



Water Trust, Banking, and Transfers in Washington State

Findings and Recommendations Informed by Ecology's Advisory Group on Water Trust, Banking, and Transfers

By

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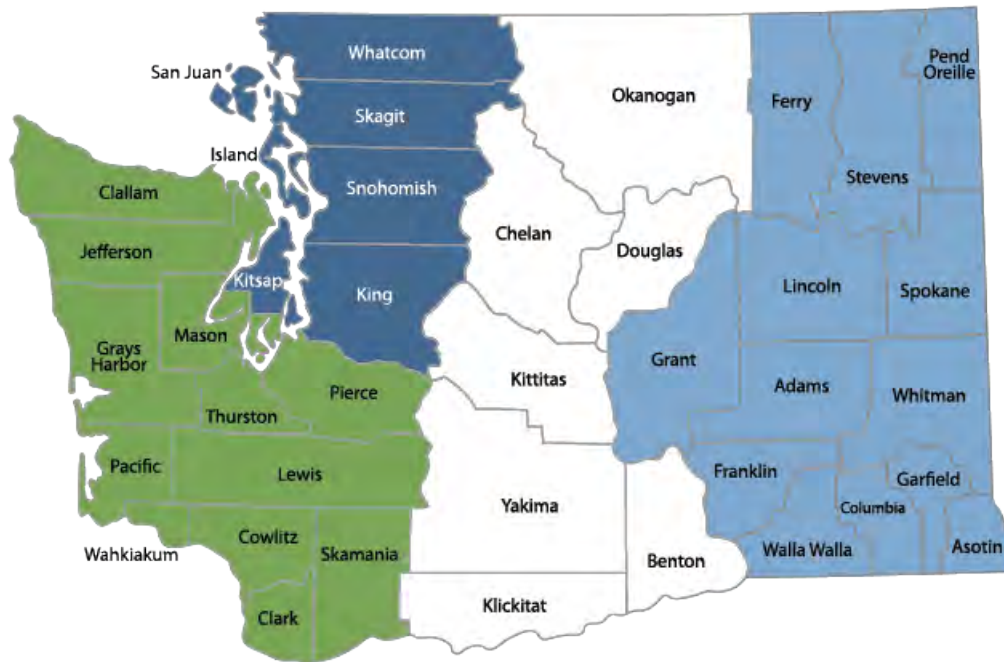
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DEPARTMENT OF
ECOLOGY
State of Washington

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Executive Summary

Water transfers, trust, and banking are critical tools to manage the beneficial use of water resources in watersheds with limited availability. Given this important role, it is vital that these tools are used to preserve water and natural resources, protect public health, and support our state's economic wellbeing. There have been recent concerns that water banking and the trust water statutes are being used in ways not originally intended by the Legislature. Water banks and the Trust Water Right Program (TWRP) have been used by some entities to acquire water rights for future uses – a practice that has raised concerns about speculation. In addition, entities have proposed transferring water rights downstream and out-of-basin, creating unease that such actions economically harm smaller rural communities.

Following legislative direction, the Department of Ecology (Ecology) Water Resources Program convened the Advisory Group on Water Trust, Banking, and Transfers from April to July 2020 to study these issues. Ecology held six meetings, each open to the public, to discuss concerns and potential regulatory tools regarding:

- Downstream, out-of-basin water right transfers;
- Water right sales;
- Use of the TWRP; and
- Water banking.

This report summarizes Ecology's findings and recommendations from the Advisory Group process. Through the meeting discussions, Ecology considered 25 policy concepts to address identified concerns and problems. The section on *Policy Analysis* presents each concept and categorizes it into one of the following groups:

- Recommendations to pursue under existing authority;
- Recommendations requiring statutory changes;
- Concepts for future legislative evaluation; and
- Ideas considered and not recommended.

Ecology has identified six recommended actions to pursue under existing authority. We plan to implement each action as resources allow. We also present five recommendations that require statutory change. Ecology will not pursue agency request legislation for the 2021 session on these topics, as there remains significant work with stakeholders and tribal partners to refine the specific needs, issues, and goals of potential proposals. In addition, the Covid-19 pandemic has caused extraordinary budget and staffing challenges for Ecology and placed significant new demands on the Governor's Office and Legislature. As such, Ecology will take a phased approach whereby this year we pursue action under current authority, support legislative discussions as requested, and continue to study and develop concepts for future legislative consideration.

Implementation of our recommendations from the Advisory Group process will help to build a cohesive framework for the transparent and effective use of the state water trust, water banking, and water transfers in Washington State.

Glossary

Attributes of a water right – Fundamental elements of a water right, including the purpose of use, place of use, point of diversion or withdrawal, season of use, and quantity of water.

Downstream, out-of-basin water rights transfer – A change to a surface water right that moves the place of use downstream, out of the WRIA-of-origin (WRIA - Water Resource Inventory Area).

Impairment – Any interference with the physical availability of water, or degradation of the quality of water, that would:

- Prevent an existing water right holder from full beneficial use of their water right;
- Require an existing water right holder to make significant modifications to their point of diversion or withdrawal in order to beneficially use the water right; or
- For an instream flow water right established by rule, cause the flow of the stream to fall below the instream flow more frequently, for a longer duration, or by a greater amount than was previously the case.

Mitigation – Measures that offset adverse effects on a water source to eliminate impairment and/or detriment to the public interest.

Relinquishment – Occurs when a water right has reverted to the state because of nonuse for five or more successive years after 1967 without sufficient cause that excuses the nonuse. There can be full or partial relinquishment of a water right. Relinquishment is established in RCW 90.14.130 – 90.03.180.

Temporary donation into trust – A water right that is voluntarily conveyed to Ecology to be held and managed in the Trust Water Rights Program without expectation of monetary compensation. A tentative determination of extent and validity is typically not conducted on a temporary donation into trust.

Tentative determination of extent and validity – A finding of the amount of water perfected and beneficially used under a water right that has not been abandoned or relinquished due to non-use. This finding can be made by Ecology or by a Water Conservancy Board. Such determinations are tentative, as final determinations of the extent and validity of existing water rights can only be made by Superior Court through a general adjudication of water rights.

Transfer into trust – A colloquial term for conveying a water right to the TWRP through purchase, lease, or other means. Before conveyance to the TWRP, these rights typically undergo a change to the purpose of use under RCW 90.03.380, which includes a tentative determination of extent and validity.

Trust Water Rights Program (TWRP) – A program created by the State Legislature in 1991 to preserve water rights for existing and future needs. Water rights held in trust are not subject to

relinquishment and benefit streamflows and groundwater recharge, while retaining their original priority date.

Trust water right – Any water right held by Ecology and managed in the Trust Water Rights Program.

Water banking – A tool to facilitate the voluntary exchange of water rights from one use to another. Water banks traditionally act as a broker that facilitates the pooling of water rights such that one right may be used to mitigate for multiple new uses.

Water right change – synonymous with a “water right transfer.”

Water right sale – The exchange of a water right for compensation. Sales do not inherently change any attributes of the water right and therefore are not reported to Ecology.

Water right transfer – A change to an attribute of a water right. This requires filing a change application requesting Ecology’s review of the right under RCW 90.03.380.

Background

Background

The Water Resources Program has been studying water banking and potential misuse of the state's trust water statutes (Chapter 90.42 RCW) since September 2018. Our initial work convened an internal workgroup to examine these issues in Washington and in other western states. We also met with water resource stakeholders and staff from several tribes to better understand their concerns. News coverage in the *Seattle Times* (October 27, 2019) highlighted these issues by describing an investor's acquisition of water rights in our state.² Throughout the fall of 2019, Ecology heard numerous concerns from legislators, tribal governments, local community leaders, and stakeholders, which continued into the 2020 legislative session. The legislature debated several bills, including agency request legislation from Ecology (HB 2603 and SB 6494). In the end, the legislature did not pass any of these bills, but instead passed a budget proviso directing Ecology to lead a workgroup with tribes and stakeholders to further study the issue and then to report findings and recommendations by December 1, 2020 (see Appendix B).³

The Advisory Group process

Pursuant to that legislative direction, Ecology convened the Advisory Group on Water Trust, Banking and Transfers to study these issues. We hosted six meetings, each three hours in length and held virtually, from April to July 2020.⁴ Meetings were open to anyone who wished to participate. As directed under ESSB 6168, Ecology sent specific invitations to participate to tribes, state legislators, and stakeholders identified in the legislation. Over 100 participants joined for each of the six meetings. Participants included representatives from state, local, and tribal governments, environmental groups, agriculture, and water resource experts. The meeting agendas, recordings, presentations, notes, and list of attendees are available on our Advisory Group [webpage](#).⁵

The purpose of the meetings was to increase understanding of the issues, problems, and priorities regarding water trust, banking, and transfers and then to develop and vet policy solutions. Ecology's goal was not to gain consensus or agreement around the issues. Rather, it was to increase understanding such that we could make well-informed recommendations to the Legislature. Specifically, we used the meetings to discuss:

- Downstream, out-of-basin water right transfers;

² "Wall Street spends millions to buy up Washington state water" <https://www.seattletimes.com/seattle-news/environment/wall-street-spends-millions-to-buy-up-washington-state-water/>

³ ESSB 6168 Sec. 302(37): <http://lawfilesexternal.wa.gov/biennium/2019-20/Pdf/Bills/Senate%20Passed%20Legislature/6168-S.PL.pdf?q=20200325130949>

⁴ Though we had planned to hold the meetings in-person, precautions around COVID-19 prevented us from doing so.

⁵ https://www.ezview.wa.gov/site/alias_1962/37617/advisory-group-water-trust-banking-transfers.aspx

- Water right sales;
- Use of the Trust Water Rights Program (TWRP); and
- Water banking.

In addition to the meetings, Ecology sought further feedback from participants through post-meeting surveys and online comment forms.

Ecology convened an additional meeting of tribal representatives to discuss preliminary findings and recommendations. We also made a standing offer for government-to-government consultation with tribes, though no tribes requested one.

Legal background: Water right sales & transfers, the Trust Water Rights Program, and water banking

Water right sales and transfers

One of the foundational elements of Washington’s Water Law is the ability to change or transfer a water right to another person, place, or another use. Codified in 1917 as part of the original water code, RCW 90.03.380(1) states:

The right to the use of water which has been applied to a beneficial use in the state shall be and remain appurtenant to the land or place upon which the same is used: PROVIDED, HOWEVER, That the right may be transferred to another or to others and become appurtenant to any other land or place of use without loss of priority of right theretofore established if such change can be made without detriment or injury to existing rights.

A change to an *attribute* of a water right – the purpose of use, place of use, point of diversion or withdrawal, season of use, and quantity of water – requires filing of a change application and Ecology’s review.⁶ Water right holders can file a change application to allow new use of a water right through two avenues:

- Filing the application with Ecology under the change process prescribed in RCW 90.03.380; or
- Filing the application with a Water Conservancy Board, which operate under chapter 90.80 RCW. A Conservancy Board reviews an application and issues a record of decision. The decision is forwarded to Ecology and posted on the Ecology website for 30 days to allow other water users to make a claim of impairment. Ecology has 45 days to affirm, modify, or reverse the action of the board.⁷

⁶ Note that selling a water right from one person to another does not change an attribute of the water right. The sale is therefore not reviewed by Ecology, and nothing in statute requires a water right purchaser to report a sale to Ecology.

⁷ Ecology can extend the decision deadline by an additional 30 days.

All change applications for surface water rights, whether processed through Conservancy Boards or Ecology, are evaluated under the same standards in law. Importantly, the law states that if the change can occur without impairing existing water rights, Ecology shall approve the change. Note that for changes to groundwater rights, Ecology must also assess whether the change will be detrimental to the public interest. This requirement is set forth in case law (see [Public Utility District No. 1, of Pend Oreille County](#), “Sullivan Creek”, 2002).

All water right changes and transfers are required to follow public notice requirements. Changes and transfers processed by Ecology under RCW 90.03.380 follow procedures in RCW 90.03.280, which requires public notice for a minimum of two weeks. Changes and transfers processed by Conservancy Boards follow procedures set forth in RCW 90.80.080, which provides a 30-day review period for any party to issue a letter of concern or support for a decision. In addition to the public notice requirements applicable to all change applications, a law passed in 2011 requires Ecology to notify the county commissioners for any out-of-basin water rights transfer in counties east of the Cascades (RCW 90.03.380(10)(a)).

The Advisory Group dedicated significant time to the discussion of “out-of-basin water right transfers.” These typically refer to a change to a surface water right that moves the place of use out of the WRIA-of-origin (WRIA - Water Resource Inventory Area). Because changes cannot impair existing water rights, these changes are almost always downstream, from a tributary to larger waterbody. An example would be transferring a right from the Methow River to the mainstem Columbia for use downstream.⁸ Appendix C, Figure 1 shows the number of out-of-basin water right transfers that have occurred in Washington since 2003.

Often the downstream, out-of-basin transfer of surface water rights can be made without impairing another user (see Appendix C, Figure 2). Ecology must approve the transfer unless we determine the transfer would result in impairment to existing water rights. However, if that water right holder later applies to transfer a water right back upstream (even if it is the same water right), the subsequent analysis will often find impairment to water rights in the intervening stream reach and be denied. In this way, out-of-basin water right transfers are often thought of as a permanent downstream change to the water right.

The Trust Water Rights Program

The Legislature created the statewide Trust Water Right Program (TWRP) in 1991, codified in chapter 90.42 RCW. A longstanding tenet of water law is that a water right not put to beneficial use for a period of five years or longer, without sufficient cause shown, is relinquished and reverts back to the state to for appropriation by another user (RCW 90.14.140). The TWRP allows the water right holder to avoid the risk of relinquishment by placing a water right into trust and ceasing their water use. Creation of the TWRP addressed concerns that water users would not want to conserve water for fear of relinquishing a portion of their right. Water rights

⁸ In Washington, these transfers happen within a waterbody, and not across basin boundaries. Out-of-basin transfers that involve two independent waterbodies, such as transferring a water right from the Methow River to the Wenatchee River, generally cannot occur without mitigation due to impairment.

held in trust benefit streamflows and groundwater recharge, while retaining their original priority date. Water rights may be conveyed to Ecology to be held in the TWRP through donation, lease, purchase, or “other means.”

Under chapter 90.42 RCW, water right holders may voluntarily donate some or all of a water right into trust on a temporary or permanent basis. By donating their right into the TWRP, the water right holder protects it from relinquishment while not using the right for an out-of-stream beneficial use. The quantity that can be donated is equal to the highest amount used in the most recent five year period when the donation is made to assist in providing instream flows or to preserve surface water or groundwater resources. Ecology does not make a tentative determination of the extent and validity of the right for these type of trust water right donations. The water right holder may remove temporary donations from trust at any time. Upon removal from trust, the water right holder may immediately resume use under the original terms of the water right. Permanently donated rights are deeded to Ecology and issued a trust water right certificate.

Ecology may also lease or purchase water rights from private water right holders for instream flow enhancement or to mitigate for out-of-stream uses. Leases revert to the original water right holder under the original terms of the right following the end of the lease.

Ecology can also acquire trust water rights through “other appropriate means” (RCW 90.42.080). We often use this tool to acquire rights to mitigate for new or existing out-of-stream uses. Examples include water banking agreements or water right swaps.

Data in Appendix C, Figures 6 and 7 indicate historical usage of the TWRP over the last 20 years.

Water banking

Water banks are a tool to facilitate the voluntary exchange of water rights from one use to another in areas of limited supply. While banking can take many forms, water banks traditionally act as a broker that facilitates the pooling of water rights such that one right may be used to mitigate for multiple new uses. Banking was established statewide in 2009 under chapter 90.42 RCW.

The water banking statutes enable use of trust water rights to provide mitigation for new and existing uses that would otherwise impair existing rights. The water banking process is complicated. First, Ecology reviews the water rights for a change of purpose of use to instream flow and mitigation under RCW 90.03.380. This requires that Ecology conduct a tentative determination of extent and validity and confirm that use of the right as mitigation will not impair existing water rights. Then, the prospective banker and Ecology must agree on the terms and conditions for acceptable mitigation in a trust water right agreement. If Ecology approves the agreement, the water banking entity can provide mitigation credits to water users, up to the amounts approved in the agreement.

Appendix C, Figures 3 and 4 show maps of water banks operating in Washington.

Findings

As informed by discussion with Advisory Group participants, Ecology makes the following findings regarding out-of-basin water right transfers, sales of water rights, use of the TWRP, and water banking. While our findings do not represent consensus opinions of participants, they do represent the dominant and most salient opinions expressed. Where noteworthy, we indicate debate and dissenting opinions.

Out-of-basin water right transfers

1. Downstream, out-of-basin transfers of water rights can be a valuable tool for providing water for new uses while also boosting instream flows (in those cases where the water stays instream before being withdrawn downstream). Often, these transfers provide much needed flexibility for water management.
2. The needs of each basin are unique. It will be difficult (and may be unwise) to seek one solution that fits all basins. For example, some basins could see greater ecological benefits or economic loss than others from water rights transferred downstream. This is especially true in headwater basins closed to new appropriations and where unmet instream flows, established in rule, exist.
3. If water rights transferred downstream cannot be transferred back upstream, out-of-basin water right transfers may foreclose the potential for new out-of-stream uses in the basin of origin, which limits the capacity for future economic growth. Some participants expressed that limiting downstream, out-of-basin water right transfers could prevent these economic losses. Others argued that these transfers are driven more by greater macro-economic factors, such as commercial agricultural enterprises outcompeting traditional family farms. They voiced concern that limitations on agricultural water marketing could place an undue burden on farmers seeking to capitalize on a major asset.
4. Economic realities may make it difficult for communities in headwater basins to compete in an open marketplace for available water rights. In these basins, long-term goals to reduce downstream and out-of-basin transfers may require outside or state-level investment in local water banking programs or partnerships to “level the playing field.”

Water right sales

5. There was general sentiment among participants that the public notice requirements of water right changes and transfers are adequate. Instead, Ecology should be concerned that online postings of transfer applications are not sufficiently accessible to the general public.

6. Increased knowledge of water right sales and prices could help to develop a more robust marketplace for trading water rights.
7. The statutory requirement to post notice of water right transfers in the newspaper is outdated. However, local newspapers may still provide a useful medium for public notice in some rural areas with limited internet access.
8. There was common agreement that limiting who can buy a water right (such as prohibiting out-of-state entities) is unwise. Differentiating between in-state and out-of-state buyers of water rights is likely to be problematic.⁹

Use of the Trust Water Rights Program

9. There is lack of consensus and common understanding of basic terminology of the trust program, including terms such as *temporary donation* and *transfer into trust*. There is also lack of common understanding of how Ecology applies the trust water statutes through administrative processes.
10. The most important distinction between types of trust water rights is the intended end use of that water right, or more precisely, the role that Ecology will need to play in managing the right while in trust. This is not clear in statute.
11. Lack of clarity in chapter 90.42 RCW promotes confusion and disagreement on terms, standards, and processes. Some participants expressed that this confusion could result in use of the trust water statutes in ways not intended by the legislature, to foster speculation, or result in impairment to existing water rights.
12. There is broad agreement that a water right used for mitigation should first undergo a tentative determination of extent and validity to protect existing water rights from impairment.
13. The flexibility of the TWRP is one of its greatest assets. Several participants expressed that the value of flexibility outweighs any potential concerns over “misuse” of the TWRP. Moreover, limiting the flexibility of the TWRP could hamper creative water solutions.
14. There was no consensus whether or not the TWRP enables speculation in water rights and, if so, whether this activity constitutes a significant problem. Moreover, there was no common definition for “speculation” accepted by the group. Some argued that leaving water instream is equivalent to other beneficial uses, and therefore should be treated the same and not considered speculative. Others expressed that holding water instream can be legal cover for “speculative” behavior that markets future water supply.

⁹ See Policy #17 for analysis of this concept.

15. Most participants were generally not concerned over use of the TWRP in ways that yield private profit, so long as the water is put to beneficial use. They expressed that the private use of water inherently supports public benefits. Several participants stated that the intentions of the water right holder should not matter as long as rights are beneficially used in accordance with the Water Code. They warned that trying to decipher a buyer's intent before buying a water right would hamper creative water solutions that result in "win-win" projects that benefit both public and private interests.
16. Some participants voiced concern over the scenario whereby an entity buys a water right with no plan to put it to beneficial use (other than instream flows), but rather with the express intent of simply reselling the water right at a later time for a higher price. They view this activity as speculative and therefore a misuse of the legislative intent of the TWRP.

Water banking

17. Public and private water banks play a critical role in reallocating water between beneficial uses, including instream flows.
18. There was shared concern surrounding the impacts of a water bank that provides water to meet basic residential needs gaining disproportionate market power or becoming a monopoly. However, participants debated whether the appropriate remedy is through increased regulation or through incentivizing competition.
 - a. Some participants expressed that there should be greater government regulation of water banks providing water for minimum residential needs (like in-home use), though there was no clear recommendation on what that regulation should entail. Some recommended learning lessons from oversight of public utilities.
 - b. Other participants argued that while monopolistic behavior can be worrisome, increased regulation is not warranted. They said the solution to monopolies would be to reduce barriers to entry and increase competition. As such, they recommended that Ecology focus on how the state can better support banking where it can play a critical role in addressing public health and safety and other water supply challenges.
19. It is important to recognize the role that Ecology's regulatory actions have played in driving banking activity, both positive and negative. When writing instream flow rules, Ecology should consider how the regulation may enable or hinder market conditions conducive to water banking and/or speculative or monopolistic activity.
20. Many participants expressed that transparency in water banking helps to ensure equity and fairness, especially regarding prices that banks charge customers. It was noted that Senate Bill 6179, which passed in 2016 and required that banks disclose their costs and fees for mitigation, helped to increase competition and reduce unfair pricing activity.

21. Staffing and capacity limitations at Ecology sometimes results in lengthy processing times for water bank agreements and related water right change applications. It may also contribute to inconsistent practices that create uncertainty for clients. Participants generally agreed that additional resources for implementation of the TWRP would benefit state water management.
22. Many participants thought it appropriate for water banks to pay the full administrative cost of establishing a water bank.

Policy Analysis

Ecology discussed several policy concepts with Advisory Group participants. After hearing discussion and feedback on each of the concepts, we have categorized each concept into one of the following groups:

- Ecology recommendations requiring statutory changes
- Ecology recommendations to pursue under current authority
- Concepts for future legislative evaluation
- Ideas considered but not recommended

Appendix A summarizes the policy concepts analyzed.

Ecology recommendations requiring statutory changes

The following are policies that Ecology recommends for legislative action. Ecology believes these concepts are warranted, would yield substantial benefit, and necessitate new statutory authority for implementation. However, there remains significant work with stakeholders and tribal partners to refine the specific needs, issues, and goals of potential proposals.

Consequently, Ecology will not pursue request legislation for the 2021 session on these topics. In addition, the Covid-19 pandemic has caused extraordinary budget and staffing challenges for Ecology and placed significant new demands on the Governor's Office and Legislature. As such, Ecology will take a phased approach whereby this year we pursue action under current authority, support legislative discussions as requested, and continue to study and develop these concepts for future legislative consideration.

1. Establish that a water right transferred downstream may later be moved back upstream.

Under current law, a water right that is transferred downstream and out-of-basin often may not be later transferred back upstream.¹⁰ This change would create greater flexibility such that after a downstream, out-of-basin transfer of a water right, that right may be moved back upstream for use in the basin-of-origin without a finding of impairment. With concern that downstream, out-of-basin water right transfers negatively impact local communities in headwater basins, this change could help to relieve the long-term social and economic impacts of such transfers.

There are several important considerations to this recommendation:

- While there may be a way to implement this under current authority through an administrative tracking system, the administrative burden to create and implement such a system make it infeasible (and inefficient) to implement in most cases. Alternatively,

¹⁰ See Legal background: water right sales and transfers.

achieving this flexibility through statutory change will allow Ecology to implement these changes through streamlined process.

- The ability to transfer a water right back upstream after use downstream will raise administrative challenges. Any water right later issued in the affected reach may be subject to interruption pending the upstream move.
- This flexibility may not help resolve the problems around downstream, out-of-basin water right transfers if the headwater basins cannot compete economically with downstream users. If headwater basins cannot afford to transfer the water right back upstream, then the added flexibility will prove futile.

While many Advisory Group participants supported this change, it remained controversial.

- It would create an avenue to address the social and economic impacts of downstream, out-of-basin transfers without invoking strong regulatory tools, such as a moratorium on downstream, out-of-basin water right transfers.
- However, it could decrease streamflows in some stream reaches if implemented, especially in the context of climate change potentially decreasing summer low-flow conditions.
- Potentially, it does not provide enough support for headwater basins; instead, some maintain there is a need for a moratorium on downstream, out-of-basin water right transfers from selected WRIs.

2. Rewrite the Trust Water statutes (chapter 90.42 RCW) to clarify key terminology and create a cohesive framework for trust water and water banking.

The current trust water statutes are convoluted and confusing, leading to disagreement on key protections, terms, and processes. This change would entail a comprehensive rewrite of chapter 90.42 RCW to:

- Clearly differentiate between water rights that are placed in trust for the purpose of instream flow enhancement and protection from relinquishment *versus* water rights that are placed in trust for mitigation purposes; and
- Clarify terminology and appropriate uses of “types” of trust water rights, such as donations.

These changes could help to reduce potential speculation and impairment of water rights through use of the TWRP. However, increased clarity could also reduce flexibility for water right holders when their plans are uncertain.

This concept received broad support among Advisory Group participants. That said, the evident lack of consensus on terminology and proper distinctions of trust water rights indicate that pursuing these changes could be a difficult and lengthy process.

3. Authorize Ecology to recover the administrative costs of developing water banks.

This change would amend chapter 90.42 RCW to establish a fee for reviewing and processing water banking proposals. It would also establish that Ecology may require that prospective bankers use the cost reimbursement process (RCW 90.03.265) for associated water right change applications that are submitted to Ecology. These funds would provide additional resources for Ecology's water right permitting work. Ecology could then process applications more quickly, and build more capacity and consistency among staff on water banking practices and procedures.

This recommendation received broad support from Advisory Group participants. Water bankers that benefit from the use of the state's resources would shoulder the cost of bank establishment. In addition, the additional resources would benefit Ecology's need for increased staff capacity for review of water banking proposals. However, the increased cost could be burdensome for local governments and non-profits seeking to establish banks, and these costs could be passed along to individual landowners seeking mitigation from water banks.

4. Modernize how Ecology provides public notice of water right transfers.

Under RCW 90.03.380, Ecology must publish notice of a proposed water right change or transfer in local newspapers. This change would modernize the public notice, allowing Ecology to publish it electronically. Modernizing our communication would result in cost savings for the agency and water users, and could enable us to communicate with a broader audience.

Most Advisory Group participants expressed broad support for this change. However, newspapers may provide the only notice to people in rural areas, and advertising revenue supports local papers.

Ecology recommendations to pursue under current authority

The following are actions that Ecology recommends for execution under existing authority. Ecology plans to implement each action as time and resources permit.

5. Promote the use of "conservation easements" on water rights to limit their use to the basin-of-origin.

RCW 64.04.130 authorizes easements, covenants, and restrictions on real property to protect or restrict its future use. While we only know of this statute being applied to land in the past, we believe there is strong legal authority to apply it to water rights as well. When implemented, an entity could purchase an easement to limit the transfer of a water right out of the basin-of-origin for future consumptive uses. If the water right holder applied to change the place of use of the water right out-of-basin after an easement was placed on the water right, Ecology would recognize the easement and deny the change application.

Advisory Group participants strongly supported this recommendation.

Ecology plans to develop guidance and conduct outreach to inform the public of this tool; we plan to do so by fall 2021.

6. *Make information on water right change applications more accessible to the public through administrative improvements.*

Under RCW 90.03.380 and 90.03.290, Ecology is required to post notice of all applications to change or transfer a water right before we evaluate it. While we fulfill this requirement, we found during the Advisory Group process that the information was difficult to find and interpret. Over the next 18 months, we plan to improve access to this information and improve its usability. This could include developing an integrated, publicly-accessible GIS interface to visually show change applications. It could also show water bank service areas.

This action received broad support among Advisory Group participants. Improving access to the information will give the public a more well-rounded view of the scale and trends of water right transfers – including how much water is moving, where is it moving from, and where is it moving to.

7. *In policy, clarify that any water right used for long-term or permanent mitigation must first undergo a tentative determination of extent and validity.*

Ecology has generally held that to prevent impairment to existing water users, water rights used for long-term or permanent mitigation must first undergo a tentative determination of extent and validity. However, this requirement is not explicitly stated in statute, rule, or policy. Lack of an explicit statement, paired with anecdotal examples of mitigation based on un-validated water rights, has raised concern over pressure on Ecology to issue mitigation credits based on water rights that have not been adequately quantified, thus potentially causing impairment to existing water rights.

Chapter 90.42 RCW establishes that water banking cannot be used in ways that impair existing water users. To implement this directive, we believe it is necessary for Ecology to quantify water rights used as mitigation through a tentative determination of extent and validity. We plan to adopt a formal statement in policy. Such a statement will remove any uncertainty around this standard, thereby ensuring added protection that new mitigated uses will not impair existing water users or instream flows.

The strong majority of Advisory Group participants agreed that a water right used for mitigation should first undergo a tentative determination of extent and validity.

8. *Develop an application form for prospective bankers in which they outline their proposed banking and operations plan.*

Under current practice, potential water bankers approach Ecology with an informal request to establish a water banking agreement. There is no formal application, form, or process that potential water bankers are required to follow. Ecology will be developing a form with specific information that all prospective bankers will be required to submit. The form will outline their proposed banking and operations plan, including information such as the bank's intended customers, the types of new water uses served, the geographic service area, and available

mitigating water rights. Ecology will publish each completed form online and solicit public comment. We will then use any comments received to inform the trust water right agreement (or water banking agreement) negotiated with the banker.

We plan to outline the form and procedure in policy and in an updated version of our Trust Water Guidance document. Depending on available resources, we intend to have the updated documents finalized by summer 2021.

Advisory Group participants expressed strong support for this concept. It should increase transparency about the purpose of each new water bank and help the public understand how water resources are managed. It will also formalize and standardize the process for creating a water bank, and require that bankers engage with Ecology early in the administrative process.

9. Publicly post draft water banking agreements and consider public comment before finalizing water bank agreements.

Under current practice, Ecology develops a water banking agreement in collaboration with the prospective banker, and in some cases, with input from affected stakeholders and tribes.¹¹ Ecology plans to add more transparency by posting all draft water banking agreements on our website for public comment. We will consider any comments received when we negotiate the final terms of the agreements. We plan to outline this procedure in an updated version of our Trust Water Guidance document, and to have the updated document finalized by summer 2021.

Advisory Group participants expressed broad support for this policy. Under current practice, it is difficult for the public to know and influence terms of banking agreements. Posting terms of water banking agreements ahead of time and allowing public comment will increase transparency and afford public opportunity for input on the terms and conditions placed on banks. However, it could create a scenario whereby tribes or stakeholders press Ecology to require conditions for banking agreements that are outside of Ecology's current authorities.

10. Clarify statutory requirements and administrative processes for trust water and water banking in program policy and guidance.

Ecology does not have a written policy on trust water or water banking. Moreover, our Trust Water Guidance was last updated in 2016. We plan to adopt a program policy statement to clarify key interpretations and requirements around the TWRP and water banking. We also plan to spend the coming year updating the Guidance to clarify related administrative processes. In addition to the changes in Policies #8 and #9 above, key improvements will include:

- Defining key terms;
- Simplifying the temporary donation process; and

¹¹ Note that in the Yakima Basin, all water banking proposals are vetted through the Water Transfer Working Group.

- Improving notice for the creation of trust water rights.

Concepts for future legislative evaluation

These are potential legislative changes that Ecology is not recommending, but we believe merit further consideration and evaluation by the Legislature. However, we are not currently recommending them because either they are not yet ripe for implementation, or they necessitate actions by other state agencies or local governments and thus warrant broader legislative discussions.

11. Align disclosure laws for water right sales with the laws for land sales. Require that water right sales (including prices) are reported to the state and made publicly available.

Under current law, water rights may be sold with or without the land to which they are appurtenant, with varying requirements for public notice:

- In cases where water rights are purchased in conjunction with the land to which it is appurtenant, the buyer and seller are required to report the sale to the county assessor's office and/or the Department of Revenue for collection of the Real Estate Excise Tax (per chapter 82.45 RCW). The new owner may or may not wish to change an attribute of the water right. If the new owner does not change the use of the water, they are not required to notify Ecology.
- Water rights purchased separate from the land to which it is appurtenant must be reported to the Department of Revenue and Real Estate Excise Tax must be paid.¹² These sales are reported to the county assessor's office, as a water right is recorded on the title to the land which it is appurtenant. Although Ecology does not necessarily get notified when this action is taken, it is common that when water rights are bought separate from the land to which they were appurtenant, the new owner will want to change an attribute of the water right (like place of use) and will file a change application with Ecology.

