State of the Basin Meeting

February 27, 2020
Opening Remarks & Introductions

David Collinsworth
General Manager/CEO
Water Supply Overview

Presented by
Aaron Abel
Water Services Manager
Current Drought Monitor and Reservoir Status

U.S. Drought Monitor *
& Reservoir Capacity Indicator**

February 20, 2020

Drought Intensity
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Exceptional Drought)
- D4 (Extreme Drought)

Reservoir Percent
- Full
- Above 100
- 95-100
- 85-95
- 75-85
- 70-75
- 50-75
- 30-50
- Below 30

* Data valid February 18, 2020, 7 a.m. CDT by National Drought Mitigation Center (NDMC), US Dept. of Agriculture (USDA), National Oceanic and Atmospheric Administration (NOAA).
** Brazos River Authority water supply reservoirs only.
30-Day Departure from Normal Rainfall
U.S. Seasonal Drought Outlook
Drought Tendency During the Valid Period

Valid for February 20 - May 31, 2020
Released February 20

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

Author:
Adam Hartman
NOAA/NWS/NCEP/Climate Prediction Center

http://go.usa.gov/3eZ73
**TWDB State Flood Planning Process**

86th Legislature
New state-wide flood planning effort

Creation of the Flood Infrastructure Fund (FIF) and Texas Infrastructure Resiliency Fund (TIRF)

**TWDB Flood Planning Timeline**

- Comments received on proposed rules/proposed flood planning boundaries Basin size concerns
- TWDB rules to be adopted in early 2020
- Flood planning regions formed summer 2020
- First regional flood plans must be delivered to the TWDB by Jan. 10, 2023
- First state flood plan to be adopted by September 1, 2024 (5 year flood planning cycle)
Environmental Update

Tiffany Malzahn
Environmental & Compliance Manager
Brazos Basin Impairments

<table>
<thead>
<tr>
<th>Parameter</th>
<th>2010</th>
<th>2018</th>
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<tbody>
<tr>
<td>Bacteria</td>
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<td></td>
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<tr>
<td>Depressed Dissolved Oxygen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chloride</td>
<td></td>
<td></td>
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<tr>
<td>Sulfate</td>
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<tr>
<td>Total Dissolved Solids</td>
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Number of Impairments
Brazos Basin Segments with Nutrient Concerns

Chlorophyll and/or Nutrient Concern
Water Quality Data Available Online
Coordination of Activities

• Water Quality Monitoring
• Instream Flow Sampling
• Golden Algae Monitoring
• Reservoir Fishery Habitat Improvement
• Threatened and Endangered Species Monitoring/Studies
• Invasive species early detection monitoring
• Emergency Response
• Environmental Crimes
Future Species of Concern

- Federal
  - Western Chicken Turtle
  - Alligator Snapping Turtle
  - Smalleye Shiner
  - Sharpnose Shiner
  - Texas Salamander
  - Other freshwater mussels

- State
  - Brazos Water Snake
## Fresh Water Mussel Candidate Conservation Agreement with Assurances Status Update

<table>
<thead>
<tr>
<th>Task</th>
<th>% Completion</th>
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<tbody>
<tr>
<td>Permit Type Determination</td>
<td>100%</td>
</tr>
<tr>
<td>Internal Meetings, Coordination, Reporting</td>
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<tr>
<td>Consultation with USFWS</td>
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<tr>
<td>Data Compilation and Analysis</td>
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<tr>
<td>Future Drought Scenario and Environmental Flows Analysis</td>
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<td>Habitat Quantification Tool</td>
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<td>Field Work to Fill Data Gaps</td>
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<td>Permit Development</td>
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<td>NEPA Support to USFWS</td>
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<tr>
<td>Operations/Business Plan</td>
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<td>Sampling Plan/Standard Operating Procedures</td>
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<tr>
<td>Scientific Collection Permits</td>
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<tr>
<td>Staff Training</td>
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Capital Projects Update

Presented by
Blake Kettler
Technical Services Manager
Lake Limestone Improvements

60% Design Submittal Received
Trinity Groundwater Well

Substantial Completion
Side Seal Plate Improvements

Fabrication and Construction Underway
Concrete Assessment And Service Life Extension (CAASLE)

Initiating Testing Phase
Spillway Pump and Piping

Reviewing Proposals
Risk-Based Asset Management Program

MicroMain (Current System)
- Maintenance Management Software – Tracks asset costs, preventative/demand maintenance, labor tracking, warranty, parts, etc.

Moving Forward…Risk-Based AMP
- Implement a risk-based asset management program
- Rank assets based on risk (likelihood of failure x consequence of failure x redundancy)
- Prioritize rehabilitation replacement projects based upon risk
- Develop a long term capital replacement plan
Program Framework Development

Facilities Application Pilot (East Williamson County WTP)

Dam Application Pilot (Possum Kingdom)

Program Framework Evaluation and Refinement and Initial Risk Profile for Pilot Facilities

Program Deployment (All Assets)

Continuous Learning

Program Renewal

Program Refinement

Program Review
Integrated Water Resources Plan

Presented by
David Collinsworth
General Manager/CEO
Integrated Water Resource Plan (IWRP)

Development of a comprehensive Integrated Water Resources Plan

1) Leverage advanced planning, modeling, and decision-making techniques to build a plan that addresses potential future demand and operational scenarios.

2) Improve water supply resiliency through integration into BRA’s risk management framework.

3) Engage customers/stakeholders in a transparent and proactive process.

4) Provide information that can integrate into the Regional and State Water Planning process.
Final Remarks & Questions
Brazos River Authority