

Contact: John Petrovsky, JPA, 208-571-1069, jp@jpaweb.com*

Agenda

Yakima River Basin Water Storage Feasibility Study

Feasibility Analysis & NEPA/SEPA EIS - Phase Initiation Checkpoint: Roundtable Meeting 3

April 19, 2007, 1 to 4 PM, Yakima Arboretum, Yakima, WA

1. Introduction (Petrovsky—10 minutes)

- Meeting purpose & agenda review
- Comments on Meeting 2 summary

2. Review of Roundtable Objectives—where we started, where we are today (Petrovsky—5 minutes)

3. Alternatives

- Review of categorization & status (Petrovsky—5 minutes)
 - Alternatives (Joint Alternatives)
 - Provide additional Yakima Basin storage
 - Evaluated as part of Planning Report/NEPA
 - Potential Alternatives (SEPA Alternatives)
 - Possible components to be evaluated as part of SEPA
- Recent operation studies—Joint Alternatives (Petrovsky—15 minutes)
 - Criteria used (dry year irrigation, municipal, instream flows)
 - Results (dry year irrigation, municipal, instream flows—goal achievement levels)
- Roundtable discussion (All—45 minutes)
 - Performance of alternatives relative to Goals
 - Improving performance by including potential SEPA alternatives/components

4. Questions & Concerns (Petrovsky/All—60 minutes)

- Open questions & concerns—Reclamation/Ecology to the Roundtable
- Open questions & concerns—Roundtable to Reclamation/Ecology

5. Summary & Next Steps (Petrovsky—5-10 minutes)

- What we have gotten from the Roundtable process
- Actions—what we will do now

6. Wrap-Up: Visitor Comments, Thanks, Adjourn (Petrovsky—10-15 minutes)

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Managing Water in the West

**Yakima River Basin Water Storage
Feasibility Study**

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

**Roundtable Meeting 3
April 19, 2007**

 U.S. Department of the Interior
Bureau of Reclamation

Upper Columbia Area Office

Purposes of This Meeting / Agenda Review

- **Roundtable objectives:**
 - Checkpoint on where we stand
- **Status of Alternatives** (Roundtable discussion):
 - Categorization, definition & PR/NEPA/SEPA process
 - Comparative analysis—selected alternatives—operations studies & relative goals achievement
 - To what extent the alternatives meet the Congressional objectives & Storage Study goals
- **Questions & Concerns**
 - Roundtable checklist & discussion
- **Summary & next steps:**
 - What we have heard; where we go from here
- **Wrap-up; visitor comments; adjourn**

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Roundtable Objectives

- **Purpose**

Help ensure the completeness, effectiveness, efficiency, and acceptability of the Storage Study

- **Objectives**

1. Review/revisit importance, values, measures of success in achieving Storage Study goals
2. Discuss role & treatment of primary & secondary benefits
3. Review alternatives being considered
4. Help refine criteria, tools & techniques for alternatives comparison
5. Comment on findings of alternatives comparison
6. Input to factors, methods & level of detail in upcoming analysis

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Alternatives Categorization, Definition & Process

Joint Alternatives (NEPA/SEPA)

- No Action
- Black Rock
- Wymer Plus Yakima River Pump Exchange
- Wymer Only
- Bumping Lake Enlargement
- Aquifer Storage & Recovery

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Alternatives Categorization, Definition & Process

Potential Alternatives (SEPA)

- Market-Based Reallocation of Resources
 - Dry-year water leasing with program for idling irrigated lands
 - Formal Yakima River Basin Water Market
- Entity & On-Farm Water Conservation Measures
- Columbia River Off-Channel Storage?

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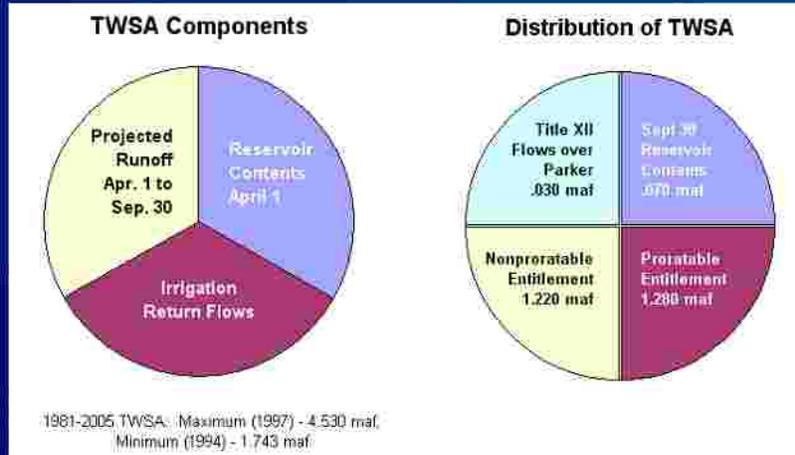
Alternatives Comparative Analysis

