
Roundtable Meeting 2 Summary--Attachment Set:

1. Roundtable Meeting 2 Agenda
2. Meeting 2 Slide Presentation

Attachment 1: Meeting 2 Agenda



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Agenda

Yakima River Basin Water Storage Feasibility Study

Feasibility Analysis & NEPA/SEPA EIS - Phase Initiation Checkpoint: Roundtable Meeting 2

March 29, 2007, 1 to 4 PM, Yakima Arboretum, Yakima, WA

1. Introduction (Petrovsky—10 minutes)

- **Purpose of this meeting**
- **Agenda review**
- **Comments on Meeting 1 Summary**

2. Status of Goals / Achievement Benchmarks (Petrovsky—10 minutes)

- **Fisheries**
 - Method and results—March 19 TWG meeting & moving forward
 - Insights from prior alternatives analysis—cast in new framework
- **Irrigation**
- **Municipal**
- **Roundtable Discussion/Q&A** (All—20 minutes)

3. Alternatives/Potential Alternatives (Petrovsky—20 minutes)

- **Alternatives**
- **Potential Alternatives**
- **Roundtable Discussion/Q&A** (All—50-60 minutes)

4. Goals Achievement Analysis (Petrovsky—10 minutes)

- **Process** (preview of Roundtable Meeting 3)
- **Roundtable Discussion/Q&A** (All—20 minutes)

5. Wrap-Up: Visitor Comments, Action Items, Next Meeting, Adjourn

(Petrovsky—15 minutes)

Yakima River Basin Water Storage Feasibility Study

**Feasibility Analysis & NEPA/SEPA EIS
(FA/EIS) Phase Initiation Checkpoint:**

**Roundtable Meeting 2
March 29, 2007**

Upper Columbia Area Office

Purposes of This Meeting

- **Confirm goal achievement benchmarks—Water supply needs**
- **Review defined in-basin storage alternatives & other potential alternatives**
 - Feasibility Study
 - NEPA/SEPA EIS
- **Explain the process of defining FA/EIS alternatives**
- **Preview goals achievement comparative analysis of storage options**

Agenda

- **Comments on Meeting 1 Summary**
- **Status of Goals Achievement Benchmarks**
 - Fisheries
 - Irrigation
 - Municipal
 - Insights from previous operations studies
- **Alternatives**
- **Potential Alternatives**
- **Alternatives Comparison Process—Relative Goals Achievement**
- **Wrap-Up**
 - Visitor Comments, Action Items, Next Meeting, Adjourn

Status of Goals/Achievement Benchmarks Fisheries

- **March 19 TWG meeting and moving forward**
 - Overall methodology accepted for present purposes
 - Reaches – approved with additions
 - Seasons – approved
 - Flow Targets – refinement continuing

*Final review to TWG on April 5, 2007

Status of Goals/Achievement Benchmarks Fisheries



Reach Breakdown

- Keechelus (added by TWG)
- Cle Elum River
- Easton
- Upper Yakima R.
- Tieton (added by TWG)
- Lower Naches
- Wapato
- Prosser (added by TWG)

Seasons

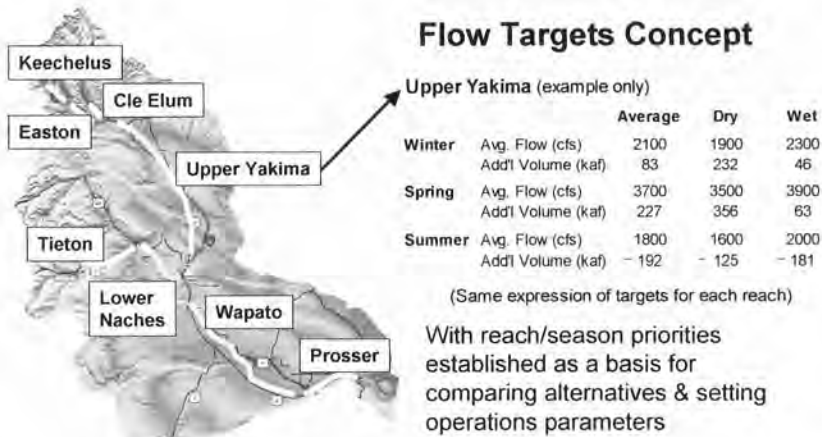
- Spring (Mar-Jun)
- Summer (Jul-Oct)
- Winter (Nov-Feb)

