



New Challenges to Water Transfers

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March 7, 2012

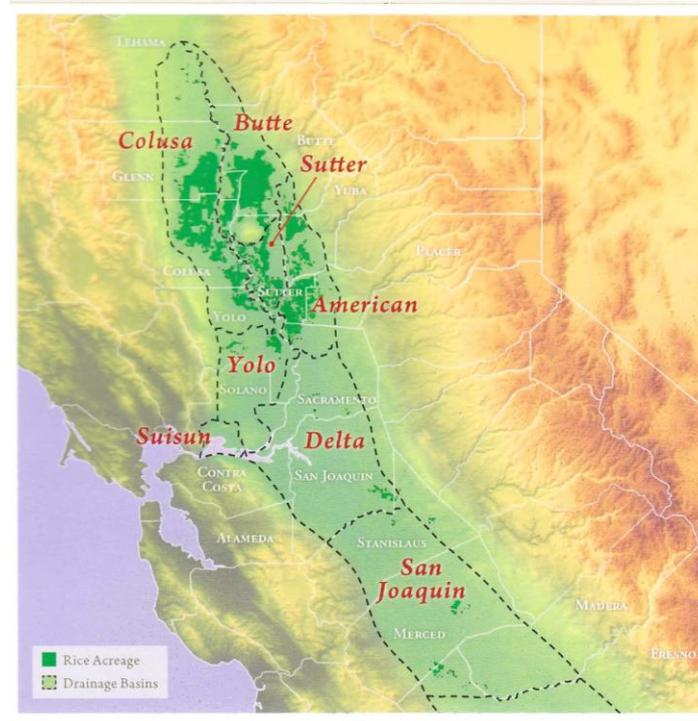
Three Major Competing Water Needs

- Multiple oceanic and inland, terrestrial and aquatic, species, many of which are threatened or endangered
- A robust agricultural economy in the Great Central Valley, which includes over 500,000 acres of rice
- Large, concentrated population and industrial centers

Geographical Challenges in California

- >900 miles north to south
- Most of the water resource lies in the north
- Heaviest population concentrations are in the south
- A big stumbling block to transfers is one of the world's largest sea/fresh water estuaries, the San Francisco Bay Delta

The Great Central Valley and The Bay Delta



Governance of the Rights to Water

- Spring waters
- Pueblo Rights
- Riparian
- Appropriation
- All are subject to the “Right of Prior Appropriation”
- Must show beneficial use has occurred
- California Constitution
- Regulatory agencies, both state and federal
- The California State Water Resources Control Board
- State and federal court system

The Birth of Transfer Concepts

- Recognition that transferred or marketed water is “beneficially used” and ownership of the water right stays with the seller
- 1980's sees growing demand south of the Delta
- Chemical usage by agriculture growing
- Municipal growth occurring exponentially
- Growing recognition of environmental needs
- Pressure to move water to where it is needed

Managing the Resource

How much is enough?



Basic Operational Concepts of the GCID

- Appropriated Water Rights from the Sacramento River, 825,000 Acre feet
- 152,000 Irrigable acres
- 105,000 in rice
- Intertie capabilities with some other districts
- Developing groundwater capability for conjunctive uses
- Water leaving the district returns to the river

Rice in Northern California (the dark green areas)

The Great Central Valley and The Bay Delta



The Early Steps to Water Transfer Policy Development

- 1980's: Historical exchanges between districts are increasing
- 1993: Glenn Colusa Irrigation District (GCID) recognizes the need to develop a transfer policy
- There is a local aversion to and fear of transfers
- 1994: Glenn County, together with local water districts, creates an ad hoc committee to try to create a local ordinance to protect groundwater in the event of transfers

