
Yakima River Basin Water Storage Feasibility Study

Feasibility Analysis & NEPA/SEPA EIS: Phase Initiation Checkpoint Roundtable Meeting 1 Summary

Prepared by: John Petrovsky (JPA—Roundtable Process facilitator) and Mark Bransom (CH2M HILL)
Draft : March 22, 2007

Introduction

The Yakima River Basin Water Storage Feasibility Study (Storage Study) is currently entering the detailed Feasibility Analysis and NEPA/SEPA Environmental Impact Statement (FA/EIS) phase of work.

Preparatory to this phase of the Study, the Bureau of Reclamation and Washington Department of Ecology held a series of stakeholder meetings in December 2006 and conducted formal NEPA/SEPA Scoping in January/February 2007. Input received during these interactions highlighted several concerns regarding Study scope/process where further coordination and discussion between the Lead Agencies (Reclamation and Ecology) and stakeholder groups was warranted to fine-tune the Storage Study process and ensure that all key stakeholder concerns were being adequately addressed. Primary among these concerns are:

- Changing views on water supply goals, needs & benefits.
- Benchmarks/criteria being used to measure goal achievement.
- Alternatives being considered.
- Tools & techniques being used to compare alternatives.
- Factors, approach & level of detail for feasibility analysis.

In order to address these concerns, as the detailed phase of analysis and decisionmaking begins, Reclamation and Ecology formed a Roundtable group to provide input in identifying the proper approach to each. This Roundtable is composed of management/policy-level representatives (with support from technical staff) from key interest groups/constituencies with a stake in the Storage Study and its outcome (see Attachment 1 for a listing of Roundtable membership). Overall, the Roundtable is intended to provide a collaborative, “all points of view” forum for discussion of varying perspectives on - and approaches to - the concerns listed above. It is not a formal advisory committee or decisionmaking body, but is intended to help ensure the completeness, balance, effectiveness, efficiency, and acceptability of the Storage Study.

The objectives of the Roundtable, derived directly from the above-noted areas of concern, are:

1. Review the relative importance of Storage Study goals and help specify measures of success in achieving these goals.
2. Provide input on the role and treatment of primary & secondary benefits.
3. Review and comment on alternatives being considered.
4. Help refine criteria, tools and techniques for alternatives comparison.
5. Comment on findings of alternatives comparison.
6. Provide input to factors, methods, and level of detail in upcoming analysis.

The Roundtable process is planned to span a sequence of three meetings in March and April 2007, with each meeting focused on covering two objectives. Thus, Meeting 1 focuses on objectives 1 and 2; Meeting 2 will cover objectives 3 and 4; and Meeting 3 will target objectives 5 and 6. A “placeholder” has been reserved for a fourth meeting, if needed to fully cover the Roundtable work program. Further detail on the work plan for the Roundtable is included in the slide presentation from the first meeting, referenced below and included as Attachment 3.

Meeting 1 Summary

The meeting focused on two main topics (full agenda for the meeting included as Attachment 2):

- Setting the Stage: Roundtable Purpose, Role and Process, and
- Storage Study Goals/Purposes--Setting Benchmarks/Criteria for Success

The following summary is organized under these two headings and reflects Roundtable discussion. To set the stage for Roundtable discussions, the Reclamation team presented background and context information; the slides used in these presentations are included as Attachment 3 and are referenced as appropriate below.

Where relevant, Reclamation team responses made during the meeting to Roundtable member comments or questions are included in this summary and shown in *[bracketed italics]*. In addition, Reclamation's comments or responses inserted into this summary after the meeting are shown in ***[bold bracketed italics]***.

A record of meeting attendance (the sign-in sheets) is provided as Attachment 4.

Setting the Stage: Roundtable Purpose, Role and Process

The introductory presentation on this topic was given by John Petrovsky, the Roundtable Process facilitator. The slides shown by Mr. Petrovsky are on pages 3-8 of the attachment set. Roundtable member commentary included:

