TWDB-UTA-NIDIS Workshop on
Forecast-Informed Reservoir Operation

Brazos River Authority’s Perspective
September 13, 2019

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Brazos River Authority
Brazos River Authority Overview

Our Mission

To develop, manage, and protect the water resources of the Brazos River basin

- Oldest river authority in Texas
- Created by the Texas Legislature in 1929
- First entity of its kind in the nation
- Self-funded (not appropriated), do not levy taxes
- 21 member Board appointed by Governor

Territory:
- Extends from the Texas-New Mexico state line west of Lubbock to the Gulf of Mexico near Freeport
- More than 42,000 square miles
- All or part of 76 counties
Top 10 Water Customers, 2018

<table>
<thead>
<tr>
<th>CUSTOMER</th>
<th>ACRE-FEET</th>
</tr>
</thead>
<tbody>
<tr>
<td>NRG Energy</td>
<td>104,837</td>
</tr>
<tr>
<td>TXU/Luminant</td>
<td>82,188</td>
</tr>
<tr>
<td>Bell County WCID # 1</td>
<td>62,509</td>
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<tr>
<td>Gulf Coast Water Authority</td>
<td>49,880</td>
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<tr>
<td>City of Round Rock</td>
<td>45,782</td>
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<tr>
<td>City of Georgetown</td>
<td>45,707</td>
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<tr>
<td>City of Temple</td>
<td>30,453</td>
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<tr>
<td>Dow Chemical Company</td>
<td>16,000</td>
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<tr>
<td>City of Cleburne</td>
<td>15,000</td>
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<tr>
<td>Central Texas WSC</td>
<td>12,045</td>
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<tr>
<td>TOTAL</td>
<td>464,401</td>
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</tbody>
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Circle size is proportionate to acre-feet contract amount. Map is for general display only.
Forecasts allow BRA to manage the water supply in the Brazos River Basin more efficiently by:

Incorporating rainfall runoff and hydropower releases to help BRA determine the timing for initiating/discontinuing water supply releases.
Provides necessary information to utilize run-of-river water (ROR) allocated under the System Operation Permit (SysOp).

SysOp – Use of ROR streamflow
Use of ROR water preserves water in reservoir storage; contingent on environmental flow special conditions

Environmental flow criteria are tied to USGS streamflow gages and vary depending on time of year and hydrologic conditions

TCEQ Brazos Watermaster – approval required in advance of using ROR under SysOp

Streamflow forecasts indicate if environmental flow criteria will be met in the near future
Forecasts provide the Watermaster the necessary information to authorize ROR diversions
Palmer Hydrologic Drought Index

The PHDI has been incorporated into the following two areas of BRA water supply operations:

• Used in Drought Contingency Plan as an early drought warning trigger;
• and in the State approved Water Management Plan/Water Accounting Plan to determine hydrologic conditions.
Palmer Hydrologic Drought Index - Cont’d
Questions!