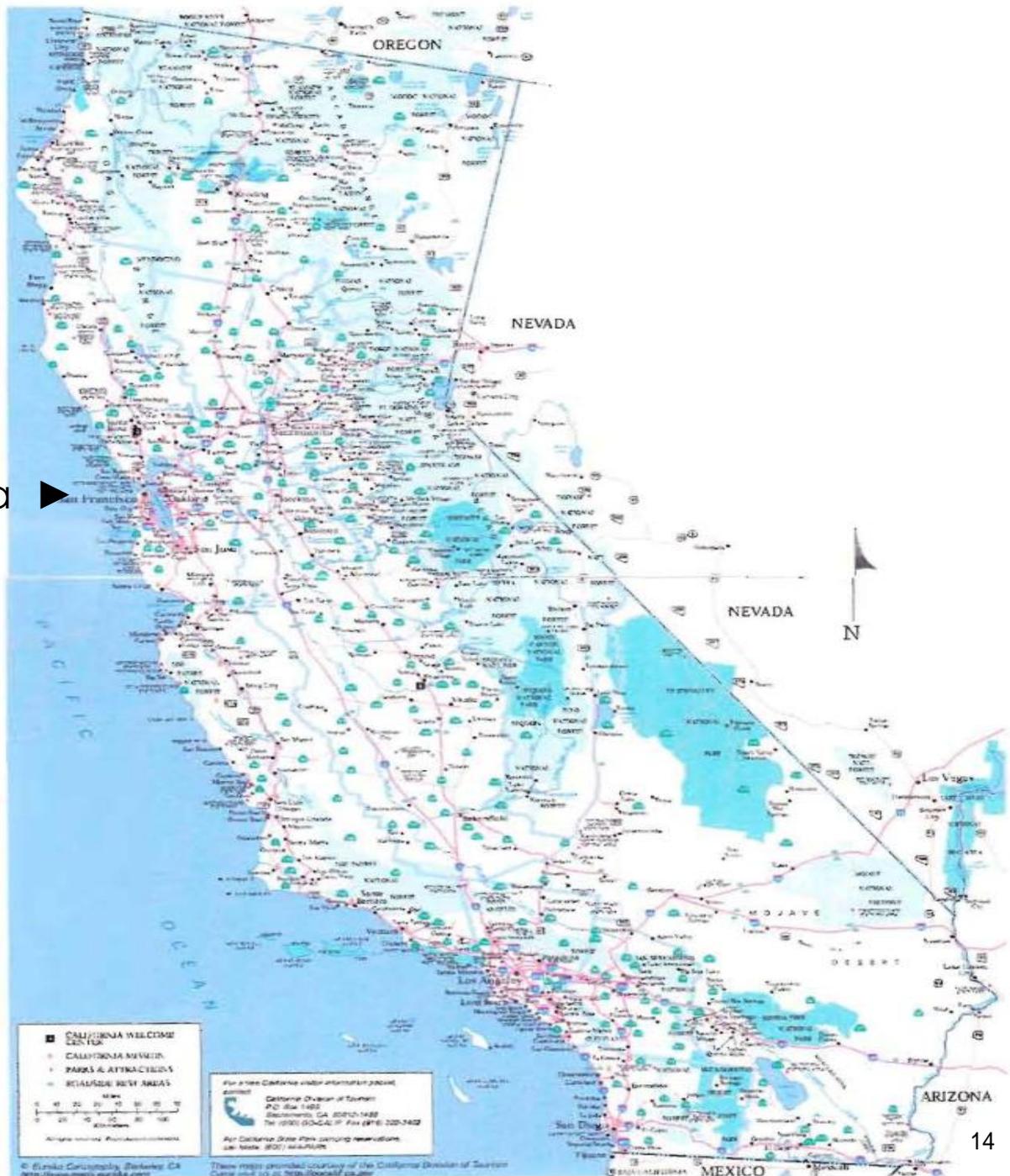
Making Water Available for Transfer

- Early experimentation with draconian measures yields little surplus water.
- Willing seller/willing buyer concept proves superior in making water available
- Environmental needs increase while population increases as well
- A Transfer policy needs to be in place as mere price setting would send all water south
- Another challenge emerges, the Bay Delta needs

Glenn Colusa Irrigation District Transfer Policy

- Establish Priority of Transfer “buyers”
 - 1) To other agricultural water users within our same watershed
 - 2) Environmental users
 - a) California Department of Fish and Game
 - b) United States Fish and Wildlife Service
 - c) United States Bureau of Reclamation
 - d) State Department of Water Resources
 - 3) Urban Areas North of the Delta Region
 - 4) Agricultural or urban users South of the Delta
- Provides for negotiated pricing according to priority rank as well as place and purpose of use

San Francisco Bay Delta



Glenn County Groundwater Ordinance

- Established Basin Management Objectives for groundwater levels
- Exporters required to report transfers
- An injured party is to seek mitigation through negotiation with an exporter
- Failure to reach agreement by the parties would result in enforcement action by the county
- County established groundwater monitoring practices including monitoring for subsidence



Counties of California

Local jurisdictional governmental bodies

State Water Bank

- “drought” (not necessarily critical year) conditions occur in California @ 5-7 years
- GCID’s water rights only allow cuts to appropriation in “critical” years
- “surplus” water sold to water bank for uniform pricing throughout districts
- Market based markets provide more \$ but fall under the auspices of state and federal controls

Issues Associated with Water “banks”

- Price is too low to induce land fallowing to create available water
- The current economy now makes state funds limited or unavailable to operate a “bank”
- A “critical” year determination (as is 2012) finds little to no available water
- New Bay Delta uncertainty restricts sending water from north to south

GCID's Prior Transfer History

- Locally: include lands that abut the district boundaries, north of delta agricultural districts, environmental transfers
- Negotiations with southern California metropolitan districts (now have storage)
- Negotiations with other agricultural districts south of the delta
- Transfers south of the delta have been restricted by costs of power and losses to mitigate for fish species in the delta