- We should confirm at the outset that this group is not changing the purposes and goals of the legislation that initiated the Storage Study. Given this, and the fact that we have 10 years of work behind us, how will this group provide anything new or different? *[Response: While the purposes for the Storage Study remain unchanged, the benchmarks or criteria established to measure success in achieving these purposes (or Storage Study Goals) have either been vaguely defined or may be changing as the Storage Study proceeds. For example, the most recent comparative analysis of alternatives used a quantity of 10,000 acre feet as the projected additional municipal surface supply need over the next 50 years. This is based on the estimated needs of entities currently using surface water as their municipal supply. If it is concluded withdrawal of groundwater from some aquifers for municipal purposes adversely impacts senior water rights, future groundwater pumping may require surface water to mitigate depletions. In this event, the surface water need may be about 82,000 acre-feet. Clearly, which of these figures is used can have a significant influence on which alternatives meet Storage Study objectives and which do not. Further, the alternatives to be studied as candidates for achieving Study purposes have also changed over time. This Roundtable has been formed to serve as a checkpoint in the process, helping to clarify both of these questions/concerns as the final, most detailed phase of the Storage Study gets underway.]*
- It was noted that this is not a formal advisory committee or decisionmaking body. Do any of the applicable laws require such a committee or group? *[Response: The only legal requirement for public or stakeholder input is pursuant to NEPA and SEPA, including the Scoping process conducted by Reclamation and Ecology in January/February 2007 and eventual public review of the EIS. No formal advisory committee(s) are required by law.]*
- Roundtable members have received copies of the Summary and Synthesis report from the stakeholder meetings in December of last year. The public comments received by Reclamation and Ecology during the NEPA/SEPA scoping process in January/February should also be provided. We need as much background as possible so that we are dealing with all concerns and points of view.

Storage Study Goals/Purposes--Setting Benchmarks/Criteria for Success

Background presentations under this topic were provided by Mr. Petrovsky (overall introduction, background, and context), Joel Hubble of Reclamation (Fishery/Aquatic Habitat goals/targets), and Kim McCartney of Reclamation (Agricultural and Municipal supply goals/targets).

General Commentary

- Any effort to define water supply needs (especially the need for additional storage) over the next 50-100 years should err on the side of planning for more, not less, future water supply/storage requirement. We may only get one shot at this. Consider the warning: "if you think you have a firm water supply, don't count on it".
- We should identify optimum, not just minimum, supply targets for each Storage Study goal (fishery, irrigation, municipal). We should not be satisfied with a mediocre solution.
- Related to the above perspective, we must consider the impact of climate change. The State Climatologist indicates that we should expect more frequent and more severe droughts. Given this, we should be very conservative, planning for more supply reliability, rather than less.
- We should also do the best we can to make sure that the water supply we plan for is adequate to meet all Storage Study purposes as much as possible, thus not "building in" unnecessary tradeoffs or competition between uses in dry periods.
- Looking forward to our discussion of alternatives (planned for meeting 2 of the Roundtable):
 - We need to consider nonstorage/nonstructural solutions as well as the storage alternatives identified to date.
 - We should still give due consideration to small(er) reservoirs and combinations of storage/supply elements v. one, major (one size fits all) solution like Black Rock.
 - Overall, we should not focus all our attention on costly storage projects (or on large v. small projects) when other, less costly options may exist for meeting all or part of future needs.
 - We should also look at the benefit/cost picture of doing nothing v. the various alternatives for new supply/storage.

Perspectives on Benefit/Cost—Calculation & Treatment of Primary and Secondary Benefits

- We need to look long term when thinking of costs. Yes, the cost of an optimum solution may seem too high presently, but the value of such a solution will prove worth it in the long run.
- The Plan Formulation analysis calculated costs for the Black Rock and Wymer Plus Alternatives over a 100-year time horizon (e.g. 100 years of operation, maintenance and replacement costs). We need to make sure that the benefits for projects are calculated over that same time horizon. For example, municipal benefits are only calculated out to 2050. *[Response: The estimated increase by year 50 in municipal water needs of the two entities currently using surface water (10,000 acre-feet) were used as the basis for estimating the "stream of municipal benefits" over a 100-year period. The benefit analysis was based on a constant 10,000 acre-feet need from year 1 through year 100.]*
- The slide titled "Benefit Perspectives" (see page 13 of the Attachments set) is confusing and unclear:
 - What is the "Wymer Plus" Alternative? *[Answer: Wymer Plus is simply shorthand for the Wymer Reservoir Plus Yakima River Pump Exchange Alternative analyzed in the Plan Formulation document(PFD).]*
 - Benefits directly associated with Storage Study purposes (i.e. primary benefits) are mixed together with secondary benefits such as recreation and hydropower. We should distinguish between primary and secondary benefits in our discussions and analysis. *[Response: We will do this from now on.]*
 - What does "using upper end estimates" mean? *[Response: The PFD provided two fishery benefit calculations, one based on mid-range ocean productivity assumptions/values and one based on high ocean productivity values (with the latter generating higher benefit results). The data reported on this slide are from the high productivity calculations.]*