- **Relative to new water supply targets/goals...**
Operations studies results for:
 - Current conditions
 - No Action
 - Wymer only
 - Black Rock
- **Key criteria used in analysis:**
 - Irrigation – NLT 70% in dry years (except SVID and Yakima-Tieton)
 - Instream Flows agreed upon by TWG
 - Municipal – 82,000 acre-feet annually

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Alternatives Comparative Analysis



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Alternatives Comparative Analysis

Yakima Project – Total Water Supply Available and Proration Levels

Sequence of Types of Water Year

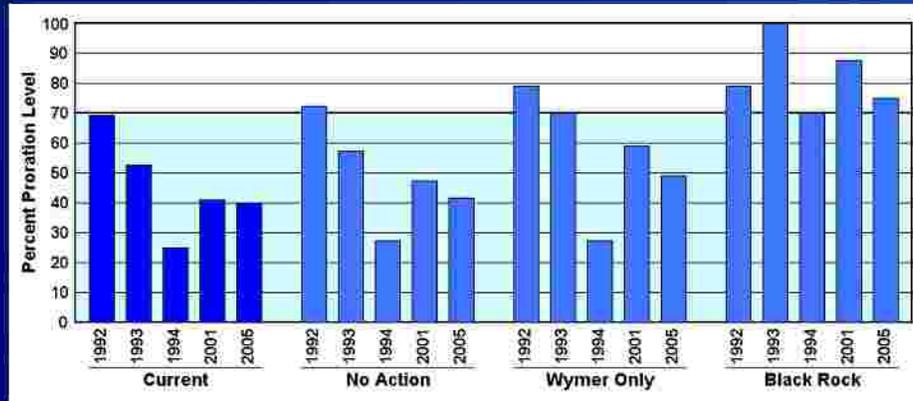
Type of Water Year	Current (maf)	No Action (maf)	Wymer Only (maf)	Black Rock (maf)
Wet to Dry				
2000	3.284	3.166	3.219	3.056
2001	1.804	1.864	1.919	1.782
2001 Proration Level	41%	47%	59%	78%
Average to Dry				
2004	2.500	2.479	2.537	2.234
2005	1.767	1.795	1.775	1.837
2005 Proration Level	40%	42%	49%	75%
Average to Dry				
1991	3.038	3.038	3.091	2.856
1992	2.123	2.176	2.233	2.066
1993	2.080	2.102	2.126	2.121
1994	1.743	1.742	1.753	1.791
1994 Proration Level	25%	26%	27%	70%

Period of record = 1981-2005; Max. water year = 1997 @ 4.53 maf; Min. water year = 1994 @ 1.743 maf

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Alternatives Comparative Analysis

Irrigation: Percent Proration in Drought Years Under Current Conditions

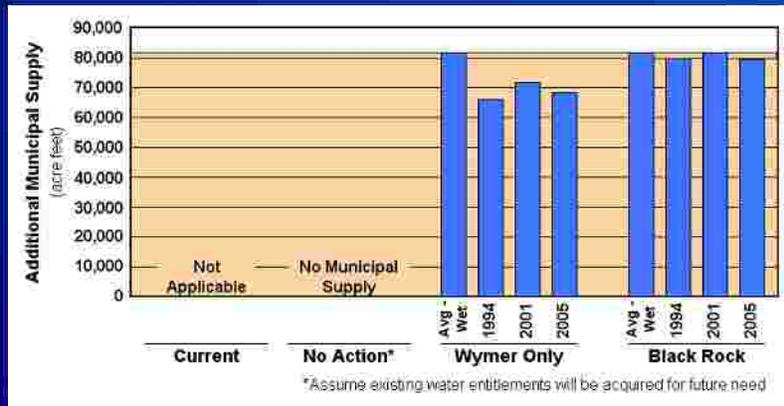


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Alternatives Comparative Analysis

Municipal: Additional Future (2050) Water Needs and Supply Provided



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Alternatives Comparative Analysis

