

## Texas Groundwater Marketing and Exporting



**Ronald Kaiser**  
Texas A&M University  
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## Key Points

- Texas Water Issues
- Texas Water—Sources & Uses Trends
- History of Water Transfers
- Drivers for Groundwater Transfers
- Role of Groundwater Conservation Districts in Transfers
- Groundwater Marketing - Texas Style
- Trends

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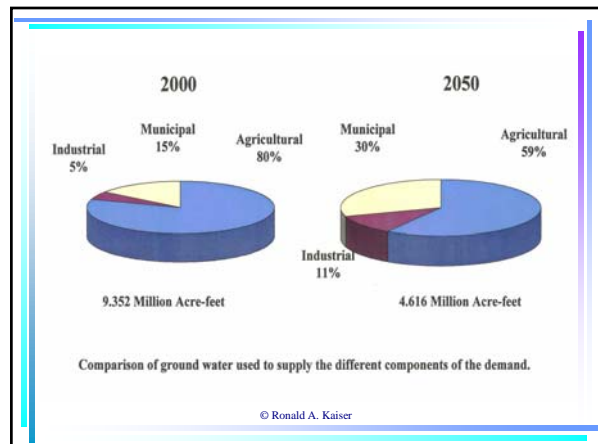
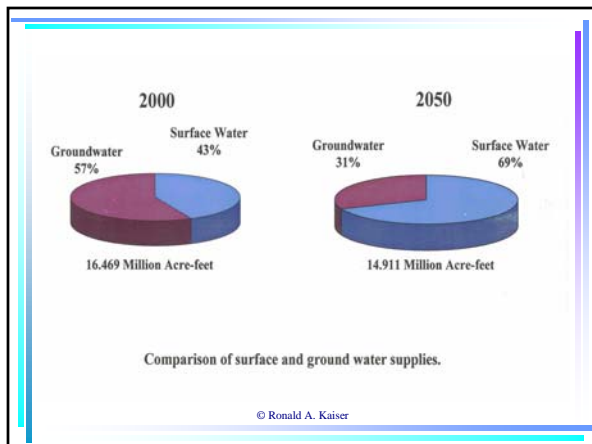
## Texas Water Issues

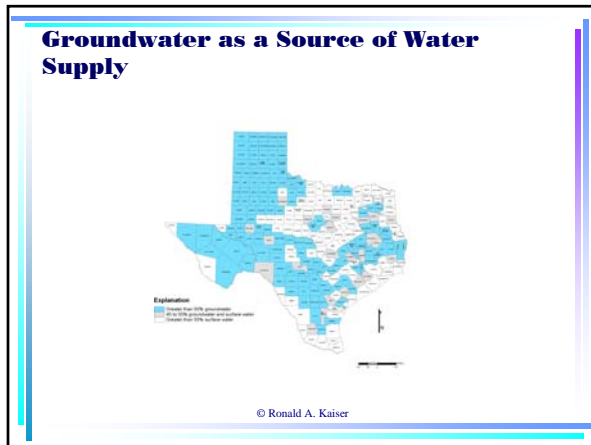
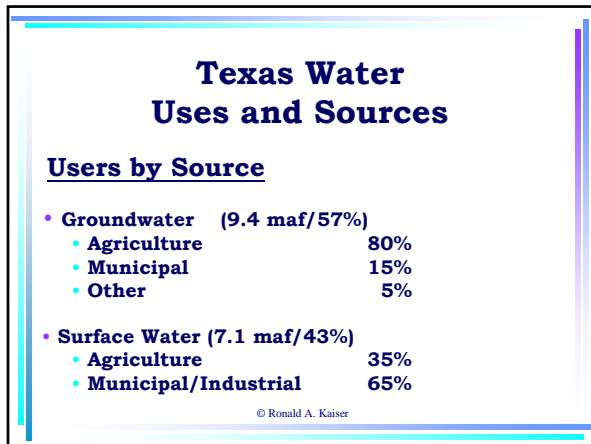
- Providing Water to Cities
  - 10% shortage today
  - 43% shortage 2050 (900 cities)
- Drought Options for Cities
- Interbasin Transfers—junior rights
- New Reservoirs: cost & consequences
- Environmental Water Needs
- Desalinization: where, cost & who pays
- Funding Needed (\$17 Billion)
- Conservation
- Groundwater Transfers