-
- The table seems to infer that the benefits of the “Wymer Plus” alternative are higher than those of Black Rock (i.e. higher percentages of benefits provided). This doesn’t make sense, with Black Rock being by far the larger project and generating the larger benefits (as well as costs). *[Response: The percentages shown for each alternative are only intended to illustrate the relationship among the benefit categories for the Black Rock and Wymer Plus Alternatives individually—based on analysis in the PFD. For example, of the total benefits calculated for Black Rock, fishery-related benefits account for 51%; for Wymer Plus, fishery benefits represent 68% of the total benefits. The percentages are not intended to mean “percentage of project purposes achieved”, and they are not intended to be compared directly between the alternatives. The basic messages of the table are that, [1] for both alternatives, fishery benefits represent by far the highest proportion of benefits calculated, [2] likewise, for both alternatives, irrigation and municipal supply benefits represent very low percentages of total benefits, and [3] the calculations for Black Rock suggest that such secondary benefits as Recreation and Hydropower may play a larger role in the benefit/cost ratio for storage alternatives than two out of the three primary benefit categories.]*
 - It would be valuable to see how the primary benefit categories relate with one another if the secondary benefits are not included in the analysis. One Roundtable member did this analysis during the meeting and reported the results:

Primary Benefit Category	Proportion of Total Primary Benefits Calculated	
	Black Rock	Wymer +
Fishery	86%	80%
Irrigated Agriculture	9%	11%
Municipal	5%	9%

[Note: These percentages are based on the high-end benefit estimates shown in Tables 4-6 and 4-7 of the PFD and resulted in a benefit-cost ratio of .31:1 for Black Rock and .15:1 for the Wymer Plus Alternative. All benefits are included in the benefit-cost analysis]

- We need to be careful not to make this a “fisheries” project. A large, costly project could hinder funding for fishery improvements not directly related to or substantially dependent on flow/supply increases (e.g. floodplain/habitat improvements, fish passage facilities, changes in diversions/conveyance systems, etc.). *[See also discussion of fishery/aquatic habitat goals, below.]*
- Irrigators need to know the cost implications of any proposed alternatives. The ability of farmers to pay for improved supply is important; if the irrigators cannot afford to pay for the improved supply, it will do no good. Will this Roundtable process get into costs and/or cost allocation, or will these questions be answered in the Feasibility Analysis? *[Answer: The latter; this process is aimed at helping to clarify the picture regarding water supply goals and ability of alternatives under consideration to meet those goals. Cost allocation and ability to pay will be an integral part of the upcoming phase of analysis. It should be noted that generally the annual operation, maintenance, and pumping costs allocated to irrigation are to be paid by the irrigation beneficiaries, with any financial assistance being applied to the project capital cost which is allocated to irrigation.]*
- Regarding cost concerns, it should be noted that cost would be allocated according to benefits received. The overall cost of a given project is less of a concern to individual beneficiaries like irrigators, who will only need to address the question of payment for the benefits they receive. Projects like those being considered in this study will have several beneficiaries, including the general public (e.g. fishery benefits) and municipalities, as well as irrigators. This is different from the analysis of the overall benefit/cost ratio of a project. Even with appropriate allocation of costs to beneficiaries, a project may still not generate sufficient benefits to cover costs and may not be feasible.

- Also related to the Benefits discussion:
 - The calculations of hydropower and recreation benefits in the PFD analysis of Black Rock do not include work recently done by the YBSA, the Port of Sunnyside, Benton County, and Yakima County to better characterize these secondary benefits. Related specifically to recreation, it was noted in the December Stakeholder meetings that the PFD analysis does not include the regional benefit perspective. *[Response: New, more detailed information will be considered in the upcoming feasibility analysis. Regional economic impacts will also be calculated. However, the benefit/cost analysis uses only national economic development benefits.]*
 - Do the recreation benefit calculations to date consider the value that could be derived from stabilizing reservoir levels (or reducing fluctuations)? *[Answer: No. This perspective can be considered in upcoming analysis.]*

