

The Process for Independent Data Sources to Submit Information to the TGPC for Consideration in PGMA Studies

**White Paper Prepared by the Texas Groundwater Protection Committee (TGPC)
Groundwater Issues (GWI) Subcommittee**

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Executive Summary

Priority Groundwater Management Areas (PGMAs) are those designated areas of the state where, within the next 50 years, groundwater is deemed to be at greatest risk due to shortages or contamination, or where land is subsiding due to groundwater withdrawals. The Texas Groundwater Protection Committee (TGPC) is a state agency that is particularly concerned with changes in groundwater quality. The TGPC and any of its Subcommittees could receive information on potentially critical groundwater problems from an independent data source. After review, discussion, and possible additional research, the TGPC could approve the submitted data as being relevant to PGMA studies and present it to the Texas Commission on Environmental Quality (TCEQ) Executive Director and the Texas Water Development Board (TWDB) Executive Administrator for consideration during the annual PGMA meeting. This white paper outlines five potential scenarios describing the process of independent data submission to the TGPC for PGMA study consideration.

Acronym List

AgriLife Extension - Texas A&M AgriLife Extension Service

AgriLife Research - Texas A&M AgriLife Research

DSHS - Texas Department of State Health Services

GCD - Groundwater Conservation District (or district)

GWI - Groundwater Issues

PGMA - Priority Groundwater Management Area

RRC - Railroad Commission of Texas

TAGD - Texas Alliance of Groundwater Districts

TCEQ - Texas Commission on Environmental Quality (or commission)

TDA - Texas Department of Agriculture

TDLR - Texas Department of Licensing and Regulation

TGPC - Texas Groundwater Protection Committee

TPWD - Texas Parks and Wildlife Department

TSSWCB - Texas State Soil and Water Conservation Board

TWC - Texas Water Code

TWDB - Texas Water Development Board

USGS - United States Geological Survey

UTBEG - Bureau of Economic Geology of The University of Texas at Austin

Introduction

The Texas population in 2010 was approximately 25 million people. By 2020, the Texas population is expected to reach 29.5 million, and 51 million by the year 2070⁽¹⁾.

“The existing water supply (categorized as surface water, groundwater, and reuse water) is projected to decrease approximately 11 percent, from 15.2 million acre-feet per year in 2020 to about 13.6 million in 2070”⁽²⁾.

“[Texas g]roundwater supplies are projected to decrease 24 percent, from 7.2 million acre-feet per year in 2020 to 5.4 million in 2070. This decrease is primarily due to reduced supply from the Ogallala Aquifer (as a result of its depletion over time) and the Gulf Coast Aquifer (due to mandatory reductions in pumping to prevent land surface subsidence). Policy decisions made by groundwater conservation districts through the groundwater management area joint planning process also resulted in numerous changes to groundwater availability”⁽²⁾.

“The State of Texas has set up a process to identify priority areas where groundwater is at greatest risk and establish management of the groundwater through local governance”⁽³⁾. The Texas Commission on Environmental Quality (TCEQ) and the Texas Water Development Board (TWDB) identify and study priority areas where groundwater is at greatest risk. These priority areas are referred to as a Priority Groundwater Management Areas (PGMAs).

Full Issue Information and Discussion

A PGMA is an area designated and delineated by TCEQ that is experiencing or is expected to experience, “within the immediately following 50-year period, critical groundwater problems including shortages of surface water or groundwater, land subsidence resulting from groundwater withdrawal, or contamination of groundwater supplies”⁽⁴⁾.

Designating an area a PGMA allows further steps for groundwater management in creating a Groundwater Conservation District (GCD) “to provide for the conservation, preservation, protection, recharging, and prevention of waste of groundwater, and of groundwater reservoirs or their subdivisions, and to control subsidence caused by withdrawal of water from those groundwater reservoirs or their subdivisions”⁽⁵⁾.

Groundwater reservoirs are water-bearing strata regardless of size or lateral extent. This could be any aquifer, major or minor, or localize rock strata, or a strata that could receive injection of water for an aquifer storage and recovery project. An example of a subdivision of groundwater reservoirs would be where differing rock types within a groundwater reservoir separate “members” of an aquifer. The Wilcox Group is part of the Carrizo – Wilcox Aquifer. The Wilcox Group is further subdivided into the Upper Wilcox Calvert Bluff Formation, Middle Wilcox Simsboro Formation, and the Lower Wilcox Hooper Formation where all three formations can produce water at various capacities.

