

Columbia River Policy Advisory Group March 6, 2013

This meeting was devoted to two subjects: Aquifer Storage, Recharge and Recovery; and the 2013 Legislative Session

Aquifer Storage, Recharge and Recovery

Derek Sandison set the context for the morning presentation. The Columbia River Act requires the Department of Ecology to find alternatives to groundwater in the Odessa subarea, to develop water supply for pending water rights applications, to create new uninterruptible water for interruptible water right holders, to meet new municipal water needs, and to develop water for in stream purposes. The 2011 Columbia River Basin Water Supply and Demand Forecast estimated the need for additional water at between 1.4 million and 1.7 million acre feet thru 2030. Aquifer storage is a good water management tool. It can provide for the storage of cooler water than surface storage; it can be developed in less expensive increments than surface storage; and it can be timed to abet in-stream flow and agricultural uses in times of drought. The review will cover a set of projects today, but there are many other projects underway which could also provide additional water such as the Lincoln County Passive Rehydration Project and an aquifer storage and recovery project sponsored by the City of Yakima.

Guy Gregory and Dave Nazy, hydrogeologists for the Department of Ecology, first reviewed the difference in the strategic uses of shallow aquifer recharge (AR) and aquifer storage and recovery (ASR). Currently there are nearly 20 projects underway in some form in the State. Shallow aquifer recharge is used mostly to improve discharge to streams and mitigate the effects of ground and surface water use. It will minimize the effects of climate change. While the capital costs to develop such projects can be high, the operating costs are low, because there are no pumping costs. These projects have an emphasis on monitoring. AR has a larger physical footprint than ASR but typically smaller than surface storage. Pilot projects are underway in the Yakima River Basin, the Walla Walla Basin, and the Spokane Valley Rathdrum Prairie Aquifer.

Guy and Dave were joined by Melissa Downes of the Department of Ecology and Dan Haller and Tim Flynn of Aspect Consulting to review six Aquifer Storage and Recharge projects now underway. ASR has a small physical footprint; it has little adverse impact on terrestrial and estuarine ecosystems; it is much cheaper than other water supply and storage options; it can be acquired incrementally; and it has proven performance across the county (and internationally) -- about 400 wells operating with few failures. Capital costs are typically about \$1 per gallon per day of recovered capacity, with operating costs of about \$15,000 per year per million gallons per day of recovery capacity.

The panelists reviewed projects currently under development in Kennewick, White Salmon, Walla Walla, Boise Wallula, Columbia River Off-Channel (Douglas County) Storage and Twin Lakes (Methow Valley). Each of these projects posed a different water resource issue, but ASR was the methodology selected to assist with the problem. For example, in White Salmon, residents had received boil water notices; in Boise Wallula the use of colder water cut industrial energy costs; in Twin Lakes, there is a need to restore declining lake levels and improve fisheries. A common challenge for each of the projects was the extent to which stored water is being contained in the sub-aquifer and the ability to recover the water. In the case of Boise Wallula, the quality of the recovered water was also central to the success of the project.

Chris Pitre of Golder Associates, Kevin Lindsey of GSI Water Solutions, and John Stormon of Ecology (Water Quality) joined the panel to broaden the discussion from descriptions of AR and ASR to the policy considerations posed by the projects. A central consideration is protecting the quality of the water involved in the projects. Water quality considerations are driven by legislative mandates in the water pollution statute. For ASR projects this typically involves a focus on disinfection by-products. The statutory requirement is to use All Known and Reasonable Technologies [AKART] for assuring the quality of the water in these projects. In its adoption of the ASR rule in 2010, Ecology opted for use of the policy option known as Overriding Consideration of the Public Interest (OCPI).

A second major policy consideration is the recovery efficiency of ASR. Due to the site-specific nature of the geologic area holding the water, projects will vary in terms of how much water is recoverable – from one-third to 90%. The more that can be recovered, the more cost effective the project is.

The panel offered different perspectives on this policy aspect:

- Ecology's rule doesn't specify how to objectively determine the recovery. Ecology uses water quality criteria for this determination when it should use water balance criteria. Water quality has nothing to do with how much water is in the system.
- The issue is really assignment of benefit, not percentage of recovery. If Ecology wants to provide incentives to ASR projects, it should assign maximum benefits to project proponents, including ascribing benefits to leakage.
- It is more appropriate to use the entire water code to assess projects, rather than the narrower confines of the ASR rule.
- It would be useful for Ecology to step back from using OCPI or the water quality provisions and look at projects on a case-by-case basis. Oregon is moving to a programmatic approach, which will be based on the empirical results from monitoring.
- The regional recovery elements of aquifer recharge should be treated wholly differently than the site-specific ASR projects.
- Oregon has adopted a limited license system, within a single agency, which is less complicated and more streamlined than Washington's system. The Washington system has too many mechanisms and permits. Ecology should re-assess the Oregon approach. Oregon does a better job seeking to include multiple benefits, rather than just water recovery.
- The number one issue for project proponents is uncertainty and what that does to cost. If Ecology wants to encourage projects, it needs to make the permitting approach more certain.
- Drinking water standards might not be appropriate to apply to agricultural uses, insofar as they make reasonable projects not cost effective. Ecology should look to end use (e.g., agriculture versus municipal supply) for guidance.
- Ecology has not provided guidance for dealing with consumptive versus non-consumptive definitions. Loss to storage should not be considered consumptive; this impedes the development of projects that could provide a regional benefit.

