

# Water Marketing Strategy Workshop #2

Virtual Meeting  
October 21, 2020  
4pm – 6pm

Geosyntec<sup>®</sup>  
consultants



**ERA Economics**  
Environment • Resources • Agriculture

 **Tully & Young**  
Comprehensive Water Planning

# Agenda

- Welcome and Introduction to Meeting
- Introduction to Team and Water Market Study
- Presentation on Groundwater Markets
- Discussion and Q&A from Participants
- Recap and Next Steps

# Project Team

- Amer Hussain and Bob Anderson, Geosyntec Consultants
- Dave Ceppos and Malka Kopell, Sacramento State Consensus and Collaboration Program
- Duncan MacEwan and Steve Hatchett, ERA Economics
- Gwyn-Mohr Tully and Greg Young, Tully & Young

# Review Overall Purpose and First Workshop

Amer Hussain, Geosyntec Consultants

# Study Overview

## What we are doing

- Describing components of a groundwater market
- Preparing a range of alternatives, requirements and options for a MAGSA groundwater market
- Evaluating constraints and opportunities for surface water usage in MAGSA
- Listening to stakeholders regarding preferences and concerns

## What we are NOT doing

- Formalizing a groundwater allocation
- Initiating a water market
- Conducting water transactions
- Negotiating water agreements

## Project Timeline

- Completion Spring 2021

# Discussion at First Workshop

- Allocation approaches and issues
- What is a market
- Market trading structure
- Examples of other water markets

# Groundwater Market Components

## Basin Conditions

- Sustainability indicators
- Technical, stakeholder, and political considerations

## Allocation

- Identify and assign ownership to different sources of tradeable groundwater
- May include new sources added to groundwater

## Trading Structure

- The marketplace where buyers and sellers exchange tradeable units

## Market Rules

- Participation
- Trading limits, carry-over
- Prevent/mitigate unintended outcomes (e.g., DACs and other GSP requirements)

## Monitoring & Enforcement

- Method for tracking groundwater use, trades, and enforcing trading volumes

## Market Administration

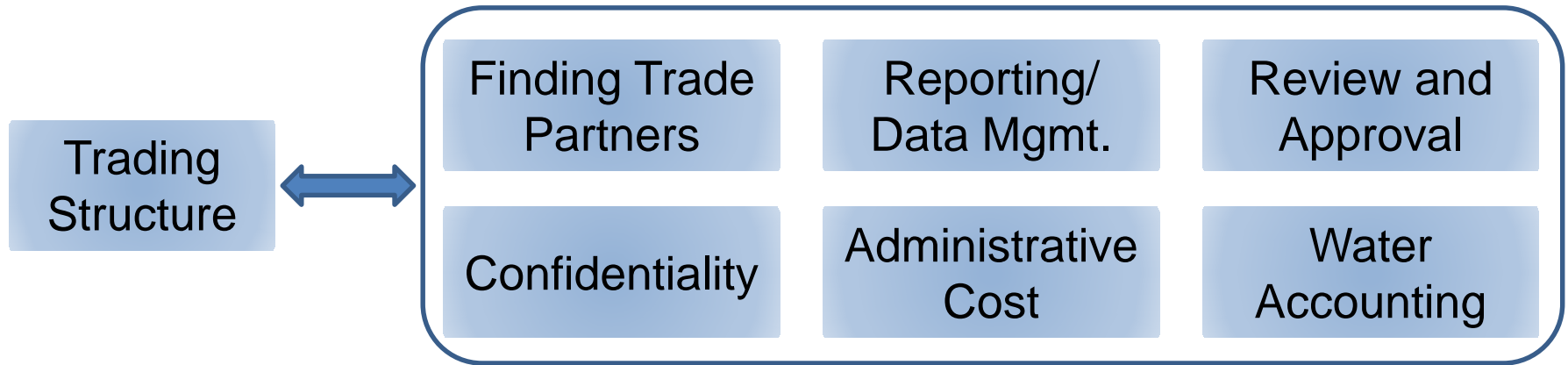
- Entity that oversees the groundwater market
- Development costs, operating costs, and funding sources

## Market Reporting

- Transaction documentation
- Price discovery
- Confidentiality

# Trading Structure – General Concepts

- It is the marketplace for willing buyers and sellers
- The structure can affect other components of market design





# What Does an Effective Groundwater Market Require?

- Participants know what they can trade
- Market information is available to participants and managers
- Participation and management costs are reasonable, not prohibitive
- Market components are understood and agreed to by all parties

