CHAPTER 8
POLICY AND UNIQUE SITES RECOMMENDATIONS

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8 POLICY AND UNIQUE SITES RECOMMENDATIONS

The regional water planning process offers an opportunity to make recommendations pertaining to the development and management of the groundwater and surface water resources of the State of Texas. This Chapter contains specific suggestions and decisions made by the Plateau Water Planning Group (PWPG). Regional water planning remains a learning and improving process for the State of Texas. Because of the complex nature of this undertaking, many ideas, and approaches to the problems of water-resource management are either refined or changed significantly as all participants in the planning process learn more about the Region's water resources and about what is required to produce a plan that will benefit all areas of the Region. The PWPG supports the continuation of the regional planning process and recommends certain modifications intended to strengthen its effectiveness.

The following recommendations by the PWPG are derived from careful consideration of many issues covered during the planning exercise including needed legislative actions, State funding and assistance, water supply management planning, and needed studies and data. Issues concerning ecologically unique river and stream segments and sites for the construction of reservoirs are covered. The recommendations in the following sections are designed to present new and/or modified approaches to key technical, administrative, institutional, and policy matters that will help to streamline the planning process, and to offer guidance to future planners with regard to specific issues of concern within the Region.

8.1 CONSERVATION RECOMMENDATIONS

1. Watershed Management Practices

Selective vegetative (brush) management, as a tool to improve watershed yields and water quality, is a strategy of great interest in the Plateau Region, as well as in surrounding planning regions. A balanced approach to brush control contributes to the land's ability to absorb, retain, filter, and slow rainfall runoff. However, a narrow goal only to encourage the enhancement of runoff should be avoided.

The State should draft legislation based upon the best available science and input from all stakeholders to provide a cost-share funding program to landowners in the targeted watersheds for selective brush management and required other practices. It is generally recognized that brush infestations are the symptom of deeper ecological disturbances such as fire control, drought, grazing mismanagement, wildlife overpopulations and other causes. As such, the cost-share program should involve a long-range contract between the State and the landowner for at least 10 years of post-treatment management with required brush re-invasion treatments. To accurately assess the benefits, treated watersheds will require thorough monitoring of groundwater, springs and surface waters by appropriate State and Federal agencies. Information and assistance are available from the USDA Natural Resources Conservation Service (NRCS) and the Texas State Soil and Water Conservation Board.

Currently, Texas Parks & Wildlife Department (TPWD) has a program specifically developed for landowners involving brush management in areas possibly containing endangered species. As has been proven on the Kerr Wildlife Management Area (TPWD) with long-term studies, selective brush management coupled with good rangeland management can benefit endangered species and ranchers as well. It is highly likely that watershed values will fit into the same package to provide a win-win situation for all.

2. Riparian Stewardship

The interaction between soil, water and vegetation in the floodplains and along streambeds constitutes riparian function, which buffers and slows floodwaters, filters sediment, improves natural infiltration and recharge of alluvial aquifers, and enhances water quality. The PWPG encourages riparian landowners to learn and implement land stewardship practices that support healthy riparian function. The PWPG continues to encourage funding for projects aimed at the eradication and long-term suppression of salt cedar, Arundo donax, and other nuisance phreatophytes in the regional watersheds.

3. Conservation Management of State-Owned Lands

All State-owned land should be managed in ways that enhance water conservation. State agencies need to take the lead in water conservation, and it should start on State-owned properties. Unless State agencies set good conservation examples for the public, any public program encouraging such conservation will likely be perceived as "do as I say, not as I do," something that never plays well. Considering that approximately 95 percent of Texas land is privately owned, the State needs to be convincing when making recommendations to the public if it hopes to be successful.

4. Rainwater Harvesting as an Alternative Source of Water

Rainwater harvesting programs should be supported by the State. Rainwater harvesting is one way to meet rural or urban domestic water demands, as well as use for limited irrigation, such as vineyards, orchards or small farms under drip irrigation. Livestock and wildlife can also be provided supplemental water by rainwater harvesting. This should be widely encouraged by funded education programs and cost-share funding to individual homeowners, farmers, businesses, public entities, and ranchers.

