

Oregon Options – initial list (8-01-12)

1. Support for build-out of Umatilla Aquifer Recovery Program

This option makes use of the substantial investment already made in the Umatilla Aquifer Recovery Project, and addresses a number of challenges to the current program – thereby increasing the number of acre-feet stored and recovered. Actions would include:

- (A) Funding for additional modeling and monitoring, including quantifying/tracking environmental baselines and net environmental benefit
- (B) Developing additional aquifer recovery locations
- (C) Access to Umatilla Chemical Depot for additional monitoring work
- (D) Utilizing existing BOR Phase II infrastructure to provide a cheaper, more effective alternative to previous plans.
- (E) Using lessons learned from the first stage of the project, propose ways to improve implementation of aquifer storage and recovery, including environmental benefit

This is a short-term option, with potential to add 10,000 – 20,000 acre-feet beyond current use. This option also would, by state law, need to result in a net environmental benefit.

2. Capture recharged water in Ordinance Aquifer

This option would address the portion of recharged water flowing north to Ordinance Aquifer through farmland currently served by Columbia River water. This could potentially free up that water for other in-stream and out-of-stream uses through water exchanges. Possible benefits to basalt aquifer as well.

Short-term option, potential acre-feet is dependent on aquifer storage capacity and timing and during of recharge activities.

3. Establish a Umatilla Basin Water Transaction Program

This option would establish a formal trading program, establishing legal boundaries and accounting systems. It would create an institutional framework for aiding other options, and is a priority for the Umatilla Basin Commission.

This option addresses the agricultural practice of crop rotation, recognizing that the same acreage may require different levels of irrigation. Such a program could also incent, broker, and account for water transactions involving conservation and net environmental benefit. Would likely require change to existing state water law, and would need to address potential impacts to owners of junior water rights.

Such a transaction program would enable temporary as well as permanent transfers of water, and/or water leasing (including any combination of ag-ag, ag-instream, etc.) when water from low-intensity use crops is transferred to users growing higher water use crops and/or used instream.

Number of acre-feet is unknown. It would, among other things, require a treatment plan and action by the State Water Resources Commission.

4. Explore and construct additional aquifer storage and recovery projects in the basin beyond the current aquifer recovery plans.

This longer-term option is dependent upon successful completion of (and learning from) the current Umatilla shallow aquifer recovery project. There may be other alluvial aquifer areas in the basin appropriate for storage and recovery, but the first step is to optimize return on the substantial investment has already been made in the current project. A next step might be to identify potential areas and begin developing monitoring networks to better characterize the flow in candidate aquifers.

5. West Extension Return Flow

This option involves a specific application of the water transaction program (option #3). In this option, the West Extension Irrigation District would be served by pumped Aquifer Recovery water (i.e. water recharged by Columbia River water), replacing water from the Umatilla River. Some of that saved water, in turn, can be utilized by other irrigators as well as instream uses.

This option is a short term priority for the Umatilla Basin Coalition. Number of additional acre-feet of water made available would be _____.

6. Use of flows in Columbia River for storage when Columbia is flowing above Bi-Op target flows for fish.

Records indicate that Columbia River flows in April through June exceed Bi-op target flows for fish from 22% to 45% of the time, on average. (Note: Target flows represent the minimum deemed necessary for fish survival, but are less than historic spring flow levels). The capture and storage of *some portion* of that water for instream and out-of-stream uses, either as an interruptible right or an exception, would likely require a change to Division 33 rules, which now prohibit additional Columbia River water extraction from April 15 to October 30, or require the development of a mitigation plan meeting the criteria of Division 33. One version of this option involves capturing some portion of “excess flow” from the Columbia in the spring, to substitute for groundwater extraction, switching to groundwater use once Columbia flows fall below a designated level.

7. Boardman Tree Farms water transfer

This is a more specific application of Option #1 and #6. If Columbia River Water were pumped into aquifer storage during times of high and excess flow (i.e. spring) utilizing the Boardman Tree Farms pumps and piping system, then supplied that water back to the Tree Farm when needed, they may be able to transfer a portion of their Columbia River water to summer irrigation.