Under this legislative change, all water right sales would be required to be reported and made publicly available (similar to land sales). Ideally, this information would be publicly available in an easily accessed searchable database. Increasing access to this information would improve transparency of the marketplace for water rights, which could in turn encourage more people to participate in buying and selling water rights. In addition, it would provide the public with enhanced understanding and certainty of who owns what water rights. However, concerns exist about disclosing the price of water right sales leading to increasing the price of water, which could make it more difficult for government and non-profit entities to acquire rights for environmental preservation.

¹² Though collected, our current understanding is that this information is not currently tracked or published in a publicly-available, searchable database.

12. Require that before the place of use of a water right may be transferred downstream out-of-basin, Ecology must determine that the change will not be detrimental to the public interest.

Under RCW 90.03.380, Ecology must approve an application to change the place of use for a surface water right if the change can occur without impairing another existing water right.¹³ There is no legal authority to consider whether or not the change is in the public interest.

Under this legislative change, the Legislature would amend RCW 90.03.380 to require Ecology to consider whether the proposed surface water right transfer is detrimental to the public interest, in addition to considering the potential for impairment. This would constitute a significant change to water law that would have widespread impact.

Advisory Group participants expressed mixed sentiments for the policy. If adopted, this could be an effective way to evaluate the impacts of a downstream, out-of-basin transfer and provide a mechanism to prevent them from occurring in certain circumstances. In addition, a requirement for a public interest review is not a novel idea in Washington water law, as it already exists for new water right appropriations and changes to most groundwater rights (see RCW 90.42.040; 90.44.100; 90.03.290; and 90.44.540).

However, the term “public interest” is largely undefined. Ecology uses discretion as to how and when it applies. Applying it to surface water changes would have several challenges. For example, it is unclear what geographic scale would be appropriate to measure a project’s impacts on public interest. Is it best analyzed at a WRIA, county, regional, or statewide scale?

Implementing a public interest test could start to value some beneficial uses over others, which runs counter to the current statutory construction that all beneficial uses are valued equally. RCW 90.52.020 establishes several beneficial uses of water. All types of uses listed are declared beneficial, with no weighting between uses. For example, water use for irrigation is considered equally as beneficial as water used for municipal purposes or instream flow. There is concern that a public interest test for downstream, out-of-basin transfers would require Ecology to weigh some beneficial uses over others. For example, in evaluating an application to move an irrigation right downstream to serve a housing development, Ecology would have to weigh the loss of the agricultural water and added instream flow benefit against the new domestic water use.

In addition, adding a public interest test may not address the root cause of the problems with downstream, out-of-basin water right transfers. Other economic factors stressing agriculture today are not going to change by preventing a water right from moving downstream.

¹³ Note that for changes to groundwater rights, Ecology must also assess whether the change will be detrimental to the public interest. This requirement is set forth in case law (see Public Utility District No. 1, of Pend Oreille County, “Sullivan Creek”, 2002. <https://apps.wr.ecology.wa.gov/docs/WaterRights/wrwebpdf/SullivanCrk.pdf>)

As this concept constitutes a significant change to water law, we believe it needs further consideration and analysis before pursuit. We also believe that a public interest test alone may not be sufficient – additional parameters on how Ecology should evaluate the public interest, or authority to define it through rulemaking, would better position us to use the tool in decision making.

13. Establish that before a water right may be sold for transfer out of the basin of origin, state, local, and tribal governments, and non-profits are provided a “right of first refusal.”

Under this concept, public and certain nonprofit entities would have the opportunity to buy local water rights before a downstream, out-of-basin water right transfer can be approved. These entities would be alerted of the opportunity to purchase the water right, then have a set duration of time to make an offer. This change would increase the possibility for water rights to remain in the basin-of-origin. Potentially, it could maintain economic benefit in the local community and increase local control over water resources. Importantly, this change creates a voluntary approach, rather than restricting or prohibiting out-of-basin transfers altogether.

While this policy received some support among Advisory Group participants, many expressed concern. Recent case law may apply to this concept, and if so, this approach may result in an unconstitutional taking of property rights. In addition, disclosure of the water right sale before it is final could complicate or derail the transaction. Importantly, without additional funding to acquire these water rights, public entities and nonprofits may not have sufficient resources to capitalize on the “right of first refusal.”

14. Create a revolving loan fund or grant program to fund water right purchases for use in the basin of origin.

The Legislature could consider creating a fund source to assist public and nonprofit entities in acquiring water rights to retain them for use in the basin-of-origin. There is currently not a funding source to fill this specific purpose.

Advisory Group participants supported this policy. Although there have not been strong reasons to oppose this concept, the lack of available water rights for sale seems to be the primary limiting factor at this time. In addition, this concept would have administrative costs to establish and operate the funding program.

Ideas considered but not recommended

These are concepts that Ecology considered and discussed with the Advisory Group. Based on feedback from the Advisory Group and subsequent research and analysis, we do not recommend them for legislative consideration.

Out-of-basin transfers

15. Authorize Ecology to “close” a basin to out-of-basin transfers through rulemaking.

This concept would amend state law to authorize Ecology to adopt rules to close a basin (or subbasin) to downstream, out-of-basin water right transfers. Ecology has concerns with closing a basin to these transfers through rulemaking, even if specific statutory authority allowed such actions. We would need clear criteria to justify this rulemaking, which could be difficult to articulate and/or measure, especially as the criteria would be social and economic rather than based on ecological or hydrological factors. In addition, even with authority to adopt rules with this standard, rulemaking requires that the benefits outweigh the costs; it is unclear whether Ecology could make that conclusion. Lastly, rulemaking is costly and time consuming for the agency. With other rulemaking priorities, often set by legislative direction, it is unclear when Ecology would have resources to undertake this rulemaking in the near term, even with clear statutory authority to do so.

Overall, we believe that incentive and market-based solutions provide a more effective mechanism to keep water in a basin.

16. Restrict the number of water rights that may be transferred for use out-of-basin from any one WRIA.

This concept would limit the number of water rights allowed for transfer out-of-basin (for example, no more than ten percent of all existing water rights). It is unclear how Ecology would determine an enforceable standard for the appropriate number of water rights (or quantity of water) to be transferred. Because the end goal would be preserving social and economic goals in the basin-of-origin, the allowable number of water rights would be subjective and not science based. In addition, as indicated above, we believe that incentive and market-based solutions provide a more effective mechanism to keep water in a basin.

Water right sales

17. Limit who can buy a Washington water right to Washington residents and entities.

This concept would restrict entities based outside of Washington State (such as investment funds) from acquiring state-issued water rights. This change would have significant negative implications as out-of-state entities, like the Bureau of Reclamation, play an important role in water management in Washington. It would also hinder water management in interstate basins and likely be easy to avoid with workarounds and loopholes. Further, it would be incongruent policy to restrict who can buy water rights while there are no such restrictions on who can buy land in Washington. Lastly, limiting who may purchase state water rights may also raise constitutional concerns and invite legal challenges.

18. Provide advance public notice of sales including price disclosure.

This concept would require that details of a potential water right sale are reported to state and local governments prior to finalization of the sale. The government entity would be required to

publicize the information for a set duration of time. This concept could set the erroneous expectation that Ecology or local governments could prevent a sale from occurring, which they would not have authority to do. This also has high potential to disrupt sales. In addition, as we do not require advance public notice of land sales, it would be incongruent to apply this requirement to sales of water rights.

19. Require the reporting of any water right change or transfer to county commissioners.

Under RCW 90.03.380, Ecology must notify county commissioners of any application to transfer a water right out-of-basin. This concept would expand this notice requirement to apply to all change or transfer applications. As all transfer applications are filed with Ecology and published on our webpage, we are unclear as to the added benefit of this concept. In addition, it would add administrative process and costs for the agency. Lastly, it could also set the expectation that county governments could prevent the change or transfer from happening, which they would not have authority to do.

Use of the TWRP

20. Limit use of the TWRP such that individuals who buy a water right must plan to put the water to beneficial use themselves.

Under this policy, an entity could place a water right into trust only after they themselves had put the water to an out-of-stream beneficial use before putting it into trust. While the intent of this policy would be to prevent speculators from buying a water right and immediately placing it in the TWRP to protect the right from relinquishment, it has practical challenges. First, placing a right into the TWRP inherently constitutes putting the water to beneficial use, so technically, this policy would have the effect of making beneficial uses unequal. This would functionally give an implicit priority to out-of-stream uses over instream uses. Second, this concept could incentivize “wasteful” or inefficient water use, as a water user would be pressured to consumptively use their water rather than conserve it or keep the water instream, which undermines the original legislative intent for the TWRP.

21. Restrict how long a temporarily donated water right may remain in trust.

This concept would limit TWRP donations to a set duration of time; after which the water right would have to be put to out-of-stream beneficial use or be subject to relinquishment. Our data show that most rights are in the TWRP for 5 years or less (see Appendix C, Figures 8 and 9), so any restriction beyond that timeframe would have limited impact. Also, because there can be streamflow benefits from water rights being left in the TWRP, there is little utility in mandating removal from trust and using water consumptively after a specified duration. This concept could incentivize “wasteful” or inefficient water user, as a water user would be pressured to consumptively use their water rather than conserve it or keep the water instream, which undermines the original legislative intent for the TWRP.

22. Limit the number of trust water rights that can be removed from trust in any given year.

This concept would restrict the ability of some entities who have donated water rights to the TWRP to remove their water right in a given year, with the goal of ensuring a specified number of rights cannot be removed from the TWRP any one year. However, Ecology has not seen instances in which water removal from trust has caused streamflow problems. Also, it would be difficult to determine the appropriate standard for the number of water rights removed. If the limit were based on geographic distribution, it would be difficult to track administratively.

Water banking

23. Amend chapter 90.42 RCW to establish that water banks must define their service area and then have a “duty to serve” within that area.¹⁴

This concept would align obligations of water banks with traditional piped water utilities in that water banks would have to provide mitigation to all customers in its defined service area. Ecology originally considered this policy as a way to prevent price discrimination and ensure that a customer is not denied service based upon who they are. This could also decrease the number of water banks established to serve the same customers. However, the concept could result in reduced competition between water banks and increased costs to consumers. In addition, this could create an expectation that water will be available in a given area and lead to increased development pressure.

24. Amend chapter 90.42 RCW to establish that Ecology may prioritize working on water banks that serve the greatest public need.

This concept would direct Ecology to prioritize working on water banks that will serve the “greatest public need,” such as public health and safety or creating new water supply solutions. Prioritizing public health and safety might be seen as endorsing a priority for domestic water use over other uses, which is contrary to the Water Code. Also, this concept would contribute to the perception that Ecology would be “picking winners and losers” in water banking. Lastly, if Ecology deprioritized a water banking proposal, it may be years before it is processed. Instead of pursuing this, we believe it is preferable to authorize cost recovery to provide Ecology with the resources to process trust water agreements and banking proposals in a timely manner.

25. Clarify in statute that Ecology may deny a proposal to establish a new water bank.

Under current law, Ecology has discretion as whether or not to enter into a water banking agreement with a prospective banker. We do not believe that Ecology needs additional statutory authority to exercise this discretion. That said, Ecology has not yet exercised this discretion, nor have we articulated the criteria upon which we would do so.

¹⁴ Meaning that the bank could not deny providing mitigation to any customer in their defined service area.

This concept was controversial with Advisory Group participants. Articulating this policy, especially in statute, could be seen as Ecology “picking winners and losers” for new water banks. Also, clarifying when Ecology would refuse to enter into banking agreements would necessitate articulating when banks are and are not in the public interest – a standard that is difficult and controversial to define.

Conclusion

Per legislative direction, Ecology convened the Advisory Group on Water Trust, Banking, and Transfers to study whether and how water banking, transfers, and the TWRP are used in ways inconsistent with legislative intent. Our findings and recommendations from the Advisory Group process will help to build a cohesive framework for the transparent and effective use of these tools. As water transfers and water banking activities will likely increase in our state, implementation of our recommendations will help to ensure the use of these tools preserve water and natural resources, protect public health, and support our state's economic wellbeing.

Appendix A – Summary of Policy Analysis

Ecology recommendations requiring statutory changes

1. Establish that a water right transferred downstream may later be moved back upstream.
2. Rewrite the Trust Water statutes (chapter 90.42 RCW) to clarify key terminology and create a cohesive framework for trust water and water banking.
3. Authorize Ecology to recover the administrative costs of developing water banks.
4. Modernize how Ecology provides public notice of water right transfers.

Ecology recommendations to pursue under current authority

5. Promote the use of “conservation easements” on water rights to limit their use to the basin-of-origin.
6. Make information on water right change applications more accessible to the public through administrative improvements.
7. In policy, clarify that any water right used for long-term or permanent mitigation must first undergo a tentative determination of extent and validity.
8. Develop an application form for prospective bankers in which they outline their proposed banking and operations plan.
9. Publicly post draft water banking agreements and consider public comment before finalizing water bank agreements.
10. Clarify statutory requirements and administrative processes for trust water and water banking in program policy and guidance.

Concepts for future legislative evaluation

11. Align disclosure laws for water right sales with the laws for land sales. Require that water right sales (including prices) are reported to the state and made publicly available.
12. Require that before the place of use of a water right may be transferred downstream out-of-basin, Ecology must determine that the change will not be detrimental to the public interest.
13. Establish that before a water right may be sold for transfer out of the basin of origin, state, local, and tribal governments, and non-profits are provided a “right of first refusal.”

14. Create a revolving loan fund or grant program to fund water right purchases for use in the basin of origin.

Ideas considered but not recommended

15. Authorize Ecology to “close” a basin to out-of-basin transfers through rulemaking.
16. Restrict the number of water rights that may be transferred for use out-of-basin from any one WRIA.
17. Limit who can buy a Washington water right to Washington residents and entities.
18. Provide advance public notice of sales including price disclosure.
19. Require the reporting of any water right change or transfer to county commissioners.
20. Limit use of the TWRP such that that individuals who buy a water right must plan to put the water to beneficial use themselves.
21. Restrict how long a temporarily donated water right may remain in trust.
22. Limit the number of trust water rights that can be removed from trust in any given year.
23. Amend chapter 90.42 RCW to establish that water banks must define their service area and then have a “duty to serve” within that area.
24. Amend chapter 90.42 RCW to establish that Ecology may prioritize working on water banks that serve the greatest public need.
25. Clarify in statute that Ecology may deny a proposal to establish a new water bank.

Appendix B – Authorizing Statute

ESSB 6168, Sec 302(37)

(a) The appropriations in this section include sufficient funding for the department to convene a work group of affected entities to study the design and use of the state water trust, water banking, and water transfers, and present its findings, including a summary of discussions and any recommendations on policy improvements, to the appropriate committees of the house of representatives and the senate. The department of ecology shall invite representatives to serve on the work group from organizations including, but not limited to:

- (i) Federally recognized Indian tribes;
- (ii) Local governments including cities, counties, and special purpose districts;
- (iii) Environmental advocacy organizations;
- (iv) The farming industry in Washington;
- (v) Business interests; and
- (vi) Entities that have been directly involved with the establishment of water banks.

(b) In addition to an invitation to participate in the work group, the department shall also consult with affected federally recognized tribal governments upon request.

(c) By December 1, 2020, the department of ecology must present its findings, including a summary of discussions and any recommendations on policy improvements, to the appropriate committees of the house of representatives and the senate and to the governor's office.

Appendix C – Supporting Data

Figure 1: Out-of-basin transfers since 2003

The following table indicates the number of transfers that have occurred since 2003 that allow water use in a WRIA different than the WRIA of origin. The first columns show the number of out-of-basin transfers achieved through a “direct” transfer, or a change that moved the place of use of the water right from one WRIA to another. The second columns show the number of out-of-basin transfers achieved through water banks. Each transfer represents a water right that was changed to instream flow and mitigation, conveyed to Ecology to be held in trust, and for which the Trust Water Right Agreement indicates that the intended new use(s) is in a different WRIA than the basin-of-origin.

WRIA ¹⁵	Direct Out-of-Basin Transfers		Out-of-Basin Transfers through Water Banks ¹⁶	
	Number of Transfers	Quantity of water (ac-ft/yr)	Number of Transfers	Quantity of water (ac-ft/yr)
23 - Upper Chehalis	1	26		
30 - Klickitat	2	193		
32 - Walla Walla			8	4981
34 - Palouse	2	184		
35 - Middle Snake			2	302
36 - Esquatzel Coulee	4	1426	1	716
37 - Lower Yakima	1	42	1	484
39 - Upper Yakima			5 ¹⁷	2565
40 - Alkali-Squilchuck	3	164		
42 - Grand Coulee			1 ¹⁸	25000
43 - Upper Crab-Wilson	1	56		
44 - Moses Coulee	1	352	1	85
45 - Wenatchee	1	51		
46 - Entiat	1	140		
47 - Chelan	2	64		
49 - Okanogan	11	1843	4	894
50 - Foster	4	1216		
52 - Sanpoil			2	337
53 - Lower Lake Roosevelt	1	218		

¹⁵ WRIAs not shown had no applicable transfers.

¹⁶ Transfers to instream flow and mitigation, conveyed to Ecology to be held in trust, and for which the Trust Water Right Agreement indicates that the intended new use(s) is out of basin.

¹⁷ There are several water banks in Kittitas County that could mitigate new uses out of the WRIA of origin, but the banks were not created with that intent.

¹⁸ Lake Roosevelt water bank, operated by the Office of the Columbia River.

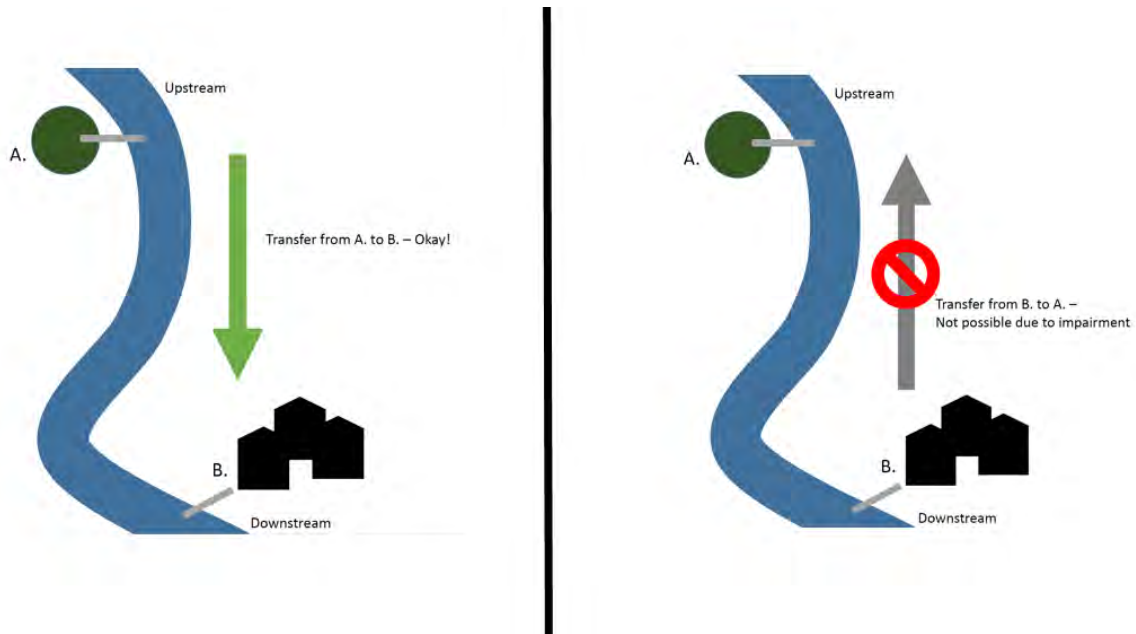
WRIA ¹⁵	Direct Out-of-Basin Transfers		Out-of-Basin Transfers through Water Banks ¹⁶	
	Number of Transfers	Quantity of water (ac-ft/yr)	Number of Transfers	Quantity of water (ac-ft/yr)
54 - Lower Spokane	2	310		
55 - Little Spokane	1	60		
58 - Middle Lake Roosevelt	1	87		
59 - Colville	10	1266		
60 - Kettle	1	204		
TOTAL	50	7,902	25	35,364

Additional information:

- Of the 50 direct out-of-basin transfers, only one involved a change to municipal use. The remaining 49 transfers were all to serve agriculture or private multi-home domestic developments.
- Of the 25 out-of-basin transfers occurring through water banks, three have been to serve municipal uses. One more is intended to serve municipal uses, but has not yet been used.

Figure 2: Issues of impairment with upstream transfers

In many cases of downstream, out-of-basin transfers for surface water rights, the change can be made without impairing another user. If impairment is not found, Ecology must approve the transfer, if a water right holder later wants to transfer the water right and change the place of use back upstream, this likely would result in impairment to other water rights (including instream flows). If there would be impairment, Ecology must deny the application. In this way, out-of-basin transfers are often thought of as a permanent change to a water right downstream.



Figures 3 and 4: Water banks in Washington

The first map, “Water Banking Activity”, shows each of the locations where water banking has been used to serve new or existing water uses. Many of these projects do not match the traditional or typical concept of a water bank; but each uses the TWRP to hold an existing right in exchange for a new or different use. For example, they could accomplish this through lesser known activities like water right swaps and source switches. The second map shows traditional water banks that are actively selling mitigation to third parties. This includes 24 banks operating in 5 locations. Per RCW 90.42.100, we track the activity of these banks on our webpage.

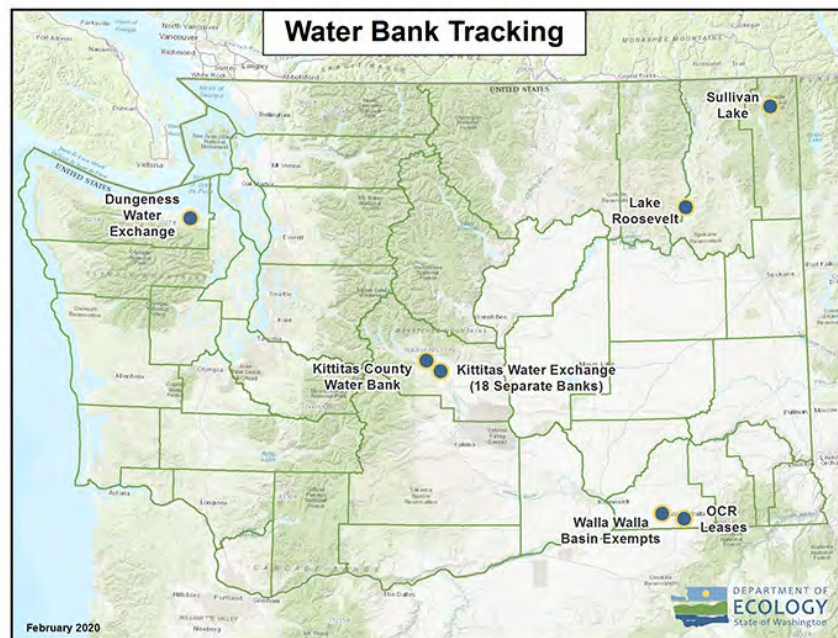


Figure 5: Temporary Donations in the TWRP

The following table shows the number of water rights currently held in the TWRP as donations. Data is current as of September 2020. Note that the amount of some water right donations is not quantified.

WRIA	# of Rights	Acre Feet per Year
1 - Nooksack	3	133
2 - San Juan	2	Unquantified
3 - Lower Skagit-Samish	7	168
4 - Upper Skagit	0	0
5 - Stillaguamish	4	18
6 - Island	1	Unquantified
7 - Snohomish	8	29,062
8 - Cedar-Sammamish	3	316
9 - Duwamish-Green	3	63
10 - Puyallup-White	10	100,702
11 - Nisqually	2	417
12 - Chambers-Clover	3	338
13 - Deschutes	4	466
14 - Kennedy-Goldsborough	0	0
15 - Kitsap	3	62
16 - Skokomish-Dosewallips	0	0
17 - Quilcene-Snow	0	0
18 - Elwha-Dungeness	5	744
19 - Lyre-Hoko	0	0
20 - Sol Duc-Hoh	0	0
21 - Queets-Quinault	0	0
22 - Lower Chehalis	3	947
23 - Upper Chehalis	19	20,035
24 - Willapa	0	0
25 - Grays-Elokoman	0	0
26 - Cowlitz	2	340
27 - Lewis	4	278
28 - Salmon-Washougal	8	7,693
29 - Wind-White Salmon	4	973,280
30 - Klickitat	2	70
31 - Rock-Glade	24	64,448

WRIA	# of Rights	Acre Feet per Year
32 - Walla Walla	9	2,052
33 - Lower Snake	6	9,712
34 - Palouse	4	239
35 - Middle Snake	8	2,912
36 - Esquatzel Coulee	1	114
37 - Lower Yakima	21	15,576
38 - Naches	9	261,284
39 - Upper Yakima	100	16,668
40 - Alkali-Squilchuck	13	3,333
41 - Lower Crab	11	1,635
42 - Grand Coulee	2	18
43 - Upper Crab-Wilson	5	1,996
44 - Moses Coulee	19	1,193
45 - Wenatchee	10	3,463
46 - Entiat	2	758
47 - Chelan	6	955
48 - Methow	32	1,158
49 - Okanogan	16	2,901
50 - Foster	3	97
51 - Nespelem	0	0
52 - Sanpoil	1	90
53 - Lower Lake Roosevelt	2	183
54 - Lower Spokane	4	598
55 - Little Spokane	4	478
56 - Hangman	0	0
57 - Middle Spokane	4	706
58 - Middle Lake Roosevelt	0	0
59 - Colville	11	1,028
60 - Kettle	1	Unquantified
61 - Upper Lake Roosevelt	0	0
62 - Pend Oreille	0	0

Figure 6: Active Water Right Donations

The following graphic shows the number of water rights held in the TWRP since 2000 through donations. Note that the quantity shown is the number of water rights, not the quantity of water.

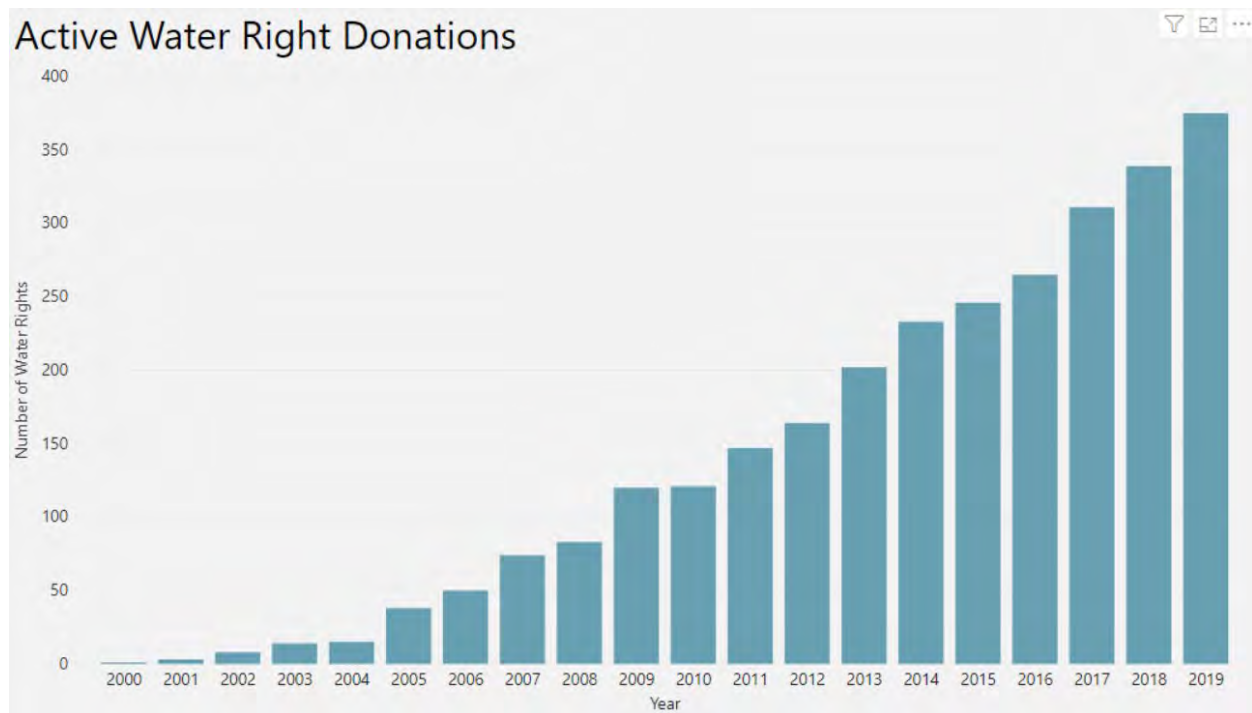
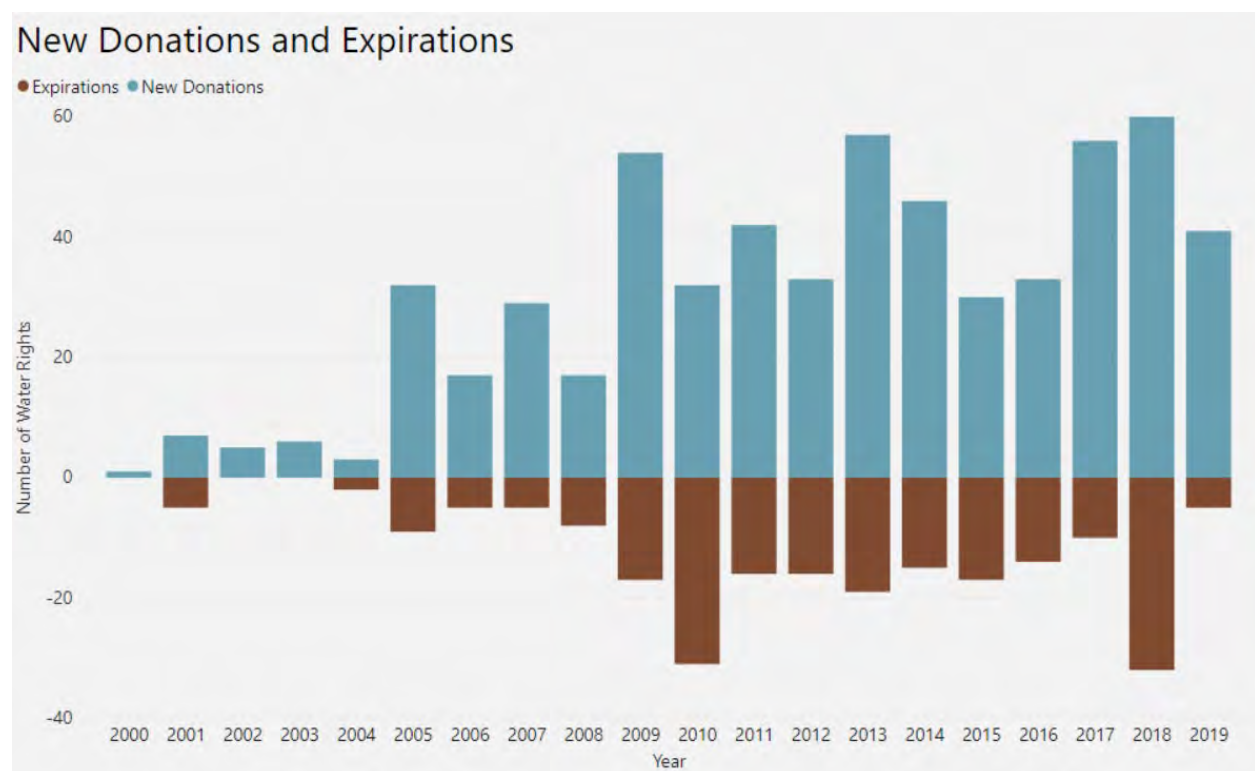


Figure 7: Use of the TWRP donation process over time

The following graphic shows the number of water rights entering and exiting the TWRP each year since 2000.

- The positive blue bars indicate the number of water rights donated into the TWRP in a given year.
- The negative brown bars indicate the number of water rights that expired from trust in a given year – in other words, rights that are “exiting” the program.

For example, in 2010 the positive and negative bars are roughly equal in size. This indicates that roughly the same number of water rights were placed into the TWRP as expired from the program.



Figures 8 and 9: Use of the TWRP

The following graphics show the length of time water rights remain in the TWRP.

The first graphic, *Time in Trust: Expired Donations*, shows data for water rights that were placed in the TWRP for a finite amount of time, and for which that time has expired. Put another way, these rights were placed in trust and later removed. Of the 229 rights in this category, the average duration in trust was 2.7 years. Ten percent of rights remained in trust for longer than 5.6 years.

The second graphic, *Time in Trust: Active Donations*, shows data for rights that are still actively enrolled in the TWRP. Of the 338 active trust water rights, 90% have been in trust for less than 10.6 years. Ten percent of the rights have been in the trust for fewer than 1.7 years. Roughly half have been in trust for 5 or fewer years.

Time in Trust: Active Donations



Time in Trust: Expired Donations



Appendix D – Public Comment

Ecology solicited public comment on this report from October 15 through November 15, 2020. All comments received are contained in this appendix. Per the notice we gave Advisory Group participants, Ecology did not revise the report in response to comments.¹⁹ Note that in developing this report initially, Ecology solicited comments on a draft version during the summer and incorporated feedback at that earlier stage.