5. Conservation and Drought Planning

Because portions of the Plateau Region are particularly susceptible to water-supply shortages during periods of drought conditions, these areas are especially encouraged to develop conservation-oriented management plans. Likewise, water-user entities within these areas should become actively involved in the regional water planning activities associated with this *Plan*.

6. Stormwater / Flood Planning

In 2019, the Texas Legislature passed Senate Bill 8 directing the creation of the first-ever State flood plan for Texas. The State flood plan brings together the findings of the 15 river-basin-based regional flood plans and makes legislature and floodplain management recommendations to guide State, regional, and local flood control policy.

The Texas Water Development Board (TWDB) adopted Texas' inaugural 2024 State Flood Plan on August 15, 2024, to be delivered to the Legislature by September 1, 2024. The regional and State flood planning processes recur in five-year cycles.

The Plateau Region falls within six different flood planning regions, where the goal was to perform comprehensive planning to reduce flood risk and take a broad look at flood hazard across the State. The food planning process aims to identify who and what might be exposed to flooding; identify the State's major flood risk reduction infrastructure; consider existing floodplain management practices or lack thereof; and identify and recommend flood risk reduction solutions across the State.

Chapter 8 of the 2023 Regional Flood Plans outlines legislative recommendations developed by the Regional Flood Planning Groups, necessary to facilitate floodplain management and flood mitigation planning and implementation. The PWPG acknowledges the importance of being actively involved in the regional flood planning activities and will continue to coordinate efforts to support the detailed legislative recommendations within the regional water planning area.

7. Needed Funding for Data Collection in Rural Areas

Rural areas need to be able to access State funding to gather the information needed to draft a substantive regional plan. This funding is needed for test wells, monitoring equipment, observation wells, and modeling. The PWPG should be allowed to request additional funding for the data needs and contract for the studies.

8.2 WATER MANAGEMENT RECOMMENDATIONS

1. Headwaters GCD Access to Groundwater under State-Owned Land

The Texas Legislature recognizes that a landowner owns the groundwater below the surface of the landowner's land as real property (*Water Code Chapter 36.002 Ownership of Groundwater*). Water Code Chapter 36.104 states that a groundwater district may purchase, sell, transport and distribute surface water or groundwater. For the long-term benefit of meeting the future water demands of the citizens in Kerr County, Texas, the PWPG recommends that the State of Texas enter into a long-term lease agreement or contract that will allow the Headwaters Groundwater Conservation District to retain/acquire the groundwater rights located under all State-owned property within the boundaries of Kerr County. This will provide for:

- better long-term management of local groundwater sources,
- additional drilling sites for test/monitor wells,
- more county-wide data collection and monitoring of aquifer conditions, and
- increased availability of scientific data for local water management planning.

The District's enabling legislation (*Special District Local Laws Code Chapter 8842 Section 102.B*) states that the District may contract with a State agency or another governmental body to carry out any function of the District. The access right to groundwater underlying State-owned land would be included in the District's Management Plan.

2. GCD Management of Brackish Groundwater

Brackish-quality groundwater is recognized State-wide as an underutilized water-supply source, and programs are in place in the State's water agencies to encourage the development of this source to meet future water-supply shortages. Science recognizes that most of these brackish aquifers represent a down-dip component of an aquifer's freshwater zone, and that the withdrawal of water from the brackish portion may impact the updip fresh-water portion of the same aquifer. The Legislature has declared that groundwater conservation districts are the State's recognized authority to locally manage groundwater sources. The PWPG affirms that local groundwater conservation districts have the authority and should retain the authority to manage the brackish portion of aquifers.

3. Recharge Structures

Recharge structures are a relatively low-cost method of enhancing aquifer recharge if sited to provide adequate streambed water percolation based upon the best available science. Recharge structures such as small dams, gabions, or terraces can provide multiple benefits under ideal conditions as has been proven along the Edwards Aquifer Recharge Zone. This interest in recharge structures should be encouraged, funding provided, and perhaps some streamlining of any required permitting procedures as possible and as advised. Programs and funding should be available to identify appropriate locations for recharge structures and technical assistance provided for construction and maintenance.

