Measuring Water & Farm Labor Interactions

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Labor, Water, and California Agriculture in 2014

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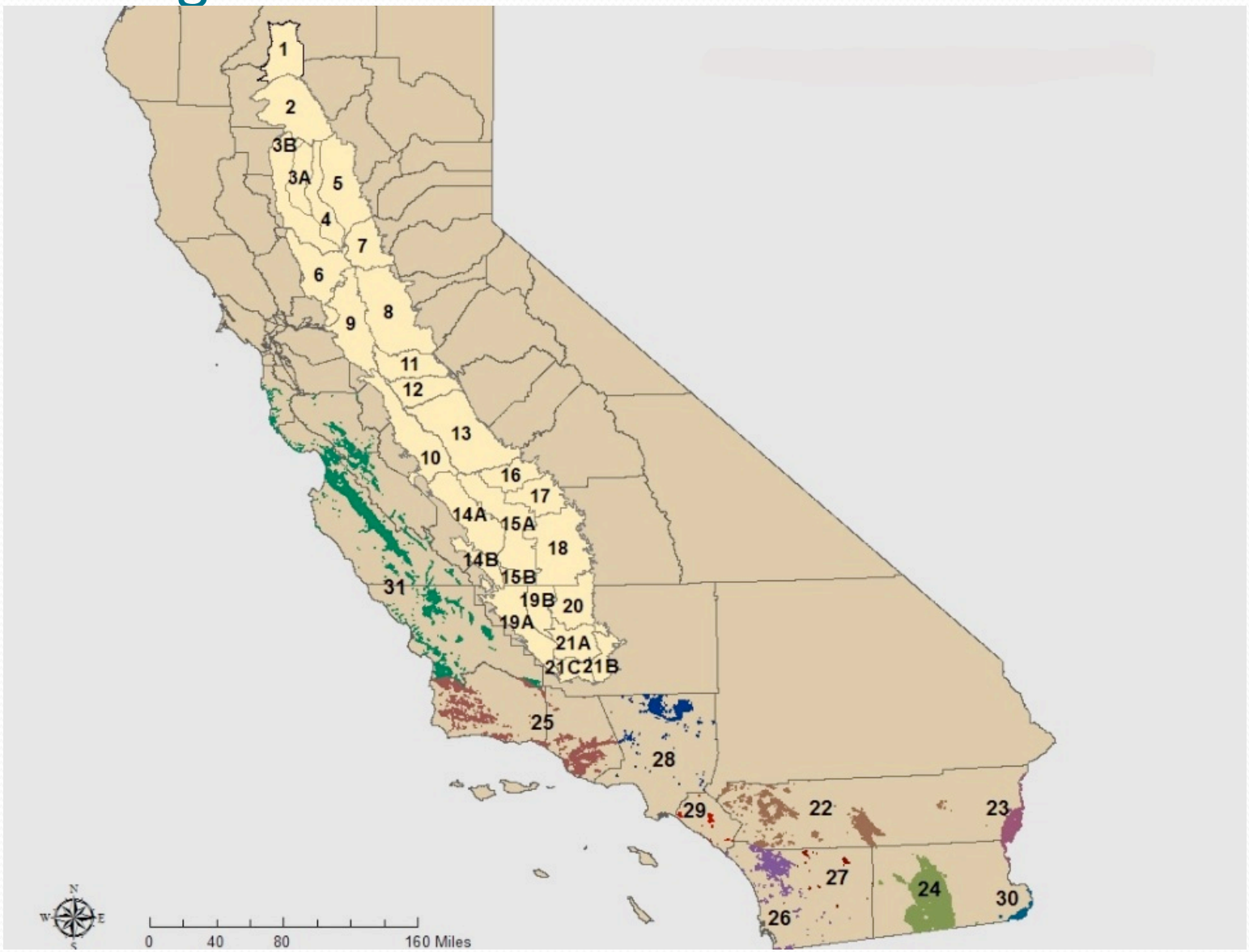
Measuring Water & Labor Interactions in 2014

- Value and scarcity of water varies greatly, since the priority of the water rights is determined by the appropriation date.

