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

Meeting Notes, March 18, 2010

At City of Yakima Public Works, Yakima, Washington

Notes from Prior Meeting

Objectives of the out-of-stream needs assessment have been updated based on the discussion on February 25. The objectives as updated were reviewed and approved by the Subcommittee. They will be presented at the upcoming meeting of the full Work Group.

Emailed communications from Michael Garrity and Jim Davenport were read aloud to the group.

Don Gatchalian requested a clarification of his comments in the notes, to reflect that Yakima County has information only on county-owned water systems, not all Group A and B systems.

Proposed Water Needs Assessment Approach

Andrew Graham from HDR and Bob Montgomery from Anchor/QEA presented the proposed approach to assessing current needs and how those needs may change in the future. Andrew briefly reviewed two handouts:

- Alternative Approaches to Assessing and Forecasting Out-of-Stream Water Needs; and
- Preliminary List of Data Needed

The approach recommended by the consulting team includes the following elements:

Municipal Water Needs: For current needs, review water system plans and annual reports submitted by water systems to Washington Department of Health. Supplement this information with a simple survey of the larger municipal systems. Domestic wells do not have data on water use, so their usage will be estimated based on metered data from the municipal water systems. For future needs, develop per-unit projections using County/City growth projections. Supplement these, if feasible, with econometric analysis of select variables. Also investigate which communities have inadequate supply to meet future growth needs. Develop regional “what-if” scenarios for water conservation on a consistent basis across the Basin.

The group was asked if they concurred with the approach on the municipal analysis, and indicated yes.

Agricultural Water Needs: For current needs, document supply available to pro-ratable districts in dry years. Include percent of entitlement, quantity in acre-feet by District, and comparison with quantities diverted in normal years. Also examine how timing of pro-rationing (month) affects the deficiency. Also document farm-level deliveries; crops grown, and crop irrigation requirements, to provide a



complete picture of water needs. Also characterize how shortages actually affect farm production, and coping strategies that have been used in droughts, by districts and farmers in the Basin. List conservation actions that have been taken, and review trend lines of water diversions per acre (in normal supply years). A more general approach will be taken to assess water needs on lands not receiving federal water supply. For future needs, examine four key factors: conversion of agricultural lands to urban uses; additional water conservation (including review of how these actions affect supply and stream flow); potential climate change effects; and potential changes in crop mix.

Other Out-of-Stream water needs include stock watering, concentrated animal feeding operations, self-supplied industries, gravel mining, and many other categories with specific water rights. These are relatively small uses and will not be assessed in detail.

Andrew described how ranges of need can be developed around the base estimate, using uncertainty analysis for key variables, with “Monte Carlo” simulation.

Subcommittee Input on Forecasting Approach

- Don Gatchalian – Population growth depends in part on availability of water. An economic perspective is needed because of the interrelationship of these factors. (Ben Floyd mentioned that Task 2 of the Basin Study includes an economic effects analysis).
- Derek Sandison of Ecology discussed the ongoing WSU study of the Columbia Basin. They are doing more detailed modeling of agricultural irrigation.
- Steve Malloch - Efficiency level of existing users and districts – baseline of efficiency for agricultural systems and individual users
- Jim Davenport- Need to go back and collect some past data points on water usage per capita and compare with projection.
- Steve – also look at other areas. Scenario with more aggressive conservation and management
- Tom Ring – water meter usage for exempt wells. Not metered so usage like to be higher than in municipal systems. USGS has done estimate on water usage in this category. Talk with John Vaccaro.
- Dave Brown –USGS also collected data from City of Yakima.
- Discussion about needs assessment and how the different approaches might vary in cost and what you get for the extra investment. Approach depends upon the data available.
- Dave – Smaller cities have difficulty developing and implementing water conservation program.
- Andrew – There is currently no administrative machinery to promote water conservation by domestic well owners.
- Ron van Gundy – The crop mix currently in place in the Basin is very water efficient, especially wine grapes. However crop mix depends on market prices, and can change rapidly. The needs assessment should not “lock in” a low-water crop mix. There needs to be flexibility for farmers to respond to the market.
- Steve – It is valid to plan for market response. However the environmental community wants to see the highest value squeezed from every drop of water.
- Tom -- Be sure to separate consumptive and non-consumptive uses to demonstrate changes in location and timing

