RECLAMATION
Managing Water in the West

Contact: Wendy Christensen, Columbia-Cascades Area Office, (509) 575-5848, ext. 203
Derek Sandison, Washington Department of Ecology, (509) 457-7120

Yakima River Basin Study– Out of Stream Needs (Task 2) Subcommittee

Meeting Notes, September 13, 2010, City of Yakima Public Works Offices

Welcome and Introductions

Andrew Graham reviewed the agenda for today's meeting.

Approve Notes from Prior Meeting

- Notes from the August 11 meeting were approved, with one clarification.

Peer Review of Water Needs Assessment

Andrew reported the WSU Peer Review team returned comments on the water needs assessment (Technical Memorandum: *Water Needs for Out-of-Stream Uses* (Draft), August 2010). He provided a handout containing the original emailed request for peer review to Dr. Michael Barber, and three items received from Dr. Barber comprising the WSU review. Andrew and Bob Montgomery highlighted several comments to give the group a flavor for what was said.

Andrew highlighted the comment from WSU economists indicating the water needs assessment is lacking economic analysis. This is correct. However the Yakima Basin Study has a separate task where economic analysis of effects of the proposed Integrated Plan will be performed. ECONorthwest is tasked with this analysis. Discussion on this comment included:

- Ron van Gundy said there have been prior studies of Yakima Basin economics, and these meet the need, together with the new analysis ECONorthwest will provide.
- Joel Freudenthal said proposed projects will eventually need to be assessed under Reclamation's "Principles and Guidelines" and the economics analysis should be conducted so as to meet those standards. He recalls that some economic analysis was contained in the Environmental Impact Statement performed recently. However, that analysis didn't account for the possibility of losing a whole crop due to drought. He recalls that secondary effects on employment, services and tax receipts were shown to be considerably higher than direct effects of crop losses.
- Steve Malloch said that it's important to provide solid economic analysis, if the Workgroup wants to present a compelling argument to Congress for funding. This should include assessment of the costs imposed by water shortages; and cost effectiveness of the different water supply and management options. This should include analysis of a strong water conservation element and water marketing within the Yakima Basin. Reviewing cost effectiveness of these options may lead to different choices.

- Michael Garrity also supports doing careful economic analysis. He is concerned the analysis as scoped may not be as effective as needed, because it's not going to look at enough alternative combinations of supply and management actions.
- Andrew said the ECONorthwest analysis will include comparison of costs and benefits of the various alternatives side by side; and will look at total economic effect on the basin of the Integrated Plan. Does Steve feel this will be sufficient?
- Steve replied it depends on how robust the analysis is.
- Ron van Gundy asked Steve to clarify his points about water conservation and water marketing. The irrigation districts are already performing conservation; and recent efforts to buy water have found few willing sellers.
- Steve Malloch – From an outside perspective, what will the irrigators show that they are giving up and is it enough to demonstrate that enough sacrifice is being made in-basin first, before going after additional money for new projects. Steve thinks voluntary conservation is not enough – it should be mandatory to really have credibility.
- Ron said that as a condition of taking YRBWEP funding for conservation projects, irrigation districts are required to sign diversion reduction agreements and these are binding.
- Jerry Kelso said that in an existing irrigation project, it would be hard to impose new, mandatory conservation requirements because water users already hold senior rights. That would be forcing them to give up water they already have. It's different than in places where a new irrigation project is being established. For example, the Central Arizona Project was new when it was set up, so new rules could be put in place.
- Steve: regarding water marketing, the proposed Wymer Reservoir will be used only during drought years, but will cost on the order of a billion dollars. That means the water will cost hundreds of dollars per acre foot. Markets should be able to provide that water at a lower cost.
- Ron said that offers have already been made to purchase water in that price range, but it has been impossible to find enough sellers. Water being traded is very expensive in the Yakima Basin.
- Derek Sandison said that recent water trades in the Basin have been from the low thousands per acre foot to $30,000 per acre foot at Suncadia.
- Bob Montgomery– WIP and SVID are the most senior. WIP is ready to participate. SVID is already doing significant conservation. Yakima-Tieton is next senior and it is a fully pressurized system. So it does not appear that a mandatory conservation program would provide any different benefit than what is planned or in place.
- Tom Ring – conservation proposals for Selah-Moxee, and Naches-Selah and others under Columbia River program were not funded because they didn't provide any benefits to TWSA. This is because return flows are used downstream.
- Steve– savings come from reduction in ET – scheduled irrigation and not over-watering. It may be true that benefits of conservation are less than what people may expect. If so, be systematic and demonstrate what has been done, is being done and will be done.
- Tom – Explain that we have looked really hard at those places where conservation provides real benefits. You could spend hundreds of millions and accomplish very little real benefit. The