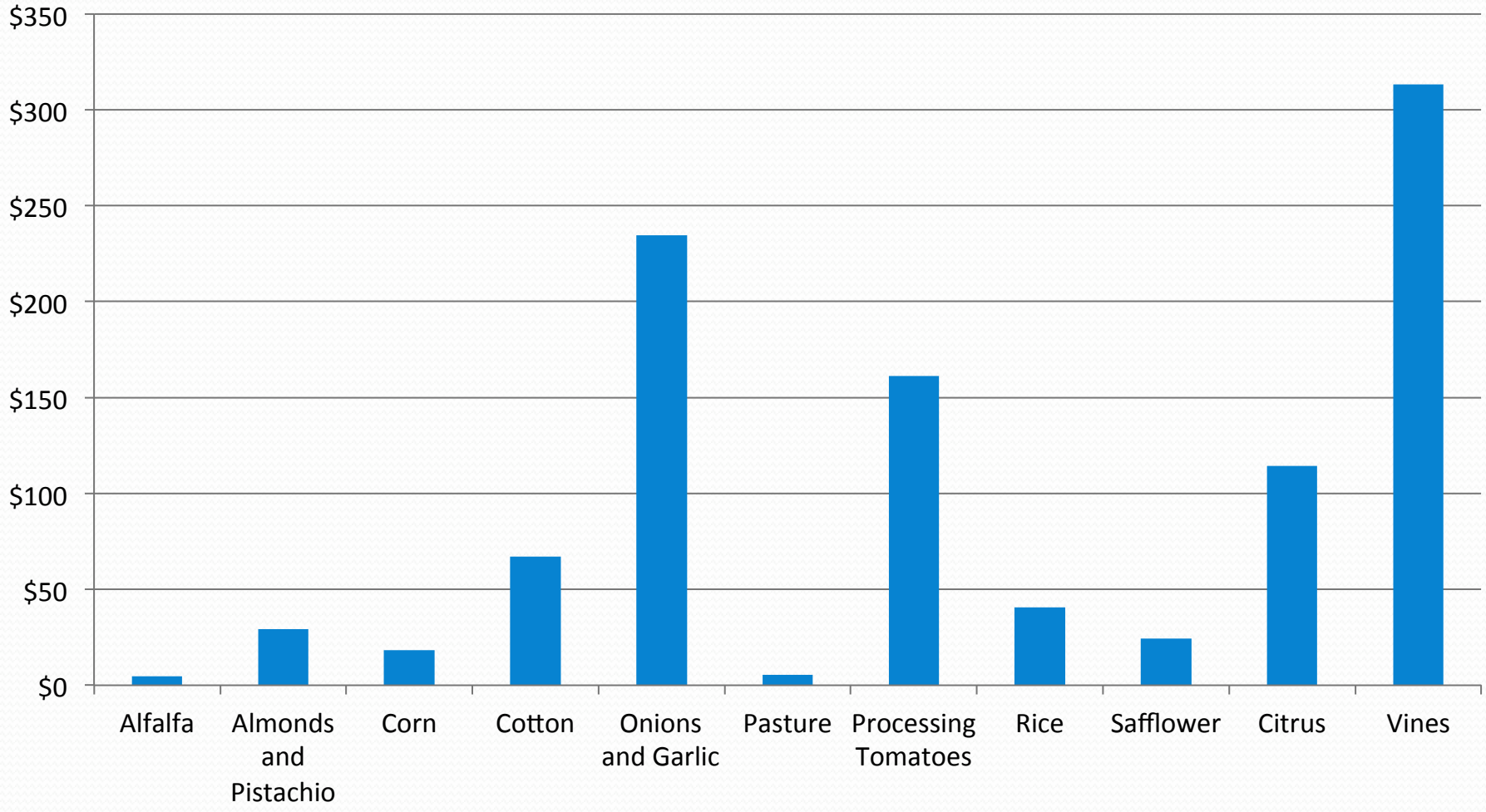
- Measuring labor impacts of drought needs to consider:
  - What crops are grown in the area?
  - What are the water rights in the area?
  - How mobile is the labor force?
  - How mobile are the crops and crop contracts?

