

Improving California's Water Market

How Water Trading and Banking Can Support Groundwater Management

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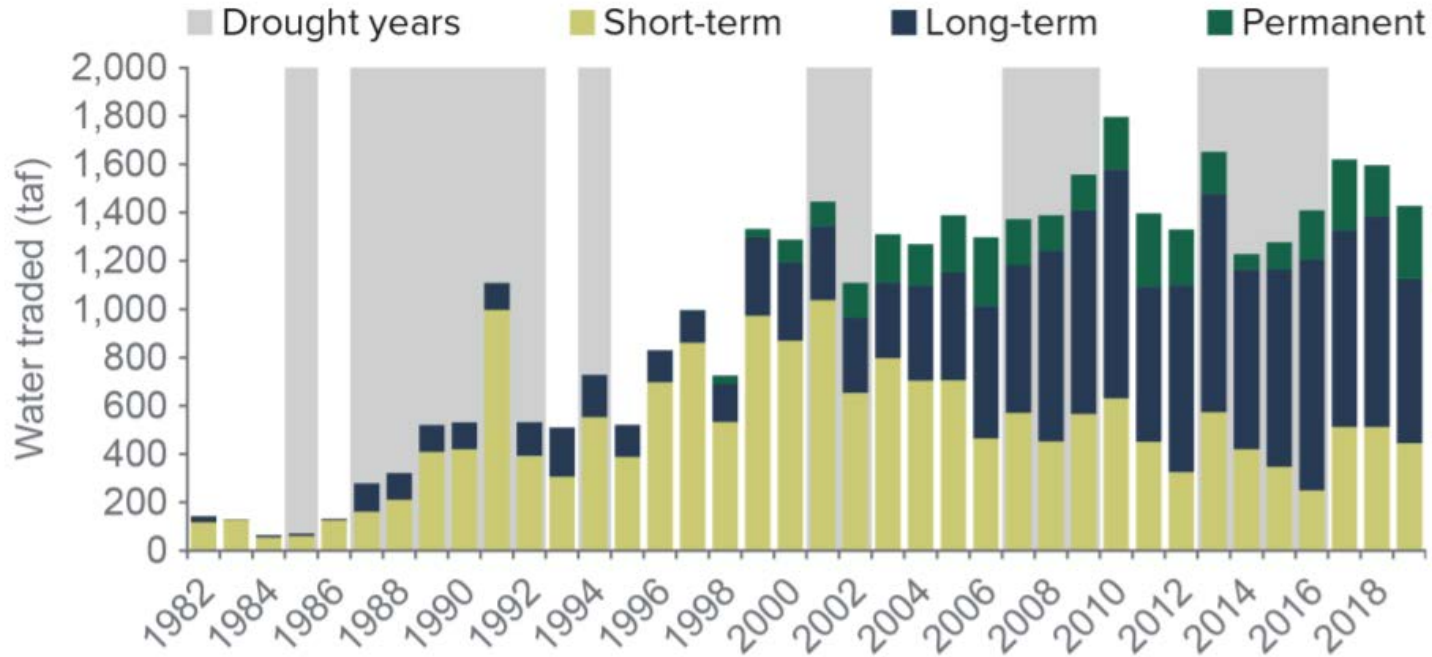
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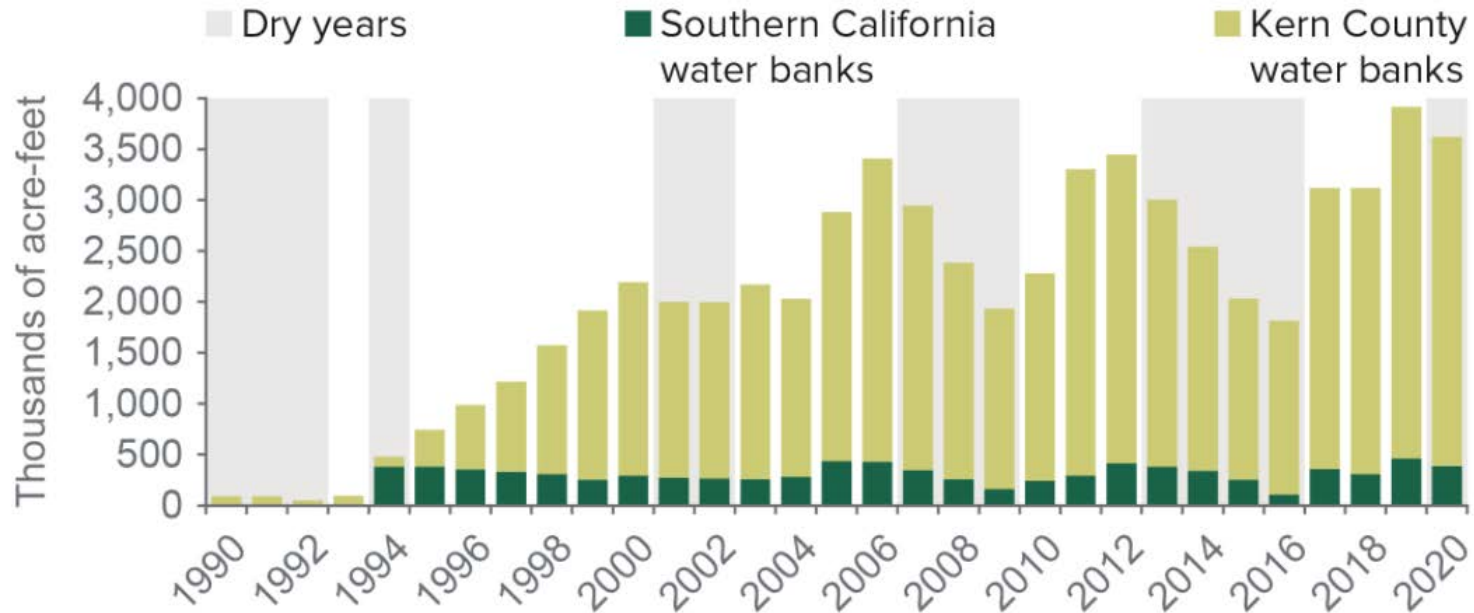
Water trading and banking can help bring groundwater basins into balance