This water could in turn allow irrigators to reduce demand for Umatilla River water, providing some in-stream benefits. This option also attempts to exploit differences in power rates in spring and summer, thereby providing savings to users over current costs.

This is potentially a short-term option, though it may require rule changes.

8. Construction of new surface water storage facilities

Preliminary feasibility studies have been conducted by the Oregon Water Resources Department on at least two small above-ground storage facilities in the Umatilla Basin. Those include Sand Hollow and Juniper Canyon. In addition, the Simplot Lagoon was identified as a possible above-ground storage option.

Given the costs of some of the proposed above-ground storage options in Washington, it is apparent that the marginal cost of new water will be higher than historic costs. Therefore, some of these above-ground options that were previously deemed too expensive may now warrant further consideration.

As the Sub-committee reviews some of these options, one or more of them may become a specific option for consideration by the Taskforce. These are longer-term options, and the impact could be from 500 to 4500 additional acre-feet of water stored for instream and out-of-stream uses.

9. Expansion of Cold Springs and/or other current above-ground facilities.

Cold Springs Reservoir is part of the Bureau of Reclamation's Umatilla Basin Project and has a total active capacity of 40,000 acre-feet.

This option would look at expanding that capacity for storage, either through raising the level of the reservoir or through removing silt deposits from the bottom of the reservoir.

This is a longer-term option, requiring discussions and action by the Bureau of Reclamation, and likely authorization from the U.S. Congress.

10. Expansion of Wallowa Lake and/or other out-of-basin facilities.

One option previously considered is the raising of Wallowa Dam, which would provide an additional 4000 acre-feet of water. Wallowa Dam is privately owned, not a Bureau of Reclamation facility. At one time, potential federal funding for this expansion would have required \$6 million match in state or local funding.

In-stream benefits would include additional water into the Wallowa River basin, which feeds the Snake River. Out-of-stream benefits to the Umatilla Basin would require interstate agreements to ensure that water is not extracted by irrigators in Washington prior to reaching the McNary pool. This option also will require agreement on an exchange rate between out-of-basin water and Columbia River water .

11. Conservation measures in Wallowa Basin.

This option involves helping pay for additional conservation measures in the Wallowa Basin, creating additional downstream flow in the Columbia for out-of-stream and instream use. Oregon's Conserved Water law would apply, requiring 25% of any saved water to be kept in-stream.

As with expansion of Wallowa Lake, any additional water runs the risk of being utilized by junior rights holders on the other side of the border and will likely require an interstate agreement. There will also be necessary discussions with Wallowa County and Wallowa County irrigators to ensure they feel they are "made whole" through any actions taken to benefit Umatilla or Morrow County irrigators.

12. Utilize existing unused Columbia water rights, i.e. municipal rights, for irrigation in the Umatilla Basin.

There are some existing municipal water rights from the Columbia River that are underutilized at present, such as for the Port of Umatilla. If some of those rights were utilized for agricultural or other in-stream uses, it could provide additional economic or other benefits without adding additional water *rights* from the Columbia. (Although a number of subcommittee members noted that it would be additional *extraction* from the Columbia over present conditions) The State of Washington's Columbia River Office has utilized some existing but unutilized water rights in their program.

There are a number of legal and policy questions that would have to be addressed if this option were to be seriously considered.

13. Basalt Aquifer Recharge and Water Bank.

This option involves treatment and injection of Columbia River Water into the basalt aquifer, raising the water table in the aquifer to a point where additional withdrawals would be permitted. (Water rights for the deep (basalt) aquifer in the Umatilla Basin have been greatly curtailed, due to critical draw-downs in the past.)

Once a threshold level of the basalt aquifer has been reached, the option proposed that it could be utilized as a “bank” allowing use of the basalt aquifer during drought periods, and thus avoiding environmental to the mainstem Columbia and Umatilla River systems during those years.

14. Instream Flow Restoration in High Priority Rivers and Reaches

Most of the options discussed above can be used alone and in combination to restore instream flows in tributaries and river reaches identified as high priorities for restoration under a number of state, tribal, and federal restoration plans (ESA Recovery Plans, NPCC Subbasin Plans, Tribal First Foods, etc). Tie-ins to instream flow restoration will need to be explored and evaluated for their potential to result in, leverage, or fund flow restoration.