

December 12, 2014

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Ron VanGundy Roza Irrigation District Dr. Jonathan Yoder, Director State of Washington Water Research Center Washington State University PO Box 646210 Hulbert Hall 101 Pullman, WA 99164-6210

RE: Washington State University (WSU) Benefit-Cost Analysis of the Yakima Integrated Plan Projects, Report to the Legislature

Dear Dr. Yoder:

On behalf of the Yakima Integrated Water Resource Management Plan (Integrated Plan) Implementation Committee, I want to express our appreciation for the opportunity to comment on the above referenced report. The Integrated Plan represents the concerted efforts of the State of Washington, the Bureau of Reclamation, the Yakama Nation, and stakeholders to address the long-standing water supply and aquatic resource needs of the Yakima Basin. The Integrated Plan participants spent a number of years defining the basin's water resource and aquatic resource problems and needs, evaluating options for resolution of those problems, and selecting a suite of projects and actions that would collectively meet the basin's needs. The projects and actions that comprise the Integrated Plan were never envisioned nor proposed to be stand-alone, individual efforts, but rather an interconnected package of projects and activities. The integrated nature of that package recognizes the synergistic effects of multiple projects and activities working in unison to improve the health and vitality of the Yakima Basin. The Integrated Plan exemplifies the old adage that "the whole is greater than the sum of the parts." As noted in the Washington State University (WSU) report, the Bureau of Reclamation's "Four Accounts Analysis" of the Integrated Plan conducted in 2012 recognized the synergistic effects of the interconnected projects and activities and resulted in a composite benefit/cost ratio well above 1.0.

Underlying the interconnected package of projects and activities is a mutual pledge by the State of Washington, the Bureau of Reclamation, the Yakama Nation and basin stakeholders to advance the interconnected package as a whole. That pledge, which is in essence a social contract, was recognized by the Washington State Legislature in



2013 when it passed, by nearly unanimous votes in the House and Senate, Second Substitute Senate Bill (SSSB) 5367, the Governor requested authorizing legislation for implementation of the Integrated Plan. An example of the legislature's recognition of the interconnection of Integrated Plan elements is the provision in SSSB 5367 that makes continued operation of the recently acquired Teanaway Valley Lands as the state's first Community Forest contingent on meeting water supply development milestones of the Integrated Plan.

The importance of the underlying social contract between the participants cannot be overstated. The Integrated Plan elements are integrated in both a physical manner as well as in a sociopolitical sense.

While the Implementation Committee does not believe that a "disaggregated" evaluation of the Integrated Plan can provide a realistic assessment of the Integrated Plan's full value, the committee recognizes that the legislative proviso to which WSU is responding dictates use of such an evaluation methodology. It would seem, however, to have been appropriate to provide more than just a passing recognition of the results of the aggregated benefit/cost analysis conducted by the Bureau of Reclamation in 2012, which did attempt to account for synergies among the Integrated Plan's projects and activities. In addition, the title of the report should also be modified to clearly reflect that it is, by design, a disaggregated analysis and, as such, views the Integrated Plan in a way that is contrary to the manner in which it is actually structured and has been proposed.

It is important to note that the economic analysis that was conducted by the Bureau of Reclamation in 2012 did, in fact, include use of a disaggregated analysis of plan components as a starting point for conducting the aggregated analysis. Reclamation's analysis also concluded that, when viewed in isolation, a number of the Integrated Plan projects, particularly the surface water storage projects, do not yield positive benefit/cost ratios. The results of those analyses are part of the public record and the State of Washington, the Bureau of Reclamation, the Yakama Nation, and basin stakeholders have never attempted to conceal that information. In fact, those findings were openly shared with legislators during the 2013 session when the Integrated Plan authorizing legislation was under consideration. The Implementation Committee does not labor under the illusion that an isolated project that is designed primarily to provide water on a sporadic basis in response to water shortages and droughts can yield a positive benefit/cost ratio using traditional methods of evaluation.

Similarly, the fact that the largest share of Integrated Plan benefits come from resident and anadromous fish recovery is also well documented and is understood by parties involved in the development and implementation of the Integrated Plan. Considering that Yakima River annual salmon runs that historically numbered about 800,000 fish are now reduced to a few tens of thousands fish, it is not surprising that substantial economic value can be attached to the fish flow, habitat, and passage improvements envisioned by the Integrated Plan.

Regardless of whether an aggregated or disaggregated approach is used, the assumptions that underlie a benefit/cost analysis can greatly affect the outcome and conclusions. While there was not sufficient review time to allow for a detailed enumeration of concerns over assumptions used in the report, we have identified some of the more significant areas of concern in the enclosed document.



There are also a number of findings in the report that cause the Implementation Committee great concern. For example, the assertion that water markets/transfers can obviate the need for additional water supply projects in the Yakima Basin is simply not grounded in reality. The additional water supply needs of the basin have been conservatively estimated by the State of Washington and the Bureau of Reclamation to be 450,000 acre-feet. It is of note that the Integrated Plan was recently criticized by a Yakima Basin Storage Alliance report that asserts that more than twice that amount is needed.