CRPAG members and the audience posed a number of questions and observations:

- Is there an objective standard for applying the OCPI to the products of chlorination? [The standard is application of the AKART principles; reduce them as much as is reasonable.]

- What is the range of treatment being applied to river waters? [It depends on what infrastructure is available. At Boise Wallula, for example, the waters were filtered, not chlorinated. Each project is unique.]
- Did the Boise Wallula project affect domestic water supply? [No, the well was immediately adjacent to the Columbia River.]
- Is there an alternative to use of AKART and/or OCPI? [The decisions are very project specific. We can't get to one-size-fits-all.]
- The Department of Health has been talking to Ecology regarding OCPI and the differences between drinking water standards for public health versus the aquifer degradation standards adhered to by Ecology. With new leadership at both agencies, there may be opportunities to resolve these differences and work towards broader solutions to promote the use of ASR for future municipal water supplies rather than relying on a case specific approach.
- When you are trying to maximize or optimize a system, what level of treatment should you apply? [It depends on what state you are in.]
- It makes sense to see how Oregon permits projects to see what Washington could do differently.

2013 Legislative Session

Four legislators joined the CRPAG meeting in separate panels for the House and Senate. The two House members were Representative Brian Blake, Chair, and Bruce Chandler, Ranking Minority, of the House Committee on Agriculture and Natural Resources

The Representatives addressed Columbia River Basin water matters:

- Resolving conflict is essential through negotiations.
- There is higher confidence in the Columbia River Act today than when it passed due to good project performance and transparency.
- This session the focus is wholly on the Yakima Basin Integrated Plan. The current debate is whether to invest \$23m or \$45m in new monies. This will eclipse other Columbia River issues.
- The economy is more stable today than it was six months ago, and this affects the discussion over the capital budget.
- The reporting and accountability for the Columbia River Act has been excellent.

CRPAG members posed these questions and comments:

- What is the best way for us to influence the Legislature on matters related to the Columbia River? [Good communication is the key, both by the Department of Ecology and our constituents. It keeps our concerns and anxieties more manageable.]
- The structure of the CRPAG monitors the Department's process and makes sure that the money is well spent. The Yakima River plan should have a similar model of accountability and transparency.
- What about the management of groundwater and what is the Legislature doing? Is it time to bring together a forum on groundwater? [The problems on groundwater have been prominent recently in Kittitas, Skagit and the Dungeness. I expect we will continue to chase fires in different basins.][During the last interim we discussed how to create a statewide model that would provide more order and predictability, but the uniqueness of

each area makes it a conundrum.][With adaptive management we can address some of the technical matters, but the question of fairness between the counties is a central issue.]

[The counties and Department are caught in a no-win situation. We need a workgroup or forum. One potential solution is to give counties more authority to establish the legal availability of groundwater.] [The groundwater conversation has changed over the last 10 years. I don't know if we are ready for a groundwater forum, but we are closer. I don't think we have the budget capacity to take it up now.]

- What are your suggestions to make sure that Legislative interest doesn't wane? [Regular reports to the Legislature are essential. The Legislature likes large workgroups with diverse interests being represented. The Yakima Integrated Plan was only possible because of a coalition of interests coming together.][The Legislature is a time warp, with a lot of turnover. In the House, there is a 90% turnover every three election cycles. You need to frequently and continually remind the Legislature of what you are doing.][It is imperative that you demonstrate high value in your process.]
- One of the things that occurred with the CRPAG is that we made the program more flexible than it was initially designed. At first it was too prescriptive, but Ecology has recognized that project development requires flexibility.

The two Senators were Senator Brian Hatfield, Chair, and Senator Jim Honeyford, Ranking Minority member of the Senate Committee on Agriculture, Water and Rural Economic Development.

- There has been good news and bad news on water this session. I like the Governor's emphasis on jobs; the creation on more acreage for crops will lead to more jobs. But his emphasis on climate change will not go far in the Legislature
- The big issue this session is the Yakima Basin bill. I am in a real quandary about how to fund the purchase of the Teanaway land that is associated with the Integrated Plan, since that purchase would have implications for the operating budget.
- On the matter of exempt wells there are three bills in play. The prospect for these bills is uncertain. A metric for success is if a bill has 60 votes leaving the House and 30 votes leaving the Senate.