- Groundwater is California's most important drought reserve
- Sustainable Groundwater Management Act (SGMA) requires water users to bring basins into balance by 2040s
- Most SGMA plans focus on expanding supply, but reducing demand is also necessary
- Trading can significantly lower the costs of managing demand
- Banking—underground storage for specific parties—can increase supply, help manage climatic risk

California has an active surface water market, though volumes have been fairly flat



Some regions also have sophisticated underground water banks



Work in progress: Essential features of effective and responsible markets

	Surface water trading	Groundwater trading*	Underground banking*
Secure, tradable rights			
Reliable measurement, reporting			
Hydrologic connections			
Transparent market info			
Mechanisms for addressing 3 rd party impacts			

* Outside of limited areas with active groundwater markets, banks

Work in progress: Essential features of effective and responsible markets

	Surface water trading	Groundwater trading*	Underground banking*
Secure, tradable rights	Yes		
Reliable measurement, reporting	Yes		
Hydrologic connections	Needs work		
Transparent market info	Needs work		
Mechanisms for addressing 3 rd party impacts	Needs work		

* Outside of limited areas with active groundwater markets, banks

Work in progress: Essential features of effective and responsible markets

	Surface water trading	Groundwater trading*	Underground banking*
Secure, tradable rights	Yes	Not yet	
Reliable measurement, reporting	Yes	Not yet	
Hydrologic connections	Needs work	Yes	
Transparent market info	Needs work	Not yet	
Mechanisms for addressing 3 rd party impacts	Needs work	Not yet	

* Outside of limited areas with active groundwater markets, banks

Work in progress: Essential features of effective and responsible markets

	Surface water trading	Groundwater trading*	Underground banking*
Secure, tradable rights	Yes	Not yet	Mixed
Reliable measurement, reporting	Yes	Not yet	Not yet
Hydrologic connections	Needs work	Yes	Needs work
Transparent market info	Needs work	Not yet	Not yet
Mechanisms for addressing 3 rd party impacts	Needs work	Not yet	Not yet

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Design challenge: Addressing 3rd party impacts without stifling trading

- Changes in water use can affect other parties
- For surface water, multiple approvals seek to avoid harm
- For groundwater, SGMA establishes new protections
 - Plans must avoid or mitigate significant undesirable effects of groundwater use
 - Same protections apply to trading and banking
- For well-dependent communities, addressing effects of *overdraft* (not *trading*) is key concern
- Done right, trading can help small communities, small growers

What will it take to realize the market's potential?



Lay the groundwork for well-designed groundwater markets

	Local	State	Federal
Establish, enforce groundwater allocations	Lead		
Avoid or mitigate undesirable effects of groundwater use	Lead	Support	Support

Navigate tradeoffs in market design

	Local	State	Federal
Adopt effective, responsible approval strategies	Lead	Lead	Lead
Refine Delta regulations to support trading and banking	Support	Lead	Lead
Address local, regional impacts of land following	Lead	Support	Support

Implement other priorities for reform

	Local	State	Federal
Create equitable rules for water trading	Lead	Support	Support
Make smart infrastructure investments	Lead	Support	Support
Promote local collaboration		Lead	Support

This will take some work, but it will be worth it

- SGMA is transformational for adapting to the changing climate
- Market tools can help soften the transition
- Most reforms can be done without new legislation
- Engagement, leadership at all levels will be key to get this right

About these slides

These slides were created to accompany a presentation. They do not include full documentation of sources, data samples, methods, and interpretations. To avoid misinterpretations, please contact:

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Thank you for your interest in this work.