- The 2014 water supply/demand imbalance is made worse due to:
  - Increased Delta export restrictions
  - Increased perennial crop plantings
  - Depletion of groundwater stocks

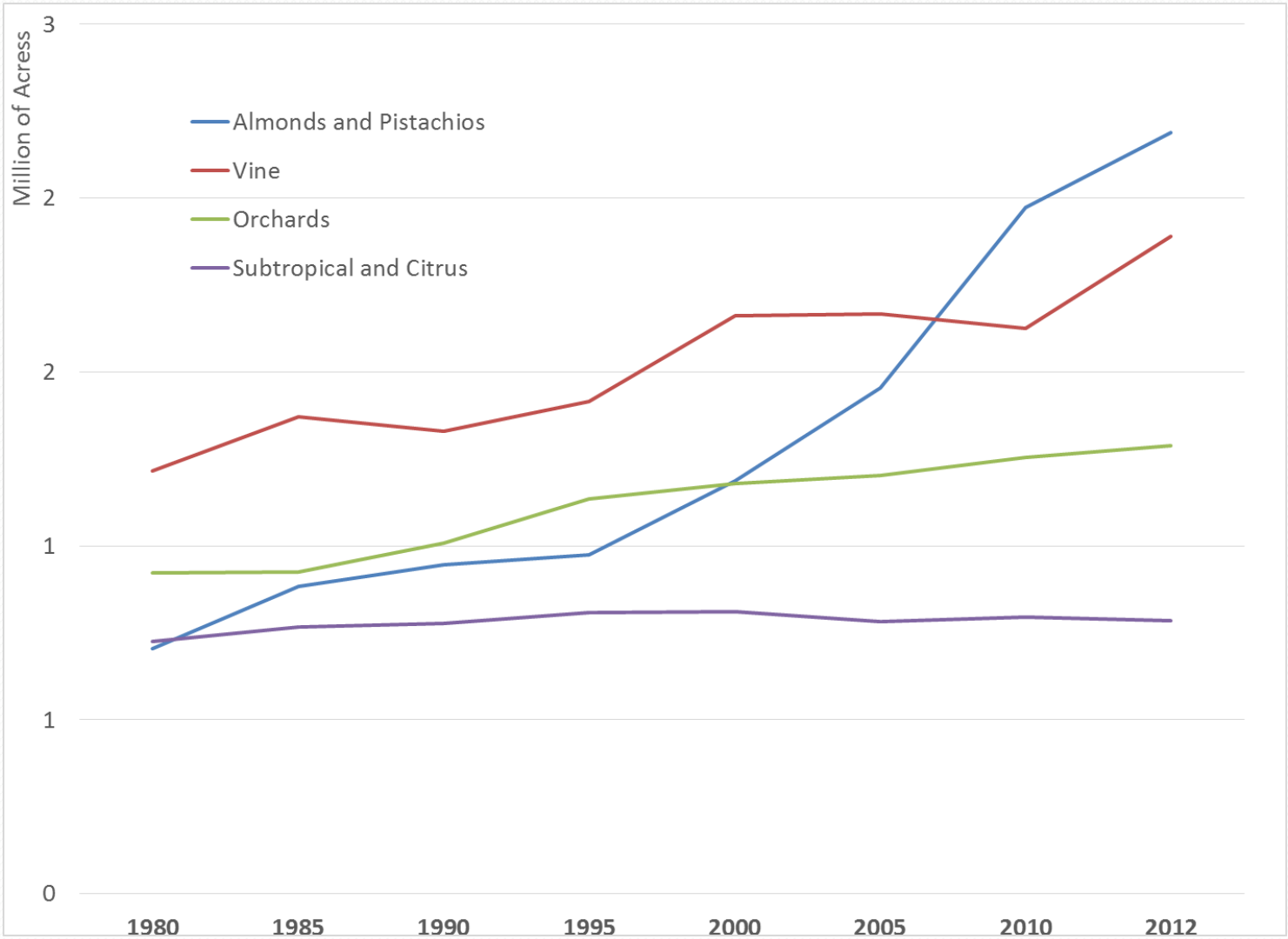
Regions in the Economic SWAP Model



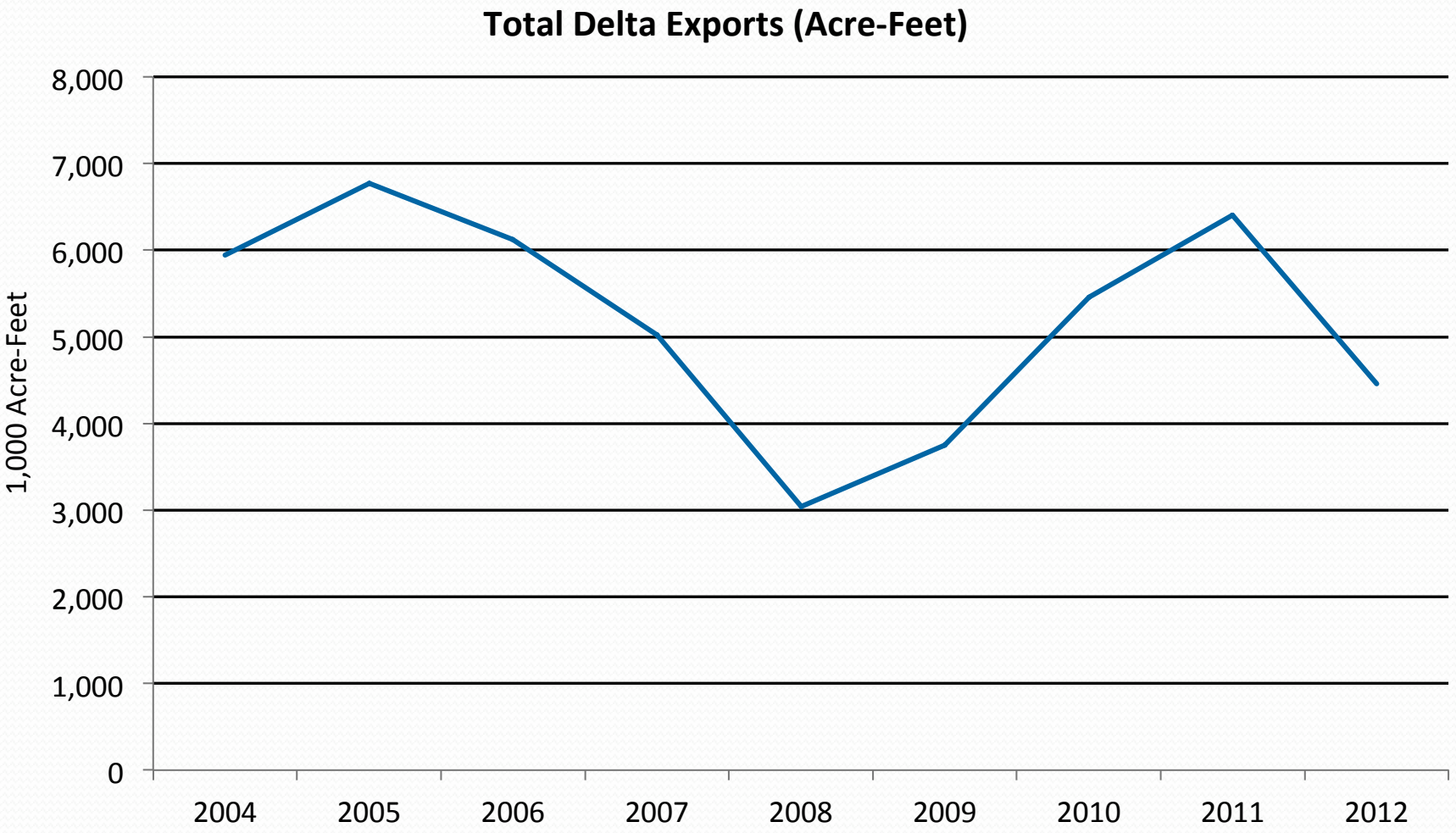
Wide variation in Labor Expenditure/Acre foot