Status of Goals/Achievement Benchmarks Fisheries

Flow Targets Concept



Status of Goals/Achievement Benchmarks Fisheries

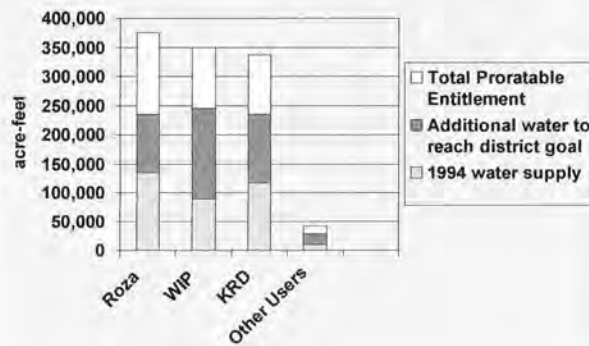


Status of Goals/Achievement Benchmarks Irrigation

- **Total additional water supply needed = 391,000 a-f**
 - Roza: 100,000 acre-feet (Board-specified volume)
 - WIP: 155,000 acre-feet (70% target)
 - KRD: 118,000 acre-feet (70% target)
 - Others: 18,000 acre-feet (70% target)
 - SVID and Yakima-Tieton indicated they do not need additional water from Storage Study alternatives

* based on 1994 water supply

Status of Goals/Achievement Benchmarks Irrigation



Status of Goals/Achievement Benchmarks Municipal

- **Total additional water supply needed = 82,000 a-f**
 - 10,000 acre-feet (used in Plan Formulation analysis) =
...estimated additional surface water need by Yakima and Cle Elum for population growth to 2050
 - 82,000 acre-feet =
...estimated total additional water need (surface and groundwater) for Yakima Basin population growth to 2050

Status of Goals/Achievement Benchmarks

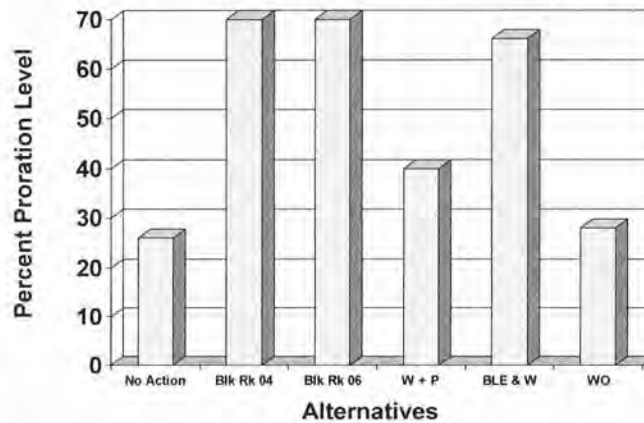
Storage Study Goals (acre-feet)							
Water Year	Instream Flow			Total Instream Flow	Municipal	Irrigation	Total Basin Goal
	Reach	Season	Water Block				
Average	Upper Yakima	Spring	200,000	400,000*	82,000	N/A	482,000
	Wapato	Summer	200,000				
Wet	Upper Yakima	Spring	200,000	300,000*	82,000	N/A	382,000
	Easton	Summer	50,000				
	Wapato	Summer	50,000				
Dry	Wapato	Spring	400,000	500,000*	82,000	391,000	973,000
	Wapato	Summer	100,000				
*preliminary numbers							

Status of Goals/Achievement Benchmarks Previous Operation Studies

- **Black Rock** – December 2004 Black Rock Appraisal Assessment
- **Bumping Lake and Wymer** – May 2006 Yakima Basin Appraisal Assessment
- **Black Rock** – November 2006 Plan Formulation Document
- **Wymer Plus Yakima Pump Exchange** – November 2006 Plan Formulation Document
- **No Action** – November 2006 Plan Formulation Document
- **Wymer Dam, Reservoir, Pumping Plant** – (unpublished; prepared after PFD)

Status of Goals/Achievement Benchmarks Insights from Prior Studies

Water Supply When Proration Level In Current
Operation is Less Than 70 Percent for WY 1994



Status of Goals/Achievement Benchmarks Insights from Prior Studies

Fishery / Instream Flow Conditions

Alternative	Reach Season	Easton			Cle Elum			Upper Yak.			Wapato			Lower Nach.		
		Sp	Su	Wi	Sp	Su	Wi	Sp	Su	Wi	Sp	Su	Wi	Sp	Su	Sp
No Action (Entity conservation)																
Black Rock																
Wymer																
Bumping + Wymer																
Wymer + Yakima R. Pump Exchange																

Relative Change

- Most improvement among alternatives
- Some improvement
- No meaningful change
- Adverse change
- Existing conditions acceptable

