accounts. However, storage right changes in the reservoirs never took place through OWRD. In order to implement any pathway, districts **must** formalize the revised 1938 agreement through changes to district storage rights. This will be done by correcting existing storage accounts, updating previous conserved water project outcomes on water rights, and addressing character of use of stored water in Wickiup Reservoir. Necessary changes to implement a water conservation and protection pathway include:

1. NUID complete transfer character of use of total storage right in Wickiup to multipurpose storage, or combination irrigation and flow augmentation.
2. NUID apply for a new secondary water right to supersede their existing right. This secondary right could be one right that covers all the districts and associated lands. It could also be separate for each district. The right/s should incorporate the following changes:
    a. NUID secondary irrigation right in Wickiup to use up to 183,000 AF.
    b. COID secondary irrigation right in Wickiup to use up to 5,000 AF, as designated into early and late season allotments per the revised 1938 agreement.
    c. LPID secondary irrigation right in Wickiup to use up to 6,000 AF.
    d. AID secondary irrigation right in Wickiup to use up to 6,000 AF.

The formalization of this agreement is needed for several reasons beyond implementation of the recommended water conservation pathway. Current storage and live flow rights reference the now void original 1938 agreement. In addition, regulation would be required if the above process is not completed to bring districts in compliance with Wickiup Reservoir storage and distribution. Once resolved, there is no reason to create interdistrict agreements to pass water to NUID or other districts as storage accounts will exist for other districts. Lastly, once water rights are updated to reflect current agreements the assurances of proposed project environmental benefits being met increase significantly, therefore increasing confidence in grant agreement language being met.

Recommended Pathway

Reduce Diversion, Apply for New Secondary, and Reduce Current Secondary

Pathway Summary:

The ENTITY completing an irrigation modernization project would reduce their diversion by the proposed percentage of conserved water resulting from the project and obtain a new secondary storage right for flow augmentation totaling the amount of conserved water reduced from their diversion. Due to the reduction in diversion during the irrigation season, the demand on storage from the project proponent would be less. In turn, the winter flow augmentation secondary storage right would be fulfilled due to less irrigation demand (equivalent to the proposed project) on storage. Steps for the ENTITY include:

1. Apply to OWRD for reduction of diversion by PROPOSED% of the conserved water resulting from the project.
    a. The water right certificate will be reduced by an amount equal to PROPOSED% of the total annual volume of water conserved from the project.
    b. The water right certificate (representing the total live flow and stored water) will be reduced from an average representative of total diversion in recent years, as determined by the OWRD watermaster in consultation with ENTITY.
2. Apply to OWRD for new secondary storage right in Wickiup Reservoir for flow augmentation totaling PROPOSED% of conserved water resulting from project.
3. OWRD re-issue ENTITY existing secondary storage right in Wickiup for irrigation total less than PROPOSED% of the conserved water resulting from the project.

Flow augmentation would not protect water in the Deschutes River downstream from Wickiup Reservoir during the non-irrigation season unless designated in the secondary storage right. Once the modifications to ENTITY's

water right certificate and secondary rights are approved by OWRD, the flow augmentation portion of the storage water right would be unavailable for use by ENTITY or its patrons during the irrigation season, though could be used for stock runs in the winter months.

This pathway is designed to adjust secondary storage accounts. If an ENTITY implements more water conservation projects than they have available secondary storage allotted in Wickiup Reservoir, or if the ENTITY needs to adjust live flow rights resulting from water conservation projects, then adjustments to this process would need to be made. Adjustments would be made in concert with OWRD staff to ensure alignment with accounting and regulation needs, as well as grant program requirements.

Intended benefits include no impacts to NUID's water rights being fulfilled from the flow augmentation use of senior water rights. There is no mechanism to ensure flow will directly go to NUID as a result of this pathway. However, NUID will not be responsible for protecting the conserved water instream from another district's irrigation modernization project. Collectively, the districts that create flow augmentation storage secondary rights will help meet the required conservation measures of the HCP which benefits NUID. This pathway makes it feasible for OWRD to both account for the conserved water and ensure that no unintentional impacts on NUID water rights are occurring as a result of the project transactions.

Pathway Benefits & Outcomes

This pathway supports the following project proponent and OWRD needs:

- Permanent protection of conserved water resulting from irrigation modernization projects.
- Increased assurance of proposed project outcomes for multi-benefit projects.
- Transactions are in alignment with regulation and distribution under prior appropriation (Oregon water law).
- Consistent, efficient grant proposal and grant agreement language.
- Consistent and transparent grant proposal scoring for environmental benefits.
- Flexibility of storage and flow timing to meet needs of HCP implementation.
- Transparent water transactions with clearly identified outcomes.
- Accounting framework to easily track, monitor, regulate and confirm conserved water amounts to meet both OWRD and HCP implementation needs.
- Ability to incorporate water conservation transactions into OWRD storage report communications.
- Eliminated concerns of potential enlargement of existing water rights.
- Eliminated concerns of unintentional injury to NUID as a junior water right holder due to paper water being conserved and passed to the district.
- Consistency with existing Allocation of Conserved Water program implementation.

Projects are not required to utilize this pathway for water conservation and protection. If project proponents choose to utilize a different pathway for conservation and protection of water resulting from a state funded project outside of OWRD processes, it will be scored appropriately in OWRD grant programs and have implications for OWRD accounting and verification of project outcomes. Projects that utilize different pathways do not have outcomes that are able to be tracked or accounted for by OWRD. Due to accounting verification needs for HCP implementation, using a different pathway could result in district challenges in meeting those needs.