8.3 WATER PLANNING RECOMMENDATIONS

1. Transient Population Impact on Water Demand

Municipal water use reports capture the total amount of water produced and distributed by the city. In concept, this volume includes water consumed by both permanent and transient populations within the community. However, the counties of the Plateau Region have a high transient influx of vacationers and hunters that frequent the more remote areas and are not likely included in the water demand estimates. Likewise, there are a high percentage of second-home owners in the rural counties that is also not accounted. Officials in the most rural counties in the Region estimate that as much as 70 percent of landowners are not permanent residents. This transient water demand likely has a significant impact on water demand estimates used by the planning group. The PWPG encourages the TWDB to consider this water-use category and develop a method for estimating its impact.

2. Better Methodologies for Estimating Population and Water Demand

The revision of population and demand estimates should be discussed by regional water planning groups and put before the public for several months, and then be presented to the planning groups for consideration and adoption. This will allow more time for water users within the Region to hear about the planning effort and to have input to the revisions of population, water demand, and water supply.

Modification of demand numbers should be allowed further into the planning process. Demand errors may not be discovered until the supply-demand analysis is performed. Some entities or water-use categories may have been overlooked early in the process and their demands need to be added later for the supply-demand analyses to match.

3. County-Other Demand Distribution

In the regional water planning process, water supply demand is determined on a county and river basin basis and is then evenly distributed over the designated area. In some cases, this results in a misrepresentation of the actual rural density within segments of the county-river basin area. The primary disadvantage of this is that a high-density rural area may have a legitimate need of water supply management even though the county-river basin statistical numbers do not indicate a supply shortage. A recommended water management strategy in an area such as this does not register as high of a priority as it realistically should. The PWPG therefore recommends that the TWDB develop a planning process that will justifiably recognize the high-priority needs of relatively higher-density county-other areas.

4. Irrigation Surveys

Irrigation application is the largest use of water in the State, yet its quantification is probably the least accurate. Irrigation use is only being accurately determined in areas where groundwater conservation districts are requiring the installation of irrigation well flow meters and where irrigation districts record surface water diversions. Elsewhere, planning group members directly involved in the agricultural industry have viewed irrigation surveys with skepticism in many counties. Nursery farms, greenhouse operations, wildlife and exotic animal food plots, and non-municipal golf courses are just a few of the irrigation activities that are often overlooked in the surveys. The TWDB is encouraged to develop a more confident means of estimating actual irrigation use.

5. Peak-Use Management

Drought management plans need to be developed based on peak use demand instead of annual production capabilities. The current *Plan* is based on drought-of-record conditions on an annual basis. While this is a good starting point in the planning process, it would be beneficial to also plan based on peak demand during a year. For example, current planning does not address water needs during the peak use period of summer months. During the summer, in many areas of the State, severe water problems may exist that are not apparent based on an annual water management plan. This results in a plan that may indicate that water-supply needs are satisfied for a region, when in reality such needs may not be satisfied throughout the year. This presents a significant problem in the current planning process.

6. MAG Availability Alternative

Modeled Available Groundwater (MAG) is the quantitative limit set by Groundwater Management Areas for groundwater use in a given area and is the cap for groundwater source use in regional water planning. The PWPG recommends that MAGs be used as the water planning cap unless the Planning Group obtains written permission from a Groundwater Conservation District (GCD) to allow a water management strategy to be recommended that uses more groundwater than the MAG cap. This approach assumes that the strategy is consistent with the GCD Management Plan but allows for minor supply shortages to be covered without excessive administrative actions and allows the GCD to apply local knowledge to account for variations in permitting approaches and usage patterns. The approach could also be used in areas with no GCDs.

7. Regional Planning Coordination

The two regional planning processes developed by the Legislature (Regional Water Planning and Groundwater Management Areas) have in some cases resulted in conflicting methodologies of reaching long-term planning goals. The PWPG encourages better communication between the stakeholders at earlier stages of both processes in the future. The PWPG also encourages the Legislature to examine ways in which both planning processes can better interact for the good of all citizens and economies in the impacted regions.

8. Training for New Regional Water Planning Group Members

The TWDB is encouraged to continue providing training opportunities for new planning group members. Planning group members provide better input to the planning process when they fully understand the requirements, schedules, and the multitude of internal components of the regional plan.