GCDs “are the state’s preferred method of groundwater management in order to protect property rights, balance the conservation and development of groundwater to meet the needs of this state, and use the best available science in the conservation and development of groundwater through rules developed, adopted, and promulgated by a district”⁽⁵⁾.

The current process of identifying areas to be considered for PGMA designation is that TCEQ meets annually with TWDB in order to exchange information and review the need for additional PGMA designations ⁽⁶⁾. “If the [TCEQ] executive director concludes that an area of the state should be considered for designation as a [PGMA], the executive director shall prepare a report to the commission”⁽⁷⁾.

Areas of Texas have been designated as PGMAs where TCEQ and TWDB identified critical groundwater problems. The Texas State Legislature has created GCDs in most of the PGMAs to allow local governmental groundwater management in order to address critical groundwater problems such as shortages of surface water or groundwater, land

subsidence resulting from groundwater withdrawal, or contamination of groundwater supplies.

Current areas of Texas designated as a PGMA are:

- Dallam County PGMA, 1990;
- Briscoe, Swisher, and Hale County PGMA, 1990;
- Reagan, Upton, and Midland County PGMA, 1990;
- Hill Country PGMA (parts of Travis, Hays, Comal, and Bexar, and all of Gillespie, Blanco, Kerr, Kendall, and Bandera counties, 1990, and Bexar County study, 2001);
- El Paso County PGMA, 1998;
- Central Texas - Trinity Aquifer PGMA, 2008 (Hill, McLennan, Coryell, Bosque, and Somervell counties); and,
- North-Central Texas - Trinity and Woodbine Aquifers – PGMA, 2009 (Montague, Cooke, Grayson, Fannin, Wise, Denton, Collin, Parker, Tarrant, Dallas, Hood, Johnson, and Ellis counties).

Recommendation

An independent data source (e.g., a member of the public or a Texas Groundwater Protection Committee (TGPC) member) could possess information on potentially critical groundwater problems unknown to TCEQ or TWDB that could support PGMA studies. The TGPC could serve as a receiver of this additional information on these problems. The TGPC could assign the initial review of the additional data to any of its Subcommittees in order to discuss and evaluate the additional data and report back to the TGPC for further action. Upon approval of the submitted data by the TGPC as being relevant to PGMA studies, the data could be presented to TCEQ and TWDB for consideration during the annual PGMA meeting.

It should be noted that the “primary goals of the [TGPC Groundwater Issues (GWI)] Subcommittee are to:

- Facilitate interagency communication for assessment programs addressing groundwater contamination;
- Coordinate and assist member agencies with monitoring programs for:
 - Ambient groundwater conditions;
 - Pesticides; and,
 - Emerging contaminants or constituents of concern.

- Review published data reports and *evaluate data independent of reports to assist in the determination of the effectiveness of existing regulatory programs* [emphasis added];
- Review published data reports and *evaluate data independent of reports for potential contaminants not addressed by existing regulatory programs* [emphasis added]; and,
- Develop recommendations for consideration by the TGPC to address potential groundwater contamination identified through monitoring and data review.”⁽⁸⁾

TGPC GWI Subcommittee members currently include, but are not limited to:

- Texas Commission of Environmental Quality (TCEQ);
- Texas Water Development Board (TWDB);
- Railroad Commission of Texas (RRC);
- Texas Department of State Health Services (DSHS);
- Texas Department of Agriculture (TDA);
- Texas State Soil and Water Conservation Board (TSSWCB);
- Texas Alliance of Groundwater Districts (TAGD);
- Texas A&M AgriLife Research (AgriLife Research);
- Bureau of Economic Geology of The University of Texas at Austin (UTBEG);
- Texas Department of Licensing and Regulation (TDLR);
- Texas Parks and Wildlife Department (TPWD); and,
- United States Geological Survey (USGS).

Processes

In order to complement TCEQ and TWDB PGMA studies, the TGPC and any of its Subcommittees may accept and review data indicating changes in groundwater quality, decreasing groundwater quantity, land subsidence resulting from groundwater withdrawal, or contamination of groundwater supplies (see Figure 1 in the Appendix for a process flow diagram). It should be noted that the TGPC would be particularly interested in any information related to groundwater quality issues.

Acceptable additional types of data and localized information to be evaluated by the TGPC or any of its Subcommittees, and which may be used in order to consider an area as a PGMA, may include:

- Geographic location;
- Groundwater measurements (e.g., groundwater elevation);

- Graphical (e.g., maps and cross-sections);
- Groundwater quality (e.g., analytical groundwater chemistry);
- Surface elevation changes (local survey elevation correction data and/or National Geodetic Survey data) or local land surveys;
- Aquatic responses to groundwater contamination, changes in groundwater quality or quantity, or changes in groundwater-surface water interactions; and,
- Aquatic responses to spring contamination or changes in spring quality or flow.