- Steve – Use of uncertainty analysis as described by Andrew should be flexible enough to support policy choices. Sensitivity analysis would be valuable.
- Wendy – conservation in the municipal sector is not part of current Reclamation authority, but could be if the authorization were changed by Congress.
- Derek – The enhanced conservation alternative builds off YRBWEP but adds to it. Incentive program gets to the enhanced level of conservation
- Jim Davenport – The agricultural assessment should not be limited to pro-ratable districts, but should include all irrigation. Steve Malloch also made this point.
- Urban – Don't assume that loss of value from a hay crop is limited to one year. It takes three years for the newly planted crop to reach the full production. Anna Lael at Kittitas Conservation District has data on this.
- Ron – Conservation Advisory Group showed that if water efficiency improvements are only implemented on-farm, it just transfers losses to the canals. To make agricultural conservation work, you need to make improvements on-farm and in the irrigation district facilities simultaneously.
- Regarding coping strategies during droughts – this should include costs, including the cost of Ecology's water purchases for drought mitigation.
- What about drought wells?
- Tom – Disappointed not to see the specific numerical statements of additional need that were given by Irrigation Districts in the Work Group discussions last fall. That is critical.
- Steve – another factor is price. Some of the supply options are much more expensive than others. He assumes those who would pay to use water would consider price.
- Tom – USGS recharge model examined cases where the land was irrigated, vs. a non-irrigation scenario. It helps to illustrate how much "recycling" occurs.
- Tom – Recycling is critical. Water budget above Parker and below Parker. Also need to accurately characterize consumptive use vs. non-consumptive; and pre-storage-control vs. post-storage control each year.
- Jim Davenport – When will instream and out-of-stream needs be combined? (Andrew and Bob responded that those needs are not really additive, and the scope does not envision combining them).
- Andrew – noted that the consulting team needs to more clearly define terminology such as usage, need and shortfall.
- Stock watering – will it increase or decrease? Look at agriculture economic trends and determine if worth quantifying based upon a particular trend. For example, is dairy production trending significantly up or down?

Coordination with Columbia River Basin Demand Analysis

Andrew summarized a conference call held with Dr. Michael Barber who is leading the WSU study of water needs for the entire Columbia Basin under contract to Ecology. On the call, we identified several potential points of collaboration, with the intent of supporting consistency between that study and the Yakima Basin study.

Next Steps

Further subcommittee meetings are anticipated to review results of the water needs assessment, but have not yet been scheduled.

Reclamation and HDR will continue working on contracting to launch the study activities.

The full scope of the Basin Study, including the out-of-stream needs assessment, will be shared with the Work Group at its upcoming meeting.

Attendance

Dave Brown, City of Yakima

Wendy Christensen, Bureau of Reclamation

Chuck Garner, Bureau of Reclamation

Urban Eberhart, Kittitas Reclamation District

Tom Ring, Yakama Nation – Natural Resources

Derek Sandison, Washington Department of Ecology

Ron Van Gundy, Roza Irrigation District

Don Gatchalian, Yakima County

Jim Davenport, JH Davenport LLC

Gerald Kelso, Consultant to Bureau of Reclamation

Jim Milton, Yakima Basin Water Resources Agency

Steve Malloch, National Wildlife Federation (by phone)

Stuart Crane, Yakama Nation Water Resources

Mike Marvich, Aqua Permanente

Ben Floyd, HDR Engineering

Andrew Graham, HDR Engineering

Bob Montgomery, Anchor QEA