9. Require Participation of State Agencies Involved with the Planning Process

Representatives of State agencies involved in the regional planning process could effectively derail a regional plan at the end of the planning period - without attending as much as one meeting. The PWPG recommends that nonvoting members of State agencies be required to attend and provide input at every planning group meeting. If an agency's nonvoting representative does not contribute or fails to attend meetings, then that agency should not be permitted to object to or alter contents of a planning group's adopted plan. It should be noted that TWDB, TPWD, and TSSWCB staff were very active (and much appreciated) in the Plateau Region planning process.

8.4 WATER RESEARCH NEEDS

The State should fund or conduct specific studies that will shed more information on specific water-resource issues. The questions unanswered by current sources of information are critical to future PWPG decisions. The following are recommendations pertaining to specific studies and data acquisition that the PWPG believes would provide significant insight into specific planning issues in the Region.

1. Edwards-Trinity (Plateau) Aquifer

All six counties in the Plateau Region are partially or fully underlain by the Edwards- Trinity (Plateau) Aquifer. Even though a groundwater availability model (GAM) has been constructed for this Aquifer, there remain many hydrological questions about the Aquifer. Specific counties are embroiled in controversy pertaining to groundwater supply availability. At issue is the disagreement about the total amount of water in the county that is available on an annual basis to meet all the counties projected water demands now and into the future, and the amount of groundwater more than that amount that might be available for other purposes other than in-county use. All concerned agree that sound science is needed to assess this quantification.

Specific concern has been voiced by citizens in Val Verde County where the groundwater source availability of the Edwards-Trinity (Plateau) Aquifer changed from 25,000 acre-feet per year in the 2016 Plateau Region Water Plan to 50,000 acre-feet per year in the 2021 Plan. TWDB modelers are particularly critical of the ability of any existing groundwater model to accurately assess Val Verde County groundwater availability as Aquifer properties are poorly defined in most of Val Verde County because there are few data on Aquifer responses to pumping stresses. A better understanding is needed of the different geohydrologic environments that exist between the southern San Felipe Springs – Amistad Reservoir area verses the upstream Pecos and Devil's River area.

A basic, unbiased, scientific study that encompasses the hydrologic characterization of the Edwards-Trinity (Plateau) Aquifer and adjacent associated aquifers (Edwards-BFZ and Austin Chalk) and the inter-formational flow between them, their contribution to surface water flows, and the historical withdrawal from the aquifers is needed in order for the local groundwater management entities and the PWPG to make sound management decisions and recommendations.

2. Unpermitted Withdrawals of Riparian Water

A significant amount of unpermitted riparian water is withdrawn from rivers and their tributaries in the Region. Unpermitted pumping is particularly escalated during drought periods when increased withdrawals occur for irrigation of lawns. This water use is unaccounted for in the Water Availability Models that are developed for these waterways. State water agencies should devise a survey method to establish a reasonable estimate of these diversions.

3. Emphasis on Basic TWDB Water Evaluation Studies

In the past, the TWDB has provided significant knowledge concerning the groundwater resources in the State in the form of basic data and reports. The Board's current emphasis on groundwater modeling with its intended use as a water management planning tool is recognized as an important advancement in providing planning tools. However, the Board should not abandon its important basic data gathering and

evaluation responsibility. The Board should emphasize more realistic and useful groundwater studies that include the extensive field data collection necessary for such studies.

4. Radionuclides in Trinity Aquifer Groundwater

Recent groundwater sampling by groundwater conservation districts have identified elevated levels of radionuclides in the Trinity Aquifer. Further studies are needed to: (1) identify the specific source of the radionuclides, (2) map their areal distribution and concentration, (3) determine their health concerns, and (4) monitor their changing concentrations over time.

5. Groundwater/Surface Water Relationship

The PWPG defines groundwater availability as a maximum level of aquifer withdrawal that results in an acceptable level of long-term aquifer impact such that the base flow in rivers and streams is not significantly affected beyond a level that would be anticipated due to naturally occurring conditions. This water-supply policy definition can best be achieved when the relationship between groundwater and surface water is fully understood. The PWPG encourages the State (TWDB) to embrace this concept and focus water availability studies on this topic.

6. Impact of Transient Water Demand in Rural Counties

The concern pertaining to transient population water demand in rural counties was expressed in Section 8.1.8. A study is needed to quantify this impact that is not based solely on the resident population but rather considers the total count of individuals within the respective area.

