Don’t Mess with Texas: Water Edition

Chairwoman Brooke Paup
Texas Water Development Board

TAWC Water College
January 20, 2022
Mission Statement

“To lead the state’s efforts in ensuring a secure water future for Texas and its citizens”
Texas Water Development Board

Science: Collecting water data
- Current amount of water
- Quality of water
- Texas population
- Location of water
- Collaboration with local communities
- Communities at risk
- Water management costs
- Potential water shortages

Planning: Assessing the state's future needs
- Population forecast

GOAL: Securing the water future of Texas
- Finance water, flood, and wastewater projects
- Inform and educate the public about Texas water
- Enable decision makers to manage and conserve existing supplies
- Provide data and maps for public health and safety
- Facilitate communities' abilities to create new water supplies

www.twdb.texas.gov
Water Data for Texas:
Drought Dashboard
Drought Monitor

Map Date: 2022-01-04
Lubbock County

- None: 0.00%
- D0+: 100.00%
- D1+: 100.00%
- D2+: 1.73%
- D3+: 0.00%
- D4: 0.00%

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Interactive Seasonal Rainfall Forecast

May–July 2021 Prediction

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Many Other Features...

- Monthly rainfall conditions
- Monthly temperature conditions
- Streamflow conditions
- Daily soil moisture
- Evaporation forecasts
Tex Mesonet
WHY CONSERVATION?
DATA BY USAGE TYPE (ACRE-FEET/YEAR)
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WHY CONSERVATION?
DATA BY USAGE TYPE (ACRE-FEET/YEAR)

Needs (Potential Shortages) by Usage Type (acre-feet/year)

- Irrigation
- Municipal
- Manufacturing
- Steam Electric Power
- Livestock
- Mining

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HOW DO WE GET THERE?
CONSERVE, CREATE, CONSIDER

- **Conserve** by promoting and demonstrating best management practices in water conservation, and providing funding for proven conservation tools
- **Create** opportunities for education and engagement within the agricultural community
- **Consider** and research new, innovative technologies and alternative production systems
AGRICULTURAL WATER CONSERVATION PROGRAM

- Irrigation Water Use Estimates
- Collaborate with Stakeholders
- Ag Conservation Loans
- Ag Conservation Grants
- Demonstration Projects
- Education & Outreach
IRRIGATION WATER USE ESTIMATES
IRRIGATION WATER USE ESTIMATES
UNDERSTANDING BASELINE USE

Water use estimates form the basis for developing irrigation demand projections in regional water plans.
Staff produce annual estimates of irrigation water use, by crop – for all counties in the state.

<table>
<thead>
<tr>
<th>Crop Num</th>
<th>Crop Name</th>
<th>Acres</th>
<th>Inches-Acre</th>
<th>Acre-Feet</th>
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<td>RICE</td>
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COLLABORATE WITH STAKEHOLDERS
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WATER CONSERVATION ADVISORY COUNCIL

MISSION
To establish a professional forum for the continuing development of water conservation resources, expertise, and progress evaluation.

HISTORY
Established in 2007, by the 80th Texas Legislature, via the passage of Senate Bill 3 and House Bill 4. TWDB was directed to appoint members of the newly created Water Conservation Advisory Council.

MEMBERS
Represent 23 entities and interest groups, including agencies, NGOs, industry, utilities, groundwater conservation districts, educational institutions, and more...
COLLABORATE WITH STAKEHOLDERS
WATER CONSERVATION ADVISORY COUNCIL

BEST MANAGEMENT PRACTICES

EXAMPLES

- Crop Residue Management & Conservation Tillage
- Irrigation Scheduling
- Drip-Irrigation System
- LEPA & LESA
- Replacement of Irrigation District Canals & Lateral Canals with Pipelines
- Nursery Production Systems
AG CONSERVATION LOAN PROGRAM
AG CONSERVATION LOAN PROGRAM