Commenter	Appendix Page Number
Kathleen Callison	1 – 6
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Bruce Wakefield	45
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Confederated Tribes and Bands of the Yakama Nation	48 – 51
Wise Use Movement	52 – 100

¹⁹ We did make limited typographical corrections.

Kathleen Callison

November 15, 2020

Summary of Comments

These comments are my own and do not reflect the opinions or positions of any client or clients.

The Washington State Constitution and other foundational laws of the state reflect the drafters' concern about the effect of the monopoly power of railroads on the economic wellbeing of farmers and the overall economy of the state. It is not a stretch to think that the control of mitigation water might have similar potential impacts on our state's economy in the future, including the agricultural economy, if not adequately regulated. Ecology's report, and the process leading up to it, were well done, seeking and incorporating input from a large number of participants. Because of Ecology's limited mandate, however, additional analysis is needed to support a comprehensive framework for the trust and banking program.

To achieve a balanced approach that addresses community needs and provide sufficient incentive to water right holders, investors, and water managers to participate in successful design and implementation of the trust and banking programs, Ecology's findings and recommendations should be incorporated into a broader assessment of incentives and disincentives for participation and investment, and constraints that may be necessary to ensure that community needs are met. Such a study might consider local land use plans and utility plans as guides for bank planning; financial and tax incentives and disincentives for participants and potential monopoly control; existing regulatory frameworks for banking and utilities as models to protect community interests; the role of water conservancy boards and other local entities; and consultation processes with Tribes and state and federal representatives.

I recently led teams to draft a geothermal law and regulation for Ethiopia., and I am currently providing comments on a guidance document for Ethiopia's geothermal program. At each successive level of drafting, we have discussed a range of necessary elements to provide a comprehensive regulatory framework. Integrating Ecology's findings and recommendations into a broader assessment of the role of water trusts and banking could help communities fulfill land use and utility plans, utilize institutions already in place in affected counties, and reduce risk for both developers and regulators.

Specific comments on the text of the report

P. 8 "Water right change" is defined as "synonymous with a water right transfer." Comment: A subtle point, but worth mentioning: A water right change generally relates to the regulatory process in RCW 90.03.380. A water right transfer may refer to the same regulatory process, or it may refer to the conveyance of a property interest from one person or entity to another.

P.8 Water right sales are not reported to Ecology. Comment: Conveyances of real property interests in water rights are, in theory, subject to real estate excise tax (REET). Reports could be provided to Ecology by Department of Revenue. If not implemented now, a process could be developed for future implementation.

November 15, 2020

BACKGROUND

Water right sales and transfers

P. 10 identifies water conservancy boards as mechanisms for water right change and transfer. Comment: This mechanism could be the institutional link between the community and Ecology in a future trust and banking program. Establishing conservancy boards where needed, and either recommending or requiring that they review proposed transfers associated with trusts or banks could strengthen the input of local communities. A link between the proposed transfer and county plans under the Growth Management Act could provide criteria for decisions about allocations or reservations for future use of water. Such a link was identified as a potential goal in a recent Ruckelshaus Center report.

The Trust Water Rights Program

Comment: P. 11 para 1, the word “tenet” is misspelled.

FINDINGS

Out-of-basin water right transfers

P. 13, Section (4). Ecology states, “Economic realities may make it difficult for communities in headwater basins to compete in an open marketplace for available water rights. In these basins, long-term goals to reduce downstream and out of basin transfers may require outside or state level investment in local water banking programs or partnerships to level the playing field.” Comment: This statement assumes benefits of an open market. The need for restraints on the market should be considered as part of an economic assessment of alternative approaches.

Water Banking

p. 15. Section 18, The report identifies “shared concerns” that banks that “provide water to meet basic residential needs” gaining monopoly power and while other participants argued that even if monopolistic behavior can be worrisome, increasing regulation is not warranted” and that the solution “would be to reduce barriers to entry and increase competition.” Comment: Multiple entry to bankers may not be possible, for several reasons. In those circumstances, the natural tendency will be towards monopoly and increasing prices. Even in areas with multiple banks, mitigation water will not be fungible (like money in a bank), due to location. Prices may increase beyond the reach of governments and nonprofits.

POLICY ANALYSIS

Rewrite the Trust Water statutes (Chap 90.42 RCW) to clarify key terminology and create a cohesive framework for trust water and water banking. Page 18

Comment: The report states, “These changes could help to reduce potential speculation and impairment of water rights... . However, increasing clarity could reduce flexibility for water right holders when their plans are uncertain.” Comment: A broader analysis would consider combinations of restrictions and incentives, such as payment terms, including payments over time, and tax issues, including capital gains, asset depreciation schedules, etc. This approach would identify incentives to speculate and laws, regulations or policies to reduce the likelihood of speculation.

Promote the use of conservation easement on water rights to limit their use to the basin of origin.

Comment: This approach requires that entities will anticipate the need for future mitigation water and are willing to put money into drafting and recording easements. As demand increases, investments in easements could be seen as another investment vehicle. Holders of easements may release then to facilitate downstream users, in exchange for consideration . This eventuality should be considered.

Make information on water right change applications more accessible to the public through administrative improvements.

Comment: “Water bank service areas” are mentioned in this section. A service area assumes a monopoly as well as a duty to serve. In cases where a monopoly service provider is providing a necessary service to a designated population or area, that provider is regulated. Given the limited number of water rights that ultimately will be on deposit in any bank, and the need for water in specific areas, a utility model should be considered.

Develop an application form for prospective bankers in which they outline their proposed banking and operations plans.

Comment: What are the criteria for granting operating rights by bank? How are costs to customers justified? These questions can be answered if a broader assessment of the financial and service requirements of banks are identified.

Publicly post draft water banking agreements and consider comments before finalizing water bank agreements.

Comment: “Publicly” is misspelled.

Also, Ecology states, “It could create a scenario whereby tribes or other stakeholders press Ecology to require conditions for banking agreements that are outside Ecology’s current authorities.” Comment: A regulatory framework that clarifies expectations and requirements could reduce the likelihood of conflicts. A template for agreements could be based on that framework.

Align disclosure laws for water right sales with the laws for land sales. Require that water right sales (including processes) are reported to the state and made publicly available.

This section states that Ecology does not “necessarily” receive notice when a water right is sold.

Comment: There are two pathways that might be bolstered: 1. REET which in theory should trigger notice of sale of vested water rights. Look at the tax code as a place to put brackets around speculative profits. 2. Land use applications. Oregon’s model would work for near-term or intermediate-term land use proposals but would not address deposits in trust when there is no plan for future development.

Establish that before a water right may be sold for transfer out of the basin of origin, state, local, and tribal governments, and nonprofit are provided a “right of first refusal.”

Comment: In order to secure a right of first refusal, communities and nonprofits need a justification to do so. Tying decisions to local planning goals could serve as the basis for making expenditure commitments.

IDEAS CONSIDERED BUT NOT RECOMMENDED

Out of basin transfers

Authorize Ecology to “close” a basin to out-of-basin transfers through rulemaking

Callison comments on water trust and banking report
November 15, 2020

Ecology believes that “incentive and market-based solutions provide a more effective mechanism to keep water in a basin.” Comment: In order to establish incentives and market-based solutions, the state needs to understand market incentives. How are participants incentivized and how do they make decisions?

Restrict the number of water rights that may be transferred out-of-basin from any one WRIA.

Ecology states, “because the end goal would be preserving social and economic goals in the basin-of-origin, the allowable number of water rights would be subjective and not science-based. Comment: We do have tools to implement social and economic goals. Local governments already use best available science to identify the water needed to meet future goals.

Water right sales

Limit who can buy a Washington water right to Washington residents and entities

Ecology acknowledges that investors and entities could avoid limitations through loopholes and argues that land is not subject to such limitations. Comments: Land is not held in trust for the people. A more appropriate comparison might be limitations on use of *state lands*, which are held in trust for the benefit of the people. It would be useful to examine ways regulations of state lands might serve as a model for regulation and use of the people’s water resources.

Require the reporting of any water right change or transfer to county commissioners

Comment: The lack of a link with local officials could be avoided if the process involved a Board already appointed by a county commission (e.g., water conservancy board). Growth management goals and benchmarks could be used as decision-making criteria for the conservancy board to “connect the dots” between water needs and demands, water availability and community interests.

Use of the TWRP

Limit use of the TWRP such that individuals who buy a water right must plan to put the water to beneficial use themselves

Ecology states that a plan for future use of a water right placed in the TWRP “inherently constitutes putting the water right to beneficial use.” Comment: The existence of a plan without more cannot be considered to be equivalent to actual beneficial use under Western Water Law. Protecting water from relinquishment must be based on social or economic goals, likely requiring statutory changes.

Restrict how long a temporarily donated water right may remain in trust

Ecology states that implementing limits on the timeframe which a water right may remain in trust would incentivize waste because water right holders would use water simply as a means of preserving that water right. Comment: Time limits might be tied to local or regional planning goals.

Limit the number of trust water rights that can be removed from trust in any given year

Comment: Such limitations would only make sense if tied to planning and economic goals.

Water banking

Amend chapter 90.42 RCW to establish that water banks must define their service area and have a “duty to serve” within that area

Callison comments on water trust and banking report

November 15, 2020

Ecology acknowledges that this approach could help ensure mitigation to all customers in a defined area, could prevent price discrimination, and ensure that no customer is denied service; however, Ecology suggests that this approach would reduce competition and increase costs to consumers. Comment: There will be a natural tendency – if not immediately, over time – for banks to trend towards monopoly, especially as water is more limited and investors/bank operators will be in a position to demand higher prices.

Amend chapter 90.42 RCW to establish that Ecology may prioritize working on water banks that serve the greatest public need

Ecology acknowledges the pressures to support domestic water use as a preferred beneficial use, which is currently contrary to the water code. Comment: This has been done in other states, but if the framework for decision-making includes a broader set of criteria, such as local planning goals, Ecology's approval would not be seen as "choosing winners and losers", i.e., not endorsing specific beneficial uses.

Clarify in statute that Ecology may deny a proposal to establish a new water bank

Ecology states that it does not need authority to enter into a banking agreement, but that "Ecology has not yet exercised this discretion, nor have we articulated the criteria upon which we would do so."

Ecology doesn't want to be seen as "picking winners and losers." Comment: In addition to a more robust legal and regulatory framework that accounts for financial, planning, tax and economic issues beyond Ecology's authority, a process is needed for consultation between local, state, federal and tribal representatives.

Summary of my comments

Ecology has done an excellent job carrying out a series of workshops and publishing findings and recommendations for trust and banking programs to support water management. Given the increasing demand for water in the future and climate change resulting in changed patterns of water availability, additional analysis of finance, tax, land use and other considerations will ensure that program design and implementation incentivizes participation while protecting the public's interest in water resources.

Jon Campbell

Please see attached PDF

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Email: jon@joncampbellarchitect.com

Water Resources Program
Washington State Department of Ecology
PO Box 47600
Olympia, WA 98504-7600

Subject: **Report on Finding and Recommendations - Water Trust, Banking, and Transfers**

To Whom it May Concern,

Thank you for taking the time to consider my comments. I very much appreciate the work that has gone into the report by the Dept. of Ecology and the Advisory Groups participation. I've found it to be a valuable document that has moved the conversation significantly forward. I'd also like to thank the Legislature for directing Ecology to complete the study and applaud their leadership in this matter.

My perspective is of an agricultural land owner, a water rights holder, a fifth-generation resident of the valley, and a professional architect involved in many aspects of community leadership. Previously, I co-managed a family farming operation in Washington and Oregon which produced irrigated and dryland commodities. Although I did not participate in the Advisory Group meetings, I have watched all the recorded videos of the meetings, reviewed the documentation produced for the meetings, and read the report on the Findings and Recommendations on Water Trust, Banking, and Transfers. I am also participating in several other water studies in the Walla Walla valley. My comments are specific to the Walla Walla Valley WIRA as a headwater basin.

I propose that the Legislature place a temporary moratorium on out-of-basin transfers of water rights in the Walla Walla WIRA for the following reasons.

Walla Walla Basin Groundwater Study

The Washington Department of Ecology and Oregon Water Resources Department, along with the Confederated Tribes of the Umatilla Indian Reservation and USGS Oregon and Washington Water Science Centers have begun a transboundary study of the groundwater system in the WWRB to inform planning and water management decisions at a basin-wide scale. In this first year of study, the USGS is compiling existing hydrologic information, identifying and filling gaps in water-level monitoring, and collecting reconnaissance level geochemical information to guide the development of a more comprehensive workplan for a multi-year investigation of the Walla Walla River Basin groundwater hydrology. Despite the name, the Groundwater Study will play a significant role in our understanding of both ground and surface water systems. A moratorium on out-of-basin transfers until this study is complete will allow substantially more factual information to be considered. Absent this information, we not only run the risk of making water supply matters

worse, we will undermine the public resources spent to conduct the Walla Walla Basin Groundwater Study.

Emerging Market Pressure

According to an article in the Wall Street Journal on September 23, 2020, Exchange operators [CME](#) Group Inc. and [Nasdaq](#) Inc. are planning to launch a futures contract later this year that will allow farmers, speculators and others to wager on the price of water.

“The market will be the first of its kind, its creators say, putting water on the board for investors alongside other raw materials like crude oil, soybeans and copper”

Despite the Advisory Group’s recommendation for a statutory change allowing water right transfers to be moved back upstream, as a headwater basin, the Walla Walla valley may not have an opportunity to reverse out-of-basin water right transfers regardless of the rule changes since economic incentives offered by trading markets will easily overshadow local interests. A temporary moratorium in the Walla Walla WIRA will allow additional water resource information to be collected during the Walla Walla Basin Groundwater Study.

Walla Walla Water 2050

The Washington Department of Ecology and the Walla Walla Management Partnership, along with the Confederated Tribes of the Umatilla Indian Reservation and stakeholders on both sides of the state boarder, are currently developing a 30-year Strategic Plan for water management in the Walla Walla WIRA. The plan scheduled completion date is June 2021.

A temporary moratorium on out-of-basin water transfers will provide time for implementation of the 2050 Plan which is critical for local control of water resources. By contrast, Yakima has seen tremendous progress in the implementation of the Yakima River Basin Integrated Water Resource Management Plan. The Dept. of Ecology played the same key role in developing their plan which has had nearly 4 years to be implemented. Just as in Yakima, Walla Walla’s plan will require time to be implemented before we can fully understand its effect.

END COMMENTS

Atul Deshmane

In general I think the findings and recommended actions seem reasonable. I am concerned about the use of the term "water banking" for the newcomer. It is an inappropriate terms as it implies fungibility. Water rights are not fungible.

Brian Larson

Carrie - attached are my comments. Thanks again for working on this issue.

Department of Ecology

Water Trust Advisory Group

First, thanks to the Department of Ecology, the Washington State Legislature, and all of the participants that joined the Department of Ecology's advisory committee. The management of the public's water resource is a complicated issue by laws that were written over 100 years ago and competing interests that don't always align.

It is my opinion that the current legislation, laws, and the Department of Ecology policies are not sufficient or structured to effectively, and equitably manage the public's ownership of what is one of our most valuable resources, fresh water. Washington States water laws and legislation date back to 1917. These laws were not written or structured to meet the current and future challenges that our water resource is facing. Over these 103 years there have been a number of revisions but usually written in favor of special interests. Fortunately, our courts have mostly sided with the public's interests with the Foster, Hirst, and Postema decisions.

Much like the Homestead Act of 1862, Washington States water laws were written to promote migration and development to the western states. The Homestead Act was rescinded in 1976 as the country's priorities changed. It no longer was in the public's interest to give the public's land away for free. In this same vein, our State's Water Legislation must be revised and amended to meet the needs and address the challenges of 2020 and beyond.

The Department of Ecology lays out these main challenges in their report:

- Climate Change is creating increased demand on water as increased temperatures require more irrigation. On the supply side, the timing of rainfall and snowfall is estimated to decrease the amount of fresh water available in the highest demand months.
- Population Growth in the State will continue to grow demand for fresh water in household consumption, food, and industry.
- Most of the public's water has already been granted in the form of water rights.

These are the challenges that our current laws, interpretations, and management have in my opinion.

- Washington State Water Laws do not charge the "granted users" for this resource. farmers, households, and industry pay their utilities, but this payment is only for the infrastructure of

pumps, pipes, and power to move the water. The actual water is free. This creates a system similar to one studied in Economics around fisheries. To quote H. Scott Gordon Carleton College, Ottawa, Ontario. "It will appear, I hope, that most of the problems associated with the words "conservation" or "depletion" or "overexploitation" in the fishery are, in reality, manifestations of the fact that the natural resources of the sea yield no economic rent." The economic models in a capitalistic society show that this system will over fish the resource. Given our current water laws and policies we will see the same results with over use, and inefficient use of water as opposed to maximization of the public's resource and economic incentive for conservation.

- Our current policy allows private citizens to apply for water rights (the right to use - not own). These applications are tied to specific properties but allow them to be sold and transferred without the land which they are appurtenant.
- This existing policy allows speculation to exist in the market. This trend is accelerating as water becomes scarcer. Water Markets have and are being formed by large outside corporate interests. In addition, we've seen people cornering the local water markets as a strategic business advantage as seen at the Suncadia development.

The question going forward is how we shape our laws and policies to:

1. Conserve and maximize the use of the public's water as a beneficial resource
2. Equitably manage the public's water market.
3. Include "beneficial use" that would include agriculture, industry, households, communities, and the environment as determining factors in the granting of use.

Given these challenges and goals I believe that we should make the following changes in our legislation governing water rights and its use.

- 1. Set a specific timeline for the Department of Ecology to complete instream flow rules by month, established for all rivers and streams in the State.**

We need to prioritize and set timelines for the Department of Ecology's "instream flow rules" for all of our rivers and streams. The 2000 State Supreme Court Ruling *Postema v. Pollution Control Hearings Board*, 31 protects instream flow rights but until these minimum monthly flows are established, existing and new water rights will have established senior rights. It's my understanding that only 30 -50% of the rivers and streams in the State of Washington have established in stream flows from the Department of Ecology. It doesn't make sense to me, nor is it in the public's interest to approve water rights in a stream (at zero cost to the applicant), then go back and use public and/or nonprofit funds to mitigate low in-

stream flows. As the stewards for these watersheds, we should make this a priority with set timelines for completion.

2. Set a specific timeline to determine the recharge rates and sustainable use levels for the aquifers in the State.

No mention of groundwater was made in the advisory committee notes that I saw. These aquifers are important and serve as a critical source of side channels and instream flows. Groundwater is also critical in maintaining lower temperatures as these can be 10 degrees cooler than the surface water. We are currently digging deeper and deeper wells and lowering water tables across the state. This is not sustainable. California has grossly mismanaged their groundwater resources (back to the fisheries analogy) and we are following behind them. We need to determine what the recharge levels are for these aquifers and determine the sustainable levels of water rights that can be granted. We are literally digging a deeper hole.

3. Tie the water right to the physical property that was used in the application thereof.

Granted water rights were applied to a specific physical property. Those who are granted rights should exercise that right to access a public resource - limited to direct use of that property. Under Washington Law, water is currently considered a **public resource that can't be owned**. But the **right to use water is exclusive and treated like a property right**. Tying the water right to the physical property would be consistent with the law. This would also be fair to both the applicant and the public that owns the water. The applicant got what they applied for, mind you at no cost to themselves other than the time and effort and filling out the application. Water rights are, in most cases, worth more than the raw land. An example is a friend's farm in Walla Walla. His property is worth \$8,000 an acre. \$2,000 is for the land and \$6,000 is the water rights. He obviously made a huge profit by applying and being granted the right to use water on his property. This change in the law wouldn't affect this profit if and when this property was sold. What would change is the ability to sell the water right separate from the land that the water had been granted to.

4. Introduce Legislation that would give the Department of Ecology the right to operate and manage the State's Water Bank

The current policy allows a "secondary water market" similar to how Stubhub exists for concerts and events. The concerns that water banking and the TWRP are being used in ways not originally intended by the Legislature are valid. This allows speculators and investors to profit off the public's resources with no regard to the public's interest. For example, a speculator like the prior owners Goldman Sachs could apply for a water right up in, say Colville, pay nothing for it and then transfer it down to the Horse Heaven Hills at 98% profit. The guys at Goldman Sachs are no dummies. Additionally, the current capitalistic model has no incentive to either conserve or maximize the use of water since the cost of water is zero (other than transportation and infrastructure). One of the arguments for water banks is

that they assign value on the secondary market, and that the selling of the resource would provide an incentive to conserve.

The Department of Ecology should manage BOTH the primary and secondary water markets. They already manage the initial water market, why wouldn't we entrust this secondary market to this department that already manages the primary market? As part of this management of the secondary water market, the Department of Ecology would be granted the ability to pay fair market value to current owners of water rights based on the market value for the property in which it was granted. They could even establish an incentive by paying an additional 20% over fair market value to increase conservation. The Department of Ecology would sell this water to the highest bidder taking into account instream water flows, and the beneficial use of the public's resources. With the Department of Ecology managing this secondary water bank, the issues of out-of-basin transfers, TWRP, in-stream flows and adverse effects to communities would all be equitably considered as part of the process. Funds derived from these transactions would be used to manage the secondary water bank and to restore and manage water basins in the State of Washington. This decision will prevent speculation, increase conservation of our most valuable resource and preserve communities that will undoubtedly become our Owens Valley if we continue with current policies.

In conclusion, we need to look at water in a more holistic framework. Nibbling around the edges and making small changes to our current laws will not set up the State of Washington for success. The specific issues of downstream out-of-basin water transfers, TWRP, and conservation easements are important issues. But, most critical and essential, is an adaptive public model that prioritizes the public's interest and creates an economic model that gives people with current water rights the incentive to conserve this precious resource. Setting up privately owned and managed water banks is not the answer and is not in the public's best interest. I encourage the legislature to take a more futuristic view of this resource and keep the management of the public's water in both the primary and secondary market by establishing a Department of Ecology Water Bank.

Sincerely,

Brian Larson

Mason County PUD No. 1

Findings

16. Some participants voiced concern over the scenario whereby an entity buys a water right with no plan to put it to beneficial use (other than instream flows), but rather with the express intent of simply reselling the water right at a later time for a higher price. They view this activity as speculative and therefore a misuse of the legislative intent of the TWRP.

- There should be a stipulation in place for the for said water right and it cannot be used for resale purposes.

Policy

11. Align disclosure laws for water right sales with the laws for land sales. Require that water right sales (including prices) are reported to the state and made publically available. (page 22)

-There needs to be a clarification on water right sales. Is the water right already in use or is it for future use? If it is pertaining to water rights already in use, the sale and or purchase of small water systems may be difficult to do in the future if there is going to be a price put on water rights. This could cause small water systems to go in disrepair and effect water quality.

12. Require that before the place of use of a water right may be transferred downstream out-of-basin, Ecology must determine that the change will not be detrimental to the public interest. (Page 23)

-They make the point that is shouldn't be detrimental to Public Interest, but do not define what "Public Interest" entails. I feel compelled to suggest property value, development of rural areas and purveyors water service areas are considered "Public Interest".

13. Establish that before a water right may be sold for transfer out of the basin of origin, state, local, and tribal governments, and non-profits are provided a "right of first refusal." (Page 24-25)

-It is helpful to establish a revolving fund for water right purchase as suggested in point 14, although structure of hierarchy should be considered. How is economical benefit leveraged with ecologic benefit or are they mutually exclusive depending on which entity the water right is transferred or sold to?

21. Restrict how long a temporarily donated water right may remain in trust (Page 26)

I would agree that rushing trusted water would lead to irresponsible and inefficient use of water. It makes sense that it isn't recommended for future legislative action.

Mary McCrea

See attached file.

Comments on Water Trust, Banking, and Transfers in Washington State; Findings and Recommendations Informed by Ecology's Advisory Group on Water Trust, Banking, and Transfers

These comments are provided by Mary McCrea and Lorah Super, who worked on proposed legislation for the 2020 session and are doing the same for the upcoming session. Mary is a retired attorney who focused on water rights in Eastern Washington in private practice. Prior to that, she represented Ecology in the Yakima Adjudication as an Assistant Attorney General. Lorah is the Program Director for the Methow Valley Citizens Council. We thank you for the opportunity to comment on the final report. We appreciate the efforts of Ecology staff in facilitating the online meetings.

Executive Summary: While we recognize the constraints due to Covid-19, if Ecology does not offer potential legislation to protect headwater basins from out-of-basin transfers, the legislature should enact a moratorium on out-of-basin transfers until legislation is in place to protect that water.

Legal background: Water right sales & transfers, the Trust Water Rights Program, and water banking

Water right sales and transfers: The report states: “[i]n addition to the public notice requirements applicable to all change applications, a law passed in 2011 requires Ecology to notify the county commissioners for any out-of-basin water rights transfer in counties east of the Cascades (RCW 90.03.380(10)(a)).” This requirement was an acknowledgement by the legislature, 9 years ago, that transfers out of county in eastern Washington raise additional concerns for the basin of origin. Proposed legislation on out-of-basin transfers is a logical next step to this concern.

The Trust Water Rights Program: The report states: “[w]ater rights held in trust benefit streamflows and groundwater recharge, while retaining their original priority date.” This statement is made in numerous forms throughout this report. Although it was the intent of the TWRP to benefit instream flows, it is widely recognized that most water rights transferred to trust are not protected based on their priority date. Rights that are junior to the trust water right are withdrawn to the detriment of instream flows. We recognize it is extremely difficult to protect trust water rights as instream flow, and that Ecology has neither the staff nor the technical ability to do so. Given this, neither an applicant nor Ecology should be able to claim a benefit to instream flow as a justification for a transfer of a water right to trust, particularly transfers out-of-basin.

Water banking: The report states: “[t]he water banking statutes enable use of trust water rights to provide mitigation for new and existing uses that would otherwise impair existing rights.” This is one, but not the only, use of water banks. Water banks may also be used to hold water in trust for instream flows pending the purchase of the right by another user for out-of-stream purposes.

Findings

Out-of-basin water right transfers: The report states: “Downstream, out-of-basin transfers of water rights can be a valuable tool for providing water for new uses while also boosting instream flows (in those cases where the water stays instream before being withdrawn downstream).” In the parenthetical phrase Ecology subtly acknowledges that instream flows are “boosted” only where water transferred to trust for instream flows stays instream down to the new point of diversion or withdrawal. As discussed above, water that is temporarily in trust does not in reality necessarily benefit instream flow (except in the Yakima Basin where instream flows are protected by regulation based at Parker Dam).

1. “The needs of each basin are unique. It will be difficult (and may be unwise) to seek one solution that fits all basins.” We agree one solution cannot fit all basins. However, there are groups of basins that share significant common characteristics and a single legislative approach would address problems in those basins. Specifically, basins in the upper Columbia River Basin have (1) rural economies that depend upon agriculture, (2) do not have any upstream sources to replenish water transferred downstream out of the basin, (3) are feeling the effects of a changing climate that results in less snowpack and lower water levels in late summer/fall, and (4) have been identified by the Legislature in 2011 as needing extra protections through notification of any proposed out of county transfers. Legislation to limit out-of-basin transfers from seven Water Resource Inventory Areas that fall into this group would offer a single solution for this carefully prescribed group.

“If water rights transferred downstream cannot be transferred back upstream, out-of-basin water right transfers may foreclose the potential for new out-of-stream uses in the basin of origin, which limits the capacity for future economic growth. Some participants expressed that limiting downstream, out-of-basin water right transfers could prevent these economic losses. Others argued that these transfers are driven more by greater macro-economic factors, such as commercial agricultural enterprises outcompeting traditional family farms. They voiced concern that limitations on agricultural water marketing could place an undue burden on farmers seeking to capitalize on a major asset.” Out-of-basin transfers not only “limit[s] the capacity for future economic growth,” they limit the opportunity for future use of the water for smaller scale agriculture and sustainable rural communities. The idea that preventing water from moving downstream won’t “incentivize people to keep farming” misses the point. If the water

leaves the WRIA it simply will not be available for anyone to use for farming or any other beneficial use ever again.

Additionally, the emphasis on capitalizing on “a major asset” can and should be viewed from the perspective of capitalizing on a public resource at the expense of communities in the basin of origin.

2. We strongly agree that “long-term goals to reduce downstream and out-of-basin transfers may require outside or state-level investment in local water banking programs or partnerships to “level the playing field.” Legislation to limit out-of-basin transfers in headwater basins in the upper Columbia Basin should include local agricultural water banks funded by the legislature and operated by the Conservations Districts.

Water Right Sales

6. *“Increased knowledge of water right sales and prices could help to develop a more robust marketplace for trading water rights.”* The question remains whether this is a desirable outcome. As one participant stated during Ecology meetings, “why can a use right be sold?” Others have reminded us all that water is a public resource. A question to be answered is whether the right to *use* a public resource includes the right to make the maximum amount of money from the sale of the use right? Our answer is “no.”

Use of the Trust Water Rights Program

12. *“There was no consensus whether or not the TWRP enables speculation in water rights and, if so, whether this activity constitutes a significant problem. Moreover, there was no common definition for ‘speculation’ accepted by the group.”*

We firmly believe that the TWRP enables speculation in water rights. Speculation is a well-defined term: “[t]he buying or selling of something with the expectation of profiting from price fluctuations.” (Black’s Law Dictionary.) “Speculators in water do not acquire water rights for the purpose of immediately utilizing the water by applying it to beneficial use, but rather with the hope that water values will increase over time, allowing the water rights holder to sell those rights in the future for a substantial gain while locking up the resource from contemporaneous uses in the meantime.” “Anti-Speculation Doctrine,” Nevada Law Journal, Vol. 8:994, 1006 (2008). The TWRP enables speculation by allowing water rights to be put into trust for lengthy periods of time without any identified out-of-stream end use. See, e.g., Crown Columbia’s application to transfer 33 cfs of water from the Chewuch River to trust for up to 29 years. As Ecology acknowledges, instream flows benefit from the water remaining in trust only *“in those cases where the water stays instream before being withdrawn downstream.”* That is the exception rather than the rule.

“The anti-speculation doctrine curbs the worst potential abuses of market forces by forcing transacting parties to articulate how and when the water will be applied to actual, beneficial [out-of-stream] uses[.]” Nevada Law Journal at 998. The right to use water does not

include the right to speculate with a public resource. Having no limit on the length of time a water right can remain in Trust opens the door to speculation with a public resource. That water should be available for out-of-stream uses, not “protected” while the market price for water increases. Speculation is well-defined and is illegal with respect to water rights.

13. *“Most participants were generally not concerned over use of the TWRP in ways that yield private profit, so long as the water is put to beneficial use. They expressed that the private use of water inherently supports public benefits.”* Again quoting from the Nevada Law Journal at 999, “[t]he type of privatization that raises concerns in the water world is that which involves placing the assets—the resource itself—in the hands of profit-driven firms, thereby interfering with the ability of residents and local governments to manage their own [water] supplies, as decision-making becomes less transparent and opportunities for meaningful participation become less available.”

Water banking

18.b. *“Other participants argued that while monopolistic behavior can be worrisome, increased regulation is not warranted. They said the solution to monopolies would be to reduce barriers to entry and increase competition.”* We need to be reminded that water is a public resource. A free-wheeling market driven by competition does not have as an objective the sound management of a public resource and should be regarded with caution.

21. *“Participants generally agreed that additional resources for implementation of the TWRP would benefit state water management.”* We strongly agree. Ecology is asked to do the very difficult but essential job of protecting the public’s water resources while being chronically underfunded and under staffed.

Ecology recommendations requiring statutory changes

1. Establish that a water right transferred downstream may later be moved back upstream.

- *“Potentially, it does not provide enough support for headwater basins; instead, some maintain there is a need for a moratorium on downstream, out-of-basin water right transfers from selected WRIsAs.”* Authorization for upstream transfer of water previously moved downstream and a moratorium on downstream out-of-basin transfers from selected WRIsAs are not mutually exclusive but can actually work in tandem as two parts of the solution. Legislation to address the problems in headwater basins should include both concepts.

Concepts for future legislative evaluation

12. Require that before the place of use of a water right may be transferred downstream out-of-basin, Ecology must determine that the change will not be detrimental to the public interest.

We support Ecology's plan to address public interest in water right changes to transfer water downstream and out of the basin. The requirement for a public interest review is not novel to Washington water law or to Ecology. See, RCW 90.42.040; 90.44.100; 90.03.290; and 90.44.540. A public interest test need not be "nebulous." The agency can identify categories of concerns that will be considered. Ecology's discretion in deciding what is in the public interest allows the agency to be responsive to changing environmental, economic, and social priorities. As we move further into the era of climate change and the effects on water supplies, this will become increasingly important.

Significantly, it makes no sense to require a public interest/public welfare review for new water right applications and groundwater changes but not for surface water right changes. The Macdonnell report to the State Legislature on interbasin transfers in 2008 included a recommendation that "[a] statutory provision for general public interest review of proposed changes of water rights as exists for applications for new appropriations of water."