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## Texas Water Sources/Uses

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## WATER USE BY AQUIFER

AQUIFER	Estimated Pumping	Estimated Recharge
<b>Ogallala</b>	<b>6,200,000 AF</b>	<b>300,000 AF</b>
<b>Edwards</b>	<b>730,000 AF</b>	<b>1,200,000 AF</b>
<b>Carrizo</b>	<b>500,000 AF</b>	<b>645,000 AF</b>
<b>Trinity</b>	<b>200,000 AF</b>	<b>100,000 AF</b>
<b>Gulf Coast</b>	<b>1,150,000 AF</b>	<b>1,230,000 AF</b>
<b>Bolsum</b>	<b>400,000 AF</b>	<b>430,000 AF</b>
<b>All Others</b>	<b>220,000 AF</b>	<b>200,000 AF</b>
<b>TOTAL</b>	<b>9,400,000 AF</b>	<b>4,100,000 AF</b>

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## Water Transfers/Markets

- \* **What is it?**
- \* **Long History in Texas**
- \* **Accepted Practice**

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## Groundwater Marketing

**What is it:**

- \* Transfer of water/rights between willing seller (landowner) and buyer.

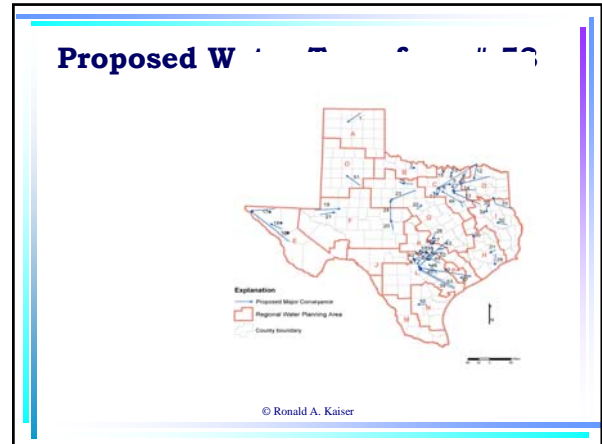
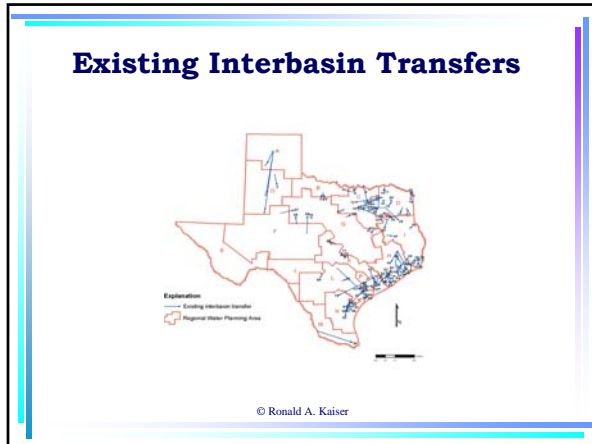
**Transaction Forms:**

- \* Lease, sale of right, sale of water, land purchase, cooperative.

**Exporting:**

- \* Transfer of water off property, outside of county, aquifer, or groundwater conservation district.