- Applications may be submitted by a political subdivision at any time, but funding is subject to availability
- Eligible practices include improvements to district-owned infrastructure, or as loans to individuals for improvements to existing irrigation systems
- Low, fixed-interest rates (same rate as U.S. Treasury Note)
- Up to 10-year repayment terms
- $1 million available for the 2022 application cycle
AG CONSERVATION GRANT PROGRAM
AG CONSERVATION GRANT PROGRAM

- $1.2 million available annually
- Political subdivisions & state agencies eligible to apply
- Producers eligible to participate in projects
- Application deadline: Feb 9th
AG CONSERVATION GRANT PROGRAM

CATEGORIES

• Cost-share of equipment
• Demonstrations
• Planning, design, & irrigation system improvements
AG CONSERVATION GRANT PROGRAM
CATEGORY USE CASES | COST-SHARE, EQUIPMENT

EXAMPLES

- North Plains GCD’s Master Irrigator Program provides cost share for irrigation scheduling technology and equipment upgrades.

- High Plains Water District’s Assistance in Irrigation Management (AIM) program provides cost share to agricultural producers for irrigation control and monitoring systems.
Several groundwater conservation districts and other water authorities have purchased and installed, or provided participating agricultural producers with access to cost share funding for irrigation metering equipment.

The meters provide the districts and agricultural producers with a tool to make informed water management decisions.

TWDB benefits from receiving data on actual irrigation water use, which informs the annual irrigation water use estimates and improves upon the irrigation demand projections used in the regional water planning process.
AG CONSERVATION GRANT PROGRAM

CATEGORY USE CASES | DEMONSTRATION OF INNOVATIVE & ALTERNATIVE SYSTEMS

• Narrow border flooding
  – 33% less water applied
  – Higher profitability

• Partial root-zone drying
  – 40% less water applied
  – Maintains fruit quality & yield

• Alternative water supplies for citrus
• Assist irrigation districts to:
  – develop construction plans,
  – perform environmental assessments, and
  – bring projects through the pre-construction phase to “shovel-ready” for implementation/funding.

• One of the goals of this category is to assist districts in determining feasibility of pursuing SWIFT program funding.
DEMONSTRATION PROJECTS
Ag Water Management Strategies and Education Programs

TEXAS A&M AGRILIFE RESEARCH & EXTENSION

- Project will develop educational programs (workshops, field days, conferences) to promote irrigation application efficiencies
- Protected environments (greenhouses, high tunnels) for producing vegetables
- Digital imagery from unmanned aerial systems for irrigation scheduling and detecting leaks at both the farm and irrigation district level
- Expected water savings of 20%

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Texas Alliance for Water Conservation
Texas Tech University

- Collaborative Project (2005-Present)
- BMPs in the Southern High Plains
- www.depts.ttu.edu/tawc
OUTREACH & EDUCATION
OUTREACH & EDUCATION
TEXAS A&M AGRILIFE RESEARCH & EXTENSION

• Support education, outreach, and demonstration projects related to efficient irrigation practices
• Audience: agricultural producers and irrigation district personnel
OUTREACH & EDUCATION

FARM SHOWS & FIELD DAYS

• Promote TWDB resources and programs directly to producers
• Offer technical assistance related to grant program at Field Days organized by partners
IRRIGATION SYSTEM IMPROVEMENTS
IRRIGATION SYSTEM IMPROVEMENTS

• Example project types:
  – Canal lining & pipeline replacement
  – SCADA & automated gates

• Example project partners:
  – Cameron County Irrigation District #6
  – Harlingen Irrigation District, Cameron County #1
  – Santa Cruz Irrigation District #15
STAY IN TOUCH!

agconservation@twdb.texas.gov

KYLA PETERSON  
Team Lead  
Kyla.Peterson@twdb.texas.gov

ANTONIO DELGADO  
Irrigation Specialist  
Antonio.Delgado@twdb.texas.gov