7. Underestimated Water Demand of Exotic Animals

The PWPG investigated the water use generated by the expanding exotic animal industry within the Region (see Appendix 2B of the *2011 Plan*) and expects to build on this information to generate more accurate water demand estimates in future regional plans. The PWPG encourages the TWDB and other agencies to continue funding for this endeavor in the Plateau Region and throughout the State.

8. Upper Guadalupe River Basin Groundwater/Spring Flow Analysis

Surface water base flow in the three branches of the upper Guadalupe River in western Kerr County is derived almost exclusively from groundwater discharge through springs. Both the PWPG and members of Groundwater Management Area 9 recognize the need to manage groundwater use in this area where critical surface water/groundwater interaction occurs. However, developing management decisions is impaired by the lack of current understanding of how groundwater level elevations relate to spring flow rates. Only one monitoring well is in place that provides continuous water level readings, and no attempt has thus far been made to relate this recent data to spring flows. A study is needed to evaluate this critical interaction so that future management decisions can be based on a more substantial level of scientific knowledge.

8.5 CONSIDERATION OF ECOLOGICALLY UNIQUE RIVER AND STREAM SEGMENTS

Under regional planning guidelines (§357.43), each planning region may recommend specific river or stream segments to be considered by the legislature for designation as ecologically unique. The legislative designation of a river or stream segment would only mean that the State could not finance the construction of a reservoir that would impact the segment. The intent is to provide a means of protecting the segments from activities that may threaten their environmental integrity.

Texas Parks and Wildlife Department (TPWD) provided a list of stream segments that were identified as meeting ecologically unique criteria. This list and map can be viewed in Appendix 8B of the 2011 Plan. For each segment, TPWD lists qualities of each segment that support the stream's candidacy. These qualities may include but are not limited to biological function, hydrological function, location with respect to conservation areas, water quality, the presence of State- or Federally listed threatened or endangered species, and the critical habitat for such species.

The Plateau Region contains some of the most ecologically pristine areas in the State. The preservation of this natural environment is an important component of the Region's economy, which is closely tied to these natural resources. The PWPG recognizes the uniqueness of this Region and has followed a policy throughout this planning period of always considering the impact that their decisions have on the area's ecological resources. The PWPG also recognize the extent of Region L designated ecologically unique stream segments that extend upstream to the southern boundary of the Plateau Region.

The PWPG has established the following procedure for public requests for Planning Group consideration of an ecologically unique stream segments:

- PWPG must receive a clearly designated letter and map requesting the EUSS. Letter must be from an individual or entity that resides or principal office is within the geographic boundary of the Plateau Water Planning Region.
- All property owners within the recommended designated area must be provided written notice by certified mail of the proposed designation.
- At least two thirds of the property owners that respond within the recommended area must concur with the proposed EUSS recommended designation.
- The County Commissioners' Court must vote in favor of the recommended designation and submit to the PWPG.

However, because the subsequent ramifications of designation are not fully understood, the PWPG, in keeping its respect toward all individual landowners along these segments and their private property rights, has chosen to refrain from recommending specific segments for designation as "ecologically unique" currently. The PWPG strongly maintains that all river and stream segments in the Plateau Region are vitally important, and their flows constitute a major consideration in adoption of this *2026 Plan*.

The Upper Guadalupe River Authority (UGRA) Board of Directors has presented the following letter in expression of their concern for possible ramifications of RWPGs recommending Ecologically Unique River and Stream Segments:

Based on 31 TAC §357.43 a regional water planning group (RWPG) may recommend a river or stream segment as being of unique ecological value based on the criteria set forth in 31 TAC §358.2(6). Consideration of the designation of stream segments of unique ecological value (unique stream segments) is a component of regional water planning throughout the State. For some, however, including the Plateau Region (J), there is a significant concern about the use of unique stream segments because of a lack of clarity about how the designation might be used in the future. In particular, there are concerns about the provision being used for purposes other than the intent of the legislature, usurping local control, and resulting in the restriction of individual and private property rights for landowners.