Exploring Ways to Make Water Available for Transfer

- Crop shifting: Changing from a high usage crop to a low usage crop (uses ETAW rates)
- Crop idling (fallowing): What would have been planted, absent a transfer (use ETAW)
- Both methods are subject to monitoring and verification of acres idled
- Not all crops are eligible: Delta region pastures, south of delta alfalfa, orchards, vineyards
- Multiple agency and jurisdictional regulations and technical information required

Widely Accepted “ETAW”s (evapotranspiration of applied water)

Table 2-2 Estimated ETAW values (in acre-feet/acre) for crops suitable for idling in 2012

Crop	ETAW (in aff/acre)
Alfalfa ¹	1.7 (July-Sept.)
Bean	1.5
Corn	1.8
Cotton	2.3
Melon	1.1
Milo	1.6
Onion	1.1
Pumpkin	1.1
Rice	3.3
Safflower	0.7
Sudan grass	3.0
Sugar beets	2.5
Sunflower	1.4
Tomato	1.8
Vine seed/cucurbits	1.1
Wheat (over wintered)	0.5
Wild rice	2.0

¹ Only alfalfa grown in the Sacramento Valley floor north of the American River will be allowed in 2012 transfers. Fields must be disced on, or prior to, July 1 of the transfer year. Alfalfa acreage in the foothills or mountain areas is not eligible for transfers in 2012.

Issues associated with ETAW method and crop idling

- Assumes average rainfall and evaporative demand
- In years of reduced supply, it becomes very difficult to determine what would have been planted
- Crop idling can be detrimental to some species, especially in rice which is home to over 280 species of wildlife; includes mammals, reptiles, invertebrates, many are on federal or state threatened or endangered lists

New for 2012

Draft policy changes

- California state Department of Water Resources, monitoring, verifications, rules for groundwater substitutions, potential injury awareness to 3rd parties, use of ETAWs for transfer
- Glenn County draft transfer language to be expanded and potentially add “export” fees to transfers, require mitigation and monitoring of impacts, negotiation
- GCID developing conjunctive use program, establish that district will be responsible for all agreements and approvals (no individual sales of water by district water users)

GCID New Draft Transfer Policy

- Sets more well defined priorities for agriculture within its own hydrologic region and “counties of origin”
- References marketing for environmental purposes to groups (ED, Audubon) or agencies (e.g. CDFG, USFWS, USBR, DWR)
- Monitoring and mitigation reserve fund established from a percentage retained from any marketed water
- Assures no cost impacts to water users who are not marketing their water
- Some retained funds for the district to replace revenue foregone due to crop idling

Essential and Necessary Elements of a Transfer Policy

- Integration of input from all sources: scientific, academic, governmental, agricultural, and members of local communities.
- Funding made available for research and the collaborative process needed to make transfers safe to both buyer and seller
- Respect for the needs and goals of all the above parties during the collaborative process
- An adequate and realistic inventory of the resource as well as its values in and out of its place of origin; to the user, and to species that may rely on it, such as the Giant Garter Snake in rice fields

Collaborative Negotiations with a Synergistic Approach

- Christopher Moore's 12 steps to a negotiated agreement/settlement
- Good science, respecting reasonable anecdotal information
- Protection for all uses: agriculture, municipalities, the environment and industrial
- Recognizing benefits provided by each group of users and any small steps that may have multiple use (e.g. the Giant Garter Snake in California rice)

Giant Garter Snake



Reaching Consensus

Christopher Moore's 12 steps in a nutshell:

- Build rapport and credibility
- Collect and analyze data, identifying all parties' interests
- Build trust and cooperation, minimize thinking in stereotypes
- Establish guidelines for parties to express interests and positions
- Set a sequence of topics to be on the agenda, explore possible hidden interests or goals, bring them out
- Encourage active listening
- Promote the use of multiple options for achieving desirable outcomes
- Assess costs and benefits of options
- Memorialize in writing all ideas brought forward
- Bring the parties together by demonstrating "what if" scenarios (some work, some don't)
- Formalize any agreements reached and move forward

Conclusion

- Transfers in California are subject to many layers of regulation and reporting; we try to get as many as possible recognized by all agencies involved
- The future of transfers in California are in flux at present due to the new Bay Delta standards and requirements in legislation of November 2009
- Much is yet to be learned as enforcement of that legislation moves forward (or into courts)
- Thank you for your attention. I hope this has been helpful.
- Being from the “wild west” of California, I leave you with a bit of old west humor, (I hope it translates well) :



**“ Whiskey is for drinking.
Water is for fighting over!”**

Accredited to Mark Twain, 19th century
American author