The quality of the data to be considered may include:

- The analytical lab accreditation;
- Public monitoring; and,
- Affidavits.

Five potential scenarios describing how the TGPC would receive, review, discuss, research, and possibly approve independent data as being relevant to PGMA studies are outlined below.

1. The process for the TGPC or any of its Subcommittees to receive data from an independent data source (e.g., a member of the public or a TGPC member) is:
 - At the conclusion of meetings of the TGPC and any of its Subcommittees, the public attending the meetings is allowed to provide comment and those comments are included in the official record of the meeting;
 - The independent data source could present data that may be relevant to protecting groundwater or identifying critical groundwater problems;
 - If the data is presented to the TGPC, the TGPC may review the data itself or assign an initial review of the submitted data by the appropriate TGPC Subcommittee; and,
 - If the data is presented to a TGPC Subcommittee, the TGPC Subcommittee Chair or Co-Chair will report at the next TGPC convened meeting that they have received data for PGMA study consideration from an independent data source.
2. The process for TGPC Subcommittee review of submitted data is:
 - If the TGPC assigns an initial review of the submitted data to one of its Subcommittees, the TGPC Subcommittee will provide a discussion period during a convened Subcommittee meeting in order to discuss the validity and quality of the submitted data;
 - The TGPC Subcommittee may grant the data presenter an opportunity to answer questions for the record during a convened TGPC Subcommittee meeting;

- TGPC Subcommittee approval of the submitted data as being relevant to PGMA studies is necessary in order to present it to the TGPC for consideration; and,
 - A designated TGPC Subcommittee member will present the submitted data to the TGPC.
3. The process for any of the TGPC Subcommittees to present submitted data to the TGPC is:
 - The designated TGPC Subcommittee member presents the submitted data for consideration during a convened TGPC meeting; and,
 - The submitted data may be accompanied by additional information gathered by the TGPC Subcommittee during the initial data presentation or through its own research.
 4. The process for TGPC review of submitted data is:
 - The TGPC may assign review of the data to one of its Subcommittees which would report back to the TGPC at a later date;
 - Should the TGPC review the data itself, the TGPC will provide a discussion period during a convened TGPC meeting in order to discuss the validity and quality of the submitted data;
 - The TGPC may grant the data presenter an opportunity to answer questions for the record during a convened TGPC meeting;
 - The TGPC may research other factors pertaining to the presented data or make assignments to carry out the additional research;
 - The TGPC may then further review and discuss the data; and,
 - TGPC approval of the submitted data as being relevant to PGMA studies is necessary in order to present it to the TCEQ and TWDB for consideration.
 5. The process for the TGPC to present data to the TCEQ and TWDB for PGMA studies is:
 - The TGPC may approve presentation of the submitted data, through its Chair or Vice Chair, to the TCEQ Executive Director and the TWDB Executive Administrator for consideration during the annual PGMA meeting; and,
 - The submitted data may be accompanied by additional information gathered by the TGPC during the initial data presentation or through its own research.

The above recommendations and processes represent the opinion of the TGPC GWI Subcommittee and do not necessarily reflect the views and policies of each participating

organization. The United States Geological Survey (USGS) may have contributed scientific information, only.

For more information about this white paper, please contact the TGPC (<http://tgpc.texas.gov/contact-us/>).

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References:

- (1) *2017 State Water Plan, Water for Texas*, TWDB, A-3, A-5, <https://www.twdb.texas.gov/waterplanning/swp/2017/index.asp>
- (2) *2017 State Water Plan, Water for Texas*, TWDB, A-7, <https://www.twdb.texas.gov/waterplanning/swp/2017/index.asp>
- (3) Texas A&M AgriLife Extension Service (AgriLife Extension) publication B-6191, *Priority Groundwater Management Areas*, page 9, <http://www.agrilifebookstore.org/default.asp>
- (4) Texas Water Code (TWC) 35, Section 35.007 (a), first sentence, <http://www.statutes.legis.state.tx.us/SOTWDocs/WA/htm/WA.35.htm>
- (5) TWC 36, Section 36.0015 (b), <http://www.statutes.legis.state.tx.us/Docs/WA/htm/WA.36.htm>
- (6) TWC 35, Section 35.007 (a), last sentence, <http://www.statutes.legis.state.tx.us/SOTWDocs/WA/htm/WA.35.htm>
- (7) TWC 35, Section 35.007 (b), <http://www.statutes.legis.state.tx.us/SOTWDocs/WA/htm/WA.35.htm>
- (8) TGPC GWI Subcommittee Charge, http://tgpc.state.tx.us/wp-content/themes/responsive/subcommittees/gwissues/GWI_SubComm_Charge22Apr2015.pdf

