

**YBSA COMMENTS ON
DRAFT PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT
FOR YAKIMA RIVER BASIN
INTEGRATED WATER RESOURCE MANAGEMENT PLAN
January 3 2012**

SUMMARY OF POSITION

YBSA supports elements of the Integrated Plan (“IP”) because it provides a *short-term* solution to the water supply problems of the Yakima Basin, while providing needed habitat improvements to help restore the Basin’s fisheries. YBSA is, however, deeply concerned that the IP water storage element does not provide a sufficient *long-term* solution to the water supply needs of the Basin, especially in light of current State and Federal funding shortages, and the National need to integrate Northwest wind power.

To more effectively meet the stated long-term needs for water storage and stabilization, YBSA urges an acceleration of the Columbia River Pumped Storage option identified in the IP. In particular, YBSA believes that funding for a study of the Columbia Pumped Storage option should be made a priority of the IP, and that the study should include a pumped storage electricity production element. The PEIS’s decision to make that option a mere aspiration does not adequately protect the Yakima Basin’s future, especially if the more severe climate change scenario considered in the IP come to pass.

PURPOSE AND NEED

The Purpose and Need statement in the PEIS demonstrates the urgent need for action to address water supply issues in the Yakima Basin, problems that will only grow worse as the Basin’s population grows and the effects of climate change alter the amount and timing of precipitation in the Basin. For many years, YBSA has been concerned about exactly these problems, and we believe the Purpose and Need statement underscores the need for action without further delay.

In particular, we note:

- Water supply is already a serious issue in the Yakima Basin. In dry years, proratable water rights holders already face substantial reductions in their water supply, placing the Basin’s agricultural economy at risk. As the PEIS correctly observes: “Demand for irrigation water significantly exceeds

supply in dry and drought years, leading to severe prorationing for proratable, or junior, water rights holders.” (PEIS at 1-3).

- Water rights in the Basin are fully subscribed, making it difficult for both municipalities and individual businesses and homeowners to obtain new water supplies for municipal uses. This places the Basin’s non-agricultural economy at risk. Ground water adjudication puts all Basin interests at risk by jeopardizing State, Federal and private investment in our needed infrastructure.
- As the PEIS notes, the Yakima Basin historically supported anadromous fish runs of somewhere between 300,000 and 950,000 fish annually. Habitat degradation over the last century has substantially reduced these numbers. (PEIS at 1-5 to 1-6). Low streamflows and high temperatures in certain reaches of the Yakima, as well as excessive streamflows during certain times of year in other reaches, have contributed substantially to the decline of the Basin’s fisheries. By our calculations the IP further reduces flows in the lower 100 miles of the Yakima.

As the effects of climate change take hold, these problems are likely to grow worse, possibly much worse. The August 2011 Addendum to the Integrated Plan concludes that, even under the less adverse climate change scenario, average water supply in the Yakima Basin would be about 150,000 acre-feet below current levels and under the more adverse scenario, the supply would decline by *950,000 acre-feet, with proratable water supplies at zero during dry years.* (August 2011 Addendum at 12).

But these declines in overall water supply tell only half the story: as temperatures rise, more precipitation will come as rainfall rather than snowfall, reducing the snowpack the Basin relies upon as its “sixth reservoir.” The Basin’s reservoirs currently are capable of storing only about thirty percent of the average annual runoff, making the Basin extremely dependent upon melting snow for water supply during the summer months. (PEIS at 1-6 to 1-7). In addition, summer flows on the Yakima are likely to decline. Under all three climate change scenarios considered in the IP, summertime streamflows will decline markedly. (August 2011 Addendum at 25). Under the more adverse climate change scenario, runoff in the July-September period *could decline by more than 70%.* (August 2011 Addendum at 7).

In short, YBSA strongly agrees with the assessment of need for the Yakima Basin. It is undeniable that current water supplies are inadequate to support the Basin's agricultural economy, municipal demands, and healthy fisheries. Without action, reasonably anticipated changes in precipitation and rainfall patterns are likely to turn a serious situation for the Basin into an outright disaster.

We therefore support the PEIS's statement describing how the problem should be addressed:

These problems have created a need to restore ecological functions in the Yakima River system and to provide more reliable and sustainable water resources for the health of the riverine environment, and for agricultural, municipal, and domestic needs. These problems should be addressed in a way that anticipates increased water demands and changes in water supply related to climate change.

(PEIS at 1-3). We are concerned, however, that the measures proposed in the IP are, in the absence of additional measures, do not adequately address the need in the manner prescribed by the PEIS.