Grant Evaluation Guidance:

The following describes how the recommended pathway would be evaluated for environmental benefit within OWRD's Water Projects Grants and Loans program.

Category 2: Environmental Benefits

2a. Does the project result in measurable improvements to streamflow?

The option at minimum allocates stored water for flow augmentation protecting it from other out of stream use. The option provides the potential for significant instream benefit for the season defined for flow augmentation in the grant application, depending on the specific amount of water to be conserved. The winter season of benefit does not inherently carry significant risk of withdrawal from the river aside from planned stock runs. Therefore, the applicant could receive *up to high* points for measurable improvements in protected streamflow criteria.

2b. Does the project result in water conservation?

There is measurable reduction to the grantee's diversion post project and irrigation secondary right, assuring that water is conserved as a result of the project. The applicant could receive *up to exceptional* points for water conservation.

Grant Agreement Language:

The following language will be utilized in grant agreements:

Legal Protection of Conserved Water. No less than PROPOSED% of the water conserved totaling X acre feet as a result of the Project shall be dedicated to flow augmentation use. The Grantor shall not release any Grant moneys under this Agreement until the Grantor has received a copy of the current secondary storage right indicating the district can use the proposed amount of storage, and a copy of the Grantee's new secondary water right application to use PROPOSED% of the water conserved totaling X acre feet for flow augmentation. Grantee's withdrawal from the Interdistrict Agreement with NUID is prohibited and shall be a default under this Agreement. The Final Report shall include a copy of the certificate confirming the amount and type of use for which storage is used under the secondary storage right, a copy of the certificate for the new secondary right allowing the use of stored water for flow augmentation purposes, and a copy of the new certificate diminishing the original secondary right for irrigation.

Additional Existing Pathways

Alternative pathways exist for the conservation and protection of water resulting from irrigation modernization projects. Both pathways require the formalization of the revised 1938 interdistrict agreement as detailed above. These pathways may meet some but not all of the identified district and OWRD needs.

Instream Lease – Bypass of Storage with Certificate Reduction

The ENTITY completing an irrigation modernization project would diminish their diversion by PROPOSED% of the conserved water resulting from the project. The reduction in certificate duty (representing the total live flow and stored water) will be reduced from an average representative of total diversion in recent years, as determined by the OWRD watermaster in consultation with ENTITY. As a result, they would be eligible to divert their total water right minus the water conserved as a result of the project.

The ENTITY would lease in perpetuity PROPOSED% of the conserved water instream from their secondary storage right in Wickiup Reservoir for the non-irrigation season once the revised 1938 agreement is formalized.

Pathway Benefits & Outcomes

While many of the benefits and outcomes are consistent with the above recommended pathway, leases do not provide the permanence of a permanent water right modification. In addition, the bypass of storage does not support district and USFWS flexibility in timing volume specific releases from storage. Consistent with the recommended pathway, there is no direct benefit to NUID. This pathway meets some but not all of project proponent and OWRD needs.

Grant Evaluation Guidance:

Category 2: Environmental Benefits

2a. Does the project result in measurable improvements to streamflow?

This option provides certainty of instream protection as leased storage would be protected instream. The option provides the potential for significant instream benefit for the season defined in the grant application, depending on the specific amount of water to be conserved. However, the pathway assumes leasing in perpetuity reducing assurance that the protection will be permanent. Therefore, the applicant could receive *up to moderate* points for measurable improvements in protected streamflow criteria.

2b. Does the project result in water conservation?

There is measurable reduction to the grantee's diversion post project and irrigation secondary right, assuring that water is conserved as a result of the project. The applicant could receive *up to exceptional* points for water conservation.

Instream Lease – Bypass of Storage with no Certificate Reduction

The ENTITY completing an irrigation modernization project would voluntarily diminish their diversion by PROPOSED% of the conserved water resulting from the project. As a result, they would divert their total water right minus the water conserved as a result of the project. The ENTITY would lease in perpetuity PROPOSED% of the conserved water instream from their secondary storage right in Wickiup Reservoir for the non-irrigation season once the revised 1938 agreement is formalized.

Pathway Benefits & Outcomes

This pathway allows for the greatest flexibility for the project proponent. This added flexibility reduces assurances that the proposed benefits will be realized. There is no intersection with OWRD water rights or water management processes for the reduction in diversion. Leases do not provide the permanence of a permanent water right modification. In addition, the bypass of storage does not support district and USFWS flexibility in timing volume specific releases from storage. This pathway does not have outcomes that are able to be tracked or accounted for by OWRD. This pathway does not meet defined project proponent and OWRD needs.

Grant Evaluation Guidance:

Category 2: Environmental Benefits

2a. Does the project result in measurable improvements to streamflow?

This option provides some certainty of instream protection as leased storage would be protected instream. The option provides the potential for significant instream benefit for the season defined in the grant application, depending on the specific amount of water to be conserved. The volume of protected water can vary annually pursuant to the grantee's estimates of conserved water, providing less certainty that the full amount of water conserved will be protected instream. Therefore, the applicant could receive *up to minor* points for measurable improvements in protected streamflow criteria.

2b. Does the project result in water conservation?

There is no reduction to the grantee's water right as a result of the project and no guarantee of operational reduction in total diversion, since the grantee can rely on additional storage to offset the water conserved. The applicant would receive *no* points for water conservation.