# Trading Structures – Overview

Trading Structure	Summary	Comparable Example
Bilateral Deals	<ul style="list-style-type: none"> <li>• Buyer and seller find each other, negotiate terms, report traded amount to the trading manager</li> <li>• Reported to GSA for review/approval</li> </ul>	<ul style="list-style-type: none"> <li>• Existing CA surface water market</li> </ul>
Electronic Bulletin Board	<ul style="list-style-type: none"> <li>• Still bilateral, but online place to identify trading partners</li> <li>• Reported to GSA for review/approval</li> </ul>	<ul style="list-style-type: none"> <li>• Used equipment transactions</li> </ul>
Brokers	<ul style="list-style-type: none"> <li>• 3<sup>rd</sup> party brokers facilitate deals for a fee</li> <li>• Broker reports transactions to GSA for review/approval</li> </ul>	<ul style="list-style-type: none"> <li>• Real estate transactions</li> </ul>
Electronic Market	<ul style="list-style-type: none"> <li>• Computer aggregates and matches bids to buy and sell</li> <li>• Could incorporate GSP rules, directly link for reporting</li> </ul>	<ul style="list-style-type: none"> <li>• Commodity futures markets</li> </ul>

# Existing Groundwater Market Examples

- Other markets reviewed to support options for MAGSA study
  - Market structure would be defined by stakeholders and local considerations



\* Under Development

# MAGSA Groundwater Market Components

## **Other Market Features**

Steve Hatchett, ERA Economics

# Groundwater Market Components

## Basin Conditions

- Sustainability indicators
- Technical, stakeholder, and political considerations

## Allocation

- Identify and assign ownership to different sources of tradeable groundwater
- May include new sources added to groundwater

## Trading Structure

- The marketplace where buyers and sellers exchange tradeable units

## Market Rules

- Participation
- Trading limits, carry-over
- Prevent/mitigate unintended outcomes (e.g., DACs and other GSP requirements)

## Monitoring & Enforcement

- Method for tracking groundwater use, trades, and enforcing trading volumes

## Market Administration

- Entity that oversees the groundwater market
- Development costs, operating costs, and funding sources

## Market Reporting

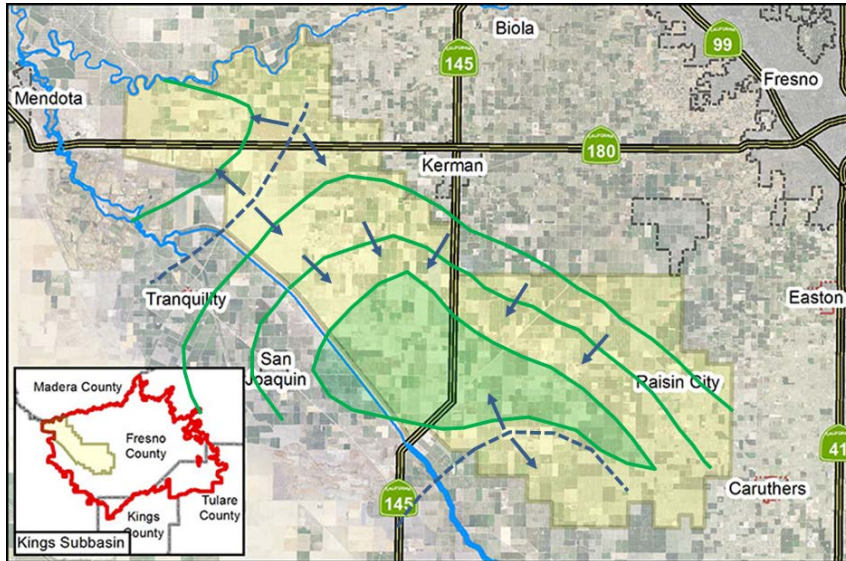
- Transaction documentation
- Price discovery
- Confidentiality

# Market Rules–Concepts and Examples

- Rules and restrictions for participation and trades
- Examples:
  - Trading limits?
  - Other trading terms – single year vs. multi-year
  - Locational considerations
  - Continuous trading vs. certain time windows
  - Carryover unused allocation/credits?
  - Other GSP-related restrictions?