The importance to the public of water right transfers out of the original WRIA is demonstrated by the experience in the Methow Watershed. When Crown Columbia came to the Methow and sought to buy and transfer 33 cfs out of the watershed, the community responded at great cost. Local citizens, including the Chewuch Canal Company (CCC) who would have been directly affected by the transfer, attended 14 Okanogan Water Conservation Board meetings. Some of the meetings were attended by over 50 concerned citizens and agencies. It was a 90-mile round trip to Okanogan where the meetings were held. CCC incurred over \$25,000 in legal fees and other costs opposing this out of basin transfer. The public interest in this transaction was significant and points to the conclusion that the public interest, including the local public interest, should be a consideration when a party seeks to transfer water out of a basin.

Ideas considered but not recommended

Use of the TWRP

21. Restrict how long a temporarily donated water right may remain in trust.

We believe there should be a restriction. A limitation on time in Trust would help reduce speculation. A water right is not meant to be held by a buyer for years (e.g., 29 years requested by Crown Columbia for Chewuch River water) while others are denied new water rights.

In closing, we request the legislature take action to protect headwater basins in the upper Columbia Basin to prevent the permanent loss of water, particularly for agriculture. Local agriculture helps small communities remain viable, with access to local food. Irrigated fields are an important protection from wildfires. As we have seen in the Methow, fire burns up to irrigated green fields and stops. While it may continue to burn around that area, the livestock and buildings within the irrigated area are protected. Wildfires are predicted to get worse in the years ahead and this protection will become even more valuable. As climate change continues, late season stream flows will be reduced and water supply for use in the WRIs for agriculture and instream, flow will be in short supply. If we don't act now, the future of these rural areas is dim.

Mary McCrea

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Lorah Super

lorah@mvcitizens.org

Muckleshoot Indian Tribe

**Water Trust, Banking, and
Transfers in Washington State**

Findings and Recommendations Informed by Ecology's
Advisory Group on Water Trust, Banking, and Transfers October 2020

We appreciate this comprehensive review of the Trust Water Resources Program and find it unfortunate that no tribal representative was able to participate in the Advisory Group this summer due to budget shortfalls associated with COVID-19 requiring staffing furloughs and resources devoted to the coincident work on the Watershed Restoration and Enhancement Committees for WRIAs 8, 9, and 10. We offer these comments and look forward to continuing to work with Ecology on this issue.

GENERAL COMMENTS

We are quite concerned with the use of the TWRP to yield private profit that markets future water supply. Water is a public resource and not a commodity to gamble away to the highest bidder. The original intent of the trust program was to ensure that water savings and conservation did not diminish the right. That should continue to be the purpose along with providing near term local water supply. Temporary trusts should not extend over the long term and the selling price should not provide a soaring profit to the seller. It is the public's and tribes' resource. Furthermore, water banks should be operated only by non-profit groups.

We prefer that water in the trust program stay instream, since it is very likely that water was not available at the time the right was issued. Streams and rivers in the state are generally over-appropriated and declining flows and salmon runs have resulted. Water remaining instream should be the "first call" on any rights in the program.

We strongly believe that a "Sullivan Creek Fix" is desperately needed and support Recommendation #12 but encourage Ecology to expand it to ALL surface water right changes. We are curious why Ecology has only recommended this action as it relates to out-of-basin transfers. Ecology's statutory recommendations in this document should prioritize this much needed measure.

COMMENTS ON FINDINGS

For out-of-basin water right transfers, we agree that the needs of each basin are unique and that it would be difficult to find one solution that fits all basins. However, it is crucial for Ecology to seek solutions that protect instream flows and tribal treaty rights. We do not see how out-of-basin transfers can do anything but result in more harm to salmon and other public and tribal resources and therefore oppose those transfers unless the affected tribe(s) support it.

We disagree that water rights should be open to out-of-state buyers, unless they are purchased solely for permanent instream flows.

We acknowledge that the flexibility of the TWRP is one of its greatest assets; however, more sideboards are needed because the current program can indeed result in continued erosion of instream flows and treaty rights to adequate flows for salmon. We do not hold the same view as the Advisory Group that limiting the flexibility of the TWRP could hamper creative water solutions.

We strongly disagree with the statement in bullet #19 that “When writing instream flow rules, Ecology should consider how the regulation may enable or hinder market conditions conducive to water banking and/or speculative or monopolistic activity.” Here again, water is seen as a market commodity and not as a public and tribal resource. Dwindling salmon runs would likely often be considered lower in value when put to such a standard. Existing statutory instream flows are already set too low to support all species and life stages of salmon.

COMMENTS ON ECOLOGY RECOMMENDATIONS

1. Establish that a water right transferred downstream may later be moved back upstream.

Any type of generalization like this should be made with caution. A thorough review of hydrogeology, hydrologic, and aquatic conditions must be made. Complex hydrogeology and the presence of losing and gaining streams requires careful reviews of groundwater and surface water right transfers either upstream or downstream. However, in general, we do not support transferring a right upstream to its original withdrawal locations.

2. to 6. We generally support these recommendations.

7. In policy, clarify that any water right used for long-term or permanent mitigation must first undergo a tentative determination of extent and validity.

We believe existing policy requires this but agree further clarification is warranted.

8. to 11. We generally support these recommendations.

Concepts for future legislative evaluation

12. Require that before the place of use of a water right may be transferred downstream out-of-basin, Ecology must determine that the change will not be detrimental to the public interest

As stated above, this change should be recommended for ALL surface water right changes and transfers. Furthermore, the argument among the Advisory Group that the “public interest” is not defined and too complex is without merit. Ecology currently makes that determination on ground water right transfers and did so for surface water rights before case law changes. We also believe the argument that applying the public interest test would pit beneficial uses against each other is also without merit. That is a separate statutory test and as long as there is adequate public and tribal input and the Water Code protections are not further diminished; the application of the public input to all surface water transfers, concerns over any “unfair” weighting of a beneficial use to another should be reduced.

13. Establish that before a water right may be sold for transfer out of the basin of origin, state, local, and tribal governments, and non-profits are provided a “right of first refusal.”

We agree that this “right” should be granted, but generally oppose transfers out of the basin unless the affected tribe supports it.

Ideas considered but not recommended

15. Authorize Ecology to “close” a basin to out-of-basin transfers through rulemaking

We disagree that Ecology should exclude this option. Especially since it has not yet received input from the public and tribes.

17. Limit who can buy a Washington water right to Washington residents and entities.

Again, we are concerned with Ecology’s view on this and think it should be further assessed and discussed with tribes. Federal agencies are not precluded from purchasing rights and perhaps a restriction should be placed on out- of- state for profit private buyers.

18. Provide advance public notice of sales including price disclosure.

We believe this should be re-considered as a recommendation as it promotes transparencies.

21. Restrict how long a temporarily donated water right may remain in trust.

We support this recommendation and believe Ecology should include it. Temporary donations should only be in effect for 2 to 5 years; especially in light of changing climate conditions. If a buyer is not found, it should stay instream.

Bill Neve

I do not see much if any information on water rights acquired by the state and/or using state funds for instream flow purposes that have places of use that extend out-of-basin. Regarding Figure 1, I think it would be useful to have an additional column to represent water right acquisition by state gov't (e.g directly/using state funds/through programs such as irrigation efficiency incentives) that were allocated to instream flow with a place of use both inside and outside of the basin of origin and/or used to mitigate for out of basin uses (for example see ECY acquisition of lower Walla Walla River rights for instream flow purposes later used to mitigate for Quad-Cities new water rights).

Thank you for your work on these issues, and for the opportunity to comment.

Mark Peterson

The report says that upstream transfers are not allowed which is not true if there is a way to mitigate adverse impacts. Coupling downstream transfers with upstream transfers is a means of developing a water budget neutral upstream transfer that is currently legal and practiced.

DOE is required to defend rights in trust from third parties so that its attributes are preserved. Making trust water susceptible to subsequent ecologic or even economic considerations jeopardizes the basic function of the trust program to preserve the rights attributes for the purposes of the holder.

Swinomish Indian Tribal Community

Please see attached comments from the Swinomish Tribe.

Thanks,

Amy



Main Office: 360.466.3163
Facsimile: 360.466.5309

Swinomish Indian Tribal Community

A Federally Recognized Indian Tribe Organized Pursuant to 25 U.S.C. § 476
* 11404 Moorage Way * La Conner, Washington 98257 *

November 10, 2020

Ms. Mary Verner, Water Resources Program Manager
Department of Ecology
Via email and online portal: Mary.Verner@ecy.wa.gov

Re: Swinomish Indian Tribal Community Comments to Ecology's Advisory Group on
Water Trust, Banking, and Transfers

Dear Ms. Verner,

The Swinomish Indian Tribal Community would like to provide the following comments to the Department of Ecology regarding Ecology's report on Water Trust, Banking, and Transfers. Tribal staff has been involved with the development of the State's legislation and policy regarding trust water rights since its inception in the mid 1990's. We are frustrated to see that these state actions that were developed to protect and restore instream flows as a result of the Chelan Water Agreement in 1994 have turned into something very different. The Trust Water Rights Program appears to have become a major tool to avoid relinquishment, which in many instances will have adverse consequences on the protection of adequate flows and restoration of diminished instream flows. We therefore have the following suggestions regarding the implementation of the trust water rights and banking programs through legislative or policy efforts.

1. There may be many instances whereby the development of a water bank and trust water right can have beneficial impacts on instream flows, fish, and tribal treaty rights. This has been our experience regarding a number of efforts in the Skagit River Basin. However, despite the fact that Ecology has stated many times that Washington treaty tribes have senior, but unquantified, water rights in basins that have not been adjudicated, these tribal water rights are rarely considered or protected. It is the Swinomish Tribe's view that these rights should be considered before trust water rights are issued or water banks are developed and utilized. We believe the appropriate approach in basins where tribes have

Federally reserved water rights should be that Ecology must have agreement from the affected tribes prior to these tools being implemented.

2. It is the Tribe's view that when trust water rights are used to fund water banks to support additional out-of-stream development, those water rights must be "wet water"; that is water that is currently being utilized. This would preclude the use of inchoate water rights, or perfected water rights that have not been utilized for more than five years, regardless of whether such inchoate or perfected rights are deemed to be municipal rights under State law. Using "paper water rights" to mitigate additional out-of-stream appropriations will in most instances adversely impact instream flows, fish, and tribal treaty rights. The Department's apparent reluctance to pursue relinquishment or abandonment of unused paper water rights has added to the problem of uncertainty regarding available water supply in many basins, has contributed to reduced instream flows, and has thereby compounded the challenge of ensuring adequate instream flows for ESA-listed salmon upon which the treaty tribes' and State's fisheries depend. This problem will only worsen with the increasing impacts of climate change, and thus should be addressed. Therefore, it is our view that only water that is actively being utilized should be available for the Trust water rights program and water banking mitigation purposes.

Thank you for your consideration of our comments.

Sincerely,

A handwritten signature in cursive script, appearing to read "Amy Trainer", followed by a horizontal flourish.

Amy Trainer, Environmental Policy Director
Swinomish Indian Tribal Community

Cc: NWIFC

TU, KRD, Roza, Kittitas County and Yakima Joint Board

Trout Unlimited, Kittitas Reclamation District, Roza Irrigation District, Kittitas County and the Yakima Joint Board have worked closely with the Washington State Department of Ecology (Ecology) and water resource stakeholders throughout Washington State to design and implement water resource solutions that have broad public and local support. Transfers of water rights, establishment and the implementation of water banks, and the TWRP have all been critical to these efforts. The attached comments have been prepared on behalf of these organizations and are based on decades of work in the Yakima Basin and across the State of Washington on water right transfers, use of the Trust Water Rights Program (TWRP), creation and operation of water banks, and other water right acquisition, permitting, and mitigation efforts for both instream and out-of-stream water uses.

To: Washington State Department of Ecology

From: Lisa Pelly, Director, Trout Unlimited
Arden Thomas, Water Resource Manager Kittitas County
Urban Eberhart, Manager, Kittitas Reclamation District and Member, Yakima Joint Board
Scott Revell, Manager, Roza Irrigation District and Member, Yakima Joint Board
Peter Dykstra, representing Trout Unlimited
Jeff Slothower, representing Kittitas Reclamation District
Bill Clarke, representing Kittitas Reclamation District and Kittitas County
Isaac Kastama, representing Yakima Joint Board

Date: November 15, 2020

Re: Comments regarding Findings and Recommendations Informed by Ecology's Advisory Group on Water Trust, Banking, and Transfers

Introduction

Our organizations have worked closely with the Washington State Department of Ecology (Ecology) and water resource stakeholders throughout Washington State to design and implement water resource solutions that have broad public and local support. Transfers of water rights, establishment and the implementation of water banks, and the TWRP have all been critical to these efforts. The following comments have been prepared by the above individuals on behalf of our organizations and are based on decades of work in the Yakima Basin and across the State of Washington on water right transfers, use of the Trust Water Rights Program (TWRP), creation and operation of water banks, and other water right acquisition, permitting, and mitigation efforts for both instream and out-of-stream water uses. We submit these comments along with several attachments which represent information we provided Ecology during the Advisory Group process.

Overall, the lack of flexibility in the State Water Code, from many of Ecology's regulations, and arising out of recent court decisions creates a difficult environment for creative solutions to increasingly pressing water problems. Nevertheless, our organizations have been successful finding many solutions using these tools in partnership with Ecology and others. Overall, we are concerned that imposing further limitations on water right transfers, water banks, or the TWRP will eliminate potential strategies that will be need for meaningful water management across Washington.

General Comments

1. **Ecology's report omits the crucial role that transfers, water banks, and the TWRP have played over the last three decades in improving instream flows, protecting water rights for water right holders, and facilitating the movement of water to new or different uses, especially during drought.** Historically, Ecology has been a stalwart advocate and central figure in achieving these goals in partnership with irrigation districts and other water right holders, conservation non-profits, local government, tribes, and many, many others. Each one of these goals were explicitly part of the discussion of the creation of the TWRP in 1991 and in every modification of the TWRP by the Legislature ever since. We find it disappointing, mystifying, and misleading that Ecology does not mention the positive outcomes from these collaborative efforts.

Ecology incorrectly suggests in its Report that its only role has been to investigate "potential misuse of the state's trust water statutes." Doing so ignores the great work of Ecology and its many partners over the past

three decades to use the TWRP, water banks, and transfers to implement and achieve in many places the very goals that the Legislature designed those tools to achieve. It also ignores the well-spent millions of dollars in local, state, federal, and tribal governments fund, as well as private (including philanthropic) money, that have been used, much through the great leadership of Ecology, over the years to achieve these goals.

Each of the Ecology Advisory Group meetings was replete with testimony of examples of these successes. In fact, the record of those meetings should show that few if any examples of “misuse” of the transfers, water banks, and the TWRP were ever provided. In the rare instance where “misuse” was alleged, those claims were refuted in testimony as a valid use of the transfer, water banking or TWRP process at issue. The alleged “misuse” simply equated to a policy or political disagreement with the proposed use. We are unaware of any instance where either Ecology, the PCHB, or a court has found evidence of “misuse” of the TWRP. Until it can provide a specific example of such “misuse,” Ecology should not continue to perpetuate the false narrative that such abuses are occurring.

Ecology’s continued framing of the transfer, water banking and the TWRP processes as in need of investigation and fixing while ignoring the long and clear history of successful uses of these programs perpetuates inaccurate claims about tools that are working well and as intended. Ecology’s use of this framing and failure to discuss any of the positive results of these efforts in this Report is an inaccurate picture of the history and value of these tools and a failure to accurately portray the facts on the ground of how Ecology and its partners around the State are using these programs to solve the most vexing water resource challenges we face.

2. The Advisory Group composition and process relied heavily on unsubstantiated opinions and anecdote and did not prioritize the actual experience of subject matter experts. We wish to reiterate our concern that the Advisory Group composition/process was flawed in that was not a balanced group of stakeholder interests represented by people with expertise in the subject matter as we think was intended by the Legislature’s proviso language. While Ecology took efforts to make meetings functional, we believe conference calls of 150+ people are extremely difficult to manage and does not lend itself to high-quality input and discussion. Much of the time was devoted to providing participants with education and understanding of the water code, how water right acquisitions and transfers are completed, and how water banks functions. As such, the group was not “advisory” to Ecology in many respects. Such a process may have been valuable in gathering information and in educating people are interested in, but not directly involved with, the use of the trust water right program, but we believe it is a misguided way to develop policy recommendations. These policy recommendations suffer from attempting to address biases and perceptions and are not an accurate reflection of reality.

3. Ecology failed to recognize the constitutionally protected real property attributes of water rights. While water resources are public resources, the ownership, use, and transfer of those resources is subject to an extensive body of case law, including but not limited to private property rights with constitutional protections. Given that these principles are essential underpinnings to why transfers, water banks, and the TWRP exist and are used on a regular basis, we encourage Ecology to make a specific finding regarding the real property aspects of water rights.

Specific Comments on Findings of Fact

4. Ecology deserves praise for its long history of helping to identify, develop, and fund the establishment of water banks and TWRP transactions, particularly in Central Washington. Therefore, it is surprising that Ecology continues to frame its role in water banking and the TWRP as merely a “regulatory” role (Finding of Fact 19). Throughout the Advisory Group meetings, there was abundant

testimony from Ecology's partners in these endeavors about Ecology's larger role in this process. For example, Ecology's Streamflow Restoration program staff are relying heavily on the use of water transfers and the TWRP to implement the Legislature's goals and commitment of \$300 million in funding over 20 years in the Streamflow Restoration Act. We do not understand Ecology's apparent unwillingness to discuss any of this in the Findings of Fact. We believe it to be an important legacy of Ecology in implementing successful projects that clearly meet the Legislature's goals of these programs. We are concerned that by not acknowledging its role in this process, Ecology is either attempting to deflect political criticism or signaling a change in its willingness to play similar roles in the future. In either case, we ask that Ecology be transparent about its history in these efforts and clear about whether a change in that role is under consideration. Frankly, we believe Ecology knows better, and are disappointed to see the department reinforce unsubstantiated claims and rhetoric, rather than stand with its partners and our shared record of success.

5. We agree with Ecology's finding that one of the most significant inefficiencies and challenges that faces the transfer, water banking, and TWRP processes is a lack of Ecology capacity to process change applications, trust water agreements, and other elements of Ecology's role in these processes (Finding of Fact 21). Ecology's lack of capacity frustrates water right holders trying to make water right changes, increases the costs of instream flow TWRP projects, and makes the workload on existing staff untenable. That said, we believe Ecology's report under appreciates the importance of this issue; it is the single biggest challenge that we have encountered in implementing these crucial tools for effective water management. Further, we believe that there was general agreement during the Advisory Group process on the need for additional Ecology resources to process change applications regardless of whether those change applications involved a water bank or trust water right. We encourage Ecology to clarify Finding of Fact 21 to state: "Participants generally agreed that additional resources for implementation of change applications, water banks and the TWRP would benefit state water management." We support ongoing efforts to ensure that Ecology has improved staff resources and capacity to process water right transfer and water bank applications and manage the Trust Water Program.

Specific Comments on Policy Recommendations

6. Policy Recommendation No. 1: We believe that the tools exist in current law to address the question regarding whether a water right transferred downstream may later be moved back upstream. There was testimony during the Advisory Group process to this effect. For example, if as part of a change application the proposed downstream transfer retains the original point of diversion as part of the proposed change, then that original upstream point of diversion may remain part of the water right. If the water right becomes a trust water right, then it is not subject to relinquishment, so the original point of diversion should remain a valid point of diversion for that water right in the future. We disagree that this is administratively burdensome since it will remain as a point of diversion on record in the Report of Examination that Ecology issues.

That said, there are consequences from deploying this approach. For instance, this approach would undermine any perpetual instream flow benefits that are achieved as part of the downstream transfer; one would have to consider those benefits temporary because the possibility would always remain that the water right could be diverted/withdrawn from its upstream point of diversion. Furthermore, this approach would not allow for an upstream transfer above the original point of diversion, and we caution Ecology that any effort, legislative or otherwise, to allow for a general policy of upstream transfers above existing points of diversion is dangerous. We believe such a transfer is theoretical possibility but only in discrete, case-by-case situations with sophisticated impairment analyses employed.

7. Policy Recommendation No. 5: Ecology's use of the term "conservation easement" is inaccurate and would likely be opposed by entities that regularly use conservation easements to protect land and

water resources. While we agree that there are real property tools that could be used to restrict the use of a water right to their basin-of-origin, conservation easements are a very specific type of tool. Conservation easements involve a landowner granting a third party, usually a land trust or local government, rights to real property through which that third party gains rights but also takes on certain obligations through the Conservation Easement. While this tool could and has been used in Washington State to restrict how a water right is used in the future (including whether it could ever be transferred), it is a very specific tool. Because conservation easements are only one type of real property tool that could achieve the goal of Policy Recommendation No. 5 and involve a much greater level of administration, we recommend that Ecology change the language of the Policy Recommendation No. 5 to state: “Promote the use of real property restrictions on water rights to limit their use to the basin-of-origin.”

8. Policy Recommendation 8: We fully support this recommendation regarding an application form for prospective water bankers. We have been advocates of this concept from the beginning of this Advisory Group process, and it is reflective of how we have operated in developing water banks with Ecology for many years.

9. Policy Recommendation No. 12: We encourage a much richer dialogue around Ecology’s recommendation for future legislative action regarding a “public interest” test for downstream transfers. As we have said above, we do not believe that Ecology or the Advisory Group process fully discussed the important real property attributes of water rights. Attempting to legislatively impose a new test that would burden existing water rights is replete with constitutional issues. In addition, there was substantial disagreement on what is meant by the “public interest” during the Advisory Group process. Saying it is “largely undefined” is a gross understatement; it was a source of debate during the Advisory Group process and there would be an even larger, more difficult debate during any legislative process.

Finally, in this section, we believe Ecology undervalues the “[o]ther factors stressing agriculture today[.]” As we have said before, loss of irrigated farmland is a legitimate socio-economic concern, and it has been happening around Washington State for decades. In fact, many of the farmers that we have worked with have used the TWRP as tool to help avoid loss of their farms, either as a tool to ensure their water right was protected as they adjusted to new economic conditions, as vehicle for managing their water rights as the upgrade their irrigation infrastructure, or to bring capital into their farming operations through the lease or sale of water to other farms or instream flows. That said, the loss of irrigated farmland is most often driven by issues that are regional, national and global in scale. While some people enjoy living in proximity to restaurants and retail, other people want proximity to farms. But farms, retail, and restaurants are all businesses that should not be forced to remain in business so neighbors can enjoy them at the owner’s financial expense.

10. Policy Recommendation No. 13: We encourage a much richer dialogue around Ecology’s recommendation for future legislative action regarding granting “right of first refusal” to certain parties when a water right owner for downstream transfers. Again, this involves significant real property and constitutional issues.

Moreover, anyone of the entities listed in the Policy Recommendation could go out and negotiate for such a right of first refusal today without any statutory change; it simply takes the will to do so and the financial resources to pay compensation to any landowner willing to enter into such an agreement. We do not understand why Ecology has leapt to a policy recommendation of seeking legislation before considering a willing seller/willing buyer approach to the policy concept. Taking this more cautious first step would allow Ecology and any willing partners to this idea to explore whether there are interested water right holders in the area without any of the constitutional challenges. Such an approach is more consistent with the market-based approach to water rights that Ecology has pursued in its water acquisition program for the last 20 years.

11. **One global, editorial note.** Throughout the document, Ecology uses the term “publically” to describe making information available to the public; that is a misspelling of the proper term, “publicly.”

Attachments

From: Bill Clarke

Sent: Friday, May 15, 2020 11:03 AM

To: cses461@ecy.wa.gov; Christensen, Dave (ECY) <davc461@ECY.WA.GOV>; Verner, Mary (ECY) <mave461@ECY.WA.GOV>

Cc: Peter Dykstra <peter@plauchecarr.com>; Lisa Pelly <Lisa.Pelly@tu.org>; Arden Thomas <arden.thomas@co.kittitas.wa.us>; Cory Wright <cory.wright@co.kittitas.wa.us>; Urban Eberhart <urbaneberhart@gmail.com>; Revell, Scott <srevell@roza.org>; Isaac Kastama <kastama@waterstreetpa.com>; Jeff Slothower (JSlothower@lwhsd.com) <JSlothower@lwhsd.com>

Subject: Comments on Water Banking work group

Hi Carrie, Dave & Mary -

Here are some thoughts for your and the group's consideration from those of us on the cc: list. These are based on discussions among Trout Unlimited, the Kittitas Reclamation District, the Roza Irrigation District, Yakima Basin Joint Board, and Kittitas County. These should be taken as staff-level comments as they have not been reviewed by electeds/governing boards. We are happy to have separate call with you on these comments and efforts going forward. Thanks & enjoy the weekend - Bill

-
1. We find the discussions to be confusing as they co-mingle different types of water rights activities – water right transfers, water rights changes of use, use of the Trust Water Program, creation of water banks, etc. While we understand that there are common concepts among all of these topics, the reality is that there is considerable variation within each category. Further, these actions have different legal requirements and processes under current law, and raise different public policy considerations. It is often unclear what type of water right action is being discussed during the sessions and the lack of clarity leads to confusion.
 2. We believe that there is a fundamental misunderstanding about or minimization of the real property attributes of water rights. Yes, water resources are public resources, but the ownership, use, and transfer of those resources is subject to an extensive body of case law, including but not limited to water rights as a private property right with constitutional protections.
 3. The group composition and process is flawed in that it is not a balanced group of stakeholder interests represented by people with expertise in the subject matter as we think was intended by the proviso language. While we appreciate everything you are doing to make them functional, we believe you would agree that conference calls of 150+ people are extremely difficult to manage let alone as a means of gathering high-quality input and initiating thoughtful dialogue.
 4. Using a “y’all come” group of voluntary participants as the sample group is not a valid polling methodology for this or any issue. The polling results are driven by quantity, not quality. We are concerned how these poll results will be described and used.
 5. There has been significant discussion about water right holder motivations and actions, but little or no discussion about how such actions are in response to the regulatory system. For example, speculation and predatory pricing by water banks in Kittitas County occurred as a response to Ecology’s regulatory structure. By contrast, under Ecology rules in Spokane and Clallam Counties, there was no speculation because Ecology’s regulatory structure and acquisition of water rights eliminated the real estate/water rights market conditions that created the speculation seen in Kittitas County. Ensuring that everyone understands the unique underlying regulatory drivers that lead to the conditions that drive water right

owners, potential sellers and potential buyers to use market-based approaches (for good or not), is essential to understanding whether or not there is a problem that requires intervention, let alone legislative intervention.

6. We think it is possible to improve transparency in both water right transfers and changes as well as in the creation of new water banks, but those are different processes that shouldn't be treated the same. Some transparency improvements can be made without statutory changes, while others would require legislation. But the goal of "improving transparency" in the abstract should not complicate the water code or remove currently or potentially viable water resource management options.

7. Loss of irrigated farmland is a legitimate socio-economic concern, and it has been happening around Washington State for decades. In fact, many of the farmers that we have worked with have used the Trust Water Rights Program as tool to help avoid loss of their farms. Farmers have used the program as a tool to ensure their water right was protected as they adjusted to new economic conditions, as a vehicle for managing their water rights when upgrading their irrigation infrastructure, and to bring capital into their farming operations through the lease or sale of water to other farms or for instream flows. That said, the loss of irrigated farmland is most often driven by issues that are regional, national and global in scale. Acknowledging that there are policy measures that shape how our communities grow and change, we also need to consider policy implications for private landowners. While some people enjoy living in proximity to restaurants and retail, other people want proximity to farms. But farms, retail, and restaurants are all businesses that should not be forced to remain in business or sell to someone who will maintain that same business so neighbors can enjoy them at the owner's financial expense.

8. We think the group should discuss methods/strategies for keeping water rights local. The biggest influence, and largest funder of water right transactions has been Ecology (not Wall Street), and so if loss of water rights in certain areas of the State is a water resource funding priority for Ecology, there are ways to prioritize funding to address the issue. We think the model used by land trusts, the work of NGOs, and other examples can show how strategies currently exist if people in local areas want to take action. We also think there are additional tools that could be developed to advance this objective and are concerned about the current narrow focus of the discussion. We are happy to share our own experiences using the tools that seem to be the focus of criticism in these dialogues in order to solve the problem of keeping water local, including in the very communities from which the loudest advocates for some legislative changes in this process hail.

BILL CLARKE - ATTORNEY AT LAW & GOVERNMENT AFFAIRS

1501 Capitol Way, Suite 203 | Olympia, WA 98501 | (P) 360.561.7540

This e-mail may be privileged, confidential and protected from disclosure. If you received this message in error, please notify the sender.

From Lisa Pelly

Dave and Carrie;

Here are some comments from TU, sorry for the delay.

In general, the draft Ecology material presents several detailed potential policy tools. TU is in support of tools that do not restrict out of basin transfers, help with transparency in water right sales, retain the flexibility of the TWRP, and enable water banking to be used to creatively solve water management and instream flow challenges. However, we are concerned that DOE will not have enough funding nor

capacity to implement new policy tools. We are seeing a huge delay in the permitting department that have impacted our ability to process water right change applications in a timely fashion. In addition, we are seeing limited staffing capacity impacting enforcement capability for existing instream flow transactions. Therefore, we would encourage this report to the legislature to emphasize the need for DOE to be funded and staffed at a level where any existing and new policy tools can be effectively implemented and enforced.

TU supports Ecology's development, whether through rulemaking or existing authorities, of consistent terminology for trust water and water banking statutes, rules, and/or policies. Clear, consistent, and accurate definitions should provide an opportunity for all interested stakeholders to better understand trust water and water banking. TU would be happy to support this effort.

TU does not believe restricting out-of-basin transfers is an equitable or sustainable solution to meet the water management challenges of headwaters basins. However, TU does recognize that headwaters basins like the Methow face unique challenges, and those challenges need special attention. We feel that market-based solutions like the creation of local water banks are a viable solution to help address these challenges. To support a viable local water bank and compete in the statewide marketplace, however, headwaters basins may need help with funding. We encourage the legislature to establish a funding mechanism for targeted funds that could be used help headwaters basins at risk of losing water to downstream users. This funding could be used to help 1) model and define long term local water protection targets for a range of needs (fish, agriculture, towns, rural wells, industry), 2) establish local water banks, and 3) enable banks to compete with downstream buyers/investors to acquire water for the local water bank. This funding should be allocated and managed like a straightforward grant program, where organizations or entities sponsoring a local bank apply for funding and manage its allocation towards projects based on their local expertise. It should also include cost share from any applicant.

Limitations on the alienability of property rights is a slippery slope. TU would strongly caution against any tool that provides any entity a statutory "right of first refusal" over any other entity based on factors outside a willing seller's control. Despite best intentions, such a right could have a chilling effect on market-based transactions and discourage multiple benefit projects that foster meaningful partnerships over a larger landscape. Reduced market opportunities for willing sellers and buyers could lead to unintended economic detriments and restrict creative future development with significant local environmental and tax benefits. I can't think of one water right holder that we have worked with that would support someone else making a choice about what they can or will do with their water right.

As I mentioned on our call with other Yakima partners last week I think some transparency about the data of water right sales that you presented during the meetings is important. As I mentioned, the table representing Okanogan transfers could be misinterpreted to think all of those sales have gone out of basin to other types of users. The fact that they have all gone to other ag users is an important message considering that is the main concern coming from Okanogan and Methow folks is they want to see ag continue. It is a little different message than water rights going to the Tri-Cities.

TU fully supports the tool of an up-front water banking prospectus to increase transparency in water banking motivations and outcomes.

We also fully support the comments made by Jeff Slothower in his response to both of you and appreciate his thoughtful and detailed response.

TU remains fully committed to working through these issues through this process and also through legislation if any proposal takes that form.

Happy to respond to any clarifications needed.

Lisa

Lisa Pelly| Director

Washington Water Project

103 Palouse Suite 14

Wenatchee WA 98801

Ph. 509 630-0467 or 509 888-0970

<https://www.facebook.com/WA.water.project.TU><<https://urldefense.com/v3/> <https://www.facebook.com/WA.water.project.TU> ;!!LUFeessN!88HKv2vmTLX1nyMt7rfOgQeOVP8dmTRiTjRmrBnT7rhfAI92aITaij65zX5zjGQ05S0t\$>

From Scott Revell

Overview

Most farmers want their farms to continue to the next generation. When they retire, and when do not have a next generation coming in to take over, many farmers often sell to a neighbor, but they are not precluded from selling to someone from another state or country. They sell to the person who makes the highest offer.

Changes in markets, demographics and labor regulations mean that some crops are no longer viable in the places that they have been historically grown. A farmer cannot be forced to farm. If they are losing enough money on a parcel they will stop farming it.

I have spent 25+ years in water resources and city/county land use planning in Washington, and have had thousands of conversations with farmers who were looking to either retire or expand, and not one had said they want to be restricted in who they could sell their property to or buy it from. The same goes for their farm products, farm equipment and water rights.

