Groundwater Availability in Texas:
The Past (2002 State Water Plan and before),
the Present (2006 Regional Water Plans), and
the Future (Joint Planning in Groundwater
Management Areas)

Texas Water Development Board

Mission:
“Sustainable, affordable, quality water for Texans, our economy, and our environment.”
groundwater and Texas

- 60 percent of the 16.6 million acre-feet of water used in 1999
- 81 percent of groundwater is used for irrigation
- groundwater provides 39 percent of water to cities
- tastes good when yer thirsty
groundwater use in Texas (1937 to 2003)

Total: ~288,000,000 acre-feet

Source:
- TWDB Water User Survey
- USGS water use reports
- SJF, 1999
- TWDB Water Use Survey, subject to revision

Groundwater withdrawals (millions of acre-feet)

Year
> 55% groundwater
45 to 55% groundwater and surface water
> 55% surface water

Your aquifer as a bathtub

Recharge
Spring/base flow
Aquifer
Pumping
Groundwater Availability in Texas:
The Past
2002 State Water Plan and before

“Cujus est solum, ejus usque ad coelum at ad inferos.”
like beauty, groundwater availability is in the eye of the beholder
groundwater availability...

State Water Planning

Regional Water Planning Areas

Number of Confirmed Groundwater Conservation Districts

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Districts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>6</td>
</tr>
<tr>
<td>1970</td>
<td>7</td>
</tr>
<tr>
<td>1980</td>
<td>9</td>
</tr>
<tr>
<td>1990</td>
<td>22</td>
</tr>
<tr>
<td>2000</td>
<td>50</td>
</tr>
<tr>
<td>2005</td>
<td>84*</td>
</tr>
</tbody>
</table>

*5 additional districts waiting for confirmation as of 4/06.
the bureaucrat vs. the regions

Water for Texas – 2002

Texas Water Development Board
January 2003
### Groundwater Availability in Texas:
The Present

**2006 Regional Water Plans**
Groundwater Availability in Texas: The Future Joint Planning in Groundwater Management Areas
Districts in GMAs decide Desired Future Conditions and deliver to TWDB.

TWDB provides estimates of Managed Available Groundwater to districts and regions.

Districts and regions include Managed Available Groundwater in plans.
Blue = Fresh water < 1,000 mg/l TDS
Yellow = 1,000–3,000 mg/l TDS
Orange = 3,000–10,000 mg/l TDS
Red  = > 10,000 mg/l TDS

brackish groundwater
Take home points

• Groundwater availability is in the eye of the beholder
• Changes in groundwater availability in the 2007 state water plan
• Big changes anticipated in future due to joint planning in groundwater management areas
• “Desired future conditions” and “managed available groundwater”

More about groundwater in Texas

Groundwater in Texas:
www.twdb.state.tx.us/groundwater
• Robert Mace:
(512) 936-0861