Fishery/Aquatic Habitat Goals, Benchmarks and Criteria

- A lot of work has already been done to identify flow targets in various parts of the river system (e.g. the Reaches Project). Why do we still seem to be grappling with questions of reach breakdown, flow goals, etc.?
- Related to the above question:
 - It was noted that considerable work has been done on the normative river hydrograph concept for setting flow targets in the river system. Opinions varied on whether this concept should be pursued (some Roundtable members favored the concept; others do not think it is valid or useful).
 - We should ask the question (for any alternative): How many of the Salmon Recovery Plan action items are achieved?
 - Where does the Watershed Plan fit in this process?
- There is some doubt about the real value of broad-brush criteria. A lot depends on the relationship among factors such as quantity, reliability, flexibility, location, species and life stages, etc. A critical question is: What are we trying to achieve?
- Whatever the technical approach used, we should define optimum targets, not just minimums (at least thresholds between “barely kept the fish alive” v. substantially protected the resource).
- We need to explore the true potential of major increases in supply, such as that offered by Black Rock.
- We should be looking to improve fishery conditions—reliably—in all years, not just dry years. Improving overall fishery conditions in wet and normal years can help the resource weather the stress of dry periods.
- We need to be careful about focusing all our attention on broad, systemwide flow targets (whether based on the normative river hydrograph concept or otherwise). Such a focus risks spending all our time and financial resources on a major, costly project (or projects), and could eliminate our ability (especially funding) to make major fishery improvements in specific areas through physical modification of habitat, changes in diversion/conveyance systems, and/or applying the normative concept on smaller scales. We must retain our ability to implement “major gain for relatively low cost” fishery improvement projects.
- The Prosser to Columbia River reach should be added to the reach breakdown.
- Another way of looking at fishery benefits is to simply tell responsible biological resource specialists how much water will be made available by any given alternative (e.g. 810,000 acre feet for Black Rock), and they will report what they believe can be accomplished in terms of fishery benefits/recovery. *[Note: In configuring and operating alternatives and especially in determining the relative merits of alternatives, Reclamation believes it is important to know how much water is needed (volume/flow), where it is needed (reach), and when it is needed (season).]*

-
- *[Note: It was generally agreed that we do need to finalize a credible approach to/criteria for comparing alternatives in terms of (1) relative success in achieving fishery/aquatic habitat benefits, and (2) how achieving fishery benefits influences or is influenced by meeting targets set for irrigated agriculture and municipal supply. Toward that end, Reclamation is working with a technical group (next meeting set for March 19) to set the approach and relevant targets for fisheries. In this effort, previous studies will be considered and used as appropriate. Roundtable members with an interest and expertise in this technical work were invited to participate.]*

Irrigated Agriculture Goals, Benchmarks and Criteria

- Opinions varied regarding the approach to setting water supply targets for irrigated agriculture. On one hand, support was expressed for sticking with the general 70% supply goal across the board for proratables in dry years:
 - In the spirit of planning for optimum supply conditions—the more, not less, perspective;
 - Recognizing that markets change and crops will change to meet market demands—contingencies should be planned for;
 - Given that a Washington State declaration of drought occurs at the 75% supply level.
- In contrast, some irrigators expressed support for Reclamation's effort to tie down requirements more specifically with each major proratable right holder; comments along these lines included:
 - The 70% goal was appropriate 25 years ago. However, efficiencies and other changes have probably reduced the need for 70% in some cases. The current and future need may be somewhat less.
 - For the Roza Irrigation District, the Board has been consistent in expressing a desire to have a reliable supply from new storage of 100,000 acre feet. Now the Board has stated they would like 50,000 to 100,000 acre feet in dry years from July 15 to September 15. Pumping costs for alternatives are also a concern.
 - For KRD, 70% is the right target. With conservation measures, dry year supply may end up close to 100% of the need.
 - The issue of cost and ability to pay cannot be ignored. Any increment of additional supply that is too costly would be not be useful.
 - Whatever supply target is established, either basinwide or irrigator-specific, the reliability of that supply is critical to preserving farming as a viable enterprise. Recovering from the damage of inadequate water supply is very difficult and costly, and jeopardizes the long-term viability of agriculture.

Municipal Supply Goals, Benchmarks and Criteria

- As noted earlier, municipal needs should be calculated over the same 100-year time horizon used for calculating the operation, maintenance and replacement costs of alternatives.
- Setting a storage/supply target or goal to meet future municipal needs must address the issue of groundwater-surface water relationship:
 - We should assume that mitigation for future groundwater withdrawals will be required and that the 82,000-acre-foot requirement is our target—a lot of work went into that estimate, it is valid and we should use it.
 - We should also look at the possibility that mitigation for all or some existing groundwater withdrawals may be required or necessary; this could take the number considerably higher than 82,000 acre-feet.
- Again, the perspective should be planning for more supply, larger contingencies, not less.

-
- Nevertheless, under any circumstances, the role of conservation and other demand-side management measures should not be ignored.

Wrap-Up

The meeting ended with an opportunity for public comment and confirmation that [1] the next Roundtable meeting would be March 29 (same time, same venue) and [2] the subject matter at the next meeting would be status of the goals achievement benchmarks/criteria, alternatives being considered, and the tools /methods to be used in comparing the alternatives.

-
- Attachment Set:**
1. Roundtable Membership
 2. Roundtable Meeting 1 Agenda
 3. Meeting 1 Slide Presentation
 4. Meeting 1 Attendance List (sign-in sheets)