Restraints upon the sale of real property are usually deemed unreasonable restraints on alienation. If the government limits the right to sell property, that limitation may be a taking of private property and require the government to pay damages to the property owner.

Leasing or purchasing additional water is one of several tools that are key to stabilizing water supply in drought years. Drought related losses in 2015 just within Roza were estimated by WSDAg at around \$77M (not including processing). A slight additional decrease in water supply in 2015 and those losses could have been double or triple. Roza has for decades examined upstream lease and purchases of water to bolster supplies in drought years.

Roza leases more water than any other entity in the Yakima basin during droughts. Roza has also considered purchasing several thousand acres upstream in order to move the water downstream during drought years. By comparison the total amount of water involved in eastern Washington that was the subject of the article last Fall was equivalent to one mid-sized Roza farm.

- ü **Real property**-Many Roza farms are comprised of multiple parcels located in multiple irrigation districts. Many Roza farms also include non-Roza farm units in the Columbia Basin Project and along the Columbia and Snake Rivers.

Water rights are a private interest in a public resource. Water rights can be sold with the property it is appurtenant to or sold separately. Water rights are issued by the state rather than counties. An irrigation allotment within an irrigation district can only be transferred out of the district with the approval of the board of directors.

There are farms in the Roza Irrigation Districts that are owned by companies in other countries and Roza growers who farm in other countries. Farms that are looking to expand are not limited to only buying adjacent land. There are currently only a handful of institutional investor land owners from other states on the Roza. Local dairies buy feed and in some cases own land to grow forage crops in surrounding states. Some Roza growers also have processing facilities in surrounding states.

- ü **Personal Property**-Farm equipment comes from all over the world: Some grape and blueberry harvesters come from France, some tractors come from Japan and Germany, fruit boxing and pallet stacking technology comes from Spain, fruit scanning technology comes from Holland, shade cloth and trellis technology comes from Australia & New Zealand, pickup trucks on the farm come from Mexico, Canada and Japan among other places. Farmers are not restricted from buying equipment in other states or countries, and they are not prevented from selling their equipment to people in other states or countries.
- ü **Crops**-Washington farm products are sold both domestically and exported. “Local” is awfully subjective for farmers whose farms are spread out over 100+ miles and whose crops are exported thousands of miles away. The federal and state government actively promote the export of Washington crops to markets outside of Washington and the U.S.
- **Example A-** A Roza grower owns land in the upper part of the district which is in WRIA 39 in order to transfer it to other Roza ground in WRIA 37 during drought years. These internal transfers are crucial to Roza’s grower ability to manage their water during drought years.
- **Example B-** Roza leases water from landowners in other irrigation districts and private property owners to supplement the District’s supply during drought years (4,500 ac. ft. in 2015 & 28,000 ac. ft. in 2001) . Some of these leases are from lands in WRIA 39 for use in WRIA 37 on non-Roza land.
- **Example C-** A Roza grower also owns land in Okanogan county and wants to move the Okanogan water downstream to their non-Roza farm units along the Columbia River in Benton County.
- **Example D-** A grower in Kittitas county takes money from an environmental group to fund on-farm irrigation efficiencies and the conserved water savings are donated by the environmental group to the trust program for in-stream flows in perpetuity.
- **Example E-** A grower in Kittitas county sells surface water in WRIA 39 to a Roza grower who leaves the water in-stream to offset equivalent withdrawals of groundwater in hydraulic continuity in WRIA 37.
- **Example F-** A Kittitas county farmer in WRIA 39 is taking land out of ag production due to urbanization and sells the Yakima River surface water to a municipality 75 miles downstream in WRIA 37 to bolster the municipalities water supply.

Summary

When water is transferred downstream, the economic activity associated with the water still occurs in Washington. There are strong barriers in place to prevent speculation, bearing in mind that one what person may view as speculation is merely prudent planning on the part of another.

The transfer process is very transparent currently, particularly in the Yakima Basin where every molecule has been litigated over for 40+ years. Other than internal District transfers, other water transfers must be processed through the Department of Ecology which provides notice of a proposed transfer before it is approved.

Merely disagreeing with the concept of water moving downstream is not a reason to deny a transfer. Ag land purchases and equipment purchases In Washington are routinely financed by institutions in other places. The source of the funds or the buyers home address is not a decision criterion when reviewing a water transfer. Water transfer decision makers are not permitted to arbitrary in their actions.

Preserving farmland and ag water in hopes that the resulting “local” farm economy will remain unchanged is illusory, because doing so does not mean that the land will be farmed in either the short term or the long term if it cannot be done at a profit.

Scott Revell
District Manager
Roza Irrigation District
srevell@roza.org
(509) 840-2721 cell

Bruce Wakefield

The two comments below refer to Item 7 on page 20 of the Water Trust, Banking, and Transfers Findings and Recommendations document which states: "In policy, clarify that any water right used for long-term or permanent mitigation must first undergo a tentative determination of extent and validity."

1. In addition to mitigation, this should also include streamflow enhancement for extent and validity determination. Mitigation indicates water can be used to offset consumptive out-of-stream uses, while streamflow enhancement indicates in-stream use only. The two are a bit different and the policy as written could be interpreted to mean that water meant for streamflow enhancement may not require extent and validity. Including streamflow enhancement helps clarify that extent and validity applies to both of these water-related environmental benefits in the long-term and permanent cases.

2. The phrase 'long-term' needs a precise or specific time period definition so that Ecology has a clear direction of when to apply an extent and validity determination in the non-permanent case.

Western Water Market

Please see attached document.



November 15, 2020

Mary Verner, Program Manager
Water Resources Program
Washington State Department of Ecology
PO Box 47600
Olympia, WA 98504-7600

Dear Ms. Verner,

Thank you for the opportunity to review and comment on the document titled, *Water Trust, Banking, and Transfers in Washington State: Findings and Recommendations Informed by Ecology's Advisory Group on Water Trust, Banking, and Transfers* (October 2020).

Based on my professional experience as a project manager for Washington Water Trust and now as a neutral water market operator, I largely support the findings and recommendations set forth in this document. Further, as an active participant in the Advisory Group on Water Trust, Banking, and Transfers, I feel confident this document reflects the deep concerns and expert opinions shared and discussed during the six public advisory group meetings.

I'm encouraged by the Legislature's and Ecology's swift and thoughtful response to these sensitive and complex matters. And I especially want to commend Carrie Sessions and Dave Christensen for their outstanding work in facilitating the advisory group meetings and for producing such a thorough document. I'm hopeful we will do better for our water resources and communities because of your collective leadership.

Sincerely,

A handwritten signature in black ink, appearing to read "Kristina Ribellia", written in a cursive style.

Kristina Ribellia
Founder & Director of Operations
Western Water Market

Yakama Nation



November 12, 2020

Sent via Email

Carrie Sessions
Dave Christensen
Washington Department of Ecology
Water Resources Program
Olympia WA

**Re: Comments on Water Trust, Banking, and Transfers in Washington State-
Findings and Recommendations - Pub. 20-11-091**

Dear: Ms. Sessions and Mr. Christensen:

This letter provides some preliminary comments from the Yakama Nation staff to the Department of Ecology's Water Trust, Banking, and Transfers in Washington State- Findings and Recommendations - Pub. 20-11-091. In its Report the Department of Ecology makes a number of findings and suggests some proposed changes to state statutes and Ecology regulations. The Nation has provided comments to some of these in the past and incorporates those comments into this letter as relevant. Since draft bills or rules have not been provided by the Department of Ecology the Nation reserves the right to comment further when draft bills or rules are provided.

1. Application of proposed changes to the Yakima Basins. (page 7, 13).

The Department of Ecology's Report needs to clarify how any proposed changes to law or regulation affects or might affect basins with multiple WRIAs. We especially ask for clarification concerning the Yakima Basin. The Nation opposes having any new proposed changes to transfer procedure apply to the Yakima Basin. WRIAs 37, 38 and 39 are located in the Yakima Basin. Surface water rights in these WRIAs have been regulated together following Ecology v. Acquavella. The Yakima Basin should be exempt from any new changes in law here.

The definitions in the Report also need to be clarified. The definition of the term "downstream out-of-basin water right transfers" in the glossary should be amended to clarify that it does not include downstream transfers within the Yakima Basin. It should also clarify what the intent is to apply to any other basins that may have multiple WRIAs. The definition states that a "downstream, out-of-basin water rights transfer" includes any transfer that moves water "out of the WRIA-of-origin". See page 7. However, this would arguably act to include transfers within the Yakima Basin.

2. Transfers Upstream (pages 13, 17,35).

The Department of Ecology is proposing changes to state law concerning transfers of water rights when the point of diversion is changed for “downstream, out-of-basin water rights transfer”. See page 7. The Nation is not in favor of changes in state law on this matter to protect upstream transfers. The Nation disagrees with Ecology’s proposal that it be allowed to transfer water upstream after first transferring water rights downstream. Ecology’s proposed changes on upstream transfers may act to reduce protection from impairment. The Yakama Nation also does not agree with the finding concerning upstream transfers. Report 13.

3. Rewrite Trust Water Statutes (page 18).

The Yakama Nation does not oppose in concept possible changes to RCW Chap. 90.42. However, we would have to see the proposed changes in a bill before we can comment further.

Currently there is a lack of consistent definitions in statute for terms such as “temporary donation” and “transfer into trust”. It is not clear under this proposal what Ecology’s role is or would be in managing the water right. Flexibility of the program is an asset. A state-based water right used for mitigation should first undergo a tentative determination of extent and validity. The Nation agrees that amendments to the current statutes may assist in providing clarity here but the Nation reserves further comments until it sees a draft bill.

4. Recovery of Administrative Costs of Developing Water Banks. (pages 18-19).

The Nation does not oppose the proposal that those who can afford to pay for the cost of developing water banks should pay the administrative costs. However, we think that there should be an exception for those who cannot afford to pay the full cost of developing a water bank. There needs to be some exception so that the development of a water bank is not limited to those with funds to fully pay for a bank.

5. Use of Conservation on Water Rights (page 19)

Ecology proposes to apply RCW 64.04.130 to water rights. While the Nation does not believe this is necessary, the Yakama Nation has no further comments until it sees any proposed regulations or guidance.

6. Concepts for future legislative evaluation. (pages 22-24).

Ecology outlines a number of possible legislative changes “that Ecology is not recommending, but ... believe merit further consideration and evaluation by the Legislature.” Id. 22. The Yakama Nation will comment on the proposed change in law concerning alignment of disclosure laws for water rights with if legislation is proposed. The Nation opposes adding a public interests test to RCW 90.03.380 as proposed since that term is not defined here. The Nation also opposes adding a right of first refusal provision for transfers of water outside of the basin of origin.

The Yakama Nation reserves the right to comment on other proposals. The Nation reserves the right to make all arguments and to pursue all remedies available to it concerning these matters. Nothing herein is intended to waive, limit, define or diminish the Treaty rights of the Yakama Nation.

Sincerely,



Philip Rigdon, Superintendent

YAKAMA NATION DEPARTMENT OF NATURAL RESOURCES

Wise Use Movement



Naturam Expellas Furca

Tamen Usque Recurret

WISE USE MOVEMENT

P.O. Box 17804, Seattle, WA 98127

November 14, 2020

TO: Washington Department of Ecology
Water Resources Program
P.O. Box 47600
Olympia, WA 98504-7600

The following are comments on the Washington Department of Ecology's (Ecology) Water Resources Program's Water Trust, Banking, and Transfers in Washington State Findings and Recommendations (WTBT report) (Publication 20-11-091). In general, the Wise Use Movement is extremely disappointed that after over a century of bungled and environmentally destructive water policy in the State of Washington, the Department of Ecology has essentially washed its hands (and those of the public¹) and missed an opportunity at taking the lead in reform of Washington's antiquated water rights laws.

- It is disappointing that Ecology refuses to respond to public comments on the WTBT report.
- It is disappointing that while Ecology has proposed a limited number of measures for administrative changes using existing authority (items 5-10, which we support), Ecology is unwilling to bring even a single legislative change to the State Legislature for consideration during the 2021 session.
- It is disappointing that the WTBT report fails to include even a single mention of salmon or fish. The fact that many Washington rivers and streams do not meet Total Maximum Daily Loads (TMDLs), including those for temperature, or minimum stream flows, means that salmon and other fish species, including those listed under the Endangered Species Act will fail to recovery and rivers, streams, and riparian zones will continue to

¹ Waters of the state belong to the public and can't be owned by any one individual or group. Instead, a person or group may be granted a right to use a volume of water, for a defined purpose, in a specific place. <
<https://ecology.wa.gov/Water-Shorelines/Water-supply/Water-rights>>

be impaired. The WTBT report should include a list of Washington rivers and streams that do not meet TMDLs that do not meet minimum stream flow requirements, and that contain listed ESA fish species.

- It is disappointing the Ecology has failed to provide an analysis of how the WRIA program has helped or hindered efforts at water conservation, water efficiency, or water banking.
- It is disappointing that the WTBT report fails to note that current water use in the Yakima River Basin by irrigators is so wasteful that the “junior” water right holders agreed that they could get by economically during drought years with a pro-rated supply of 70 percent. Under the current Yakima Plan, senior water right holders continue to receive 100 percent of their allotment without any incentive or requirement to carry out water conservation, water efficiency, or water banking options. If junior water right holders can get by with 70% of their supply in drought years, why can’t senior water right holders?
- It is disappointing that only in the WTBT report water banking section (p. 12) is it explicitly admitted that “Water banks are a tool to facilitate the voluntary exchange of water rights from one use to another in areas of limited supply.” The WTBT report should make clear that all water conservation, water efficiency, and water banking programs in the State of Washington are voluntary.
- It is disappointing that the WTBT report fails to review the waste of taxpayer funds by Ecology’s Office of Columbia River in search of new irrigation dam sites and its failure to ensure that the water conservation goals set out by Congress in 1994, P.L. 103-424 (Phase II) over a quarter century ago are met.

The 1994 authorized targets are found in Sec. 1201(4):

(4) to realize sufficient water savings from the Yakima River Basin Water Conservation Program so that not less than **40,000 acre-feet** of water savings per year are achieved by the end of the fourth year of the Basin Conservation Program, and not less than **110,000 acre-feet** of water savings per year are achieved by the end of the eighth year of the program, to protect and enhance fish and wildlife resources; and not less than **55,000 acre feet** of water savings per year are achieved by the end of the eighth year of the program for availability for irrigation;

According to a Bureau of Reclamation letter of September 4, 2015, under the 1994 authorized Basin Conservation Plan, they achieved **only** 40,000 acre feet of water savings for instream flows and 13,000 acre feet for irrigation. In addition, two districts have not installed water measuring devices (the Bureau did not say which ones).

See: http://ucrsierraclub.org/pdf/Yakima_BuRec_accomplishments_YRBWEP_letter_9-4-2015.pdf

As of 2019, only 67,000 acre-feet out of 165,000 acre-feet of the Phase II water conservation goals has been met.

In summary, Yakima River Basin irrigators have continued to benefit from state and Federal funding for studies for new irrigation dams, while STILL not achieving the water conservation targets set by Congress over a quarter century ago and with no requirement that water conservation, water efficiency, or water banking be carried out.

- It is disappointing that in the WTBT report (p. 13) Ecology makes a finding that “out-of-basin transfers of water rights can be a valuable tool for providing water for new uses while also boosting instream flows (in those cases where the water stays instream before being withdrawn downstream).” Ecology has supported a Yakima Plan calling for a Columbia River Pump Exchange study that would bring Columbia River water into the Yakima River basin to supplement existing water supplies. (Yakima Plan, FPEIS, Sec. 2.5.1, March 2012, pp. 2-41/42). <https://www.usbr.gov/pn/programs/yrbwep/reports/FPEIS/fpeis.pdf> Ecology should explain what consultation it has had with the State of Oregon concerning this proposal. In addition, Ecology should disclose any studies on interference with migratory fishery species from out-of-basin transfers.
- It is disappointing that the WTBT report fails to mention² that under the U.S. Bureau of Reclamation’s WaterSMART grant awarded in 2017, Kittitas Reclamation District and partners, Trout Unlimited and Mammoth Trading, continue their analysis of water banking and market based reallocation of water within Kittitas County, or fails to provide any update on this grant. Continued “analysis” is not sufficient, nor does it represent a commitment to an aggressive water conservation, water efficiency, and water banking program.
- It is disappointing that the WTBT report fails to quantify the amount of funds that Ecology has spent on water conservation, water efficiency, or water banking. In contrast, in 2013, the Washington Legislature requested that before Washington state taxpayer money is spent on Yakima Basin projects, a benefit/cost analysis should be prepared. That analysis was prepared by the Washington State Water Research Center:
Net benefits for out-of-stream use of individual water storage projects implemented with no other projects implemented are negative, with some exceptions under the most adverse climate and water market conditions. Based on moderate climate and market outcomes, storage infrastructure projects implemented alone and without proposed IP instream flow augmentation result in the following estimated out-of-stream net present value and B/C ratios, none of which passes a B-C test:
 - o Bumping Lake Expansion: NB=-\$371 million; B/C ratio of 0.18.
 - o Cle Elum Pool raise: NB= -\$6 million; B/C ratio of 0.62. Under the most adverse climate scenario and moderate market conditions, NB=\$5 million with a B/C ratio is 1.35. It is also the most likely of the storage projects to satisfy a B-C test under moderate climate based on the sum of out-of-stream and instream use value.

² Other than a brief mention in fn. 17, page 33 that there are several water banks in Kittitas County.

- o Keechelus to Kachess Conveyance: NB= -\$110 million; B/C ratio of 0.20.
 - o Kachess Drought Relief Pumping Plant: NB= -\$107 million; B/C ratio of 0.46. Under the most adverse climate considered, Keechelus to Kachess Conveyance and Kachess Drought Relief Pumping Plant together provide net benefits of \$6 million and a B/C ratio of 1.02.
 - o Passive Aquifer Storage and Recovery: NB=-\$82 million; B/C ratio of 0.35.
 - o Wymer Dam and Reservoir: NB= -\$1,217 million; B/C ratio of 0.09.
 - o Due to diminishing economic returns to water in the basin, increasing the number of IP storage projects reduces the value of each water storage project implemented
- https://wrc.wsu.edu/documents/2014/12/ybip_bca_execsumm_swwrc_2014.pdf/

The Office of Columbia River has also been spending money on studying new irrigation storage dams in the Yakima Basin not included in the current Yakima Plan. The Workgroup's April 2020 Project Activities Update listed two proposed storage projects:

- Upper Yakima System Storage
- N. F. Cowiche Creek Reservoir

Neither of these two proposed storage projects appears in the March 2012 Yakima Plan FPEIS.

The WTBT report should explain why the State of Washington should spend billions of dollars on new water storage dams in the Yakima River Basin under the Yakima Plan that do not have a positive benefit/cost ratio, while water conservation, water efficiency, and water banking remain voluntary.

- Finally, the Washington Legislature should review: The *Columbia River Basin Long-Term Water Supply and Demand Forecast 2016 Legislative Report* which forecasted a DECREASE in out-of-stream demand by 2035:³
 - “...agricultural water demand—which accounts for approximately 79.4% of total out-of-stream demand (agricultural plus municipal)—is forecast to **decrease** by approximately 4.96% (±0.81%) by 2035, across the entire Columbia River Basin. This decrease is somewhat greater within Washington, where it is forecast to reach 6.87% (±0.98%) (Table ES-2).” (emphasis added) *Ex. Summary, page x.*
 - See: <https://fortress.wa.gov/ecy/publications/documents/1612001.pdf>

And in spite of a state-wide drought in 2015, The *Evaluation with Recommendations by the Washington State Academy of Sciences of Interim Report: 2015 Drought and Agriculture*, Washington State Department of Agriculture, December 2016 found that net farm income

³ Submitted to Washington State Department of Ecology pursuant to RCW 90.90.040 by: WSU, State of Washington Water Research Center, Center for Sustaining Agriculture and Natural Resources, Biological Systems Engineering, Civil and Environmental Engineering, School of Economic Science, PO Box 643002, Pullman, WA 99164-3002

for Washington in 2015 was higher than in any of the previous four years by a significant amount.:

“The economic effects of the 2015 drought described in this interim report are based on gross rather than net revenue lost. This can account for an incongruity between the estimated gross revenue lost stated in this report and the fact that **net farm income for Washington in 2015 was higher than in any of the previous four years by a significant amount.**” (emphasis added), page 2.

See: <https://agr.wa.gov/FP/Pubs/docs/495-2015DroughtReport.pdf>

SUMMARY

The Washington Legislature cannot rely on the Department of Ecology to self-report problems with water conservation, water efficiency, and water banking in the State of Washington. Even with an “Advisory Group on Water Trust, Banking, and Transfers,” Ecology has chosen to let the status quo continue to run, and to let its Office of Columbia River run amuck. The State Audit Office has finalized a performance audit on the Office of Columbia River’s failed Walla Walla Watershed Management Partnership Pilot.

https://www.sao.wa.gov/wp-__Walla_Walla_Watershed_Partnership-1.pdf

The Washington Legislature should require a performance audit of the entire Office of Columbia River as outlined in the attached 2016 Power Consulting Report: “Department of Ecology Office of Columbia River: The Last Ten Years.”

http://ucrsierraclub.org/pdf/OCR-Power-Report__12-3-2016%20.pdf

Please add these comments and the attached report to the Ecology’s recommendations to the Legislature. Thank you.

Sincerely,

John de Yonge

John de Yonge
President

Department of Ecology Office of Columbia River: The Last Ten Years

by

Power Consulting Incorporated

**Thomas Michael Power
Donovan S. Power**

December 3, 2016

**Prepared for
The Sierra Club**

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Department of Ecology Office of Columbia River: The Last Ten Years

Executive Summary

In 2006, the Washington Legislature tasked the Washington Department of Ecology (Ecology) to **“aggressively seek out new water supplies”** for both instream and out-of-stream uses (emphasis added). *RCW 90.90.005(2)*. The same legislation set up the Columbia River Basin Development Account and authorized \$200 million to fund it, much of which has been spent or committed according to OCR's 2015 Water Supply Inventory Report to the Legislature. Ecology created the Office of Columbia River (OCR) to use these funds to develop new water supplies using storage, conservation, and voluntary regional water management agreements.

In the required January 2016 report to the Washington State Legislature, the OCR reported that it had funded projects that have cumulatively developed about 396,000 acre-feet of water, with an additional 320,000 acre-feet or more in near-term development i.e. in the 2015-2019 period.

Our analysis of OCR provides a critical overview of OCR's expenditures since its creation. In light of our findings, summarized in the following conclusions and supported by the analysis contained in this report, we recommend that the Washington State Legislature not provide additional funding to OCR until a performance audit on OCR is prepared for the Legislature:

- a. A significant amount of the approximately 400,000 acre-feet of water that the Office of Columbia River (OCR) reports as having been “developed” during the first decade of OCR's operations is not from “new” water supply production.
- b. The approximately 400,000 acre-feet of water that the Office of Columbia River (OCR) reports as having been “developed” during the first decade of OCR's operations is, for the most part, not water that currently has been put to productive use.
- c. There are hundreds of millions of additional taxpayer investment dollars that would be required over the next decade or more before all of that OCR “developed” water can actually be put to productive use.
- d. Listing water as “developed” when financing has not been arranged to put that water to use exaggerates OCR's accomplishments and understates the costly taxpayer investments that will be required to put that water to use.

- e. **The OCR and BOR funded Yakima Plan is based on speculative fish production benefits to justify funding large and expensive surface water storage facilities.**
- f. **Doing an aggregate benefit-cost analysis on the Yakima Plan, as the OCR and BOR chose to do, hides projects that generate major net costs among those that generate net benefits.**
- g. **To economically justify large Yakima Basin surface storage projects, the enhanced instream flows facilitated by those surface water storage projects would have to be implausibly effective at increasing salmon production and/or the incremental salmon production would have to be assigned indefensibly high economic values.**
- h. **In addition, within the Yakima Basin, it would be far less costly to provide the planned enhanced in-stream flows through the buying of water rights that divert water flows to out-of-stream uses, leaving the water in the rivers rather than building new or expanded large surface water storage facilities.**
- i. **The proposed surface water storage projects OCR envisions being carried out in the Yakima Basin over the next three decades would be very expensive to Washington State and its citizens, costing Washington taxpayers as much as \$2 billion.**
- j. **The proposals to actively manipulate the level of many lakes in the Alpine Lakes Wilderness through the construction of new dams, modification of other dams, and installation of mechanical and motorized equipment within a well-known and spectacular National Wilderness Area need critical economic scrutiny.**
- k. **OCR's 2105 Columbia Basin Water Supply Inventory Report begins with an explicit criticism of the efficacy of water conservation efforts and an argument in support of giving priority to investments in surface water storage, the most expensive elements of the OCR's plans. OCR's critique of the efficacy of water conservation compared to building surface water storage facilities is misleading in several ways.**
 - i. **OCR's critique equates water conservation with improvements in the efficiency with which water is applied to crops. There are many other important types of water conservation besides improving the efficiency of irrigating crops.**
 - ii. **Even in the context of efficiency in the amount of water applied to crops, that improved efficiency can moderate the impact of irrigation on in-stream flows at the points of diversion. It can also reduce the loss of water to evaporation, evapotranspiration, and deep water aquifers.**
 - iii. **Low in-stream flows due to irrigation withdrawals often lead to efforts to enhance the in-stream flows by building more surface storage to be used to maintain in-stream flows. For instance, about half of the planned surface water stored by the proposed Wymer Dam and Reservoir would be used to enhance in-stream flows rather than delivering water to out-of-stream uses like irrigation.**

-
- iv. OCR's own analysis of a broad range of water conservation projects demonstrates that water conservation can provide water for out-of-stream uses in a cost-effective manner.
 - I. **Over the past 10 years, the OCR has wasted millions of dollars on new dam studies for projects that have been demonstrated to be uneconomical with substantial adverse environmental impacts.**

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I. The Water Supply “Developed” by the Office of Columbia River 2006-2016

A. The 2015 Inventory of Accomplishments of the Office of Columbia River

In 2006, the Washington Legislature tasked the Washington Department of Ecology (Ecology) to “aggressively seek out new water supplies”¹ for both instream and out-of-stream uses (emphasis added). The same legislation set up the Columbia River Basin Development Account and authorized \$200 million to fund it, much of which has been spent or committed according to OCR’s 2015 Water Supply Inventory Report to the Legislature.² Ecology created the Office of Columbia River (OCR) to use these funds to develop new water supplies using storage, conservation, and voluntary regional water management agreements.³

OCR, in turn created a Columbia River Basin Water Management Program - Policy Advisory Group (PAG), which meets four times a year. The PAG is made up of 27 federal and state agencies, including the Bureau of Reclamation (BOR), tribal members, irrigation districts, cities and counties, and three “environmental” members, of which one seat is listed as open, and one member, the Washington Environmental Council, has a seat at the table, but according to meeting minutes, has not attended meetings in several years.⁴

In early 2016 the Washington Office of Columbia River (OCR) submitted the “2015 Columbia River Basin Water Supply Inventory Report” to the Washington Legislature.⁵ That Report listed 38 projects categorized as “developed”, “near-term development (2015-2019)”, and “long-term development (2019+)”. The 17 projects labeled “developed” between 2006 and 2015 were said to provide a total water supply of 395,700 acre-feet. A similar inventory in 2016 listed two additional projects as “developed” so that the total of “developed” water 2006-2016 was listed as 410,376 acre-feet.⁶ Those totals of “developed” water included water for both out-of-stream uses (e.g. irrigation) and in-stream uses (e.g. river and fish habitat).

These OCR inventories of “developed” water supply projects included the “Lake Roosevelt Incremental Storage Releases” and the “Odessa Subarea Groundwater Replacement” projects. Each of these projects was very large compared to the other listed OCR developed projects. The Lake Roosevelt Incremental Storage Release was listed as providing 132,500 acre-feet and the Odessa Subarea Groundwater Replacement was listed as providing 164,000 acre-feet. Just those two projects together represented 296,500 acre-feet, *about three-quarters of the total water supply* reported by OCR as developed between 2006 and 2016.

With federal funds appropriated to stimulate the economy during the Great Depression, groundbreaking for a low Grand Coulee Dam on the Columbia River was held on July 16, 1933. Legal challenges to the construction of the dam without specific authorization from Congress led to formal congressional authorization of the Grand Coulee Dam in 1935. What was authorized was a multi-purpose dam that not only would generate electricity but would also, among other things, store water for delivery to irrigate (“reclaim”) public lands. That required a much larger

¹ RCW 90.90.005(2).

² Ecology Publication Number 15-12-006, January 6, 2016, p. 13. Required under RCW 90.90.040.

³ http://www.ecy.wa.gov/programs/wr/cwp/cr_overview.html

⁴ http://www.ecy.wa.gov/programs/wr/cwp/cr_pag.html

⁵ <https://fortress.wa.gov/ecy/publications/SummaryPages/1512006.html>

⁶ <http://www.ecy.wa.gov/programs/wr/cwp/images/pdf/waterdev.pdf>

and higher dam that created Lake Roosevelt as a large storage reservoir. The dam was completed by the end of 1941 and the larger project of which the Grand Coulee Dam was to be a central part, the Columbia Basin Project, was approved by Congress in 1943.⁷ In addition to the construction of the dam, the larger project required a series of large pumps that could move water out of Lake Roosevelt up into Banks Lake and a system of canals, pipelines, siphons, and pumps to distribute that water throughout the Columbia River Basin, primarily to benefit and promote small farming operations. The full BOR Columbia Basin Project has never been completed due to costs of doing so.⁸

Both the Lake Roosevelt Incremental Storage Releases and the Odessa Subarea Groundwater Replacement Projects seek to extend the delivery of water from Lake Roosevelt to some areas not previously reached by the Columbia Basin Project.

For this additional Lake Roosevelt water to reach all of the planned locations in the Odessa Subarea, canals, siphons, pumps, and pipelines will have to be upgraded or newly built at considerable cost. This is especially true of the Odessa Subarea Groundwater Replacement Project that would deliver 164,000 acre-feet of surface water to irrigate 70,000 acres currently served by deep groundwater pumps. The Washington OCR and U.S. Bureau of Reclamation (BOR) estimated that the Odessa Subarea project would cost \$828 million or about \$11,800 per acre served to actually deliver this surface water to those acres were the groundwater would be replaced.⁹

Table 1 summarizes these OCR/BOR projects aimed at bringing Lake Roosevelt surface water to the Odessa Subarea.

B. OCR's Meaning of "Developed Water"

The inclusion of a project in the OCR list of developed projects does **not** mean that the project is actively delivering all or any of the listed water to irrigators and municipalities, which are actually using that listed water supply. "Water development," to OCR, simply means that a certain amount of water at a particular geographic location is physically and legally available for transportation and deployment, **if** someone is able to fund the necessary infrastructure to get the water to potential users and fund the necessary equipment so that that water can be put to use.¹⁰

"OCR's development of water supply" means that OCR through the Department of Ecology has provided the "permitting, environmental review, funding, or other partnership" to which Ecology had committed. "For instance, once OCR has issued a new water right under one of [its] permitting programs, the impetus for continuing the project then falls on the permittee to provide

⁷ For Columbia Basin Project history see "The Columbia Basin Project," Wm. Joe Simonds, Bureau of Reclamation, 1998, <http://www.usbr.gov/pn/grandcoulee/pubs/cbhistory.pdf>. For a history of Grand Coulee see *Grand Coulee: Harnessing a Dream*, Paul C. Pitzer, Washington State University Press, 1994.

⁸ <http://www.usbr.gov/pn/grandcoulee/pubs/cbhistory.pdf>

⁹ Odessa Subarea Special Study, Columbia Basin Project, Washington, Final Environmental Impact Statement, prepared by Office of Columbia River, Washington Department of Ecology and the U.S. Bureau of Reclamation, August 2012, Table 2-11, p. 133.

¹⁰ "...after water has been developed, OCR has encountered delays in users' ability to deliver the water for its intended purpose. This encompasses many factors, including financial delays, infrastructure and construction delays, permitting by other agencies, or other user induced delays." p. 3 of "2015 Columbia River Basin Water Supply Inventory Report," submitted to the Washington State Legislature, Ecology Publication Number 15-12-006.

the necessary infrastructure to deliver water for their intended use...Delays may occur at this stage outside of OCR's control." ¹¹ Given that OCR typically funds only a limited part of the required water delivery infrastructure, a "developed" project may not actually put the water to use for a considerable period of time because of the lack of funding.

Table 1.

Bureau of Reclamation and Office of Columbia River Projects to Deliver Irrigation Water to the Odessa Subarea				
Project	Approval Date	Planned Water Delivery (acre-feet)	Actual Water Delivery (acre-feet)	Comment
Columbia Basin Project	1943	6,500,000	3,500,000	For all of the Columbia Basin. Odessa Subarea was originally included but not served.
Lake Roosevelt Incremental Storage Releases Project	2009	30,000 to Odessa Subarea	Delivery systems not in place	132,000 ac.ft. total during drought years. 30,000 ac.ft. to go to Odessa Subarea.
Odessa Subarea Groundwater Replacement Project	2012	164,000	Infrastructure unfinished; delivery systems not in place.	Upgrade in infrastructure proceeding as funding is available.

