Estimates of Demand for Water Transfers

Ann Root, ESA Adolfson
Bob Montgomery, Anchor QEA

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Demand for Water Transfers

- Impossible to accurately predict demand
- Cannot account for all factors influencing willingness of buyers and sellers to participate
- EIS attempted to set an upper boundary on the demand based on proratable demand
- EIS used an estimate of 205,000 AF in drought years

Agricultural Demand Assumptions

- Use drought year demand for proratable districts
- Use crop water demand for high value crops
  - Apples, grapes, tree fruit, hops, Timothy
- Proratable water users would want to replace amount of water not available in drought years
  - 50% water available = demand for 50% of water

Estimate of Water Demand

	Irrigation District (% proratable)	Roza (100)	Kittitas (100)	Sunnyside (33)	Tieton (33)	Wapato (50)	Kennewick (100)	District Total
Crop								
Apples		100,760	1,850	37,840	87,360	45,000	4,200	
Grapes		32,940	0	39,150	0	12,040	130	
Other Tree Crops		29,600	875	34,680	10,260	14,700	3,990	
Hops		27,380	0	37,000	0	40,660	0	
Timothy		0	71,060	0	0	0	0	
Total Demand		**190,680**	**73,785**	**148,670**	**97,620**	**112,400**	**8,320**	
Estimated Drought Year Demand		**190,680**	**73,785**	**49,061**	**32,215**	**56,200**	**8,320**	**410,261**
Severe Drought Water Deficit								**205,000**

Source: Scott et al (PNNL) 2004

Limits of Estimate

- Cannot predict the willingness of buyers and sellers to participate
- Some irrigators don't need water during drought
- Estimate used half of demand, may not be accurate
- Pricing, the availability of water, and improved processes for transfers may change willingness to participate

Municipal Demand Assumptions

- 40,000 AF new urban water demand in drought years
- Only half of demand would be satisfied

Potential Supply for Water Markets

- Potential supply is from annual crops or perennial crops that could be fallowed
- 2007 Agricultural Census by USDA (entire counties) provides an estimate of cropping patterns, although not broken down by irrigation entity
  - Kittitas County – 98% perennial crops, mostly hay
  - Yakima County – 25% annual crops, 75% perennial crops, 1/3rd is hay
  - Benton County – 60% annual, 40% perennial crops,1/4th is hay

Potential Supply for Water Markets

- Crop Census doesn't directly measure potential to voluntarily fallow their lands and transfer water to other locations as they don't account for seniority of water rights, location of parcels, physical limitations to transferring water and other factors that will affect the willingness to fallow lands
- Farmers producing irrigated hay may be most willing to reduce the amount of irrigation and transfer water to other uses or locations