CRPAG members posed these questions and comments:

- Would the Teanaway lands be removed from the tax rolls? [Yes. Despite that, the County supports the acquisition as part of the overall integrated plan, and it prefers DFW ownership because DFW pays Payment-in-Lieu-of-Taxes and compensating taxes whereas other agencies don't.]
- The Teanaway purchase is a representative example that some parts of the Integrated Plan can move faster than others. We need to be flexible to adapt to such circumstances.
- The members of the Yakima Workgroup have been working to assure that all monies are being used on the highest value. This includes the purchase of these lands. You can be sure that we will provide the same accountability in the Yakima Integrated Plan as we have with the Columbia River Act.
- What advice would you give us to keep legislative interest focused on Columbia River issues? [Work with your local legislators in Western Washington. We will put \$40m into the Yakima Basin and \$40m into the Chehalis Basin for flood control.]
- Has the transition in the Governor's Office affected water bills? [The new director of Ecology is a water expert and she is much welcomed in the Senate.]

- The Yakama Nation would like to make it clear that we don't see water issues as fish versus people. For us, they are one and the same. [It is similar to the mouth of the Columbia where the fishermen and crabbers make their living from the sea.]
- To what extent is the Legislature involved in the Columbia River Treaty? [British Columbia represents Canada's national interests while the State Department represents U.S. interests. We are pleased with the work that Derek Sandison has done in articulating Washington State's interests.]

Steve Thurin announced that Derek Sandison, Michael Garrity, and he are organizing two sessions on the Columbia River Basin Water Management Program at the American Water Resources Association annual conference in Portland in November 2013, and he invited. Steve solicited the involvement of CRPAG members in serving on an expert panel regarding the program.

The next meeting of the CRPAG will be May 22, 2013 at the Hal Holmes Center in Ellensburg.

Attendees:

CRPAG members and alternates:

- Jon Culp, WA State Conservation Commission
- Michael Garrity, American Rivers
- Jason Hatch, Trout Unlimited
- Paul Jewell, Kittitas County Commission
- Mike Leita, Yakima County Commission
- Wes McCart, Stevens County Commission
- Phil Rigdon, Yakama Nation
- Teresa Scott, Washington Department of Fish and Wildlife
- Mike Schwisow, WA Water Resources Assc./Columbia Basin Development League
- Warren Seyler, Spokane Tribe
- Mark Stedman, Lincoln County Commission
- Richard Stevens, Grant County Commission
- Leo Stewart, Confederated Tribes of the Umatilla Reservation
- Rob Swedo, Bonneville Power Administration
- Stephanie Utter, Bureau of Reclamation

Others in attendance:

- Neil Aaland, Washington State Association of Counties
- Chris Augustine, GSI Water Solutions
- Jeff Barry, GSI Water Solutions
- Representative Brian Blake, 19th District
- Tim Boyd, WA State Potato Commission
- Phil Brown, GSI Water Solutions
- Scott Cave, SC Communications
- Representative Bruce Chandler, 15th District
- Jim Davenport, Yakima County
- Charity Davidson, Washington Department of Fish and Wildlife
- Mike Dexel, Washington Department of Health
- Rick Dinicola, U.S. Geological Survey

Melissa Downes, Department of Ecology
Carl Einberger, Golder Associates
Tim Flynn, Aspect Consulting
Joel Freudenthal, Yakima County
Guy Gregory, Department of Ecology
Dan Haller, Aspect Consulting
Tim Hanrahan, GeoEngineers
Senator Brian Hatfield, 19th District
Tom Helgeson, CH2M Hill
Senator Jim Honeyford, 15th District
Craig Horne, GeoEngineers
Justin Iverson, Golder Associates
Kenny Janssen, GSI Water Solutions
Josh Johnson, Brown and Caldwell
Al Josephy, Department of Ecology
Mike Kaputa, Chelan County
Kris Kauffman, Water Rights, Inc.
Jerry Kelso, Bureau of Reclamation
Ted Knight, Spokane Tribe
Mike Krautkramer, Robinson Noble
Paul La Riviere, Washington Department of Fish and Wildlife
Kevin Lindsay, GSI Water Solutions
Joseph Lubischer, JSC Consulting
Jay Manning, observer
Chris Marks, Confederated Tribes of the Umatilla Reservation
David McClure, Klickitat County
John Monahan, Geo Engineers
Dave Nazy, Department of Ecology
Steve Nelson, RH2 Engineering
Randy Niessner, Department of Natural Resources
Steve Patten, Walla Walla Basin Watershed Council
Chris Pitre, Golder Associates
Jeremy Pratt, CardnoENTRIX
Joel Purdy, GeoEngineers
Bill Quinn, citizen
Tom Ring, Yakama Nation
Charlie Roe, City of Walla Walla
Rick Roeder, Department of Natural Resources
Derek Sandison, Department of Ecology
Mark Schuppe, Department of Ecology
Peter Schwartzman, Pacific Groundwater Group
Dan Silver, facilitator
Jim Skalski, Department of Ecology
Ken Slattery, Washington Water Trust
Toni Smith, Landau Associates
Paul Stoker, Groundwater Management Area
John Stormon, Department of Ecology
Tom Tebb, Department of Ecology
Steve Thurin, HDR
Jon Turk, Brown and Caldwell
Maryke van Heeswijk, U.S. Geological Survey

Jill Van Hulle, Pacific Groundwater
Dawn Vyvyan, Yakama Nation
Bill Wagoner, National Frozen Foods Coop
Linton Wildrick, Pacific Groundwater Group
Bill Zachman, Department of Ecology