Sources: "Water to the Promised Land," Tim Steury, *Washington State Magazine* Fall 2013.

Final Supplemental EIS for the Lake Roosevelt Incremental Storage Release Project, Office of Columbia River,

August 2008; Bureau of Reclamation Environmental Analysis and Finding of No Significant Impact, June 2009;

Joint OCR-BOR FEIS Odessa Subarea Special Study, August 2012.

OCR lists the Odessa Subarea Groundwater Replacement project as one of the projects for which it has "developed" 164,000 acre-feet of irrigation water in the Odessa Subarea, where that newly developed water will replace existing but failing groundwater-based irrigation. The Bureau of Reclamation's Columbia Basin Project (CBP) was authorized over 70 years ago, in 1943.¹² According to the BOR, the delivery of Grand Coulee surface water to the Odessa Subarea is part of that original authorized project.¹³ But the infrastructure to reach that area with water from Lake Roosevelt behind Grand Coulee Dam was long delayed, and farms in the

¹¹ Ibid.

¹² "The Columbia Basin Project," Wm. Joe Simonds, Bureau of Reclamation History Program, 1998.

<http://www.usbr.gov/pn/grandcoulee/pubs/cbhistory.pdf>, p. 12.

¹³ Lake Roosevelt Incremental Storage Release Project, Bureau of Reclamation Finding of No Significant Impact and Final Environmental Assessment, June 2009, p. 5.

Odessa Subarea were given “temporary” permits to pump groundwater to irrigate their lands while they waited for more of the “developed water” in Lake Roosevelt to be delivered to the Odessa Subarea.¹⁴

Over past decades, the pumps to move water from Lake Roosevelt up to Banks Lake so that it could then flow, largely by gravity, to farms in the Columbia Basin, including some of the farms in the general Odessa area, were built and a system of canals was constructed that delivered water to irrigate about 670,000 acres of farmland in the Columbia River Basin. This represents about 65 percent of the total of just over a million acres authorized to receive CBP water.¹⁵ The actual water delivery to the Columbia Basin was only about half of the 6,500,000 acre-feet for which the CBP was designed and authorized.

Because of the cost of the required infrastructure and reluctance of some farms to embrace Bureau of Reclamation deliveries of water, the “developed” water associated with Grand Coulee Dam, its pumping system into Banks Lake, and the canal system moving the water into the Columbia Basin never reached parts of the Odessa Subarea. As a result, the “temporary” groundwater pumping for irrigation there continues to the present time, seriously depleting that groundwater aquifer.

Clearly authorizing and “developing” water does not automatically allow additional water to be used. The cost of delivering the water for actual use also has to be funded in one way or another. Those funding delays, as shown in the Odessa Subarea, can last many, many, decades despite the “availability” of the water in Lake Roosevelt.

For instance, the Lake Roosevelt Incremental Storage Releases Project approved in 2009 could not move water to the part of the Odessa Subarea most in need of groundwater replacement because:¹⁶

After securing a new source of water from the Lake Roosevelt Storage Releases Project, OCR faced a new challenge: There was no way to deliver it to the southern part of the Columbia Basin. Interstate 90 was the problem. There was only one point, the Weber Siphon Complex, where water from the Columbia Basin Project passed under I-90, and it wasn't large enough to handle the additional flow. A second siphon would be required...OCR contributed \$800,000 for the design and worked with Reclamation and Washington's congressional delegation to get stimulus funding for construction.

¹⁴ It should be pointed out that over-pumping groundwater so that other groundwater users' wells were depleted was not “authorized.” Washington law (WAC 173-130A) forbids such damaging over-pumping of ground water but was never enforced. In addition, many irrigators in the Odessa area lie outside of the Columbia River Basin and never were “promised” Columbia surface water. OCR's current efforts will not provide surface water to these irrigators either.

¹⁵ Record of Decision for the Odessa Subarea Special Study Final Environmental Impact Statement, Columbia Basin Project, Washington, Bureau of Reclamation, April 2, 2013, p. 3.

¹⁶ “The area south of I-90 has experienced the greatest declines in ground water levels and there is a high demand for replacement water supplies.” Final Supplemental Environmental Impact Statement for the Lake Roosevelt Incremental Storage Releases Program, August 29, 2008, Ecology Publication #08-11-034, p. 2-18. “Weber Siphon Project,” Washington Department of Ecology.
<http://www.ecy.wa.gov/programs/wr/cwp/weber.html>

If it had not been for the “Great Recession” and the federal stimulus spending on “shovel-ready” construction projects, this federal money to help move this “developed” water south of I-90 might not have been made available.

The 2012 Record of Decision prepared by the Bureau of Reclamation for the Odessa Subarea groundwater replacement project made clear that in implementing the decision to support the project the Bureau of Reclamation or federal government generally were not expecting to finance the project:¹⁷

The State [of Washington] and the irrigators anticipate moving forward with non-Federal funding for the [Odessa Subarea groundwater replacement] project. The expected scenario would consist of the State funding construction of conveyance infrastructure (such as widening canals, siphons, and appurtenant structures) and irrigators funding distribution systems from the canal to the farm through local improvement districts, loans, or other funding mechanisms...Currently, no Federal funding is committed or expected for implementing this [Odessa Subarea Groundwater Replacement] project. It is possible that no Federal funding will be needed or available for full implementation of all phases of [the Preferred] Alternative 4A.

Thus, if this project is to move beyond OCR’s theoretical “development” level to actual delivery and the use of that Columbia River surface water to replace ground water in the Odessa Subarea, the estimated \$828 million cost of the Odessa groundwater replacement project will have to be obtained from Washington taxpayers and/or the Odessa Subarea irrigators who get the benefit of a surface water supply replacing their deteriorating groundwater supply. This irrigation water supply is not in any practical sense “developed” at this point in time.

As mentioned above, some investments in the infrastructure necessary to move replacement water from Lake Roosevelt to Odessa Subarea groundwater irrigators *have* already taken place, funded by the 2009 American Recovery and Reinvestment Act that sought to stimulate the economy during the Great Recession.¹⁸ In addition, OCR partially funded the upgrades of the Lind Coulee Siphon and some of the expansion in the capacity of the East Low Canal. But considerably more infrastructure has to be put in place to put the 164,000 acre-feet of water to use. The funding for that additional infrastructure at this point is unknown. As the Columbia Basin Development League’s Mike Schwisow was quoted as saying after part of the Lind Coulee Siphon Project was completed and additional Columbia River water was being delivered to the Odessa Subarea: “[T]hat does not mean the Odessa Groundwater Replacement Project is completed...Expansion of the East Low Canal is the key piece; we need to have the back bone of the facility in place in order to make deliveries to all seven anticipated distribution

¹⁷ Record of Decision for the Odessa Subarea Special Study FEIS, April 2, 2013, p. 24.

¹⁸ The upgrades of the Weber Siphon complex that removed a bottleneck in moving Columbia River water south of I-90 was funded by the American Recovery and Reinvestment Act, as was the Potholes Reservoir Supplemental Feed Route Project that reduced congestion on the East Low Canal. OCR provided funding for the Lind Siphon and part of the funding for the expansion of the capacity of the East Low Canal. Absent another near catastrophic national economic crisis, such additional federal funding for this project seems unlikely since the project is not likely to be able to pass the benefit-cost tests required of Bureau of Reclamation projects. See “Review of Odessa Subarea Special Study” and memo to Washington State Legislators from Norman Whittlesey and Walter Butcher, March 5, 2013, re: Irrigation Development in Washington State. http://www.celp.org/archive/pdf/Odessa_Economics_Whittlesey-Butcher_Report_3-2013.pdf and http://www.celp.org/archive/pdf/Odessa_Economics_Whittlesey-Butcher_Letter_3-5-2013.pdf.

systems....[We] still need to identify funding to move forward. Now [we] need to identify the funds so they can wrap up the work.”¹⁹

In addition, seven separate pumping platforms and pipeline system to move the water from the Low East Canal to the farmland now served by groundwater have to be designed, financed, and built. Some combination of the irrigation districts, the individual irrigators, and the state of Washington will be responsible for that part of the delivery system. The East Columbia Irrigation District is planning to sell municipal bonds to fund this and other parts of the water delivery system. Even with funding available for those distribution systems, it is expected to take ten years of phased development for the water to replace all of the targeted groundwater irrigation pumping. Clearly the 30,000 acre-feet Roosevelt Incremental Storage Releases to the Odessa Subarea and the Odessa Subarea Groundwater Replacement project are not actually “developed” at this point in time.

At the same time, Odessa area irrigators have not all been in agreement with BOR on how to deliver surface water to replace groundwater pumping. For example, in May 2015, Odessa Subarea Irrigators and the Columbia-Snake River Irrigators Association (CSRIA) filed a lawsuit against the BOR in the United States District Court for the Eastern District of Washington, stressing that BOR has arbitrarily delayed and blocked the approval of a new water service contract for the irrigators’ Privately Funded Project to bring surface water from the BOR’s East Low Canal.²⁰

In mid-July of 2016 OCR’s Tom Tebb noted the huge gap between the 90,000 acres in the Odessa subarea that are intended ultimately to be switched off of deep groundwater and what has actually been accomplished. He was quoted at the July 13, 2016, opening of the Lind Coulee Siphon as saying “Here we are in 2016, we have only about 2,000-3,000 acres [that] have been taken off deep wells and are actually on the Columbia River [surface] water system...[OCR] will work with... [irrigation districts]...to improve their current distribution, ensuring farmers are able to receive water when the time is right....”²¹. Table 2 below contrasts OCR’s claims about the water it has “developed” with what groundwater had actually been displaced in the Odessa Subarea in mid-July 2016.

It is important to realize that OCR’s “developed” new water supplies are not the same thing as having additional water available for use by farms, municipalities, and businesses. OCR’s inventory of its “developed” water supplies seriously exaggerates the amount of incremental water that has actually been put to use. In addition, by not discussing the yet-to-be-incurred costs, OCR is seriously understating the economic challenges in putting this “developed” water to productive use. Most of the costs of actually putting incremental water to productive uses are not associated with the planning, permitting, and organizing of incremental claims to additional water. The vast majority of the costs are associated with the storage, transporting, and then delivery of that “developed water” to where it can be used productively. It is those costs that have to be carefully and accurately analyzed. Then the responsibility for covering those costs has to be directly analyzed and compared to the distribution of the benefits so that the feasibility and equity of the project can be evaluated. Simply knowing that there is “developed water” available at a particular location tells us nothing about the economic rationality, feasibility, and

¹⁹ Washington AG Network, “Lind Coulee Siphons Completed On Time, Under Budget, posted by Glenn Vaagen, May 11, 2016. <http://washingtonagnetwork.com/2016/05/11/coulee-siphons-completed-time-budget/> .

²⁰ <http://www.prnewswire.com/news-releases/odessa-aquifer-irrigators-and-csria-file-lawsuit-against-us-bureau-of-reclamation-300075879.html> and <https://drive.google.com/file/d/0B-xN73ylnN7jUE9Fb3dFTE05d0E/view>

²¹ Washington Ag Network, Glenn Vaagen, July 15, 2016.

equity of investing in the storage, transportation, and delivery of that water to specific water users.

Table 2.

OCR Success in Replacing Odessa Subarea Groundwater with Columbia River Surface Water			
Project	OCR "Developed" Surface Water for Replacement of Odessa Subarea Ground Water (acre-feet)	Odessa Subarea Acres to Be Converted to Columbia River Surface Water (acres)	Odessa Subarea Acreage Actually Switched to Columbia River Surface Water July 13, 2016 (acres)
Lake Roosevelt Incremental Releases (for Odessa Subarea Ground Water Replacement)	30,000	10,000	
Odessa Subarea Groundwater Replacement Project	164,000	70,000	
Total Columbia River Surface Water Replacing Odessa Groundwater	194,000	80,000	2,000a-3,000a 2.5% to 3.8%
Source: WA Department of Ecology news release, July 13, 2016. OCR Tom Tebb quoted in the Washington Ag Network, Glenn Vaagenon, July 15, 2016.			

C. The Cost of OCR's Studies of New Dam Storage Projects

Two-thirds of OCR's \$200 million account in 2006 was designated to support development of new storage facilities.²² As set out in OCR's 2007 Columbia River Basin Water Supply Inventory Report:²³

Well before the 2006 Columbia River Bill was passed, Ecology and Federal partners were considering opportunities for storage in the Columbia River Basin. Based on Congressional direction provided in 2003, Ecology and the Bureau have been jointly considering a range of proposals to increase water availability in the Yakima River Basin, including the feasibility of the proposed Black Rock Reservoir with a capacity of 1.3 million acre-feet. In 2004, Ecology signed agreements with the Colville Confederated Tribes, the Bureau, and Columbia River Basin irrigation districts to study new incremental storage releases at Lake Roosevelt and the feasibility of Columbia River mainstem water storage. The 2006 Columbia River legislation authorized further work on evaluating the feasibility of storage in the Columbia River Basin. Two-thirds of the \$200 million authorized is intended to support the development of new storage facilities (RCW 90.90.010).

²² RCW 90.90.010(2)(b)

²³ <https://fortress.wa.gov/ecy/publications/documents/0711022.pdf>, p. 4-2

New Columbia River Basin Projects

Columbia River Basin

Because the Columbia River system already has 61 dams on the river or its tributaries,²⁴ Ecology and BOR turned to looking at off-channel dam sites to which to pump water from the Columbia. In December 2004, the State of Washington, the BOR and the Columbia Basin Project (CBP) irrigation districts (the South Columbia Basin Irrigation District, the East Columbia Basin Irrigation District, and the Quincy-Columbia Basin Irrigation District) entered into a Memorandum of Understanding (MOU). The MOU describes roles and expectations of those parties in the then-anticipated Columbia River Initiative. Under provisions of the MOU, Ecology and BOR cooperated on a study to evaluate the potential for development of new large, off-channel storage sites in the Columbia River Basin.

A 2005 pre-appraisal report assessed a preliminary list of 21 potential off-channel storage sites before passage of the Columbia River Program:

- | | | |
|--------------------|-------------------|-------------------------|
| 1. Big Sheep Creek | 8. Eagle Creek | 15. Alder Creek |
| 2. Ninemile Flat | 9. Mission Creek | 16. Rock Creek East |
| 3. Hawk Creek | 10. Moses Coulee | 17. Rattlesnake Creek |
| 4. Banker Canyon | 11. Douglas Creek | 18. Little White Salmon |
| 5. Goose Lake | 12. Sand Hollow | 19. Panther Creek |
| 6. Foster Creek | 13. Crab Creek | 20. Rock Creek West |
| 7. Twisp River | 14. Black Rock | 21. Kalama River |

The preliminary list of 21 sites was refined to 11 sites by evaluating size, dam safety issues, and compatibility with the Columbia Basin Project. In June 2007, The BOR and Ecology refined the list of 11 sites down to four sites. Sites that were structurally infeasible, had excessive leakage, or other conflicts were eliminated. Also, the Confederated Tribes of the Colville Reservation requested that two of the 11 potential reservoir sites located on their reservation not be further evaluated at this time.²⁵

The BOR and Ecology evaluated the four remaining sites, all to be filled by pumping Columbia River water, in a 2007 appraisal study in preparation for a more comprehensive feasibility study and Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA). Those sites include:

Hawk Creek - A site in northern Lincoln County tributary to Lake Roosevelt with potential active reservoir capacity of 1,000,000 - 3,000,000 acre-feet, approaching the 5.2 million acre-feet active capacity of Grand Coulee Dam,²⁶ with a capital cost of up to \$8.1 billion.

Foster Coulee - A site in northern Douglas County tributary to Lake Pateros with potential active reservoir capacity of 1,210,000 acre-feet. Foster Creek was eliminated from consideration because of significant geotechnical concerns in combination with a high downstream hazard condition.

²⁴http://columbia-institute.org/hawkcreek/dam/media_center/Entries/2006/10/2_New_dams_would_rival_Grand_Coulee.html

²⁵ Ibid., p. 3-10.

²⁶ http://www.usbr.gov/projects/Facility.jsp?fac_Name=Grand%20Coulee%20Dam

Sand Hollow - A site in western Grant County tributary to Lake Wanapum with potential active storage capacity of 1,000,000 acre-feet, with a capital cost of up to \$3.5 billion

Crab Creek - A site in western Grant County tributary to Priest Rapids Lake with potential active storage capacity of 1,000,000 - 3,000,000 acre-feet, with a capital cost of up to \$2.4 billion ²⁷

The BOR and Ecology's 2007 appraisal study failed to disclose that the section of Hawk Creek between the Lake Roosevelt area and the potential dam site contains threatened bull trout,²⁸ or that a Lower Crab Creek dam would flood tens of thousands of acres of wetlands, streams, lakes and shrub steppe habitat, much of which is owned and managed by the Columbia National Wildlife Refuge and Washington State Columbia Wildlife Area. In addition, the new dam would flood between 5,000 and 8,600 acres of existing irrigated farmland.²⁹

Prior to conducting a feasibility study on any of the above projects, the Bureau must receive a Congressional study authorization. In addition, expenditures from the Columbia River Basin Water Supply Development Account (Account) needed for the state share of the feasibility study and EIS requires Legislative authorization.³⁰

By the end of 2007, OCR reported to the State Legislature that it was considering five new large storage facilities:

- Columbia River Mainstem Off-Channel storage (Crab Creek, Hawk Creek, Sand Hollow)
 - Yakima River Water Basin water storage (Black Rock)
 - Similkameen River storage (Shanker's Bend)³¹
- and one "small" storage facility:
- Wymer Dam in the Yakima Basin.³²

As of December 2007, OCR had not awarded funding for construction of storage (or conservation) projects, although many projects were being evaluated at different levels of study (e.g. pre-appraisal, appraisal, feasibility).³³

The 2007 report also identified the following water storage projects:

- Little Klickitat Basin Surface Water Storage - Potential surface storage projects in Dry Creek and Idlewild Creek are described in section 4.3.3 of Appendix B Multipurpose Water Storage Screening Assessment Report of the WRIA 30 Watershed Plan. Dry Creek and Idlewild Creek are headwater tributaries of the Little Klickitat River. Dry Creek has an extensive drainage area and appears to convey considerable winter/spring flows from snowmelt, with little groundwater base flow to sustain flows past June. The initial estimate of winter/spring discharge is 3,900 acre feet.

²⁷ Ibid., p. 3-11. See also: http://www.csria.org/wp-content/uploads/2016/01/es-rp-590/CRMSO_Exec-Summary_reduced.pdf

²⁸ <http://columbia-institute.org/hawkcreek/dam/Fisheries.html>

²⁹ <http://www.waterplanet.ws/crabcreek/ccrhome/Home.html>

³⁰ <https://fortress.wa.gov/ecy/publications/documents/0711022.pdf>, p. 3-11.

³¹ "Similkameen Appraisal Study. The Okanogan Public Utility District (PUD) is studying the potential for a storage facility/dam at Shanker's Bend on the Similkameen River, a site that has been considered for construction of a dam since the 1940s. The proposed site is located a short distance upstream from the existing Enloe Dam. The largest facility option (Elev. 1289) would inundate Canadian lands as well as lands adjacent to Palmer Lake in Washington. In 2007, Ecology provided \$300,000 for the PUD to conduct an appraisal level review of the site, due in 2008. Ibid, p. 3-12.

³² <https://fortress.wa.gov/ecy/publications/documents/0711022.pdf>, p. 4-3.

³³ <https://fortress.wa.gov/ecy/publications/documents/0711022.pdf>, p. 3-2.

- Idlewild Creek, in its lower reach, is incised into a relatively deep, narrow bedrock valley that would be amenable to construction of an in-channel storage reservoir. The valley is east-west oriented, with a steep southern wall that may help shade and maintain lower water temperatures. The estimated winter/spring discharge from the creek is approximately 1,600 acre feet.
- Horse Heaven Hills Water Storage³⁴ - Concepts for large-scale (3,000 to 9,000 acre-foot) surface and ASR water storage projects with planning-level cost estimates are provided in the report/memorandum Preliminary Water Storage Assessment Glade-Fourmile Subbasin, WRIA 31, which was produced for the WRIA 31 Planning Unit. The projects would involve diverting water from the Columbia River with conveyance to ASR wells or surface impoundments located north of the River in areas currently supported by groundwater supply from the Wanapum Basalt Aquifers.³⁵

To date, none of the above “new water storage projects” have been constructed.

In addition, OCR has also issued temporary “term” water right permits in the Walla Walla River Basin; authorized withdrawals from Sullivan Lake in NE Washington,³⁶ and has funded studies and projects in the Methow River Basin.³⁷

Yakima River Basin

In December 2004, the BOR released its Appraisal Assessment of the Black Rock Alternative. This report summarized and added to numerous technical reports on the potential to build a new large storage facility called Black Rock Reservoir in eastern Yakima County. Black Rock could hold between 800,000 acre-feet to 1,300,000 acre-feet of water. This volume is greater than all five of the existing Yakima River Basin storage reservoirs combined. The proposed reservoir would be filled with water pumped from Priest Rapids Lake on the Columbia River when water is available in excess of current Columbia River flow targets. Participating Yakima basin irrigation districts would use water from the Black Rock Reservoir in exchange for water they currently divert from the Yakima River. The 2004 report estimated the cost of building Black Rock at approximately \$4 billion.

In the 2006 appraisal study, BOR considered three other Yakima River basin storage alternatives: a new Bumping Lake Dam and enlarged reservoir, Wymer dam and reservoir, and Keechelus-to-Kachess pipeline. In the 2006 appraisal, the BOR concluded that while the Bumping Lake enlargement and Keechelus-to-Kachess pipelines did not meet study objectives, the Wymer reservoir should be investigated further. In December 2006, the BOR published a Notice of Intent to prepare a combined planning report and EIS for the Yakima River Basin Water Storage Feasibility Study. At the same time, Ecology published a corresponding SEPA Determination of Significance (DS), requesting comments on the scope of the proposed EIS. The scope of the EIS and feasibility study includes the following state & federally funded projects:

- Black Rock Reservoir with a capacity of 800,000 to 1.3 million acre-feet
- Wymer Reservoir with a capacity of 174,000 acre-feet
- Wymer Plus Pump Exchange 9 with a capacity of 574,000 acre-feet³⁸

³⁴ <http://www.aspectconsulting.com/water-resources-projects/2014/7/9/horse-heaven-hills-water-storage-appraisal-assessment>

³⁵ <https://fortress.wa.gov/ecy/publications/documents/0711022.pdf> p. 4-4.

³⁶ http://www.ecy.wa.gov/programs/wr/cwp/cr_sullivan.html

³⁷ <https://fortress.wa.gov/ecy/publications/documents/1512006.pdf>

³⁸ <https://fortress.wa.gov/ecy/publications/documents/0711022.pdf> p. 3-14

Through June 30, 2007, Ecology spent approximately \$5.35 million in State cost share to study the feasibility of Yakima River Basin storage. Of that \$1.35 million came from the Columbia River Account.³⁹

The BOR released its Final Planning Report/EIS on December 29, 2008. It explained why a new Bumping Lake dam did not warrant further study because of environmental impacts on endangered species, flooding 1,900 acres of ancient forests ("old growth") adjacent to the William O. Douglas Wilderness, and because a larger-capacity reservoir would not fill on a regular basis and would not be a reliable source of water.^{40,41}

In addition, the BOR report calculated a benefit/cost ratio of 0.13 for a new Black Rock Reservoir; a benefit/cost ratio of 0.31 for a Wymer Dam and Reservoir; and a benefit/cost ratio of 0.07 of a Wymer Dam plus Yakima River Pump Exchange.⁴²

Subsequently, through the Yakima Workgroup, OCR and BOR reviewed and rejected 30 additional new Yakima Basin storage projects:

Bakeoven, Tieton River, South Fork
Casland, Teanaway River, North Fork
Cle Elum Lake Enlargement
Cooper Lake, Cooper River
Cowiche, Cowiche Creek, South Fork
Dog Lake, Clear Creek
East Selah, Yakima River
Forks, Teanaway River
Hole in the Wall, Dry Creek
Horseshoe Bend, Naches River
Hyas Lake, Cle Elum River
Little Rattler, Rattlesnake Creek
Lost Meadow, Little Naches River
Lower Canyon, Yakima River
Manastash, Manastash Creek

Mile Four, Rattlesnake Creek
Minnie Meadows, Tieton River, South Fork
Naneum, Naneum Creek
Pleasant Valley, American River
Rattlesnake, Naches River
Rimrock Lake Enlargement, Tieton River
Satus, Satus Creek
Simcoe, Simcoe Creek-Toppenish Creek
Soda Springs, Bumping River
Swauk, Swauk Creek
Tampico, Ahtanum Creek
Toppenish, Toppenish Creek
Upper Canyon, Yakima River
Wapatox, Naches River
Waptus Lake, Waptus River⁴³

Despite eight years of Yakima Workgroup search for new storage sites (see above), in October 2016 the Yakima-Tieton Irrigation District announced a proposal for a new dam west of Tieton, at a cost of over \$100 million. OCR had provided the irrigation district \$117,000 in December 2015 to further study options.⁴⁴ After ten years of Ecology/OCR efforts, the Department of Ecology's 2015 Implementation Status Report on the Yakima River Basin Integrated Water, Resource Management Plan (July 2016) does not list **any** delivered new water from any Yakima Plan surface storage project element.⁴⁵

³⁹ <https://fortress.wa.gov/ecy/publications/documents/0711022.pdf> , p. 3-15

⁴⁰ Bureau of Reclamation, *Final Planning Report/EIS, Yakima River Basin Water Storage Feasibility Study*, p. 2-128 to 2-131. <http://www.usbr.gov/pn/studies/yakimastoragestudy/reports/eis/final/volume1.pdf>

⁴¹ The Department of Ecology withdrew from this report and prepared a SEPA Supplemental Draft and Final EIS in order to resurrect storage projects, such as a new Bumping Lake dam that the BOR refused to evaluate.

⁴² *Ibid.*, pp. 2-125 to 2-127.

⁴³ Yakima River Basin Integrated Water Resource Management Plan FPEIS (March 2012), Table 2-1, pp. 2-43 to 2-44.

⁴⁴ Living on borrowed time: Canal is more than 100 years old, but replacement won't be cheap, by Kate Prengaman, Yakima Herald, Oct. 26, 2016

⁴⁵ <https://fortress.wa.gov/ecy/publications/documents/1612002.pdf> , pp. 15-17.

II. OCR's Projected Future Water Supply Development: Yakima and Wenatchee River Basin Projects

A. Focusing on the Largest and Most Costly of the OCR Proposed Future Projects

The OCR projects proposed, with projected completion dates between 2016 and 2019, tend to be dominated by projects in the Yakima River Basin. OCR's 2015 Columbia River Basin Water Supply Inventory Report to the Washington Legislature estimates that "near-term development (2015-2019)" is expected to produce 320,132 acre-feet of water from eleven different projects. "Long-Term Development (2019+)" projects were projected to be served by at least ten different projects. Those long-term projects far enough along in the planning process to have estimated water development targets are projected to produce about 477,000 acre-feet of water.

Ninety-six percent of the water to be developed in the near-term projects (2015-2019) would develop water in the Yakima Basin and close to half (47 percent) of the long-term water development projects (beyond 2019) would be developed in the Yakima Basin.⁴⁶ For that reason, it is important to understand the status, costs, and benefits associated with the various projects included in the Yakima Plan.

B. The Yakima River Basin

In the Yakima River Basin, a total of 464,000 acres of farmland are irrigated using 2.5 million acre-feet of irrigation water rights.⁴⁷ Only 30 percent of the average annual runoff is stored in the storage system.⁴⁸

In the 1900s, privately-constructed crib dams on the four natural glacial lakes (Cle Elum, Kachess, Keechelus, and Bumping) contributed to the extirpation of sockeye salmon. Construction of the BOR's five major storage dams, the previously four named dams plus Rimrock (Tieton Dam), eliminated access to previously productive spawning and rearing habitat for sockeye, spring Chinook, coho, and steelhead salmon above the new reservoirs.⁴⁹ Because the BOR dams flooded natural lakes, this report will refer to Cle Elum Lake, Kachess Lake (which consisted of upper and lower lakes), Keechelus Lake, and Bumping Lake, rather than "reservoirs." These five major dams have a total capacity of about 1,065,400 acre-feet. Clear Lake, is located above Rimrock Lake and has a capacity of 5,300 acre-feet, and is used primarily for recreational purposes. The five major dams —Bumping, Kachess, Keechelus, Rimrock (Tieton Dam), and Cle Elum store and release water to meet irrigation demands, flood control needs, and instream flow requirements.⁵⁰ Occasional droughts over the last several decades have led to curtailments in water delivery. The Roza Irrigation District and Kittitas Reclamation District "are proratable districts with water rights that are subject to curtailment during droughts. A small portion of the Kennewick Irrigation District and Sunnyside Division are also subject to curtailment. "Senior" water right holders are entitled to their full water allotment

⁴⁶ Op. cit. OCR 2015 Columbia River Basin Water Supply Inventory Report to the Washington Legislature, page 12.

⁴⁷ "Benefit-Cost Analysis of the Yakima Basin Integrated Plan Projects," Jonathan Yoder et al. Report to the Washington State Legislature by the Washington Water Research Center, December 15, 2014, p. 5.

⁴⁸ See: <http://www.usbr.gov/pn/programs/yrbwep/reports/FPEIS/fpeis.pdf>, p. 1-11,

⁴⁹ <http://www.usbr.gov/pn/programs/yrbwep/reports/FPEIS/fpeis.pdf>, p. 1-2.

⁵⁰ <http://www.usbr.gov/pn/programs/yrbwep/reports/FPEIS/fpeis.pdf>, pp. 1-16 and 1-17.

during a drought. Irrigation districts with a majority of “senior” water rights include approximately 75 percent of the Yakima-Tieton Irrigation District, approximately 65 percent of the Sunnyside Division, and approximately half the Wapato Irrigation Project.⁵¹ For irrigation districts with mostly “senior” water rights, there is little incentive to embark on water conservation, water banking, or water efficiency measures.

C. The Yakima Plan

The Yakima Plan began as a BOR WaterSMART program authorized by the SECURE Water Act in Public Law 111-11, which in Fiscal Year 2009 also funded basin studies in the Colorado River Basin and the St. Mary and Milk River Basins in Montana and Canada. Under the WaterSMART program, BOR now has 12 studies of major river basins underway in the west. All of these major Basin Studies include *structural* (i.e., dams) and non-structural options to supply adequate water in the future, as well as consideration of potential new surface storage needs, as directed in the Act at Section 9503(b)(4)(e).⁵²

In 2009, OCR and BOR convened a select Yakima Workgroup, which included five irrigation districts, federal and state agency representatives, the Yakama Indian Nation, city and county representatives, one conservation group representative (American Rivers), as well as a local organization advocating for surface storage structures (Yakima Basin Storage Alliance).⁵³ The Yakima Workgroup included both OCR and BOR as voting members and was not chartered under the Federal Advisory Committee Act.⁵⁴ The main objective of the Yakima Plan is to provide proratable irrigation districts with 70 percent of their water allotment during drought years by increasing the amount of surface water stored in the Yakima Basin. That Yakima Plan proposes to add about another half-million acre-feet of surface water storage, increasing the total surface water storage by about 50 percent to 1.5 million acre-feet.⁵⁵ This would have the effect of turning the proratable irrigation districts into near-Senior districts without modifying water rights in the basin.

The BOR and OCR commissioned a group of economic consulting firms to carry out a benefit-cost analysis of the Yakima Plan that became the BOR’s “Framework for Implementation Report” for the Yakima Plan (i.e., the Four-Accounts Analysis).⁵⁶

That BOR-sponsored economic analysis of the Yakima Plan focused on the *entire* complex set of projects included in the Plan. That Plan divided projects into seven categories or “elements”:

- i. Fish Passage (six projects).
- ii. Structural and Operational Changes. (six projects)
- iii. Surface Water Storage. (five projects)

⁵¹ <http://www.usbr.gov/pn/programs/yrbwep/reports/FPEIS/fpeis.pdf>, Table 3-1.

⁵² http://www.doi.gov/oc/112/WaterSurfaceStorage_020712.cfm

⁵³ A list of the Yakima Workgroup members (not updated) is located at: <http://www.ecy.wa.gov/programs/wr/cwp/YBIP.html>. Several of the Yakima Workgroup members are also members of the OCR Policy Advisory Group. Compare: http://www.ecy.wa.gov/programs/wr/cwp/cr_pag.html

⁵⁴ See: <http://www.usbr.gov/pn/programs/yrbwep/reports/FPEIS/fpeis.pdf> and http://ucrsierraclub.org/pdf/Yakima_Water-Report_Response_%202-15-2013.pdf

⁵⁵ Op. cit, Benefit-Cost Analysis of the Yakima Basin Integrated Plan Projects, p. 6.