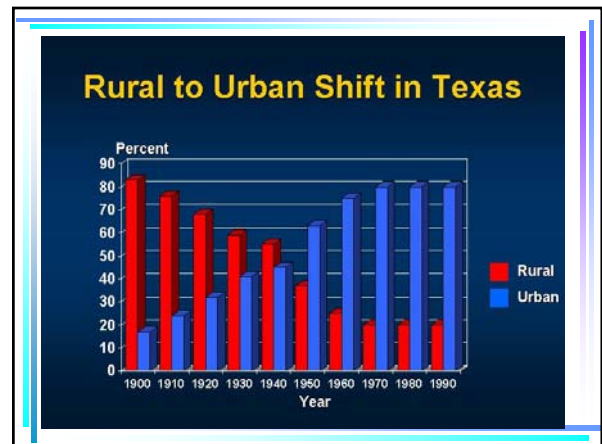
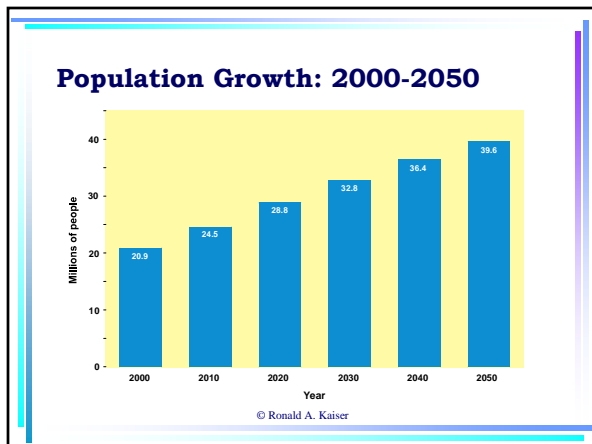
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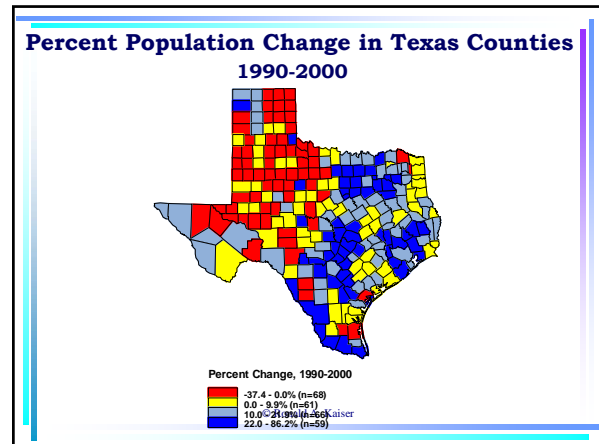
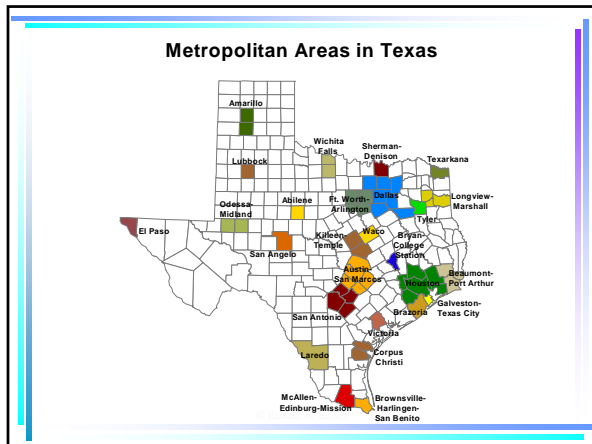


- ### Drivers for Groundwater Marketing
- Urban Population Growth
  - Limited Surface Water Supplies
  - Drought Shortages & Cities
  - Some Aquifers Drought Resistant
  - Inexpensive Water for Cities
  - \$ for Landowners and Agriculture
  - Capture Rule
  - Limitations of Groundwater Districts
  - History & Trends
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### Urban Population Growth

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### Drivers for Groundwater Transfers