Actual experience during the 2005 drought, when most barriers to transfer of water were greatly reduced or eliminated, demonstrated that quantities of water generated from marketing approaches paled in comparison to actual water needs. For example, despite mounting an aggressive program to acquire and lease water in response to the 2005 drought, the Department of Ecology, Roza Irrigation District, and other irrigation districts were able to obtain less than 50,000 acre-feet of water through marketing efforts. A significant portion of the water was used to correct river flow imbalances created by emergency well use and point of diversion changes necessitated by the out-of-stream portions of the transfers.

The Washington State Department of Ecology has championed facilitation of market transfers as a means of promoting water use efficiency, and "market driven reallocation" is highlighted as one of the seven elements of the Integrated Plan. However, the utility of market transactions should not be overstated.

In addition, water marketing, at its heart, is a zero sum game. Absent an expansion of overall water supplies in the basin, over time, one segment of the basin's economy will be forced to cannibalize the water of another segment of the economy in order to survive. While that approach may make sense from an academic standpoint, it is contrary to the objectives of the Integrated Plan. The Integrated Plan is intended to preserve the basin's viable economy, not to force socially divisive choices that create economic winners and losers. It should also be noted that the upward spiral in water prices resulting from an over-emphasis on water marketing would likely make acquisitions of water for environmental purposes cost-prohibitive.

It is also interesting that while the report finds little value in developing additional water supplies, it concludes that the Integrated Plan's fish passage projects are likely to provide "positive net benefits." To be effective, fish passage projects require adequate flows in the Yakima River and its tributaries year in and year out to push outmigrating juvenile salmon and steelhead to the Columbia River and sufficient flows in the same bodies of water to convey returning adult fish to upstream passage facilities and spawning grounds. It seems counterintuitive to disregard that the value of the water supply projects that are vitally important to ensuring the availability of water necessary to make the fish passage facilities functional.

In closing, we firmly believe that the Integrated Plan provides the Yakima River Basin with the tools needed to preserve the basin's economy, to restore the basin's once prolific salmon and steelhead runs, and to provide resiliency in the face of climate change impacts that are predicted to have devastating effects on the basin's snowpack and mid-to-late summer stream flows.



To the latter point, the recently issued report of President's Task Force on Climate Change Preparedness identifies the Yakima Integrated Plan as an example how communities across the nation should prepare to address climate change impacts. We can only achieve those goals if we maintain the holistic approach to correcting water resource and aquatic resource problems that is embodied within the Integrated Plan.

We once again, we want to express our appreciation for the opportunity to comment on the report and welcome the prospect of future collaborate with WSU regarding our long-term efforts to implement the Integrated Plan.

The Yakima Basin Integrated Plan Implementation Committee

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Washington State Department of Ecology

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Enclosure: Yakima Integrated Plan Implementation Committee Comments Regarding Report Assumptions

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Yakima Integrated Plan Implementation Committee Comments Regarding Report Assumptions

Washington State University (WSU) Benefit-Cost Analysis of the Yakima Integrated Plan Projects, Report to the Legislature

- Municipal and domestic benefits are significantly underestimated because lease rates and acquisition costs for water used in the report are far below those recently observed in the basin.
- The report assumes that municipal and domestic water supplies will be made available to users at no charge. The Integrated Plan anticipates that all costs associated developing the additional out-of-stream water supplies envisioned under the Integrated Plan will be borne by the users, although the specific mechanisms for upfront payment or repayment are still under development. Irrigators too will help pay for new supply. A federal loan repayable with interest will drastically reduce subsidies compared to what WSU seems to be assuming.
- The report does not appear to appreciate or reflect the potential ramifications of the ground water/surface water continuity and the attendant municipal and domestic water supply security issues associated with out-of-priority use.
- The authors recognize that the report does not address the total economic impacts of the Integrated Plan; however, the report's negative findings do not appear to be tempered in any way by that limitation.
- The report does not appear to be able to arrive at a conclusion regarding the impacts of additional ESA listings for fish species, nor the value of the delisting of fish species, such as mid-Columbia steelhead.
- Overall, the report's handling of climate change impacts as they relate to future negative impacts to out-of-stream uses and aquatic resources needs considerably more clarity in terms of the specific assumptions used in calculating costs and benefits. Climate change projections since issuance of the 2012 Feasibility Study suggest that more, not less, pessimism is warranted when it comes to snowpack storage.
- The cconomic benefits to the agricultural sector estimated by WSU is only about 20% of the benefits calculated in the Bureau of Reclamation's 2012 analysis. We presume that a portion of this discrepancy can be explained by WSU using far less pessimistic assumptions regarding predicted drought frequency, drought severity, and climate change effects. However, those factor alone would not likely account for discrepancy of this magnitude.