31 TAC §358.2(6) states the following: River and stream segments of unique ecological value--Those river or stream segments that may be identified by the Texas Water Development Board in coordination with the Texas Parks and Wildlife Department and the Commission or identified in an approved regional water plan based on the following criteria: (A) Biological function--stream segments which display significant overall habitat value including both quantity and quality considering the degree of biodiversity, age, and uniqueness observed and including terrestrial, wetland, aquatic, or estuarine habitats; (B) Hydrologic function--stream segments which are fringed by habitats that perform valuable hydrologic functions relating to water quality, flood attenuation, flow stabilization, or groundwater recharge and discharge; (C) Riparian conservation areas--stream segments which are fringed by significant areas in public ownership including state and federal refuges, wildlife management areas, preserves, parks, mitigation areas, or other areas held by governmental organizations for conservation purposes, or stream segments which are fringed by other areas managed for conservation purposes under a governmentally approved conservation plan; (D) High water quality/exceptional aquatic life/high aesthetic value--stream segments and spring resources that are significant due to unique or critical habitats and exceptional aquatic life uses dependent on or associated with high water quality; or (E) Threatened or endangered species/unique communities--sites along stream where water development projects would have significant detrimental effects on state or federally listed threatened and endangered species; and sites along streams significant due to the presence of unique, exemplary, or unusually extensive natural communities.

Designation of a river or stream segment as ecologically unique is defined by Chapter 16 of the Texas Water Code §16.051(f) to mean "…that a state agency or political subdivision of the state may not finance the actual construction of a reservoir in a specific river or stream designated by the legislature…". When the first regional water plans were prepared in 2001, the RWPGs requested clarification of the intent of unique stream segment designations. The legislature addressed that issue in the 77th Legislative Session which is reflected in Chapter 16 of the Texas Water Code §16.051(f) cited earlier. This implies that it would be irrelevant to consider recommending a segment for designation if it does not have potential to be a reservoir site. In other words, no regulatory purpose has been identified that would be served by a unique stream segment designation other than precluding reservoir construction with state funding.

Despite the clarification by the 77th Legislature, many regional water planning groups (including Region J) have struggled with requests for the designation of a stream segment(s) in their respective planning areas based on criteria other than that which was identified by the 77th Legislature. There is considerable concern from some planning group members that using this provision for other than its original intent, which is to prevent a state agency or political subdivision of the state from financing the actual construction of a reservoir in a specific river or stream designated by the

legislature under this provision, will lead to additional unwarranted restrictions on the use of the segment which can negatively impact individual landowners and infringe on private property rights.

Because the subsequent ramifications of unique stream designations are not fully understood, the use of the designation for anything other than the original intent could lead to the impingement of individual and private property rights, and costly litigation. The intent of the Texas Legislature regarding the purpose of the unique stream segment designation is clearly stated in Section 16.051(f) of the Texas Water Code. The current process incorporates considerations made by rule which exceed the legislature's intent and §16.051(f) of the Texas Water Code thereby usurping local control and due process by duly elected local officials.

Recommendation:

The Plateau Water Planning Group recommends the modification of 31 TAC §358.2 by striking subsection 6 (a through e) "Ecologically Unique Stream Segments" and the modification of sections that reference 31 TAC §358.2(6) with the rationale that this section's instruction for unique stream designation supersedes the directive in Texas Water Code 16.051(f). Striking 31 TAC §358.2(6) will additionally preserve and protect local control as well as individual and personal property rights.

8.6 CONSIDERATION OF UNIQUE SITES FOR RESERVOIR CONSTRUCTION

Regional water planning guidelines (§357.43) instruct that planning groups may recommend sites of unique value for construction of reservoirs by including descriptions of the sites, reasons for the unique designation, and expected beneficiaries of the water supply to be developed at the site. The following criteria shall be used to determine if a site is unique for reservoir construction:

1. Site-specific reservoir development is recommended as a specific water management strategy or in an alternative long-term scenario in an adopted plan.
2. The location, hydrologic, geologic, topographic, water availability, water quality, environmental, cultural, and current development characteristics, or other pertinent factors make the site uniquely suited for:
    - reservoir development to provide water supply for the current planning period; or
    - where it might reasonably be needed to meet needs beyond the 50-year planning period.

Following consideration of the above criteria the PWPG makes no recommendation of unique sites for reservoir construction.