Appendix

Priority Groundwater Management Area (PGMA) Process

Proposed TGPC Support of the PGMA Process

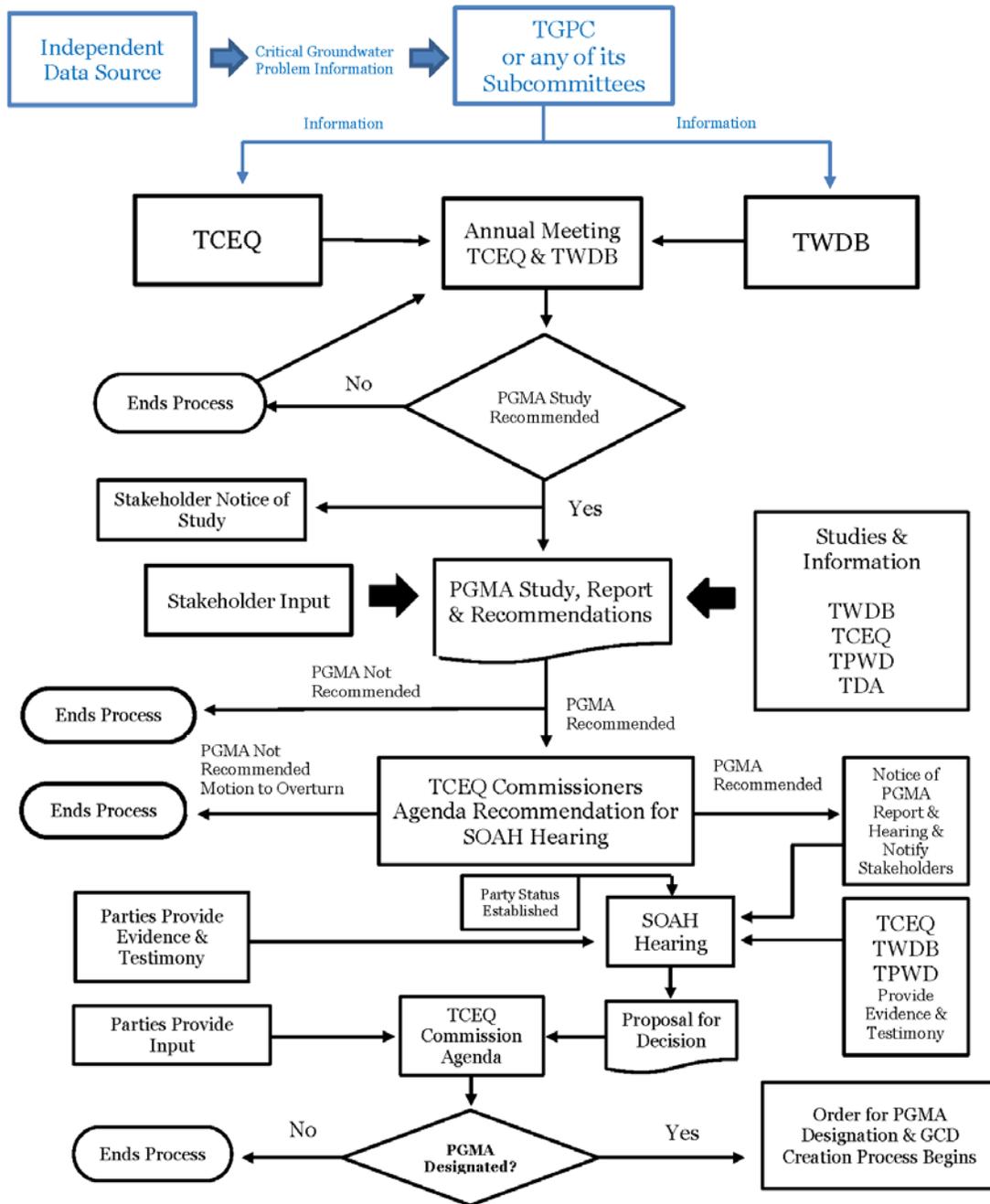


Figure 1. PGMA Process Flow Diagram