

Farm Employment and Future Environmental Regulations in the Delta

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Current Project Yields

The current yield of CVP/SWP water projects is 5.0 - 5.2 million acre-feet per year:

- Urban Yield: 38% of total (1.9 – 2.0 maf)
- Agricultural/Refuge Yield: 62% of total (3.1 – 3.2 maf)

Yields Under Future Environmental Regulations

Delta water deliveries are expected to decline under future environmental regulations:

- High Outflow Case (3.5 maf total = 1.4 urban, 2.1 ag)
 - Scenario 6 operations, Fall X2, spring outflow
- Low Outflow Case (3.9 maf total = 1.6 urban, 2.3 ag)
 - Scenario 6 operations with no Fall X2 or enhanced spring outflow

Yields Under Future Environmental Regulations

Decrease in agricultural water supplies from the Delta:

- High Outflow Case
 - From 3.1 maf to 2.1 maf
- Low Outflow Case
 - From 3.2 maf drop to 2.3 maf

Forecasting Employment Impacts from Decrease in Water Deliveries

Econometric regression analysis is used to calculate direct job impacts

- Based on historical data of Delta water deliveries and agricultural employment
 - Years 1980 to 2009
 - includes 1987-1992 drought and 2007-2009 drought
 - Counties receiving Delta water deliveries:
 - Fresno, Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare

Forecasting Employment Impacts from Decrease in Water Deliveries

Regression specifications:

- Control group of 6 counties that do not receive Delta water deliveries are used to capture the effects of general changes in the agricultural economy
 - Madera, Imperial, Monterey, Sutter, Yolo, and Yuba
- Year fixed effects are used to capture any year-to-year differences in employment exogenous to the model

Results

Regression results:

- The estimated coefficient on Delta water deliveries is 0.0045 at a 1% significance level
- 1 direct job per 222 acre-feet of water supply

Use input-output framework to translate direct job losses into total job losses across the economy

Farm Employment Impacts from Future Environmental Regulations in the Delta

Implied farm employment impacts:

- High Outflow Case:
 - Loss of 6,602 total jobs (4,050 direct jobs)
- Low Outflow Case:
 - Loss of 5,721 total jobs (3,510 direct jobs)