Perennial Crop Acreage Trending Up

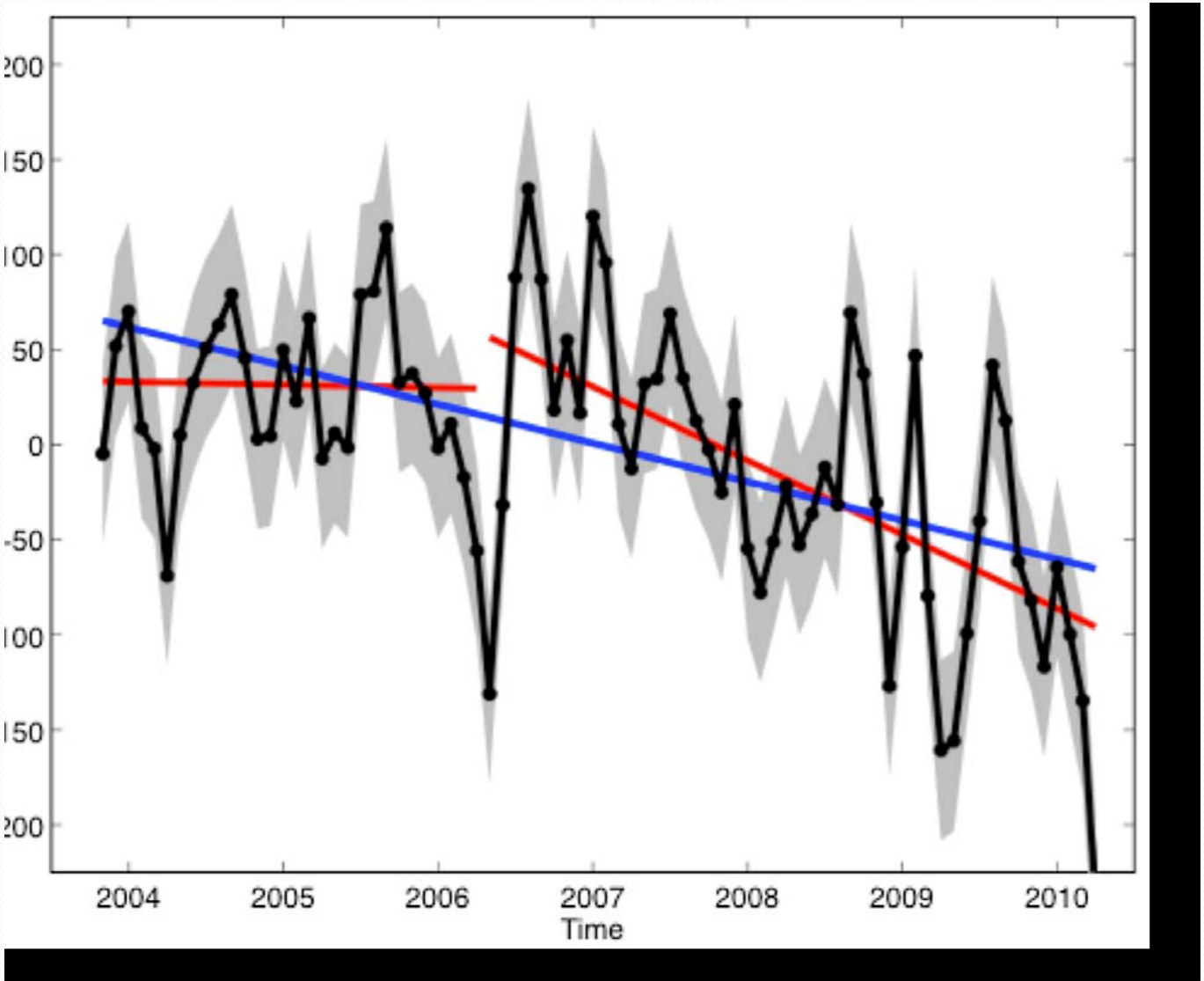


Delta Exports Reduced in Drought Years

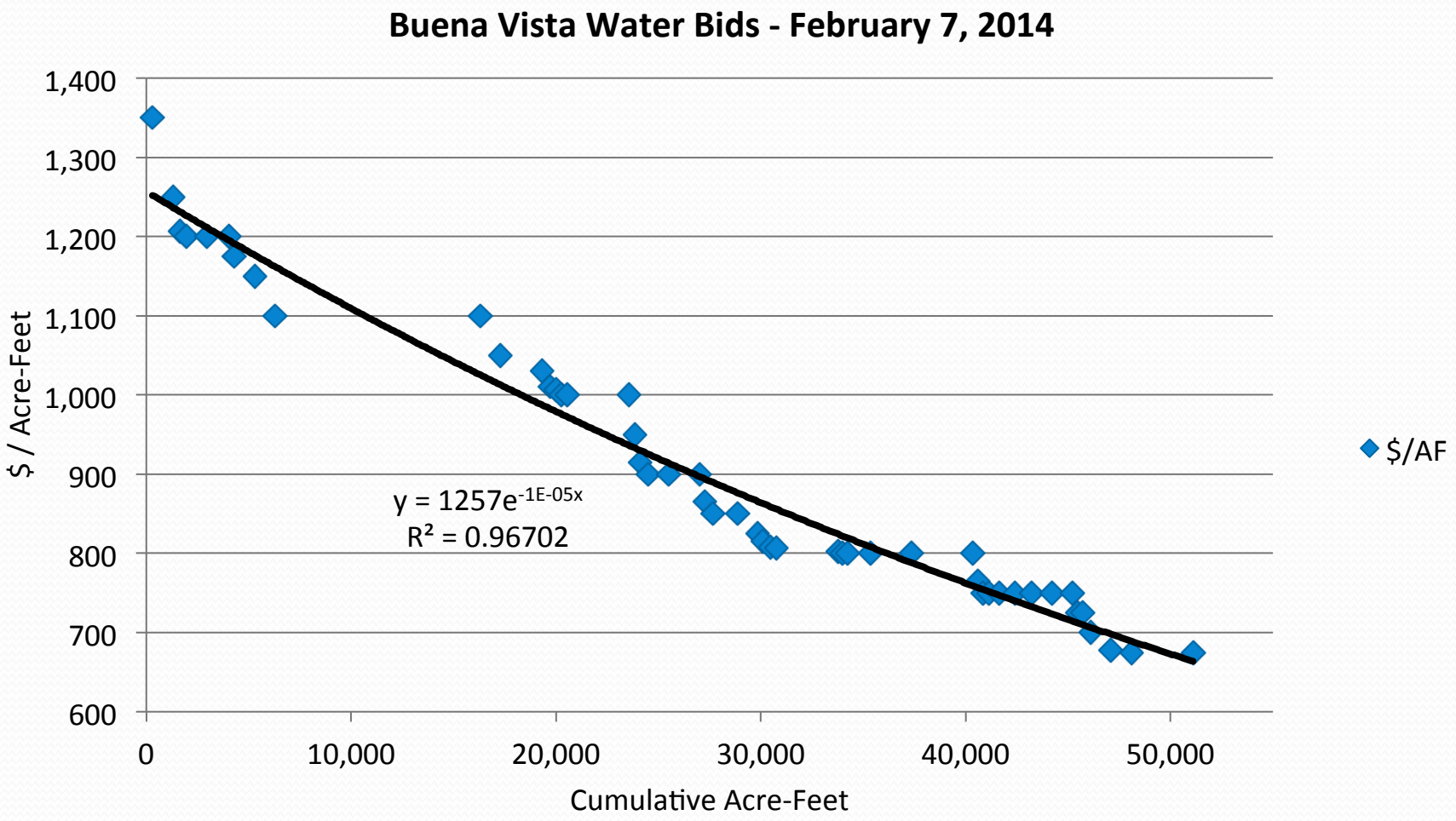


Depth to Groundwater is Trending Down

(Famiglietti et al 2011)



Record Bids for San Joaquin Valley Agricultural Water



South of Delta received only 25% of transfer requests in 2009

Region	Requested Demand
North of Delta	44,860
South of Delta	824,045

Regions	Transfers as of October 2009
North to North	93,466
North to South	200,185

Conclusions

- Adjusting to droughts has become more difficult
- Lessons from 2009 will help to estimate 2014 labor impacts
- Record water prices in SJV may stimulate ground water management initiatives
- New East-West transfers are needed in the SJV
- Authorities should not attempt to set prices, but to facilitate the operational aspects of transfers
- Long run adjustment by agriculture will involve field crop flexibility and fallowing as part of the rotation