⁵⁶ “Yakima River Basin Integrated Water Resource Management Plan: Four Accounts Analysis of the Integrated Plan,” U.S. Bureau of Reclamation Contract No. 08CA10677A ID/IQ, prepared by ECONorthwest, Natural Resources Economics and ESA, October 2012. The BOR “Framework for Implementation Report has the same date and contract number but lists the authors beginning with HDR Engineering instead of ECONorthwest. The author list of the Implementation Report was HDR Engineering, Anchor QEA, ECONorthwest, Natural Resource Economics, and ESA.

- iv. Groundwater Storage. (Multiple projects)
- v. Habitat/Watershed Protection and Enhancement. (Multiple projects)
- vi. Enhanced Water Conservation. (Multiple projects)
- vii. Market Driven Reallocation (Multiple projects).⁵⁷

In each of the categories or elements listed above there are a half-dozen to dozens of separate projects, including projects that do not meet the goal of providing proratable irrigation districts with additional water supplies. The BOR-OCR sponsored benefit-cost study combined *all* of these individual projects into a single conceptual aggregation, namely the whole of the Yakima Plan. The economic analysis then proceeded to estimate the benefits and cost of each and every individual project and summed those benefits and costs up, trying to take into account interactions among the individual projects and avoid double-counting or under-counting. The No Action Alternative was simply that none of the Yakima Plan projects would be pursued, even though the Yakima Plan FPEIS listed dozens of on-going programs in the Yakima Basin. This allowed the comparison of the total costs and total benefits, appropriately discounted, to determine the net benefits or net costs associated with the *whole* of the Yakima Plan.

The conclusion from this OCR-BOR-commissioned benefit-cost analysis was that even under the worst-case scenario considered, economic benefits were 40 percent higher than the economic costs, resulting in discounted net benefits over the next hundred years of \$1.8 billion.⁵⁸

From an economic point of view, this is not a productive way to use benefit-cost analysis because it does not test the economic rationality of individual projects within the Yakima Plan. It is possible that a few elements of the Plan that are relatively inexpensive are the source of most of the benefits while other, much more costly projects with almost no benefits, offset many of the benefits flowing from the more economically productive projects, reducing the net benefits from the Yakima Plan. Uneconomic projects could be added as long as the whole set of projects still had positive net benefits suggesting that *all* of projects included in the aggregate were economically rational when they were not. From an economic point of view, the economic rationality of *each* project within the larger “plan” should be analyzed and rejected if its costs are higher than its benefits. What is needed for an overall plan with many individual projects is just what the Washington Legislature called for in 2013: “separate benefit-cost analyses for each of the projects proposed in the 2012 Yakima River basin water resource plan (IP).”⁵⁹

The Washington State Legislature recognized the inadequacy of combining many different projects into just one big project and only calculating the benefits and costs for that artificial aggregate project rather than also analyzing the incremental benefits and costs of each individual project.

In 2013 Washington State Legislature mandated that the State of Washington Water Research Center (WRC) at Washington State University “prepare separate benefit-cost analyses for each

⁵⁷ Ibid. Table 1.

⁵⁸ This was the conclusion of the “national accounts” that focus on the benefits and costs as seen from the perspective of the nation as a whole, regardless of where, geographically, the economic costs and benefits are experienced. Other analyses looked at local or regional impacts outside of a benefit-cost framework. Op. cit. ECONorthwest et al. October 2012, Table 2, page 7.

⁵⁹ Section 5057 of the State of Washington Capital Budget for 2013, cited in WRC “Benefit-Cost Analysis of the Yakima Basin Integrated Plan Projects,” Jonathan Yoder et al. Report to the Washington State Legislature, December 15, 2014, p. 2.

of the projects proposed in the 2012 Yakima River Basin Water Resource Management Plan.⁶⁰ In response to that mandate, the WRC issued a report at the end of 2014 to the Washington State Legislature.⁶¹ RCW 90.38.110.

That report pointed out that, as calculated by WRC, *about 90 percent* of the estimated benefits of the overall Yakima Plan were associated with the *enhanced fisheries*, not irrigated agriculture or municipal water. Benefits to irrigated agriculture represented *only 5 to 10 percent* of the total benefits. Improved municipal water supplies were the source of *2 to 3 percent* of the benefits. Just the fish passage projects alone on Yakima Basin dams provided 75 to 80 percent of the estimated benefits of the Yakima Plan even though they were responsible for only a small percentage of the aggregate costs of the Yakima Plan. On the other hand, 66 percent of the costs were associated with out-of-stream and instream uses that produced only a small fraction of the overall benefits.⁶² This clearly indicates that some of the costliest proposed projects generate very few benefits to justify the costs. The net losses associated with those uneconomic proposed projects are “covered” by the fish-production benefits associated with building fish passages at existing Yakima dams. In that sense the fish passage projects were being used to “indirectly fund” economically indefensible surface water storage projects even though the fish passage projects were largely unrelated to the surface water storage projects.

In addition, the “Four-Accounts Analysis” fish-production benefits were calculated using the “contingent valuation” methodology by estimating what economic value all of the households in the entire states of Washington and Oregon would place on increased salmon returns in the Yakima Basin.⁶³ Salmon production benefits are also based on artificial, untried, and highly engineered projects such as a giant “helix” downstream fish passage project at the existing Cle Elum dam and a “Whooshh” tube to shoot returning salmon over existing Yakima dams.⁶⁴ Projected fish-production benefits are also suspect because they fail to factor in the dire impacts of hot summer temperatures in the Lower Columbia River. In 2015, of the hundreds of thousands of sockeye returning to the Columbia Basin, only 300 made it up the Yakima River due to unprecedented warm water.⁶⁵

D. The Cost of the Yakima Plan

The Yakima Plan is a 30-year plan that would be implemented in three 10-year stages. The Initial Development Phase is to run from 2013 to 2023. In the 2013-2015 biennium Washington State funding amounted to a \$143 million share of the \$234 million total project costs.⁶⁶ For the 2015 to 2017 biennium the Washington Legislature has appropriated an additional \$30 million for continued implementation of the Yakima Plan. OCR projects that to fully fund the State’s share of the Initial Development Phase, the state will have to invest \$100 to \$110 million in each

⁶⁰ Ibid. Quote from page ii.

⁶¹ Ibid.

⁶² Ibid. pp. iii-v.

⁶³ The analysis considered using only Washington households. The result was fish values about 40 percent below what was obtained using both Washington and Oregon households. Stated slightly differently, by combining the two states, fish values were boosted over 60 percent. See page 8 of <http://www.usbr.gov/pn/programs/yrbwep/2011integratedplan/2012meetings/2012-09-26/4presentation.pdf>

⁶⁴ See: <http://www.usbr.gov/pn/programs/eis/cle-elum/index.html>

⁶⁵ See: http://www.yakimaherald.com/news/local/drought-was-rough-on-sockeye-and-future-could-be-an/article_c3574d1e-68cf-11e5-92de-8f6fa08e7611.html

⁶⁶ The state’s share was so high because of the state’s purchase of the Teanaway Community Forest at a cost of almost \$100 million.

of the next three biennia, ending in 2023.⁶⁷ The total cost of the ten-year Initial Development Phase of the Yakima Plan (2013-2023) is projected by OCR to be about \$882 million of which the State would be responsible for about \$407 million.⁶⁸

This Initial Development Phase of the Yakima Plan on which the State of Washington is currently working is the *least expensive* of the three 10-year phases. The 2023-2033 Intermediate Phase is projected to cost 75 percent more than the Initial Phase, a decade total of almost *\$1.6 billion*. The Final Development Phase (2000-2043) would be slightly less costly: about an additional *\$1.5 billion*. The "Full Development Costs" over the three decades would be just over \$4 billion.⁶⁹ The Washington Legislature has mandated that the State of Washington is to pay, at most, half of the total costs of the Yakima Plan (not specific elements). Federal, private, and other non-state sources, including a significant contribution of funding from local project beneficiaries of the Yakima Plan (e.g. proratable irrigation districts that would receive additional water) are expected to pay at least half of the plan costs.⁷⁰

Below we review the economic rationality of the major surface water supply projects included in the OCR's future development plans, all of which are part of the Yakima Plan.

E. OCR Near-Term Water Supply Developments: The Kachess Drought Relief Pumping Plant and the Keechelus-to-Kachess Conveyance

OCR lists one major surface water storage project among its "near-term (2016-2020)" water developments: The Kachess Drought Relief Pumping Plant that during drought years would access the water that lies below that lake's current gravity flow outlet facilities, i.e. the "inactive" storage, in Kachess Lake. That single project would provide almost two-thirds, 200,000 acre-feet, of OCR's 2015 estimated total near-term water development of 320,000 acre-feet.⁷¹ This Kachess Drought Relief Pumping Plant (KDRPP) is also listed as part of the Initial Development decade of the Yakima Plan and was scheduled in December 2014 to be completed by 2018.⁷² A closely related project, the Keechelus to Kachess Conveyance (KKC), that is also part of the "Initial Development" decade of the Yakima Plan would allow the movement of Keechelus Lake water via a tunnel to Kachess Lake to facilitate the refilling of that lake after its inactive storage has been drawn down during drought periods by the drought relief pumping plant. In a December 2014 report to the Legislature on the projected costs of pursuing the Yakima Plan, OCR stated that "subsequent evaluations determined that the Kachess Reservoir Drought Relief Pumping Plant Project is unlikely to be viable without the inclusion of the [Keechelus to

⁶⁷ Implementation Status Report: Yakima River Basin Integrated Water Resource Management Plan, July 2016, Ecology Publication Number 16-12-002, p. 2.

⁶⁸ Ibid. p. 25. The total cost of the Initial Development Phase was estimated as \$896.9 million in the December 2014 "Cost Estimate and Financing Plan-Legislative Report," Department of Ecology and Office of the Treasurer, Figure 4.

⁶⁹ Ibid. Cost Estimate and Financing Plan, December 2014, Figure 4.

⁷⁰ 2SSB 5367, Sec. 11(1)(a); RCW 38.120(1)(a). The State's obligation is to pay for at least half of the entire Yakima Plan, but could fund 100 percent of any specific element of the Yakima Plan, as it did when the State paid \$97 million for the Teanaway Community Forest. See: <http://www.dnr.wa.gov/news/teanaway-land-purchase-clears-way-washington%E2%80%99s-first-community-forest>

⁷¹ The OCR 2016 "Water Supply Development" (Rev. 08.19.16) also lists this facility as part of the Near-Term Development.

⁷² "Yakima River Basin Integrated Water Resource Management Plan-Cost Estimate and Financing Plan-Legislative Report," OCR and the Office of State Treasurer, December 15, 2014, Figure 5

Kachess] conveyance system as a project component.”⁷³ This significantly increased the cost associated with a feasible Kachess Drought Relief Pumping plant since now the costs associated with the water conveyance facilities have to be considered costs of the drought relief pumping project. The KDRPP and KKC Draft EIS published in January 2015 provided estimates of the total costs of each project. Adding the costs of the KKC to the KDRPP would increase the cost of the drought relief pumping project by 58 percent.⁷⁴

Three months later in March 2015 the BOR released the “Feasibility Design Reports-Draft” for the Kachess Drought Relief Pumping Plant and, separately, for the Keechelus-to-Kachess Conveyance.⁷⁵ Those documents provided another estimate of the *field* costs of each of these components of the Kachess drought relief pumping project. As the earlier Kachess DEIS made clear, to such *field* costs must be added a variety of other very real costs to obtain the *total* cost of these projects. In the Kachess DEIS this led to estimated *total* project costs that were 53 percent higher than the *field* costs for the Kachess Drought Relief Pumping Plant element and 46 percent for the Keechelus-to-Kachess Conveyance element. When these additional costs are included, the BOR feasibility design report costs for the overall Kachess Drought Relief project increases by \$205 million or about a third to \$850 million compared to the January 2015 DEIS estimated *total* costs. See Table 3 below.

Table 3.

Total Costs of the Kachess-Related Projects*					
Source of Cost Estimate	Date of Estimate	Type of Estimate	"Middle" or "Average" Cost		
BOR/OCR Documents			KDRPP	KKC	Total: KDRPP&KKC
Costs of YIP HDR Engin. & Anchor QEA (1)	March 2011	Includes Non-Contract and O&M	\$226,406,000	\$192,950,000	\$419,356,000
KDRPP and KKC Draft EIS (2)	January 2015	Full Cost	\$407,550,000	\$237,880,000	\$645,430,000
KDRPP & KKC Feasibility Design Reports (3)	March 2015	Full Cost	\$509,207,350	\$340,994,364	\$850,201,714
*Average or middle value used when multiple alternative estimates were provided.					
(1) Table 1, p. 3, non-contract costs were 30% of construction costs, annual O&M were capitalized using a 4% discount rate.					
(2) Tables 2.13 and 2.14 on pages 2.54 and 2.55.					
(3) These "Field Cost" estimates were adjusted to total costs using the markups developed in the KDRPP and KKC Draft EIS. See (2) above.					

A little more than a year later, in June 2016, OCR reported to the legislature that it could not provide a cost estimate for the Kachess Drought Relief Pumping Plant because the plans for that facility were in flux.⁷⁶ After issuing a Draft EIS for the Kachess pumping and conveyance projects in January 2015 and receiving public comments on these projects, OCR and BOR decided that they needed to collect additional scientific data to reevaluate these projects in a Supplemental Draft EIS scheduled to be released in late 2016 or early 2017.⁷⁷ Clearly the basic

⁷³ "Yakima River Basin Integrated Water Resource Management Plan-Cost Estimate and Financing Plan-Legislative Report," OCR and the Office of State Treasurer, December 15, 2014, Ibid. Figure 4, fn *, no pagination.

⁷⁴ Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to Kachess Reservoir Conveyance, Draft EIS, U.S. Bureau of Reclamation and WA Department of Ecology, January 2015, Tables 2-13 and 2-14, pp. 2-54 and 2-55.

⁷⁵ U.S. Bureau of Reclamation, Contract No. R13PC1006 ID/IQ, prepared by HDR Engineering, Inc.

⁷⁶ "Unit Costs for Proposed Keechelus-to-Kachess Conveyance and Kachess Drought Relief Pumping Plant," Washington Department of Ecology. Ecology Publication Number 16-12-003, June 2016, p. 8.

⁷⁷ "Kachess Drought Relief Pumping Plant," U.S. Bureau of Reclamation, last updated 7/21/2016, <http://www.usbr.gov/pn/programs/eis/kdrpp/>.

design and costs of this large “near-term” OCR project remain uncertain although the costs show a steep upward trend.

The 2014 Washington Water Research Center benefit-cost study of the individual elements of the Yakima Plan commissioned by the Legislature estimated that the economic costs would exceed the economic benefits for each of the Kachess Lake projects. The economic loss associated with the Kachess Drought Relief Pumping Plant was estimated to be \$107 million and the economic loss associated with the Keechelus to Kachess Conveyance was estimated at \$110 million for a total loss of \$217 million.⁷⁸ The ratio of benefits to costs was estimated to be 0.46 for the Drought Relief Pumping Plant and 0.20 for the Keechelus to Kachess Conveyance.⁷⁹ With the higher more recent cost estimates associated with the Keechelus to Kachess Conveyance discussed above, the economic losses associated with these proposed projects would be even greater given that OCR has now concluded that the Keechelus to Kachess water conveyance project is necessary to the successful operation of the Drought Relief Pumping project, the costs and benefits of these different parts of a joint project should be combined. That will increase the cost of the project by 71 percent while adding only about 30 percent to the benefits, increasing the net loss associated with the combined project. While the drought relief pumping plant by itself has a benefit-cost ratio of 0.46, having to combine it with the water conveyance component reduces the benefit-cost ratio by about 40 percent to 0.29. The net loss associated with the combined project more than doubles.^{80, 81}

As OCR and BOR have indicated by delaying the Final EIS and planning to produce a Supplemental Draft EIS,⁸² there are many unanswered questions about the practicality and economic rationality of the Kachess surface water supply project. The actual costs of these two related projects appear to be unknown at this time, but on a steep upward trend line. In addition, it seems highly unlikely that this project should be classified as a near-term development that will be constructed in the 2015-2019 period.⁸³ OCR has had to repeatedly “go back to the drawing board” with these projects, redesigning them, and re-estimating their cost. This makes it nearly impossible for the Legislature and public to evaluate the likely “success” of the OCR’s

⁷⁸ Ibid. page 63 (Table 7) and page iii. The WRC net costs reported here are the “middle” estimates among a range of net benefit estimates associated with different WRC scenarios that varied the intensity of the impact of climate change on the hydrology of the Yakima Basin and the effectiveness of water markets within the state of Washington to move water from lower valued uses to higher valued uses. In addition, these “middle” estimates assume that the individual projects are analyzed on a “stand alone” basis rather than as part of the Yakima Plan. This boosts the benefits associated with the projects. Finally, only out-of-stream benefits are included. The fish benefits associated with fish passages at dams and improved instream flows are assumed to be pursued separately without the additional surface storage projects. These are the net-benefits or net-losses WRC reported in the Executive Summary of their report.

⁷⁹ Op. cit. WRC 2014, pp. iii and iv. The WRC adds that “Under the most adverse climate considered [in the scenarios run], these two projects together would have net benefits of \$6 million and a B/C ratio of 1.02.” p. iv.

⁸⁰ Ibid. Table 20, p. 87, least adverse future climate scenario.

⁸¹ OCR, in its June 2016 report to the Legislature on the Keechelus to Kachess Conveyance, stated that the water supply benefits of this project “would be minimal” because there was already “unutilized storage capacity in Kachess Reservoir and limitations on when water could be transferred between these two reservoirs. For that reason, OCR noted that “...the quantity [of water] transferred does not mean that quantity would become available for water supply. As noted above, the water supply benefits from KKC are minimal and Ecology and Reclamation have concluded the water supply benefits do not provide a basis for project construction.” The Conveyance between the two lakes, however, *would* provide water benefits during drought periods by accelerating the refilling of the inactive storage in Kachess Lake that would be drawn down by drought relief pumping. However, over its life time, those benefits would not justify the costs.

⁸² <http://www.usbr.gov/pn/programs/yrbwep/2011integratedplan/2016meetings/06-08-2016/02mtgnotes.pdf>

⁸³ That was its status in the “2015 Columbia River Basin Water Supply Inventory Report” submitted to the Washington State Legislature, Ecology Publication Number 15-12-006, January 6, 2016, p. 12.

primary “near-term” water supply project, namely the Kachess Drought Relief Pumping Plant. Furthermore, the benefit-cost analysis of the individual components of the Yakima Plan that the Legislature asked WRC to carry out documented the sizeable economic loss associated with these Kachess projects that would likely block the use of federal funds to help finance them.

A further concern is that although the Yakima Plan has been characterized as one in which “farmers themselves have agreed to pay for investments that promise to enable their water needs to be met”⁸⁴ when given an opportunity to make a major investment to secure additional water during drought conditions, the irrigators balked at the cost: In October, 2015, as a result of significantly low projected snowpack in the Yakima Basin, the Roza Irrigation District (RID) voted to pursue a Kachess Emergency Temporary Floating Pumping Plant Project (KETFPP).⁸⁵ The proposed KETFPP would have consisted of a temporary floating pump facility with the ability to access up to 50,000 acre-feet of water from Kachess Lake that otherwise would be inaccessible due to low water elevations. This water could then be pumped into the Yakima River system to supply RID with temporary emergency drought relief in 2016. Because this would have impacted the BOR existing Yakima Project, the BOR scheduled public workshops on December 7 and 8, 2015.⁸⁶ But when the cost of the project reached \$58 million plus, many farmers in the irrigation district said that extra water was not worth the extra \$85 per acre they would likely have to pay for 10 years and a full page newspaper ad by concerned Roza Growers, urged farmers to voice their opinions on the pumping plant.⁸⁷ By mid-December, the RID had withdrawn its support of the project and BOR cancelled review of the proposed project.⁸⁸

F. The Large Yakima Basin Storage Reservoirs in OCR’s Long-Term Development (2020+)

OCR’s list of “Long-Term Development” projects that are part of the 2015 Report to the Legislature on Columbia River Basin Water Supply Inventory includes 226,000 acre-feet of water development within the Yakima Basin that would be developed *after* 2019.⁸⁹ This is part of the 450,000 acre-feet of additional surface storage that the Yakima Plan proposes to develop over 30 years.⁹⁰ As discussed above, the “near-term” Kachess Drought Relief Pumping Plant project would involve extracting up to 200,000 acre-feet of water from the inactive storage pool of Kachess Lake and accelerating its replacement with the Keechelus to Kachess Conveyance. This leaves another 250,000 acre-feet of surface storage associated with the Yakima Plan to be identified. The 226,000 acre-feet that the OCR lists for the Yakima Plan in its “long-term” projects (meaning developed after 2019) would provide most of that remaining planned surface storage development. Although the Yakima Plan calls for constructing both a new Bumping Lake dam and a Wymer Dam,⁹¹ OCR now claims that this additional surface storage would

⁸⁴ <http://www.yakimaforever.org/2016/10/26/innovative-water-solutions/#more-1775>

⁸⁵ See: <http://www.dailysunnews.com/news/2015/dec/08/frustrations-ai-red-kachess-pump-workshop/>

⁸⁶ See:

<http://www.roza.org/images/Public%20Meeting%20Notice%20Kachess%20Emergency%20Temporary%20Floating%20Pumping%20Plant.pdf>

⁸⁷ <http://www.dailysunnews.com/news/2015/dec/08/frustrations-ai-red-kachess-pump-workshop/>

⁸⁸ <http://www.usbr.gov/newsroom/newsrelease/detail.cfm?RecordID=51808>

⁸⁹ Op. cit. OCR June 2016 report to the Legislature on the Keechelus to Kachess Conveyance, p. 12.

⁹⁰ Final Programmatic EIS, Yakima River Basins Integrated Water Resource Management Plan, March 2012, p 2-20.

⁹¹ <http://www.usbr.gov/pn/programs/yrbwep/2011integratedplan/2016meetings/06-08-2016/03slideupdate.pdf>

come from one large storage reservoir that would be built in the second or third decade of the Yakima Plan, either the Wymer Dam and Reservoir (162,500 acre-feet) or a new Bumping Lake dam (156,300 acre-feet net increase).⁹² The remainder of the envisioned water development would come from smaller projects.

OCR's projection of the costs of pursuing this additional surface water storage increases substantially as one moves from the first decade of the Yakima Plan to the second decade. In the first decade (2013-2023), the projected surface water storage costs are about \$414 million. In the second decade, the surface water storage investment costs will rise to just over a billion dollars, a 140 percent increase. In the third decade, the capital investments in surface water storage will be approximated one billion dollars more. Over the three decades \$2.4 billion will be spent on surface water storage by the Yakima Plan. If, as ORC projects, the state will cover about half of the costs of these projects,⁹³ this represents a very substantial future financial obligation for the State of Washington of at least \$1.2 billion, just for surface water storage in the Yakima Basin and does not account for likely cost overruns.

Of course, surface storage of water is just one of the elements of the Yakima Plan. In the Initial Development Phase, the cost of surface water storage was about \$414 million, the total cost of *all* of the elements of the Yakima Plan in that decade was projected to be \$897 million, over twice as high. For the second and third decades, the total costs are 50 to 60 percent higher than the surface water storage investment costs alone. The whole of the "Initial Development Phase" of the Yakima Plan, the first decade, 2013-2023, on which ORC is currently working, is projected to cost almost \$900 million, while the cost over thirty years would be \$4 billion, up to half of which may be a state obligation.⁹⁴ See Table 4 below.

Table 4.

Estimated Costs of Implementing the Yakima Integrated Plan				
Integrated Plan Element	Initial Development	Intermediate Development	Final Development	Full Development
	Phase 2013-2023	Phase 2023-2033	Phase 2033-2043	Costs 2013-2043
Surface Water Storage	\$413,900,000	\$1,003,600,000	\$999,000,000	\$2,416,500,000
Total for All Elements	\$896,900,000	\$1,572,050,000	\$1,542,250,000	\$4,011,200,000

Source: "The Yakima River Basin Integrated Water Resource Management Plan-Cost Estimate and Financing Plan-

Legislative Report," Office of Columbia River, and Office of the State Treasurer, December 15, 2014, Figure 4.

G. The Economic Evaluation of the Yakima Plan's Large Surface Storage Projects

A high priced element of the Yakima Plan is the addition of a large surface water storage facility during the second or third decade of the Plan. Two alternatives are currently getting the most scrutiny: A new Bumping Lake Dam and the building of the Wymer Dam.

⁹² Op. cit. Implementation Status Report: Yakima River Basin IP, pp. 16-17 and Op. cit. Benefit-Cost Analysis of the Yakima Basin Integrated Plan Projects, p. 10.

⁹³ Op. cit. Implementation Status Report: Yakima River Basin IP, p. 25 and 26.

⁹⁴ Ibid. Figures 4 and 5 (not paginated).

New Bumping Lake Dam

Unsuccessful efforts to construct a new Bumping Lake dam downstream of and flooding the existing dam on the Bumping river, upstream from Goose Prairie, WA, date back over half a century. Bills to construct a new Bumping Lake dam were introduced in Congress in 1979, 1981, and 1985. All failed.⁹⁵ As described above, opposition to a new Bumping Lake dam and adverse environmental impacts caused the BOR to exclude this project from its 2008 Final Planning Report/EIS.⁹⁶ Only through the support of Washington Governor Christine Gregoire, who had been a major backer of a new Black Rock dam,⁹⁷ was a new Bumping Lake dam project brought back for consideration.⁹⁸

Wymer Dam

Also, as described above, in its 2008 Final Planning Report/EIS the BOR evaluated two versions of a Wymer Dam in Lmuma Creek (an intermittent stream), approximately 8 miles upstream of Roza Diversion Dam,⁹⁹ off-channel of the Yakima River, between Ellensburg and Yakima. The BOR's report calculated that either project version had a benefit-cost ratio well below 1.0: For the Wymer Dam and Reservoir it was 0.31; and for the Wymer Dam plus Yakima River Pump Exchange it was 0.07.¹⁰⁰ Again, the Gregoire administration brought back the Wymer dam project.¹⁰¹

OCR plans to finance studies of these two proposals and possibly others that might be proposed during the end of the first decade and the beginning of the second decade of the Plan and make a decision on what surface water storage alternatives should be pursued.

In 2015, Senators Cantwell and Murray introduced S. 1694 in Congress, which authorizes continued federal funding for studies of water projects in the Yakima Basin, including presumably the new Bumping and Wymer dams. Reps. Reichert and Newhouse introduced a companion House bill. This legislation did not pass the 2016 session of Congress.

As discussed above, the Washington Legislature mandated that the Washington Water Resource Center (WRC) carry out benefit-cost analysis of each major project that was part of the Yakima Plan. That report was delivered to the Legislature in December 2014.¹⁰² That WRC report concluded that a new Bumping Lake Dam would cost \$371 million more than the benefits it provided over the next 100 years. The benefit-cost ratio would be 0.18. Five out of six of the dollars invested in it would not be justified by the benefits. For the Wymer Dam and Reservoir, the costs would exceed the benefits by \$1.2 billion. The benefit-cost ratio would be 0.09. Ten out of eleven of the dollars invested in it would not be justified by the benefits.¹⁰³ The WRC confirmed the 2008 benefit/cost failure of the Wymer Dam calculated by the BOR.

As the WRC discussed at length in its report to the Legislature, the WRC estimated benefits do *not* include the value of the planned increase in-stream flows that these reservoirs are projected

⁹⁵ <http://www.usbr.gov/pn/programs/yrbwep/reports/FPEIS/fpeis.pdf>, pp. 1-23 and 1-24.

⁹⁶ Bureau of Reclamation, *Final Planning Report/EIS, Yakima River Basin Water Storage Feasibility Study*, p. 2-128 to 2-131. <http://www.usbr.gov/pn/studies/yakimastoragestudy/reports/eis/final/volume1.pdf>

⁹⁷ http://www.ucrsierraclub.org/ucr/yakima/media_2005-03-18.html

⁹⁸ <https://fortress.wa.gov/ecy/publications/documents/0912009.pdf>

⁹⁹ <http://www.usbr.gov/pn/studies/yakimastoragestudy/reports/eis/final/volume1.pdf>, p. 2-66.

¹⁰⁰ *Ibid.*, pp. 2-125 to 2-127.

¹⁰¹ <https://fortress.wa.gov/ecy/publications/documents/0912009.pdf>

¹⁰² *Op. cit.* Benefit-Cost Analysis of the Yakima Basin Integrated Plan Projects, Jonathan Yoder et al.

¹⁰³ *Ibid.* pp. iii and iv.

to provide. Because these enhanced in-stream flows are intended to increase the population of salmon in the Yakima basin rivers and streams, the benefits of these proposed increased in-stream flows will depend on both the effectiveness of in-stream flow in boosting fish production and the value that is placed on the increased salmon populations.

The benefit-cost analysis commissioned by the OCR and BOR in support of the Yakima Plan calculated very high economic benefits from the in-stream flows. As a result, the OCR-BOR economic analysis found that fish benefits would be worth \$5 to \$7.4 billion while the agricultural benefits were only \$0.8 billion, only one-sixth to one-ninth of the extremely high estimated fish-production benefits.

Municipal water benefits were only \$0.4 billion. Put slightly differently, the OCR-BOR analysis finds that 80 to 90 percent of the benefits of the Yakima Plan are fish-production benefits derived primarily from proposed fish passage projects at existing dams. Agriculture, apparently, is a relatively minor beneficiary of the Yakima Plan, providing only about 10 percent of the benefits of the Plan.¹⁰⁴ The Yakima Plan is, according to the OCR-BOR economic analysis, primarily a multi-billion-dollar plan to increase salmon populations in the Yakima Basin.

There is no doubt that improving salmon habitat and river and stream ecosystems has economic value. Over the last half-century economists have developed the tools to estimate such non-market economic values. The question raised by the Washington Water Research Center was whether the ORC-BOR economic analysis accurately estimated those values.

For example, using the same Four-Accounts methodology, the WRC report estimates that the loss of 1,000 acres of ancient forest due to flooding from a new Bumping Lake dam *would exceed* \$1.85 billion.¹⁰⁵ These costs were not incorporated in the OCR and BOR estimates of costs and benefits.

It is important to understand that the reliability of those fish economic values associated with in-stream flows was different than the reliability of the agricultural and municipal water benefits for several reasons:

- i. It is difficult, if not impossible, to separate out the beneficial impacts on fish populations of investments in fish passages at Yakima Basin dams from fish-production impacts of habitat rehabilitation along streams and rivers and/or increased in-stream flows. Some of these are activities that complement other activities, boosting the overall impact on fish populations. But it is also likely that there are declining marginal benefits as additional improvements in salmon habitat and survival are made.
- ii. The effectiveness of in-stream flows on fish survival is difficult to measure.
- iii. The economic value of improved native fisheries is difficult to measure, especially in a setting where the number and mix of fish are uncertain and varying over time.
- iv. The opportunity cost of providing instream flows by purchasing out-of-stream water rights (e.g. irrigation water rights) is only a fraction of what it costs to provide for instream flows by constructing additional water storage.¹⁰⁶

¹⁰⁴ Ibid. p. iv.

¹⁰⁵ WRC "Benefit-Cost Analysis of the Yakima Basin Integrated Plan Projects," Jonathan Yoder et al. Report to the Washington State Legislature, December 15, 2014, p. 108.

¹⁰⁶ Ibid. Table 24, p. 91.

On the other hand, the value of water committed to agriculture or municipal water supplies can be more easily measured because:

- i. There are market-based water transfers that take place in the region that can be analyzed,
- ii. the alternative costs of obtaining the water from groundwater pumping, surface water treatment, or conservation measures is known, and
- iii. because irrigation water is used to raise crops that are sold into commercial agricultural markets.

Because of this large difference in the precision of and confidence in the impacts of additional in-stream water flows on fish-production economic values versus agricultural and municipal water values, the WRC analyzed the out-of-stream (agricultural and municipal) benefits separately from the in-stream (fish-production) benefits. In order to objectively narrow the plausible range of values associated with in-stream flows the WRC established two reference points.¹⁰⁷

The first reference point was tied solely to the irrigation and municipal (out-of-stream) water benefits. By calculating those accurately and comparing them to the cost of the storage projects, one can calculate how valuable the fish-production values would have to be in order to bring the total benefits (irrigation and municipal, as well as fish-production) up to the level of the surface water storage costs. That tells us how high the value of fish-passage, fish habitat rehabilitation, and in-stream flows for fish production taken together would have to be for the surface water storage project to produce net benefits that are positive or a benefit-cost ratio that is 1.0 or above. One can then ask if there is any evidence that fish-production benefits, especially those that are not directly associated with investing in fish passage at the Yakima Basin reservoirs, could be that high.

The second reference point for valuing instream flows is to ask what irrigation and municipal water benefits are lost if the instream flows are provided by reducing agricultural and municipal surface water uses. This, arguably, would be the lowest price that irrigators or municipal water users would accept in return for voluntarily reducing their surface water use. In that sense this would be the opportunity cost of providing in-stream flows by foregoing agricultural and municipal surface water benefits. This tells us what economic value is lost if in-stream flows are pursued by reducing irrigation and municipal uses. That cost can be compared with the cost of providing the instream flow by building surface water storage facilities to see if shifting water from irrigation and municipal use is a less costly way of providing in-stream flow fish-production benefits than building large surface water storage.