Roundtable Discussion

Alternatives

Feasibility Analysis

- **No Action**
- **Black Rock**
- **Wymer Dam Plus Yakima River Pump Exchange**

No Action
Entity Water Conservation Measures

Funding Source	Conserved Water (acre-feet)	Components	
		Instream Flow (acre-feet)	Irrigation (acre-feet)
Title XII	103,800	69,300	34,500
Other	54,700	16,500	38,200
Total	158,500	85,800	72,700

No Action
Entity Water Conservation Measures

Cumulative Effects over Sunnyside Diversion		
Item	Available for Title XII Target Flows (cfs)	Operational Flows from Change in Points of Diversion (cfs)
Entity Conservation Measures	136	58
Wapato Irrigation Project (Satus)	—	50
Total	136	108

No Action Other Elements

- **Water Acquisition for Instream Flows**
- **Emergency Drought Relief ***
 - Dry-Year Irrigation Water Purchase
 - Groundwater Pumping (individual emergency drought wells)

* Not included in alternative analysis

Black Rock



- Reservoir active storage: 1,300,000 a-f
- Inflow: 3,500-cfs pumping plant; pipeline from Priest Rapids to Black Rock Reservoir
- Outflow/distribution: 2,000-cfs pipeline (~17 miles); gravity flow; discharge points on Roza & Sunnyside canals
- Powerplants: At both discharge points

Wymer Plus Pump Exchange



Wymer Reservoir

- Active storage: 174,000 acre-feet
- Inflow: 1,000 cfs pumped from Yakima River
- Outflow: 1,400 cfs gravity flow to Yakima River
- Powerplant: Possible—not studied

Yakima River Pump Exchange

- 1,200 cfs pumped from mouth of Yakima River
- ~55 mile pipeline system, 3 pumping plants
- 550 cfs delivery to Roza canal; 650 cfs to Sunnyside canal



Potential Alternatives from EIS Scoping

- **In-Basin Storage (NEPA/SEPA)**
 - Wymer Dam, Reservoir and Pumping Plant
 - Bumping Lake Enlargement
- **Aquifer Storage and Recovery (NEPA/SEPA)**
 - To provide water for instream and out-of-stream uses
- **Market-Based Reallocation of Resources (SEPA)**
 - Dry-year water leasing with program for idling irrigated lands
 - Formal Yakima River Basin Water Market
- **Entity & On-Farm Water Conservation Measures (SEPA)**
- **Columbia River Off-Channel Storage (SEPA)**

Roundtable Discussion

Alternatives Analysis & Comparison

- **Goals achievement as a primary screening factor in selecting EIS alternatives**
- **Goals Achievement Analysis**
 - Operations, assumptions & parameters for each alternative
 - Legal & contractual requirements
 - Goal achievement priorities: Fisheries, Irrigation, Municipal
 - System simulation model runs
 - Relative ability of alternatives to meet Storage Study Goals
 - Fisheries
 - Irrigation
 - Municipal

Alternatives Analysis & Comparison

Water Supply Augmentation Alternatives	Operational Alternatives					
	Optimize performance/benefits for one Goal, with at least minimum acceptable performance on other Goals			Question of testing for maximum performance on high-benefit, non-goal-centered factors.		
	Fish Aquatic Resources	Agriculture	Municipal	Hydropower	Recreation	?
Existing Analysis / NEPA						
Alternatives						
No Action						
Black Rock						
Wymer Dam + Yakima River Pump Exchange						
Potential Alternatives						
Wymer Dam						
Bumping Lake Enlargement						
Aquifer Storage & Recovery						
NEPA						
Potential Alternatives						
Market-Based Reallocation of Resources (leasing, marketing)						
Entity & On-Farm Water Conservation Measures						
Columbia River Off-Channel Storage						
Methods & Tools for Testing & Screening Alternatives						

Alternatives Analysis & Comparison

Results

- Irrigation – Determine if district goals are met
- Municipal – Determine if 82,000 acre-feet is met
- More complex for fisheries
 - Possible that no alternative could meet all target flows all the time... If so, a question of response to priorities...

Fisheries Target Flow/Volume Supply Performance: Alternative N

Reach	Average Year			Dry Year			Wet Year		
	Winter	Spring	Summer	Winter	Spring	Summer	Winter	Spring	Summer
- Keechelus		Priority 1	Priority 2		Priority 1	Priority 2			
- Easton		Priority 2	Priority 1			Priority 1			Priority 2
- Cle Elum		Priority 1				Priority 1			
- Upper Yakima		Priority 2		Priority 2	Priority 2	Priority 1			Priority 2
- Tieton						Priority 1			
- Lower Naches		Priority 1							Priority 2
- Wapato									
- Prosser									

☐ = Meets target flow/supply

☐ = Does not meet target flow