

Water as a Yield-Cutting Substitute

Mason Gaffney, Working Paper

All items are measured in dollars, to make them commensurable.

Pasture uses three times as much water as berries. When growers have to pay for water, this adds \$100 more to the cost of pasture than to the cost of berries. When water is free, water costs are the same, tipping the scale to pasture, which now becomes the higher and better use of the land (yielding more net revenue product to the landowner).

<u>Crop</u>	<u>Yield (\$)</u>	<u>L&K Costs</u>	<u>Water Cost</u>	<u>Net Revenue</u>	<u>Free Water</u>	<u>Net Revenue After Free Water</u>
Berries	1,000	900	50	50	0	100
Pasture	200	50	150	0	0	150
Changes, From Berries to Pasture	-800	-850	100	-50	0	50

The “changes” from berries to pasture might also be called the “marginal” effects of the change. With free water, the marginal net revenue is +\$50; with costly water, the marginal net revenue is -\$50.

These numbers show what *might* happen. Are they realistic? They seem to correspond with what happened in Fresno, Kings, and Tulare counties after the CVP brought in a huge increment of nearly free water after 1952.