

Why YBSA believes more water is required for the Integrated Plan

YBSA supports the Integrated Plan because it is the best vehicle to solve our long term water needs. YBSA has been the only advocate for significantly increased water storage for the Integrated Plan. As such we are compelled to explain why. Those reasons include instream flows, Irrigation droughts, and Climate Change.

Instream flows

YBSA believes the flows in the lower Yakima River with the Integrated Plan (IP) are inadequate to enhance and sustain the life stages of the anadromous fishery.

Fish production: The increase in fish production from the IP other than sockeye is very modest given the level of investment. If all the elements of the plan are implemented, annual runs would increase by less than 30,000 spring, summer and fall Chinook, Coho and steelhead.

Sockeye restoration is independent of the bulk of the actions included in the IP; only passage at the reservoirs is directly related to Sockeye production, which is the leading value in the IP, and is threatened by an unaddressed thermal barrier.

Temperature/Sockeye Timing: Sockeye passage can be delayed due to thermal blockage, which occurs when water temperature reaches 21 degrees C, which is 69.8 degrees F.

Temperatures routinely exceed this level in the lower Yakima River during the summer depending on specific flows and air temperatures in that part of the river. In 1994 the river water at Prosser reached 70 degrees F on June 18, and did not drop below 70 until September 2. Temperatures exceeded 75 degrees F from June 23 through August 18.

Sockeye suffer pre-spawning mortality if they hold downstream for a period of time due to thermal blockages. This mortality varies depending on length of time spent holding, water temperatures, and other factors. Delayed impacts of holding due to thermal blockages include reduced reproductive success.

We believe it is a mistake to advance the \$5 billion IP without being assured it will solve the thermal barrier in the lower Yakima.

YBSA believes that even though significant conservation will increase instream flows, added volumes are needed to increase functionality, especially in the lower 100 miles of the Yakima. This includes increased flows to ameliorate water quality, flows to reactivate side channels, enhance floodplain storage, generate and redistribute large woody debris, facilitate transport both up and down river, and reduce predation and entrainment losses. These needs are most acute for spring and summer flows, in average and dry years.

Storage carryover is the second limiting factor for Sockeye production in the Basin. Higher September reservoir carryover levels would significantly increase Yakima Basin Sockeye habitat and productivity.

We believe these aspects need significant improvement to get the full value of the IP investment.

Irrigation drought events

The five major reservoirs of the Yakima Project with a total capacity of 1,045,000 acre-feet, store and release water for the purposes of irrigation, fish and wildlife, and flood control within the Yakima River Basin.

A “sixth reservoir”, snow pack in the higher elevations of the Yakima River basin, located on the east side of the Cascades, is critical to the reliability of the Yakima Project’s water supply.

The Acquavella Adjudication Court has mandated that the rights of the Yakama nation to instream flows for anadromous fishery are time immemorial and senior to all other water rights within the Yakima River basin.

The Yakima Basin is unique in the West for its low percentage of stored irrigation supplies, as we depend so heavily on our snow pack. This fact increases the risk every marginal year as banks delay refinancing, pending the snow pack report before renewing irrigator loans.

When the snow pack is low, our water storage is inadequate to supply our needs. In other words the irrigation demand is met in the average and good years, but our carryover is insufficient for drought years in spite of large investments in conservation.

YBSA also believes supplemental irrigation wells, which are again junior water rights and subject to curtailment, are symptomatic of inadequate surface storage. As such, our dependency on ground water supplies has lead to declining ground water levels and has been impinging on instream flow levels. This too jeopardizes municipal supplies. To date ground water curtailment has not occurred, but would be an economic catastrophe due to the large investments in more valuable tree and vine crops.

In the drought years 1992-1994, the irrigation proration level was 58, 67 and 37 percent respectively. High levels of ground water pumping could not alleviate these droughts.

We note with alarm the frequency of the severe droughts is increasing. This leads us to believe climate change is a reality we cannot ignore.

Climate Change and irrigation droughts

For the Integrated Plan without climate change there are four dry years (1993, 1994, 2001, and 2005), for the 25 years of record, when the irrigation proration level is as low as 70 percent. With

the climate change scenarios the number of dry years increase and the 70 percent proration level will not be met in some years as follows (the following data is from the FPEIS):

- **Less Adverse:** Seven dry years (out of 25, or **28%**) with the irrigation proration level at 70 percent for each of the seven years.
- **Moderately Adverse:** Fourteen dry years (out of 25, or **56%**) and the 70 percent proration level criteria are violated in each of the fourteen years.
- **Most Adverse:** 24 dry years (out of 25, or **96%**) and the 70 percent criteria is violated in 22 of these years.

It is also worth noting that in climate change models for the NW, the area predicted to experience the most adverse reduction of precipitation is the east slopes of the Cascades.

Conclusions

The seven elements of the Integrated Plan are purported to “provide a comprehensive framework to protect water resources and habitat that can support the Secretary (of the Interior) in development of strategies to mitigate impacts associated with climate change”. However, the operational modeling results summarized herein question the capability of the surface storage element of the Integrated Plan to ensure a reliable water supply to sustain the Yakima River basin’s irrigated agricultural economy and ecosystem, and to provide for future municipal and domestic needs with the advent of climate change and its impacts on water supply.

The Integrated Plan includes an “adaptation process that would begin in 2015 intended to further refine measures for potential plan adjustments through time”. It also includes a future study of the potential for an interbasin transfer of Columbia River water as a source to meet additional water supply needs contingent on how the Yakima River basin’s economy develops over time and the timing of, and manner in which climate change affects water supply capability.

On the other hand, the Final Programmatic Environmental Impact Statement indicates that “Reclamation and Ecology with the input from the Workgroup, determined that there was no reasonable certainty that a pump exchange project was environmentally or economically feasible at this time to meet the Purpose and Need”. Consequently, the only water storage projects considered were Wymer Dam and Reservoir, Kachess Reservoir Inactive Storage, and Bumping

Lake Reservoir Enlargement. Ironically these projects are being strongly promoted while their environmental and economic feasibility have yet to be determined.

With the time immemorial Treaty right of the Yakama Nation for instream flows to sustain anadromous fisheries being senior to all other water rights, and with climate change having the potential to seriously affect the reliability of in-basin stored water supplies, we are faced with the reality that a Columbia River pump exchange is the only source of “new water” to supplement our over-appropriated Yakima River system.

While the Integrated Plan has some desirable features, it falls short in addressing water storage by providing a short-term vision to a long-term problem. The risk is too great! The need for an in-depth and open discussion of our surface water supply options is now, not “down the road” when we are facing a crisis of our own making.