Instream Flow Criteria Used in the Operation Studies

Parker Instream Flow Operation Criteria

Season	No Action (cfs)	Wymer Only (cfs)	Black Rock (cfs)
Spring (March-June)	Unregulated	Unregulated	Fill & Spill + Exchange
Summer (July-October)	Title XII Targets	Title XII Targets	See Below
TWSA = or > 2,650,000 acre-feet	600 cfs + YRBWEP	600 cfs + YRBWEP	1,000 cfs + YRBWEP
TWSA = or > 2,000,000 acre-feet	400 cfs + YRBWEP	400 cfs + YRBWEP	900 cfs + YRBWEP
TWSA < 2,000,000 af	300 cfs + YRBWEP	300 cfs + YRBWEP	700 cfs + YRBWEP

Cle Elum River Instream Flow Operation Criteria

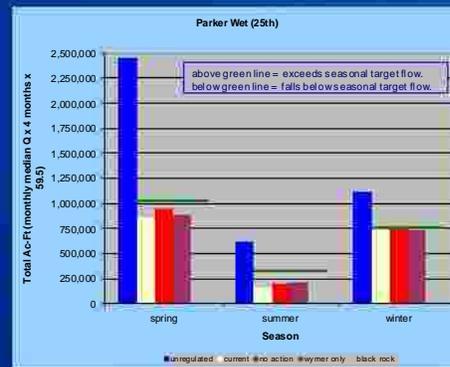
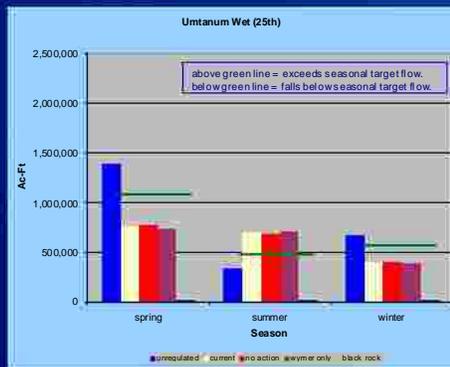
Season	No Action (cfs)	Wymer Only (cfs)	Black Rock (cfs)
Winter (November-March)	180	400	400
Spring (April-June)	180	400	220

YRBWEP (Yakima River Basin Water Enhancement Project):
Flows derived from water conservation (No Action Alternative)



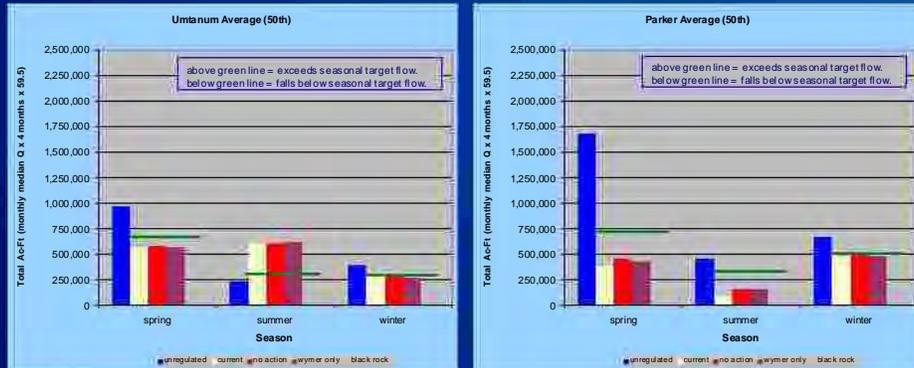
Alternatives Comparative Analysis

Instream Flows: Wet Water Year



Alternatives Comparative Analysis

Instream Flows: Average Water Year

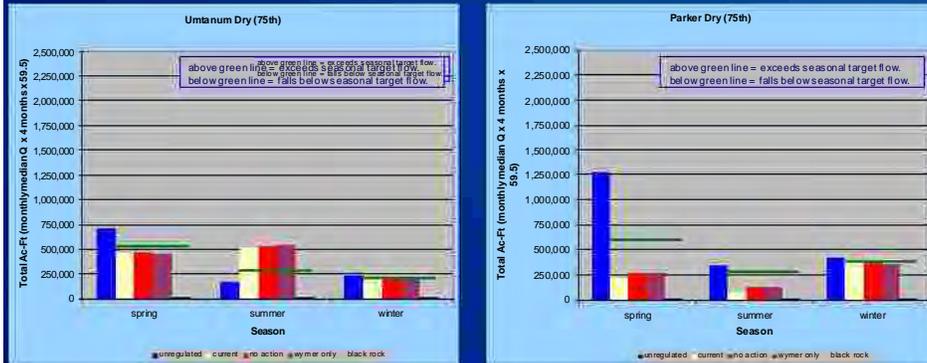


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Alternatives Comparative Analysis