Pursuing enhanced in-stream flows and their associated benefits in terms of fish production by purchasing water rights from irrigators is already part of the Yakima Plan. That Plan had seven "elements" which included a "Market Driven Reallocation Element" that would "[c]reate conditions within which water banks can facilitate the sale or lease of water between willing parties on a temporary or permanent basis, to improve water supply and instream flow conditions in the Yakima basin."¹⁰⁸ Such transfers of water rights were projected to [i]ncrease

¹⁰⁷ The following two paragraphs are a paraphrasing of the WRC's explanation of how they approached the valuation of in-stream flow. Ibid. p. 20.

¹⁰⁸ Op. cit. OCR and Office of the State Treasurer, "Cost Estimate and Financing Plan-Legislative Report," December 15, 2014, un-paginated, PDF page 8.

the overall value of goods and services derived from the [Yakima] basin's water resources, by reallocating water from lower-value to higher-value uses."¹⁰⁹

The WRC's report to the legislature on the benefits and costs of the individual projects within the Yakima Plan explored the implicit cost of providing instream flows by such market-based transfers of existing water. To do that, the WRC estimated the agricultural value of surface water being used for irrigation in the Yakima basin (the agricultural benefits gained or lost by increasing or decreasing the irrigation water available). WRC recognized that the cost of diverting water from irrigated agriculture to instream flows would be higher than the lost market value of the reduced agricultural production because of the use of less water. WRC therefore increased that agricultural market value by a third to cover transaction costs, other values farms might attach to that water and the agricultural activity it supported, risk and uncertainty, etc.¹¹⁰

WRC estimated that the annual agricultural benefit of an acre-foot of water would be about \$84 a year if it were to be leased. Assuming a discount rate of 4 percent, the cost to purchase in-stream flows in perpetuity from an irrigator was estimated to be about \$2,750 per acre foot. This assumed that only intra-irrigation-district water trading was possible and that historical climate conditions persisted. If full water rights trading were possible, the cost of purchasing the water for instream flows from irrigators would be lower. If climate change was much more adverse than historical climate conditions, the cost of purchasing the in-stream flows would be higher.

The WRC study commissioned by the legislature concluded that under moderately adverse climate change and intra-district water trading only, the cost of providing the in-stream flows by constructing additional surface water storage would be *16 times as high* as purchasing water rights to protect instream flows. If full water trading within the region were possible, providing for those instream flows by constructing additional surface water storage would be *25 times* what it would cost to purchase the water rights from irrigators. On the other hand, if no increase in water trading was possible and there was moderately adverse climate change, the construction of additional surface water storage would cost *nine times* what purchasing water rights to supplement instream flows would cost.¹¹¹

The unavoidable conclusion is that the agricultural benefits associated with having more irrigation water due to the construction of additional surface water storage would justify only a tiny fraction of dam and reservoir construction costs, 4 to 10 percent of those costs. That is a serious problem for OCR and BOR since to get federal funding (and possibly state funding, too), the proposed water projects need to pass a benefit-cost test: showing positive net values when costs are subtracted from benefits or a benefit-cost ratio greater than 1.0.

The WRC economic analysis that was mandated by the Legislature also studied directly the value of the in-stream flow enhancements for fish-production values to see if those projected fish-production values could turn around the results of the economic analysis and show that the separate projects of the Yakima Plan water development projects made economic sense. The Yakima Plan investments for surface storage to support both in-stream *and* out-of-stream uses

¹⁰⁹ Op. cit. OCR and BOR, Yakima River Basin Integrated Water Resource Management Plan, Final Programmatic EIS, March 2012, p. 2-39.

¹¹⁰ Op. cit. WRC Benefit-Costs of Yakima Integrated Project, December 2014, pp. 90-91.

¹¹¹ Ibid. p. 91. The text on p. 21 says that with intra-district water trade and the CGCM climate regime, the cost of pursuing in-stream flows via the Yakima Plan would be 25 times the cost of pursuing enhance in-stream flows by using water markets. That is incorrect. As pointed out here, the 25-fold increase in cost is associated with full water trading.

account for about 66 percent of the costs of the Yakima Plan.¹¹² We have already discussed the agricultural and municipal water benefits, the out-of-stream benefits. We now turn to the WRC's estimates of the benefits of the in-stream flows.

The WRC economic analysis estimates that the in-stream flows combined with fish habitat restoration would generate \$48 to \$294 million in fish-production benefits. Just the mainstem river habitat restoration of the Yakima Plan would cost \$338 million.¹¹³ Thus, even if the enhanced instream flows could be provided from new storage at no cost, the costs of improving fish habitat would exceed the benefits, generating net losses rather than net benefits. But, of course, the cost of creating the surface water storage reservoirs to support the proposed in-stream flows would not be zero. The capital costs of the Wymer Reservoir were estimated by the OCR and BOR in 2012 as \$1.14 billion and the capital cost of a new Bumping Lake Dam was \$517 million.¹¹⁴ The Yakima Plan, as adopted, includes building *both* of these two large surface storage projects, but more recently OCR has backed away from that part of the Plan, stating, instead, that only one of the be built, at least in the near term. One of the primary stated purposes of these surface water storage reservoirs is to enhance in-stream flows and enhance fish populations. For instance, it is projected that "on average, around half of the storage capacity [of the Wymer Reservoir] would be used annually to improve instream flows upstream and downstream of the reservoir."¹¹⁵ Clearly a substantial part of the costs associated with these surface water storage projects would have to be allocated to in-stream flows. That would make these efforts to improve fish habitat appear even more uneconomic, increasing the net losses associated with the projects. The estimated fish-production values associated with enhanced instream flows when added to the agricultural and municipal water values cannot not provide sufficient benefits to justify the costs of the proposed surface water storage projects of the Yakima Plan.

H. Proposed Water Development Projects in the Alpine Lakes Wilderness

Despite the fact that all of the major proposed water storage projects in the Yakima Basin have costs that grossly exceed benefits, Yakima Plan supporters have called the Yakima Plan a "National Model."¹¹⁶ OCR has applied that same "model" of "aggressive development of new water storage" to Washington's Alpine Lakes Wilderness. OCR's *2015 Columbia River Basin Water Supply Inventory Report* discusses this set of projects immediately after discussing the Yakima River Basin Plan.¹¹⁷

The Alpine Lakes Wilderness straddles the central Cascade Mountains crest and is one of the most popular National Wilderness Areas in the nation. The Wenatchee National Forest part of that wilderness contains the Enchantment Lakes that are part of the headwaters of the Wenatchee River. A tributary, Icicle Creek, is fed by some of those wilderness lakes. Given

¹¹² Ibid. p. iv-v.

¹¹³ Ibid. p. 100.

¹¹⁴ "Yakima River Basin Integrated Water Resource Management Plan: Framework for Implementation Report," prepared by HDR Engineering et al., October 2012, p. 17, Table 2.

¹¹⁵ Washington Department of Ecology, "Building a Future for Water, Wildlife and Working Lands,"

<http://www.ecy.wa.gov/programs/wr/cwp/images/pdf/8-YBIP-Wymer.10.03.13.pdf>.

¹¹⁶ <http://krdistrict.org/EnergyBillINR.pdf>

¹¹⁷ Op. cit. WA Department of Ecology Publication Number 15-12-006.

current demands on Icicle Creek's water, that watershed has faced chronic water supply issues.¹¹⁸

In December 2012, OCR and Chelan County co-convened a small workgroup, the Icicle Work Group (IWG), to resolve water rights litigation, fish hatchery concerns, and water supply issues facing the Wenatchee River and its tributary Icicle Creek. The Icicle-Peshastin Irrigation District (IPID) had historic water rights and easements that allowed it to store and divert water from the Enchantment Lakes in the Alpine Lakes Wilderness. Potential IWG water supply enhancement projects include increases in the water diversions from seven lakes in the Enchantment Lakes region.¹¹⁹ These proposals include the rebuilding of a collapsed dam on Eightmile Lake so that the lake level can be raised to store more water and, during drawdown, can be lowered below current levels. Another proposal would install a siphon or pump or blast a tunnel to allow the draining of Upper Klonauqua Lake into Lower Klonauqua Lake so that additional water could be stored and delivered to the IPID. The IWG is also considering installing remotely controlled equipment so that the levels of all seven of these wilderness lakes can be controlled by IPID from its offices, adjusting the quantities of water removed from the lakes to meet both consumptive use and instream flow requirements.

These and other possible manipulations of the level of these wilderness lakes are currently part of a State Environmental Policy Act EIS process.¹²⁰ Presumably there will also be a NEPA process, since the lakes are within a National Forest managed by the U.S. Forest Service. OCR is funding the work of the IWG through a \$700,000 contract with the Chelan County Natural Resources Department. OCR also sought another \$3.5 million to continue the IWG work into the 2015-2017 biennium.¹²¹

These proposals to actively manipulate the level of many lakes in the Alpine Lakes Wilderness through the construction of new dams, modification of other dams, and installation of mechanical and motorized equipment within a well-known and spectacular National Wilderness Area are certain to be controversial. It is not clear that the 2006 Washington legislation that established the OCR envisioned that a Washington state government agency would support this type of intrusion into one of the state's most valued natural areas. At the very least, the legislature should require a clear and convincing showing that *each* of these proposed activities within the Alpine Lakes Wilderness has benefits exceeding costs *and*, given the unavoidable environmental costs, that the problems of water supply in the Wenatchee River Basin cannot be solved by aggressive water conservation plans throughout that water basin and the expansion of regional water markets that encourage the selling and trading of water rights so that existing water can voluntarily move from lower to higher valued uses. New commercial intrusions into the Alpine Lakes Wilderness and the commercial manipulation of the water levels in these wilderness lakes are unlikely to be economically justifiable.

¹¹⁸ Ibid, p.11.

¹¹⁹ Colchuck, Eightmile, Upper and Lower Snow, Nada, Upper Klonauqua, and Square Lakes.

¹²⁰ <https://fortress.wa.gov/ecy/publications/documents/1512006.pdf> , p. 11.

¹²¹ More information is posted at the Icicle Work Group website:

<http://www.co.chelan.wa.us/natural-resources/pages/icicle-work-group>

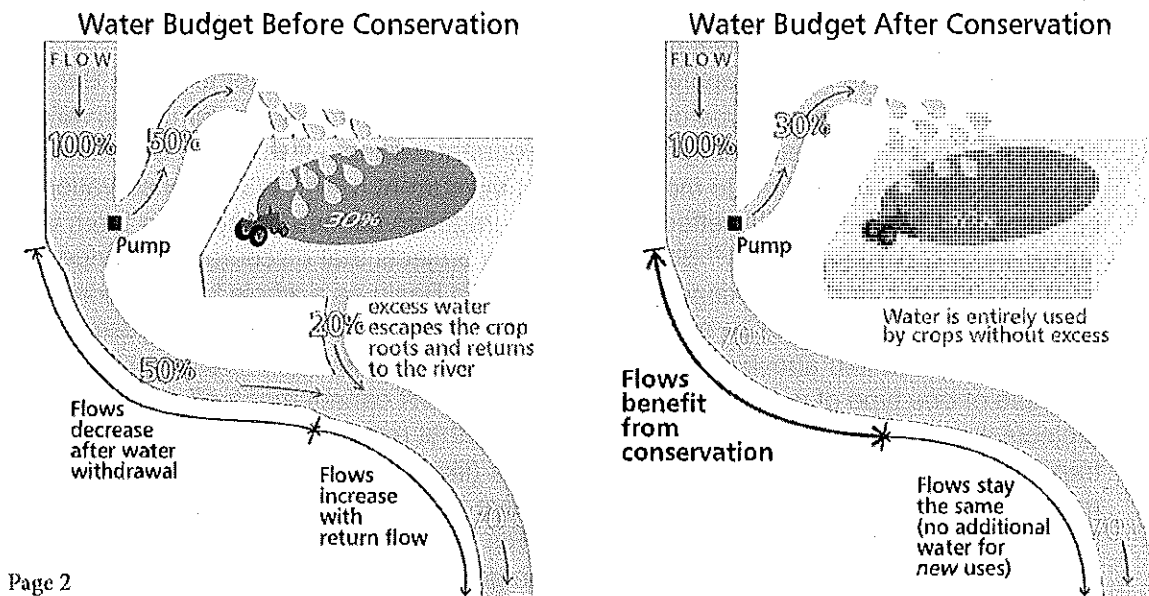
III. The Effectiveness of Water Conservation in Meeting Water Needs

In the first few pages of the 2015 “Columbia River Basin Water Supply Inventory Report” to the Washington Legislature, OCR presents water conservation as though it has no clear beneficial use. Although the report goes on to detail that there *are* clear, large, and real benefits from water conservation,¹²² water conservation is initially presented as a lesson to which OCR has learned not to pay attention.

OCR begins its discussion of “lessons learned” “since OCR’s inception” that now “shape the way [OCR] allocate[s] funds and prioritize[s] our efforts” with the assertion that “certain project types, such as water acquisition and storage...more efficiently and reliably provide additional water supply than conservation and efficiency improvements.”

This is an important, if disturbing, assertion of bias in favor of those approaches to improving water supply that are the most expensive and pose the greatest likelihood of significant and permanent environmental damage: large reservoirs that capture and store water from natural waterways. Since OCR’s 2015 report to the legislature on its success at developing water supply over the last decade and its projections of water supply it expects to develop in the near future heavily depends on reservoir storage, it is important to understand the misleading character of OCR’s asserted “lesson learned” that water conservation is largely ineffective in improving the delivery of the services of water to agriculture, cities, and businesses.

Page 2 of the “2015 Columbia River Basin Water Supply Inventory Report” presents the following figure.



¹²² Page 8 shows 10,000 AF of conservation savings from the Odessa Subarea Groundwater Replacement Program and page 12 shows 3,476 AF of Irrigation Efficiency conservation that has already taken place.

The figure above is presented by OCR to show that there are only very small benefits from water conservation when that conservation is associated with the more efficient application of water to crops. This figure is described by OCR in the following manner:

Conservation projects, which are abundant on our project inventory lists, are often suggested as a way to make more water available for instream flow and other uses. Despite the presumed benefits, increasing irrigation efficiency does not readily translate to water supply made available for new allocation. While these projects can provide valuable benefits to streamflows supporting aquatic species and habitat, implementation of these projects generally does not yield enough benefits to achieve out-of-stream goals. The amount of water used consumptively by crops remains essentially constant throughout a range of application efficiencies. In some instances, enhanced water use efficiency results in higher consumptive use by crops and less water being available in stream.

As depicted in the [illustration above], water conserved through increased efficiency generally would have returned to the water body as “return flow”, and would not have been used consumptively by the crops. However, as OCR attempts to allocate new sources of water, we cannot use these return flow portions, because it will actually reduce streamflow in areas downstream from the historic return flow location. (Page 2.)

There are two very important pieces to this ORC argument about the ineffectiveness of water conservation in enhancing water supply that have to be critically analyzed:

- i. A distinction must be made about different types of water conservation efforts. In this OCR description of the lessons it has learned, ORC used the phrase “water conservation” only to refer to applying the appropriate amount of water to crops. But, as OCR knows, this is just one type of water conservation. ORC’s own water conservation projects have indeed been among the most important means by which the Columbia Basin has been able to allocate more water to new/current users. Water conservation includes, and has been highly effective in, lining irrigation ditches or replacing them with piping in the Columbia Basin.¹²³ Because of these projects that discourage seepage from the different canals and conduits, the Columbia Basin as a whole has far more water than otherwise would be available to irrigate crops. This is important because the OCR quote presented above seems to dismiss *all* forms water conservation using an example of *one* type of water conservation. Clearly OCR cannot mean *all* conservation projects are ineffective since conservation projects that reduce the loss of water in the transportation of water from large bodies of water (like the Columbia or numerous reservoirs) have been shown to be highly effective in providing additional supplies of water to the farmers who use the water.¹²⁴ OCR’s “lesson learned” and its accompanying “teaching aid” are not about water conservation generally but about the efficiency with which water is applied to crops, avoiding wasteful over-watering of crops.

¹²³ Columbia Basin Project Coordinated Water Conservation Plan-Final Draft. Prepared by Anchor QEA, LLC. March 2010. P. 3.

¹²⁴ Both the volume of water conserved and the cost per acre foot make this clear in the Columbia Basin Project Coordinated Water Conservation Plan-Final Draft (2010). This is also made clear in the Columbia River Basin Water Supply Inventory Report where conservation is responsible for saving thousands of AF.

- ii. OCR's discussion of the impact of improved irrigation efficiency is misleading. It ignores the instream benefit that is shown in the OCR figure, a benefit that should not be dismissed. Although keeping instream flows at levels sufficient to maintain healthy rivers and fish population may not directly provide more water for irrigation and other off-stream uses, in the situation depicted in the OCR figure, the instream benefits are clearly obtained without any loss in crop production. Assuming that the crops receive enough water, as they do in this figure, then the enhanced instream benefits at the point of diversion would certainly provide some justification for the water conservation measures as it is applied to the crops. Since the damage to riverine ecosystems caused by low stream flows due to the diversion of river water to irrigate crops often leads to the search for additional water sources to enhance instream flows, improved crop watering efficiency that reduces the decline in stream flows at diversion points can indirectly reduce the need to find other water sources to supplement the low stream flows. Efforts to supplement instream flows can reduce the water flows available for out-of-stream uses.

However, the OCR's figure depicting the impact of improved efficiency in applying water to crops is inaccurate. In the "Columbia Basin Project Coordinated Water Conservation Plan-Final Draft," 17 percent of the water not used by the plants that seeps into the ground is lost to "deep groundwater systems, evaporation, and evapotranspiration".¹²⁵ This loss of water due to over-watering that seeps into the ground or is absorbed into the air clearly shows that the OCR figure that is presented above is not representative of the actual hydrology. The right-hand figure (after conservation) would remain the same. But the left-hand figure (before conservation) would have 17 percent of the 20 percent return flow (3.4 percent) lost to deep groundwater systems, evaporation, and evapotranspiration. It is possible that some of the water that makes it into the deep groundwater systems could, at a cost, be returned through groundwater pumping, but the portion lost to evaporation and evapotranspiration would be gone forever. Even if the water can be pumped from the deep groundwater system, it is unclear who would benefit from this water. A careful understanding of where the water goes before it is in the deep groundwater system would need to be better understood. In addition, OCR has not used updated crop water requirements. The Washington Irrigation Guide (WIG) is the standard in Washington State for estimating crop water needs, but the guide has not been revised since 1997.¹²⁶

Water conservation is a very real and reliable strategy that has been proven to provide more water to the Columbia Basin Water Inventory. Conservation should not be dismissed as ineffective. Discouraging water conservation, as the above figure and quoted language does, can only harm efforts to cost-effectively provide more water to the farmers of the Columbia Basin. Providing a simplistic figure and language that discourages conservation will lead to less water available for other farmers to use and less water available in the streams that are adjacent to each farm. Indeed, conservation, including improved application of water to plants, is important in developing water supply.

¹²⁵ Columbia Basin Project Coordinated Water Conservation Plan-Final Draft. Prepared by Anchor QEA, LLC. March 2010. P. 7.

¹²⁶ <http://www.ecy.wa.gov/programs/wr/wig/wig.html>

OCR has also supported the “Columbia Basin Project Coordinated Water Conservation Plan” which was developed by the three Columbia Basin Project irrigation districts. The goal of this project was to identify water conservation projects that would allow additional acreage to be served without disrupting the water supply of existing acreage while also not increasing the withdrawals of water from the Columbia River. The water saved by this coordinated water conservation effort “would be available as a replacement water supply for groundwater deliveries in the Odessa Subarea, environmental uses, and municipal and industrial water supply.”¹²⁷

Note ORC’s direct assertions that these conservation efforts would make water supply available for out-of-stream uses such as crop irrigation and water supplies to municipalities and industrial operations. Also, note the recognition that low stream flows can require the diversion of water from out-of-stream use to instream flows.

OCR estimates that 18,267 acre-feet of water savings were generated by the Coordinated Water Conservation efforts between 2009 and 2012, “freeing up enough water to irrigate almost 6,100 acres of land.” “The project allows OCR to begin replacing some groundwater water rights with surface water rights in the Odessa Subarea, immediately...”¹²⁸ The OCR list of developed water projects between 2006 and 2016, lists the Columbia Basin Irrigation District Piping of open water canals as resulting in the saving of 33,822 acre-feet of water for other uses.¹²⁹ That was the third largest of the OCR’s list of developed water supply projects. Only the Odessa Subarea Groundwater Replacement Project (164,000 acre feet) and the Lake Roosevelt Incremental Storage Releases Project (132,500 acre feet) provided larger developed water supplies.

Given these OCR-documented water conservation programs’ support for out-of-stream water uses, the OCR’s report of the negative “lessons learned” about the effectiveness of water conservation in its 2015 Columbia River Basin Water Supply Inventory Report to the Legislature is incomprehensible.

IV. Conclusions on OCR’s Last Ten Years

The above analysis of OCR provides a critical overview of OCR’s expenditures since its creation. That critical overview raises serious concerns about the actual accomplishments of OCR and the economic rationality of the projects that OCR has supported with its expenditures. The overall conclusion from the above analysis is: The Washington State Legislature should provide no additional funding to OCR until a performance audit on OCR is prepared for the Legislature.

The more detailed conclusions drawn from the above analysis include the following:

¹²⁷ “Columbia Basin Project Coordinated Water Conservation Plan—Final Draft,” prepared by Anchor QEA for the East, Quincy, and South Columbia Basin Irrigation Districts and the Washington State Department of Ecology, March 2010, page 1.

¹²⁸ <http://www.ecy.wa.gov/programs/wr/cwp/CBID.html>

¹²⁹ <http://www.ecy.wa.gov/programs/wr/cwp/images/pdf/waterdev.pdf>

- a. **A significant amount of the approximately 400,000 acre-feet of water that the Office of Columbia River (OCR) reports as having been “developed” during the first decade of OCR’s operations is not from “new” water supply production.** For example, as explained in OCR’s 2008 Columbia River Basin Water Supply Inventory Report, “On March 20, 2008, Governor Chris Gregoire signed legislation that will provide for the release the largest delivery (132,500 acre-feet) of new water to towns and farms in the Columbia Basin, and for endangered salmon, in three decades. New withdrawals from Lake Roosevelt, behind Grand Coulee Dam, are expected to begin in 2009.”¹³⁰ In other words, OCR merely arranged to withdraw more water from the existing Lake Roosevelt reservoir.
- b. **The approximately 400,000 acre-feet of water that the Office of Columbia River (OCR) reports as having been “developed” during the first decade of OCR’s operations is, for the most part, not water that currently has been put to productive use.** For instance, 194,000 acre feet of “developed” water currently stored in Lake Roosevelt behind Grand Coulee Dam has been authorized to be delivered to the Odessa Subarea to replace failing groundwater sources currently being used for irrigation. However, that Columbia River surface water cannot be delivered to those croplands until major additional investments are made in expanding the capacity of the East Low Canal and its associated facilities and to fund and build the delivery systems to carry the water from the canal to the croplands. As a result, as of mid-July, 2016, over 95 percent of the “developed” water that is supposed to be replacing groundwater pumping in the Odessa Subarea has not been delivered to those lands. According to the Bureau of Reclamation (BOR), the original Columbia Basin Project authorized delivery of Lake Roosevelt water to the Odessa Subarea in 1943. For much of that land, the cost of delivering that water has continued to prevent the use of Columbia River surface water to irrigate those lands. Of the 90,000 acres of Odessa Subarea land where Columbia River surface water is supposed to displace deep groundwater pumping, such displacement has taken place on only 2,000 to 3,000 acres of land as of mid-July 2016.
- And, despite OCR spending nearly \$200 million of state funds, no new major storage projects have been constructed within the Yakima Basin to provide new water supplies.
- c. **There are hundreds of millions of additional taxpayers’ investment dollars that will have to be made over the next decade or more before all of that OCR “developed” water is actually put to productive use.** Some combination of funding from Washington State taxpayers, the irrigated farms and municipalities that are beneficiaries, and the federal government will have to be put together before this water is actually “developed” in the sense of being put to productive use. A funding plan for completing this first decade of OCR water “development” has not yet been developed.

¹³⁰ 2008 Columbia River Basin Water Supply Inventory Report, Office of Columbia River, p. 3.
<http://www.ecy.wa.gov/programs/wr/cwp/images/pdf/08legs rpt/expand-rpt.pdf>

- d. **Listing water as “developed” when financing has not been arranged to put that water to use exaggerates OCR’s accomplishments and understates the costly taxpayer investments that will be required to put that water to use.**
- e. **The OCR and BOR funded Yakima Plan is based on speculative fish production benefits to justify funding large and expensive surface water storage facilities.** Ninety-six percent of the water to be developed in the OCR “near-term” (2015-2019) water projects are located in the Yakima River Basin and 47 percent of the water from “long-term” development projects (2019+) are also located there. The Yakima Plan lays out a thirty-year vision to develop approximately 500,000 acre-feet of water. As the OCR and BOR calculate the benefits of this 30-year water development project, about 85-90 percent of the benefits of the Yakima Plan are dependent on projected enhanced salmon populations. Only 5 to 10 percent of the benefits are associated with irrigated agriculture. Improved municipal water supplies would be the source of 2 to 3 percent of the benefits.
- f. **Doing an aggregate benefit-cost analysis on the Yakima Plan as the OCR and BOR chose to do hides projects that generate major net costs among those that generate net benefits.** The benefit-cost analysis paid for by OCR-BOR found that even under the worst-case scenario the benefits of all of the projects associated with the Yakima Plan generate net benefits of \$1.8 billion with a benefit-cost ratio of 1.4. The Washington Legislature in 2013 was not satisfied with the OCR-BOR aggregate benefit-cost analysis and ordered the Washington State Water Research Center (WRC) to do a benefit-cost analysis of each of the component projects within the Yakima Plan. That is a more appropriate use of benefit-cost analysis since it prevents economically very productive projects with very high benefits and very low costs from being used to justify economically irrational projects that have low benefits and high costs.
- g. **To economically justify large Yakima Basin surface storage projects, the enhanced instream flows facilitated by those surface water storage projects would have to be implausibly effective at increasing salmon production and/or the incremental salmon production would have to be assigned indefensibly high economic values.** The WRC benefit-cost analysis mandated by the Washington Legislature concluded that none of the OCR larger surface water storage projects in the Yakima Basin could be justified on the basis of the irrigated agriculture and municipal water supply benefits. This includes the combined Kachess Drought Relief Pumping Plant and the related Keechelus-to-Kachess Conveyance. That water conveyance project is needed to make the drought relief pumping from the Kachess Lake’s inactive storage viable. The WRC benefit-cost analysis also concluded that neither the Wymer Dam and Reservoir nor a new Bumping Lake Dam could be economically justified on the basis of irrigation and municipal water benefits.

The WRC estimated the fish-production value of those enhanced in-stream flows to be far too small when combined with irrigation and municipal water benefits to justify the cost of building of those surface water storage facilities.

- h. **In addition, within the Yakima Basin, it would be far less costly to provide the planned enhanced in-stream flows by the buying water rights to divert water flows**

to out-of-stream uses and leaving the water in the rivers rather than building new or expanded large surface water storage facilities. Diverting water from out-of-stream uses to in-stream uses would cost a fraction, 4 to 33 percent, of the in-stream-flows' share of the costs of building the surface water storage facilities. Stated differently, in order to economically justify the overall Yakima Project, OCR-BOR had to assume the fish-production value of the water was so much higher than the agricultural and municipal water values (at least 3 to 25 times higher) that it does not make economic sense to use that water for agricultural and municipal uses. It should be devoted instead to fish production via in-stream flows. If that assumption is abandoned, then the Yakima Plan no longer is economically rational nor are most of its component parts.

- i. **The proposed surface water storage projects OCR envisions being carried out in the Yakima Basin over the next three decades would be very expensive to Washington State and its citizens, costing Washington taxpayers as much as \$2 billion.** OCR's projection of the costs of pursuing this additional surface water storage increases substantially as one moves from the first decade of the Yakima Plan to the second decade. In the first decade (2013-2023), the projected surface water storage costs are about \$414 million. In the second decade, the surface water storage investment costs will rise to just over a billion dollars, a 140 percent increase. In the third decade the capital investments in surface water storage will be approximated one billion dollars more. Over the three decades \$2.4 billion will be spent on surface water storage by the Yakima Plan. If, as the 2006 ORC legislation requires, the state will cover about half of the costs of the total plan, this represent very substantial future financial obligation for the State of Washington, including at least \$1.2 billion, just for surface water storage.

In addition, as the Yakima Plan is implemented, BOR and OCR intend to conduct appraisals and, potentially, feasibility-level studies on other water supply enhancements, including the potential for an inter-basin transfers from the Columbia River.¹³¹ Pumping from the Columbia River into a new Wymer dam has been proposed.¹³² A presentation was made to the Yakima Workgroup on November 8, 2009, on pumping Columbia River water into a new Selah Creek dam.¹³³ None of these proposals are included in the costs of the Yakima Plan.

Of course, surface storage of water is just one of the elements of the Yakima Plan. In the Initial Development Phase, the cost of surface water storage was about \$414 million. The total cost of all of the elements of the Yakima Plan in that decade was projected to be \$897 million, over twice as high. For the second and third decades, the total costs are 50 to 60 percent higher than the surface water storage investment costs alone. The whole of the "Initial Development Phase" of the Yakima Plan, the first decade, 2013-2023, on which ORC is currently working, is projected to cost almost \$900 million, while the cost over thirty years would be \$4 billion, up to half of which may be a state obligation. See Table 5 below.

¹³¹ Yakima River Basin Integrated Water Resource Management Plan, Final Programmatic Environmental Impact Statement, Benton, Kittitas, Klickitat, and Yakima Counties, p. 2-25

¹³² <http://www.usbr.gov/pn/programs/yrbwep/2009workgroup/meetings/2009-11-23/14wymerflex.pdf>

¹³³ <http://www.usbr.gov/pn/programs/yrbwep/2009workgroup/meetings/2009-11-09/10selahcreekpresentation.pdf>

Table 5.

Estimated Costs of Implementing the Yakima Integrated Plan				
Integrated Plan Element	Initial Development	Intermediate Development	Final Development	Full Development
	Phase 2013-2023	Phase 2023-2033	Phase 2033-2043	Costs 2013-2043
Surface Water Storage	\$413,900,000	\$1,003,600,000	\$999,000,000	\$2,416,500,000
Total for All Elements	\$896,900,000	\$1,572,050,000	\$1,542,250,000	\$4,011,200,000

Source: "The Yakima River Basin Integrated Water Resource Management Plan-Cost Estimate and Financing Plan-

Legislative Report," Office of Columbia River, and Office of the State Treasurer, December 15, 2014, Figure 4.

- j. **The proposals to actively manipulate the level of many lakes in the Alpine Lakes Wilderness through the construction of new dams, modification of other dams, and installation of mechanical and motorized equipment within a well-known and spectacular National Wilderness Area need critical economic scrutiny.** At the very least, the legislature should require a clear and convincing showing that *each* of these proposed activities within the Alpine Lakes Wilderness has benefits exceeding costs *and*, given the unavoidable environmental costs, that the problems of water supply in the Wenatchee River Basin cannot be solved by aggressive water conservation plans throughout that water basin and the expansion of regional water markets that encourage the selling and trading of water rights so that existing water can voluntarily move from lower to higher valued uses. New commercial intrusions into the Alpine Lakes Wilderness and the commercial manipulation of the water levels in these wilderness lakes are unlikely to be economically justifiable.
- k. **OCR's 2105 Columbia Basin Water Supply Inventory Report begins with an explicit criticism of the efficacy of water conservation efforts and an argument in support of giving priority to investments in surface water storage, the most expensive elements of the OCR's plans. OCR's critique of the efficacy of water conservation compared to building surface water storage facilities is misleading in several ways.**
- i. OCR's critique equates water conservation with improvements in the efficiency with which water is applied to crops. There are many other important types of water conservation besides improving the efficiency of irrigating crops.
 - ii. Even in the context of efficiency in the amount of water applied to crops, that improved efficiency can moderate the impact of irrigation on in-stream flows at the points of diversion. It can also reduce the loss of water to evaporation, evapotranspiration, and deep water aquifers.
 - iii. Low in-stream flows due to irrigation withdrawals often lead to efforts to enhance the in-stream flows by building more surface storage to be used to maintain in-stream flows. For instance, about half of the planned surface water stored by the proposed Wymer Dam and Reservoir would be used to enhance in-stream flows rather than delivering water to out-of-stream uses like irrigation.

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- iv. OCR's own analysis of a broad range of water conservation projects demonstrates that water conservation can provide water of out-of-stream uses in a cost-effective manner.
 - I. Over the past 10 years, the OCR has wasted millions of dollars on new dam studies that are uneconomical with adverse environmental impacts.**

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