greatest benefits from agricultural conservation relate to tributaries flow enhancement in the Kittitas Valley.

- Michael – show in the plan what conservation can achieve, and what the limits are.
- Tom Ring – see the Basin Conservation Plan from the 1990's for information on this.
- Steve – also explain which water rights (senior/junior) can be affected.

Other WSU comments discussed included:

- WSU noted the difference in estimates of irrigated acreage from the Washington State Department of Agriculture compared with data from irrigation districts. This has been discussed extensively by the Subcommittee in prior meetings. Andrew said the analysts have concluded we need to live with the data we have. Bob said the consulting team was not asked to develop new data, but to use existing data. And the effect on the water balance calculations is not very different, only a few percentage points.
- WSU suggested more documentation be provided to back up various assumptions that are made in developing the water needs estimates.
- WSU asked that "severe economic loss" be defined. This is part of the discussion on the goal of keeping proration to 70% or higher. Ron – reference previous economic studies for drought impacts. NW Economics, YBSA study. Tom: explain that 70% is "just getting by." It's like receiving unemployment benefits – you can survive on it for a short time but it's not a desirable level to live on all the time.
- WSU asked why we did not directly use the University of Washington assessment of climate change effects on water need? Andrew said the information in the Vano study is limited to apples and cherries only, so it is not adequate to estimate future demands. Their information suggested climate change would result in lower water needs, due to shift in growing season of these fruits only. The subcommittee didn't buy that as a credible result. So Bob Montgomery developed a different approach (to be discussed later in the meeting today).
- Chris Lynch noted that climate change impacts on snowpack and runoff will have a much larger effect than changes in water need. That element is being evaluated with considerable sophistication.
- Michael said that if we don't directly use the UW study results, we should contact UW to discuss this and explain why.
- WSU commented that 250 gallons per capita per day seems high, for municipal and domestic water use. Dave Brown asked to see the numbers for City of Yakima again.

General discussion of the WSU Peer Review:

- Michael – The WSU comments are common sense and provide a good indication of questions outside readers will have as they look at the Integrated Plan. We should address the comments and provide explanations.

- Andrew said HDR and Anchor/QEA are preparing a table listing all the comments and our responses. He understands the purpose of the Peer Review was to advise the Workgroup and Subcommittee. So the Members can determine what needs to be adjusted. We will then make changes in the final technical memorandum.
- Derek agreed these steps make sense and would conclude the peer review process.

Climate Change Effects on Agricultural Water Needs

- Bob Montgomery handed out material and gave an overview. The UW study of economic effects (Vano et al.) was discussed with the Subcommittee on August 11. That study looked at only apples and cherries and therefore did not fully address climate change effects on agricultural water needs. At the August meeting we discussed looking at other locations with hotter temperatures and a longer growing season. So Anchor/QEA examined climate zones in California and selected one where temperatures and evapo-transpiration (ET) are similar to those forecast for Yakima Basin after climate change. The zone selected is in the Bakersfield area. Bob said this work is not a rigorous methodology but appears reasonable, based upon professional judgment. The overall result is a 13% increase in agricultural consumptive use. There would be some additional need related to conveyance losses.
- Joel Freudenthal – change in growing season, and earlier onset of growth, which will make a longer irrigation season? Are we imposing our irrigation season on Bakersfield? Bob: we are using their irrigation season as a representation of what Yakima would need after climate change. It starts mostly in April but some in March.
- Michael – run this by UW's Climate Impacts Group to see what they think of it. Reclamation should also look closely at this. Important to get this right even if the effect is small. Bob – didn't use a more rigorous analytical method because it wasn't available from existing studies, and we didn't have the resources to do separate analysis. The UW information was limited and would also have been subject to criticism. How rigorous was the UW study? Not sure this is worth trying to true up, since it will remain pretty speculative.
- How much water does the 13% represent? It applies to consumptive use, so this is on the order of 130,000 AF increased need. Would be more like 200,000 AF accounting for diversions and delivery systems. Joel – have less return flows out of Kittitas and would have to release more storage to make up. Would also have less return flows in lower valley.
- Jerry: The main value of assessing climate change impacts on water need is to see how well the integrated plan holds up if water needs increase in the future. If the effect is 200,000 acre-feet, that's not a huge effect. This implies that irrigated agriculture in the Basin will remain viable under climate change.
- Dave Brown: the Columbia River would be the backup supply, if climate change increases needs. So this information is not critical for "Phase I" of the Integrated Plan.