THE IP HELPS, BUT DOES NOT FULLY MEET THE IDENTIFIED NEED

- Surface water supply: Collectively, the water supply projects proposed in the IP will provide only about 450,000 acre-feet of additional storage (PEIS at 2-17), compared to existing storage capacity of slightly more than 1 million acre-feet. Even if each of the water supply proposals put forth in the IP is developed as planned, Yakima Basin water supplies are likely to remain inadequate. In fact, while the additional storage will improve the situation, the IP predicts that water delivery to proratable users in the Basin would improve only under current and less adverse climate change scenarios, while under the moderately and more adverse scenarios, conditions for proratable users would decline. Under the more adverse scenario, the proration level would be 50%, far below the 70% minimally acceptable level identified in the IP. (August 2011 Addendum at 12-13).

The IP also assumes that each of the identified water supply options will be permitted and built. YBSA believes this is not a safe assumption. Enlargement of storage at Bumping Lake, for example, has been controversial in the past because of environmental concerns. If Bumping is not constructed, 190,000 of the 450,000 acre-feet of storage planned in the

IP would be lost. It is certainly possible that similar problems could arise at one or more of the water supply projects identified in the IP. If this occurs, the benefits of added water supply offered by the IP could be significantly reduced.

- Fisheries benefits: The PEIS observes that “[i]f fish habitat enhancements are implemented without providing fish passage at existing reservoirs and improving flows, the habitat enhancements will have more limited benefits to fish.” (PEIS at 2-10). Similarly, YBSA believes that implementing fish passage improvements at existing reservoirs without improving the downstream flows necessary to allow migrating fish to reach the passage facilities will severely limit the benefit of passage improvements.

YBSA is particularly concerned that the IP does not improve flow conditions in the lower reaches of the Yakima River and, in fact, makes those conditions slightly worse. (Yakima River Basin Study, Vol. 1 at 76-77). This could, we fear, undermine the value of fish passage improvements at the reservoirs in the upper Basin because low flows and high temperatures are most likely to be a barrier to fish migration in the late summer. Sockeye, which are the species most likely to benefit from passage improvements because their life-cycle depends upon access to lakes, migrate at precisely this time.

- Additional measures needed: YBSA therefore believes that, in order to meet the need identified in the PEIS, the IP by itself is likely to prove inadequate, especially in the long term. YBSA therefore supports moving forward with additional measures to assure the Basin’s future, in particular acceleration of the Columbia Basin Pumped Storage study option identified in the IP. Taking such action will provide solid information about the feasibility of the Columbia Basin Pumped Storage alternative, both as a means of addressing the shortfalls of the IP as planned, and as a fallback if the storage projects identified in the IP do not come to fruition.
- Conservation, by itself, is inadequate: YBSA supports the PEIS’s conclusion that additional water conservation measures, by themselves, cannot meet the Yakima Basin’s future needs. Specifically, the PEIS notes that additional agricultural conservation would, in good years, save about 170,000 acre-feet of water, with substantially less savings occurring in dry years. (PEIS at 2-27). YBSA agrees with this conclusion and believes the IP has substantially advanced the debate by debunking the idea that water

conservation, by itself, is a panacea. While YBSA supports using all cost-effective water conservation measures, there is no longer any doubt that water conservation, by itself, is simply inadequate to the Basin's needs, and that additional storage capacity, along with additional conservation, is essential.

THE COLUMBIA BASIN PUMPED STORAGE OPTION SHOULD BE PRIORITIZED

The IP includes a two-step study of a pumped exchange using Columbia River water with storage in the Yakima Basin. Step 1 would include an "initial screening" that would look at: (1) the availability of water from the Columbia; (2) alternative configurations for pumping, routing and storage; (3) estimates of the costs of such a project; and, (4) an evaluation of cost allocation for funding the project. Step 2 would include a detailed, site-level analysis of this alternative, including a project-specific EIS.

The YBSA supports: (a) proceeding at once with Step 1; and, (2) adding electricity production in the form of pumped storage capability to the project as a means of potentially improving its economic viability.

YBSA supports immediate implementation of Step 1 for several reasons:

- Identifying "Plan B". A careful analysis of the PEIS reveals that water storage will be inadequate under the IP if any of the planned water storage options are, for any reason, derailed. It also reveals that if the more severe climate change scenarios emerge, the IP will be inadequate even if all storage options are built as planned. It is therefore prudent for the Yakima Basin to begin at once to identify a "Plan B" so that if "Plan A" – the IP – either falls short or proves inadequate in the face of climate change, additional storage options are immediately available. It is sensible to perform the "Step 1" analysis as soon as possible because this will provide a baseline to determine whether the Columbia River pump exchange can be carried out as currently envisioned. If it cannot, then another "Plan B" alternative should be developed. If the results of the "Step 1" analysis demonstrate that in-depth study of the project is likely to prove worthwhile, then the "Step 2" analysis can begin.

Such a project is likely to take years to complete. Accordingly, it is imprudent to wait for a crisis to emerge before thoroughly studying this option.

