



Market-Based Reallocation of Water Resources

Yakima River Basin Study Task 4.12

November 19, 2010

Market Reallocation Element

- One element of the Integrated Plan
- Legislative and funding proposals to create a flexible water market system
- Based on concepts developed in Ecology's 2009 EIS
- Barriers to flexible markets identified:
 - Inefficiencies in transfer process
 - Lack of knowledge about availability of water, water prices, etc.
 - Limited ability to transfer water out of irrigation districts

Purpose of Market Reallocation

- Increase flexibility for voluntary reallocation of water
- Reduce delays and costs of transactions to reallocate water
- Incorporate consideration of third-party impacts
- Short-term and long-term options

Short-term Proposal

- Evaluate ways to make processing water rights transfers more efficient
- Amend the “Hillis Rule” to designate water rights transfers in a market or bank system as eligible for priority processing
- Allow the issuance of temporary or seasonal transfers while a permanent transfer is being processed

Short-term Proposal

- Allow a private entity to administer water markets by serving as an information clearinghouse and broker
- Enact legislation to protect water rights in a bank from relinquishment (if outside TWRP)
- Evaluate ways to expand water banking opportunities, expanding on the water bank in upper Kittitas County

Long-term Proposal

- Allow an irrigation district to fallow some of its land and lease water rights outside the district
- Similar to “Super Ditch” in Colorado
- Requires changes to state and Reclamation law

How Will Changes Affect Water Market Activity?

- Impossible to accurately predict
- Cannot account for all factors influencing willingness of buyers and sellers to participate
 - Crop prices and types
 - Availability of water
 - Socio-economics

How Will Changes Affect Water Market Activity?

- Based on trends in Yakima basin and other areas, if transfers are made more efficient, number and type of transfers will increase
- However water marketing is not a reliable source of water

Economic Analysis

- Objective
- Background & Key Assumptions
- Baseline Scenario (Future Without Integrated Plan)
- Market-Based Element in Isolation
- Complementing Other Elements of the Plan

Objective

- Objective: estimate the potential for market-based reallocation of water to offset irrigation-related economic losses from future severe drought conditions within the Yakima Project

Background

- Anticipate permanent transfers
 - Mitigation for post-1905 residential, M/I use: <50,000 AF
 - Environmental purposes: ~5,000 AF
 - Ag-ag purchases: ~2,000 AF
- Update/expand model from PNW National Lab
- Economic indicator: potential gain in annual net farm earnings (crop receipts minus variable costs)
- Respond to comments from Out-of-Stream Subcommittee

Key Assumptions

- Severe drought: 40% of proratable entitlement
- Current crop mix, irrigation requirements, prices, costs
- 30,000 AF baseline trading during severe drought
- Intra-district trading for Tieton and Wapato; intra- and inter-district trading for Roza, Kittitas, and Sunnyside
- Constraint on crops receiving water
- Constraint on out-of-district leases to no more than 10% of supply

Potential Effects:

Baseline

	Water Traded (acre-feet)		Annual Net Farm Earnings (\$mil)	
	Inter-District	Intra-District	Total	Loss from Drought
Avg. Non-Drought	Zero	Zero	\$280	-\$0
Severe Drought				
No Trading	Zero	Zero	\$200	-\$80
Baseline Trading	30,000	Zero	\$220	-\$60

Potential Effects: Market-Based Element Only

	Water Traded (acre-feet)		Annual Net Farm Earnings (\$mil)	
	Inter-District	Intra-District	Total	Loss from Drought
Core Scenario ^a	50,000	130,000	\$260	-\$20
Alternative Scenarios ^b	50,000 – 110,000	90,000 – 230,000	\$260 – \$270	-\$20 – -\$10

^a Buyers lease water only for crops with net farm earnings at least \$150/AF; out-of-district sales no more than 10% of each district's water supply for Roza, Kittitas, and Sunnyside.

^b Tighter constraints: at least \$300/AF; looser constraints: all crops can trade.

Potential Effects: Complement Other Elements

	Water Traded (acre-feet)		Annual Net Farm Earnings (\$mil)	
	Inter-District	Intra-District	Total	Loss from Drought
w/o the Market-Based Element	30,000	Zero	\$260	-\$20
With the Market-Based Element	60,000	60,000	\$280	-\$0

Next Steps

- Finalize and distribute technical memorandum

Disclaimer

- Modeling represents estimate of water that would be transferred given the assumptions used. It is not intended to predict actual transfers.