# GSP Objectives May Drive Some Market Rules

## GSP Target Flow Pattern



(Contour of Measurable Objectives)

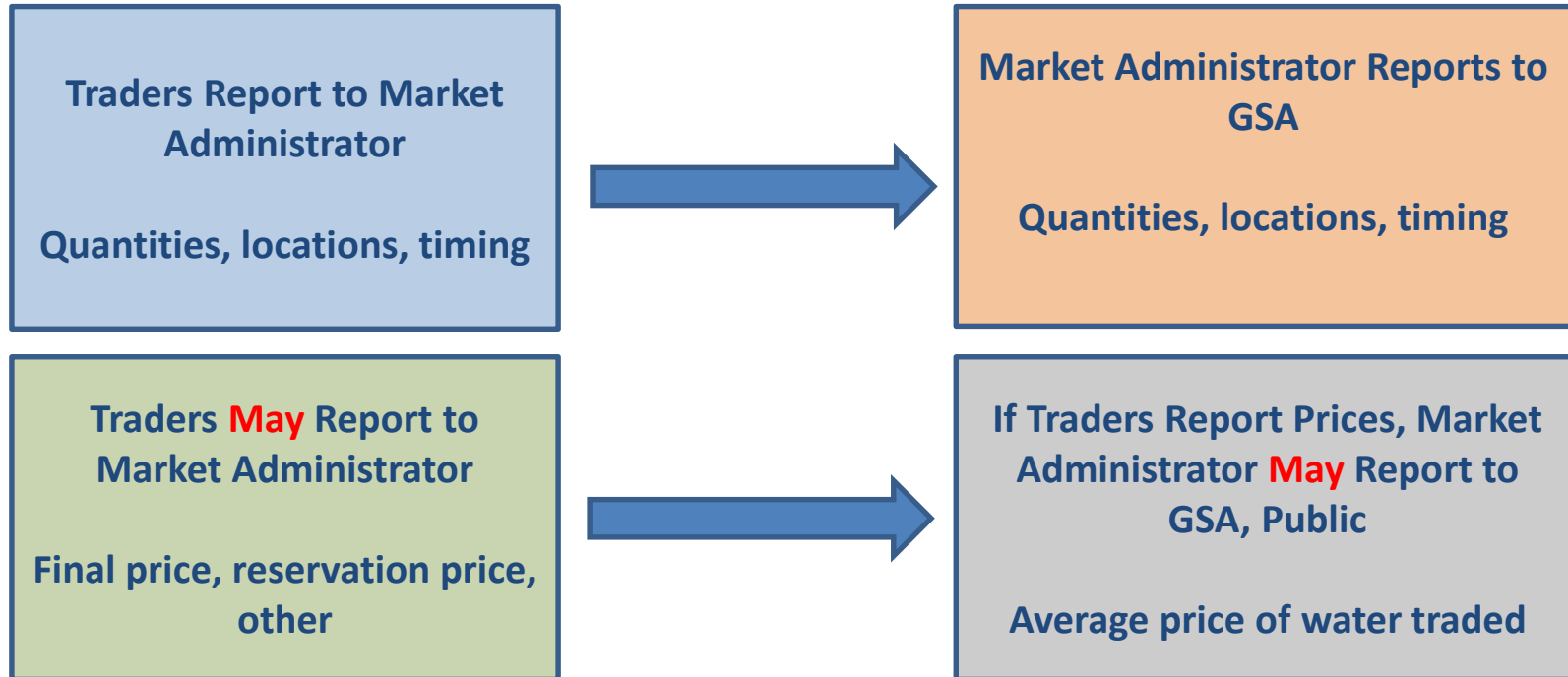
Market transactions could shift groundwater gradients and affect ability to achieve GSP objectives

# Trade Reporting

- Reporting by traders: Responsibility and timing
- Record-keeping
- Reporting by market administrator
  - For market participants
  - For potential participants and general interested parties
- Confidentiality of individual trade information
  - Report all traded amounts? Prices also?
  - Report aggregates and averages only



# Reporting Steps - Example



# Monitoring and Enforcement

- Review and approve trades
- Tracking traded amounts and resulting pumping
- Handling unanticipated problems (e.g., effects on subsidence, domestic wells, streamflow)
- Dispute resolution

# Market Administration

- **GSA or third party?**
- **Administrative activities**
  - Developing, operating the market structure
  - Review and approval of trades
  - Record-keeping, monitoring, enforcement
- **Administrative costs**
  - Initial development
  - Operating costs
  - Funding source to cover costs