- Addressing the need for renewable energy integration. In the past decade, renewable energy (especially wind) has become a major economic force in Central Washington, but the existing power system is rapidly running out of capacity to reliably integrate wind. For example, in both spring 2010 and spring 2011, wind producers were forced to shut down because of lack of storage capacity in the federal hydro system, producing large economic losses, a waste of valuable wind resources, and protracted litigation. This is a major barrier to continued regional investment in wind and other variable renewable technologies such as solar.

Adding the capability for electricity production (likely in the form of reversible turbines) to the Columbia River alternative allows these energy integration problems to be addressed. Pumping water uphill to the storage reservoir when energy is in excess supply allows the energy to be stored, and electricity can then generated when it is needed to support the wind fleet or when electricity prices are high. In this way, pumped storage can greatly expand the capacity of the regional power system to integrate renewable resources, and substantially enhance the economic value of the Columbia Basin pump exchange option. In addition, it will allow the increasing value of dispatchable power to be harnessed to help improve project economics.

- Addressing adverse conditions in the lower Yakima. By shifting lower Yakima irrigation districts to Columbia water so that they do not need to withdraw from the Yakima, the pumped storage option would substantially improve flows in the lower Yakima. As we note above, even under the IP, low flows and high temperatures in the lower river remain one of the major impediments to improved anadromous fish runs in the Yakima Basin. For this reason, we suggest that the “Step 1” study also address the effects of Columbia River pump exchange on the flow and habitat conditions in the

lower Yakima. In particular, the study should assess the extent to which the Columbia Basin option will improve lower Yakima flows and should also address options for ameliorating temperature problems in the lower Yakima that might involve, in addition to improved flows, measures such as groundwater storage or aquifer recharge. We believe water quality issues (temperature, phosphorous, pH and nitrates) will be the subject of suits that will significantly impact the operation of the Yakima River. This is the best opportunity to address those potentially crippling issues now.

- Improved water storage. As noted above, by moving the lower Yakima irrigation districts away from dependence on Yakima water, the pumped storage option can substantially improve the overall water supply picture in the Basin. This would be particularly true if the pumped storage is combined with a storage facility inside the Yakima Basin.

OTHER COMMENTS ON THE PEIS

- Economic benefits of improved agricultural productivity are underestimated. The PEIS suggests that the economic value of reducing the prorations faced by junior water rights holders in the Yakima Basin is only about \$0.4 billion. We believe this significantly underestimates the value of improving water availability in the Basin for several reasons: (1) if junior water rights holders have improved assurances of water deliveries, they are likely to plant higher-value perennial crops such as wine grapes and fruit trees, rather than relying on lower-value annual crops like wheat (in the absence of assured water supplies, perennial crops are infeasible because the farmer risks losing his entire investment in any dry year when water may be unavailable or inadequate); (2) these higher-value crops also tend to be more labor-intensive, increasing the secondary economic impact of the switch to such crops; and, (3) the wine industry, in particular, supports a robust tourist industry in Eastern Washington, further increasing the economic multipliers associated with the switch from annual crops to wine grapes.

NOTES:

The Integrated Plan includes a section discussing study of “Columbia River Pump Exchange with Yakima Storage” (Vol. 1, page 44). The study would include, as Step 1, a detailed analysis of the physical and legal availability of Columbia River water, a description of alternatives for inter-basin transfer (including configurations of pumping, routing, and storage), estimates of the costs for each alternative.

As Step 2, it would include a detailed, site-specific feasibility-level analysis of the pumped storage option. “Depending on the outcome of the Wymer dam and interbasin transfer project described above, an evaluation of Roza Dam removal and whether to serve all or a portion of the Roza diversion through Columbia River water supply would also be evaluated.”

On page 61, the IP timetable includes study of the Columbia River pumped storage option, which is projected to occur in 2013-15, with triggers for possible implementation in 2016, 2021, and 2026.

The PEIS (Section 2.4.5.4, p. 2-20) briefly addresses the Columbia River pump exchange, indicating that the studies would occur if the IP Workgroup “decides to move forward with a Columbia River pump exchange project in the future.”

Questions from YBSA:

1. Integrating wind power into the NW system is a State and regional problem and a national priority. Should not all Washington water projects be evaluated as to their pumped storage benefits and costs?
2. Increased regulations are reducing our ability to access new withdrawals out of the Columbia. How do we know that water we will need will be available in 10, 20, or more years?
3. How will the upcoming Canadian treaty negotiations effect new water withdrawal supplies?

4. Water storage studies have been done on the Columbia river, what are the results of those efforts?
5. How can we increase tributary flows without diminishing agricultural supplies in drought years?
6. How do we know how much water fish will need?
7. Can water conservation projects provide enough instream flows?
8. How will fish be valued?
9. How will these projects be paid for, and what can the payers expect in return?
10. How do the various packages compare for environmental benefits and costs on an apples to apples basis?
11. How can we access more private capital?