- Ron: Technology could also help reduce ET as it has in the last several years.
- Bob: Effects of climate change on runoff and timing will be a bigger problem than the effect on water needs.
- Andrew: we will follow up with UW to see if they have any additional insights on this topic, and will also check with Wendy Christensen at Reclamation to see how she wants to proceed.

Comments received on Water Conservation Elements

Andrew reviewed handed out a letter from Max Benitz of Benton County, with four comments on the water conservation elements. The group briefly discussed each item. They felt the three points on agricultural conservation have generally been considered and addressed. They agreed that further development of roles, funding and administration of the municipal/domestic conservation element will be needed.

Water Needs Quantity to Use as Basis for Integrated Plan

Ben Floyd asked if the Subcommittee can provide a clear recommendation to the Workgroup regarding the current water needs (not yet including climate change effects), based on the work performed.

- For agricultural needs, Ron van Gundy said his Board says they really need 70% supply in drought years. He's not sure whether the 300,000 acre foot estimate of agricultural need would meet that criterion in a multi-year drought. One consideration is whether Roza could have a block of water that they could control, so decisions could be made on whether to use it or save it to the following year.
- Tom Ring asked if the new supply will be used as part of TWSA and available in any year, or would it be reserved solely to raise proratable supplies in years where proration occurs and would have been below 70%?
- Jerry suggested that access to water could be reserved for entities that pay for it. Reclamation has plenty of other projects where it is done that way. Separate "pools" of water can be defined.
- Joel: the USGS ground water study shows that water pumped from aquifers directly affects surface water. So the plan should be clear that if the supply improvements are done, then emergency ground water wells should no longer be used, or at least used only minimally.
- Michael: suggests that in the analysis of land conversion, that the lower value of 1.6 acre-feet per acre be used, instead of the higher value. The quantity of water needed should be calculated based on that figure. Conservation should be applied on municipal lands that have already been converted to urban use, as well as lands converted in the future.
- Michael also thinks the value of 250 gallons per capita per day for municipal and domestic uses is too high to use for long range planning. Other communities in the west show you can be a lot more efficient than that. It should be 200 gpcd or less.
- Jerry will look at the new Southern Colorado project that Reclamation is funding and see what per capita usage is there.

- Ben suggests that to go forward to the Workgroup we use numbers of: 300,000 acre feet for proratable users, but informed by further RiverWare modeling of multi-year droughts; and 40,000 to 50,000 acre feet for municipal and domestic use (total use, not consumptive) recognizing the per capita usage may need to come down from 250 to 200 gallons per day. Also he would note that emergency ground water wells should not be used, if the 70 percent proration level is achieved with the Integrated Plan.

Attendance

Dave Brown, City of Yakima
Stuart Crane, Yakama Nation
Joel Freudenthal, Yakima County
Chuck Garner, Reclamation
Michael Garrity, American Rivers (phone)
Gerald Kelso, Consultant to Reclamation
Chris Lynch, Bureau of Reclamation
Steve Malloch, NWF (phone)
Tom Ring, Yakama Nation
Derek Sandison, Ecology
Ron van Gundy, Roza Irrigation District
Andrew Graham, HDR
Bob Montgomery, Anchor QEA
Ben Floyd, Anchor QEA)