# Compare Two Market Examples

# Trading Structures – Overview

Trading Structure	Summary	Comparable Example
Bilateral Deals	<ul style="list-style-type: none"><li>• Buyer and seller find each other, negotiate terms, report traded amount to the trading manager</li><li>• Reported to GSA for review/approval</li></ul>	<ul style="list-style-type: none"><li>• Existing CA surface water market</li></ul>
Electronic Bulletin Board	<ul style="list-style-type: none"><li>• Still bilateral, but online place to identify trading partners</li><li>• Reported to GSA for review/approval</li></ul>	<ul style="list-style-type: none"><li>• Used equipment transactions</li></ul>
Brokers	<ul style="list-style-type: none"><li>• 3<sup>rd</sup> party brokers facilitate deals for a fee</li><li>• Broker reports transactions to GSA for review/approval</li></ul>	<ul style="list-style-type: none"><li>• Real estate transactions</li></ul>
Electronic Market	<ul style="list-style-type: none"><li>• Computer aggregates and matches bids to buy and sell</li><li>• Could incorporate GSP rules, directly link for reporting</li></ul>	<ul style="list-style-type: none"><li>• Commodity futures markets</li></ul>

# Example 1 - Bulletin Board Trading

- GSA or third party runs on-line site to post buy or sell offers
- Deals are negotiated and finalized off-line, then reported to administrator for approval
  - Only terms necessary to manage for GW sustainability are reported – quantities, locations, timing
  - Could use standard online reporting form that ties directly into GW tracking system for monitoring
- Administrator reports aggregate quantities traded

## Example 2 – Electronic Market

- **GSA or third party runs on-line trading site**
  - On-line market matches up buyers and sellers using known rules
  - Could allow for common trading prices or prices could vary by trade
- **On-line market can implement some rules and approval criteria directly.**
- **Trades calculated and approved by on-line market reported directly to GW tracking system for monitoring**
- **Trades could be reported in aggregate (or other level of detail if acceptable)**
- **Market would know prices struck, so could report average prices, either during the season or in retrospect**

# Compare/contrast the examples

Market Component	Example 1	Example 2
Trading Structure	<ul style="list-style-type: none"> <li>• <b>Bulletin Board:</b> post offers online; negotiate and finalize offline</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Electronic Market:</b> post offers online to central market; finalized by market</li> </ul>
Market Rules	<ul style="list-style-type: none"> <li>• Traders responsible to know rules. Administrator reviews for adherence.</li> </ul>	<ul style="list-style-type: none"> <li>• Some (most, all?) rules can be implemented by market</li> </ul>
Reporting	<ul style="list-style-type: none"> <li>• Private parties report to trade admin., wait for approval.</li> </ul>	<ul style="list-style-type: none"> <li>• Market has all needed info about proposed and finalized trades</li> </ul>
Monitoring	<ul style="list-style-type: none"> <li>• Administrative review after trade is submitted.</li> </ul>	<ul style="list-style-type: none"> <li>• Administrative review built into market operation.</li> </ul>
Administration	<ul style="list-style-type: none"> <li>• Relatively lower cost – review and approve trades, track trades and use.</li> </ul>	<ul style="list-style-type: none"> <li>• Relatively higher cost to develop and run market</li> </ul>



# Breakout Discussions

## Malka Kopell, CSU Sacramento

# Possible Topics for Breakout Sessions

- Preferences, concerns, ideas about market features
  - Examples presented of trading structure
  - Duration and timing of trades
  - Trade prices: not reported vs. reported as averages vs. fully disclosed
- Information buyers and sellers would need to decide to participate

# Closing

Amer Hussain, Geosyntec Consultants

# Workshop 3

- **Surface Water Opportunities**
  - Opportunities to obtain surface water
  - How surface water might be incorporated into a potential market
- **Present market examples**
- **Analysis for the 3<sup>rd</sup> workshop will include**
  - What could the range of outcomes look like under the trading market approaches? What key factors affect outcomes?
  - What are some regional economic implications of trading? How does trading compare to an alternative without a market?

# Future Topics

- **Future topics include:**
  - Analysis to illustrate possible range of market outcomes (quantities, prices, etc.)
  - General factors that landowners could use to make decisions about whether and how to participate in a market

# How to Stay Informed

- Watch website for updates:  
<https://www.mcmullinarea.org/>
- Get on IP list
- Submit written questions/comments on website: [watermarket@mcmullinarea.org](mailto:watermarket@mcmullinarea.org)
- Technical Workshop #3: January 2021