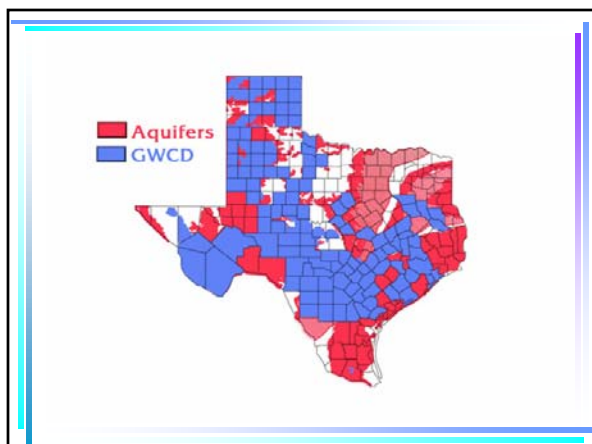
- **Drought Protection for Cities**
  - 10% shortage today
  - 43% shortage 2050 (900 cities)
- **Limited Surface Supplies**
  - 12-15 Rivers Fully Appropriated
  - Cost and Opposition (\$3.5B—18 Reservoirs)
- **Inexpensive Water**
  - Purchase costs < \$100/acre foot
  - Transportation costs: pipeline or bed and banks
- **\$ for Landowners /Agriculture**

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### Drivers for Groundwater Transfers

- **Capture Rule**
  - Landowner freedom to sell private property
  - Little consideration for neighbors or community
- **Limitations of Groundwater Districts**
  - Districts cannot absolutely prohibit
  - Can Restrict Some Exports
  - Must be Fair & Reasonable
  - Same restrictions as on other users
  - Can Charge an Export Fee
  - District Funding
  - Litigation Expenses
  - Regulations Based on Sound Science is Expensive

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### Groundwater Marketing Texas Style

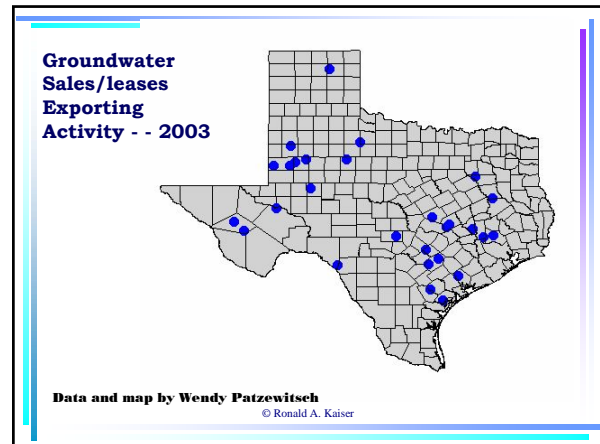
- \* Long History 1950's
- \* Transactions Types
  - Lease of water
  - Sale of water
  - Purchase of land
  - Cooperative's/Partnerships
- \* Transaction format
  - Two party (city- landowner) but changing
  - GCD Approval for Exporting
  - Water Brokers
  - Public or Private Reviews

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### More on Marketing

- Agriculture (rural) to Urban
- Where
  - West Texas—El Paso
  - Central Texas - - San Antonio, Corpus Christi
  - Mid sized & smaller cities
  - Edwards Aquifer
  - Carrizo Wilcox Aquifer
- Examples
  - Kinney County
  - El Paso Water Ranch
  - San Antonio/ Alcoa/ Edwards Aquifer
  - West Texas

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### Trends for Groundwater Marketing & Exporting

- \* More pressure on GCD's to Regulate
- \* Rural to Urban Transactions to Continue
  - Reasons
    - Inexpensive water for cities
    - Money for landowners
    - Good water quality
    - Groundwater is hedge against drought
    - Junior rights for surface water
    - Surplus in some aquifers- Gulf Coast, Carrizo

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### Trends for Groundwater Marketing & Exporting

- \* More public involvement
- \* More political controversy
- \* Impacts on rural areas not as clear
  - Panhandle
  - El Paso
  - Central Texas
  - Gulf coast
- \* Regional or aquifer-wide management
- \* More legislative involvement

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### Other Groundwater Issues

- Aquifer over-pumping
  - Well interference
  - Mining
- Aquifer sustainability
- Financing and Budgets of Groundwater Districts
- Impact on Irrigated agriculture
- Impact on Rural Texas
- State Leasing

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