Instream Flows: Dry Water Year



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Alternatives Comparative Analysis

Instream Flows: Flow/Volume Targets

Alt.	Reach (gauging station)	Average Year			Dry Year			Wet Year		
		Spring	Summer	Winter	Spring	Summer	Winter	Spring	Summer	Winter
Current	- Upper Yakima (Umtanum)	2*	4	5	2	4	5	6	1	3
	- Wapato (Parker)	1	3	5	1	3	5	5	2	4
No Action	- Upper Yakima (Umtanum)	2	4	5	2	4	5	6	1	3
	- Wapato (Parker)	1	3	5	1	3	5	5	2	4
Wymer Only	- Upper Yakima (Umtanum)	2	4	5	2	4	5	6	1	3
	- Wapato (Parker)	1	3	5	1	3	5	5	2	4
Black Rock	- Upper Yakima (Umtanum)	2	4	5	2	4	5	6	1	3
	- Wapato (Parker)	1	3	5	1	3	5	5	2	4

- Meets Target within ±10%
 - Below Target by >10%
 - Above Target by >10%

* Numbers indicate priority for meeting target flows. 1 is highest priority.

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Alternatives Comparative Analysis

	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 captured factors		
Water Supply Augmentation Alternatives	Fish/Aquatic Resources	Agriculture	Municipal	Hydropower	Recreation	Other
Feasibility Analysis / NEPA						
Alternatives						
No Action						
Black Rock						
Wymer Dam + Yakima River Pump Exchange						
Wymer Dam						
Bumby Lake Enlargement						
Aquifer Storage & Recovery						
SEPA						
Potential Alternatives						
Market-Based Reallocation of Resources (leasing, marketing, etc.)						
Entity & On-Farm Water Conservation Measures						
Columbia River Off-Channel Storage						

Methods & Tools for Testing & Screening Alternatives

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Alternatives Roundtable Discussion

- Extent to which Alternatives meet congressional objectives
- Extent to which Alternatives meet the Storage Study goals
- Other observations on comparative analysis...

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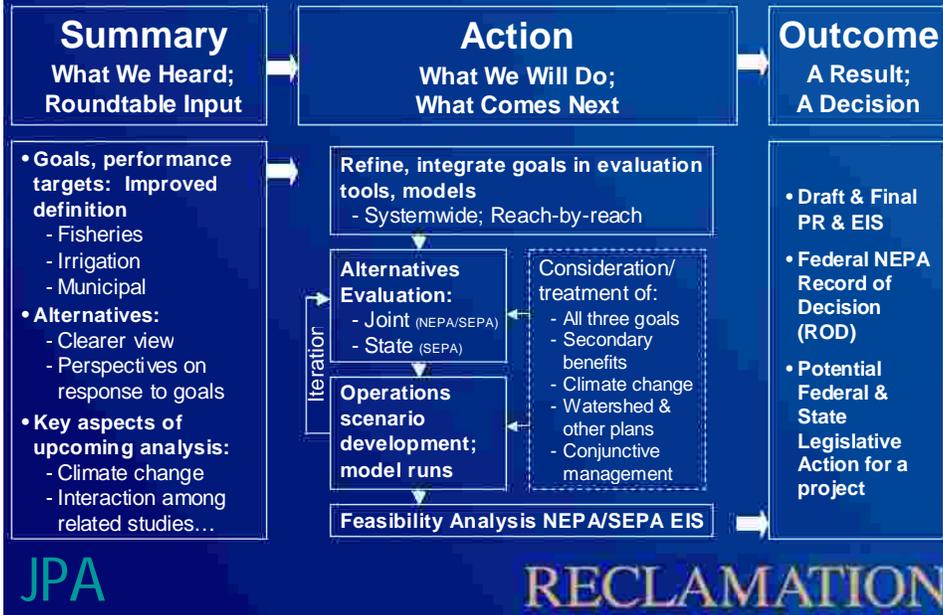
Questions & Concerns

- Municipal water supply criteria used in operation studies
- Approach to climate change
- Yakima River water right v. Columbia River water right
- Potential impact of capital and O&M costs on Yakima basin fish and wildlife programs
- Responsibility for annual operating costs
- Other?

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Summary & Next Steps



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Wrap Up

Final Roundtable Comments/Questions
 Visitor Comments/Questions
 Action items
 Thank You

Adjourn

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