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
  - 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)