FINAL PLAN

CHAPTER 8: POLICY RECOMMENDATIONS AND UNIQUE SITES

Rio Grande Regional Water Plan

B&V PROJECT NO. 411250

PREPARED FOR

Rio Grande Regional Water Planning Group

7 OCTOBER 2025

BLACK & VEATCH

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List of Abbreviations

ac-ft	Acre-Feet
ac-ft/yr	Acre-Feet per Year
BPUB	Brownsville Public Utilities Board
BRACS	Brackish Resources Aquifer Characterization
IBWC	International Boundary Water Commission
ID	Irrigation District
RGV	Rio Grande Valley
RWP	Regional Water Plan
RWPG	Regional Water Planning Group
SB	Senate Bill
SWIFT	State Water Implementation Fund for Texas
TCEQ	Texas Commission on Environmental Quality
TNRCC	Texas Natural Resource Conservation Commission
TPWD	Texas Parks and Wildlife Department
TWDB	Texas Water Development Board
USFWS	US Fish and Wildlife Service
WAC	Watermaster Advisory Committee
WAM	Water Availability Model
WMS	Water Management Strategy

8.0 Policy Recommendations and Unique Sites

In addition to making recommendations regarding strategies for meeting current and future water needs, Texas Water Development Board (TWDB) rules for Senate Bill (SB) 1 regional planning allow the regional water planning groups (RWPGs) to include recommendations in the regional water plan (RWP) with regard to legislative designation of ecologically unique streams, sites for future reservoir development, and policy issues. The Rio Grande RWPG elected to consider recommendations in each of these areas, which are presented in this chapter.

8.1 Designation of Ecologically Unique Stream Segments

TWDB rules for SB 1 regional water planning describe the process by which RWPGs may prepare and submit recommendations for legislative designation of ecologically unique river and stream segments. This process involves the Rio Grande RWPG, the Texas Parks and Wildlife Department (TPWD), the TWDB, and ultimately, the Texas Legislature. According to SB 1, the Rio Grande RWPG may recommend legislative designation of river or stream segments within the region as "ecologically unique."

TWDB rules provide that the RWPGs forward any recommendations regarding legislative designation of ecologically unique streams to the TPWD and include TPWD's written evaluation of such recommendations in the adopted RWP. The recommendation of the RWPG is then to be considered by the TWDB for inclusion in the state water plan. Finally, the Texas Legislature will consider any recommendations presented in the state water plan regarding designation of stream segments as ecologically unique.

8.1.1 Criteria for Designation of Ecologically Unique Stream Segments

TWDB rules also specify the following criteria that are to be applied in the evaluation of potential ecologically unique river or stream segments:

- **Biological Function:** Stream segments that 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;
- **Hydrologic Function:** Stream segments that are fringed by habitats that perform valuable hydrologic functions relating to water quality, flood attenuation, flow stabilization, or groundwater recharge and discharge;
- **Riparian Conservation Areas:** Stream segments that 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 segments that are fringed by other areas managed for conservation purposes under a governmentally approved conservation plan;
- **High Water Quality/Exceptional Aquatic Life/High Aesthetic Value:** Stream segments and spring resources that are significant because of unique or critical habitats and exceptional aquatic life uses dependent upon or associated with high water quality; and/or
- **Threatened or Endangered Species/Unique Communities:** Sites along streams where water development projects would have significant detrimental effects on state- or federally listed threatened and endangered species, and sites along segments that are significant because of the presence of unique, exemplary, or unusually extensive natural communities.

8.1.2 Candidate Stream Segments

To assist each of the 16 RWPGs, the TPWD developed a list of candidate stream segments in each region that appear to meet the criteria for designation as ecologically unique. For the Rio Grande Region, TPWD prepared a report entitled Ecologically Significant River and Stream Segments of Region M, Regional Water Planning Area (May 2000), that presents information on four stream segments within the region that meet one or more of the following criteria for designation as ecologically unique:[1]

1. **Arroyo Colorado**: This tidal segment of the Arroyo Colorado (Texas Natural Resource Conservation Commission [TNRCC] classified segment 2201) runs just upstream of Port of Harlingen to its confluence with Laguna Madre in Willacy/Cameron Counties.
    - Biological Function - Priority riparian and extensive freshwater wetland habitats displays significant overall habitat value.
    - Riparian Conservation Area - Laguna Atascosa National Wildlife Refuge; Las Palomas Wildlife Management Area.
2. **Las Moras Creek**: From the confluence with the Rio Grande in Maverick County upstream to the Maverick/Kinney County line.
    - High Water Quality/Exceptional Aquatic Life/High Aesthetic Value - Ecoregion stream; high water quality, diverse benthic macroinvertebrate community[2].
    - Threatened or Endangered Species/Unique Communities - Proserpine shiner (SOC/St.T)[3].
3. **Rio Grande**: From the confluence with the Gulf of Mexico in Cameron County upstream to Falcon Dam in Starr County (TNRCC classified stream segments 2301 and 2302).
    - Biological Function: Priority bottomland habitat; extensive freshwater and estuarine wetland habitats[4].
    - Riparian Conservation Area - Not just one, but nine unique locations in the Rio Grande Valley (RGV). Each site of the World Birding Center has its own attractions for both the first-time visitor and expert birder.
    - High Water Quality/Exceptional Aquatic Life/High Aesthetic Value - High water quality and exceptional aquatic life use[5]; diverse benthic macroinvertebrate community[6].
    - Threatened or Endangered Species/Unique Communities - Blackfin goby (SOC/St.T)[7]; unique Black Mangrove Series community; unique Texas Palmetto Series habitat[8].

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[1] https://tpwd.texas.gov/landwater/water/conservation/water_resources/water_quantity/sigsegs/regionm.phtml.
[2] Bayer, C.W., J.R. Davis, S.R. Twidwell, R. Kleinsasser, G. Linam, K. Mayes, and E. Hornig. 1992. Texas aquatic ecoregion project: an assessment of least disturbed streams (draft). Texas Water Commission, Austin, Texas.
[3] Hubbs, C., R.J. Edwards, and G.P. Garrett. 1991. An annotated checklist of the freshwater fishes of Texas, with keys to identification of species. Texas Journal of Science 43: 1-56.
[4] Bauer, J., R. Frye, B. Spain. 1991. A natural resource survey for proposed reservoir sites and selected stream segments in Texas. TPWD, Austin, Texas.
[5] TNRCC. 1996. Texas surface water quality standards. TNRCC, Austin, Texas.
[6] Davis, J.R. 1998. Personal communication. TNRCC, Austin, Texas.
[7] Hubbs, C., R.J. Edwards, and G.P. Garrett. 1991. An annotated checklist of the freshwater fishes of Texas, with keys to identification of species. Texas Journal of Science 43: 1-56.
[8] Texas Organization for Endangered Species. 1992. Endangered, threatened, and watch list of natural communities of Texas. Texas Organization for Endangered Species, Austin, Texas.

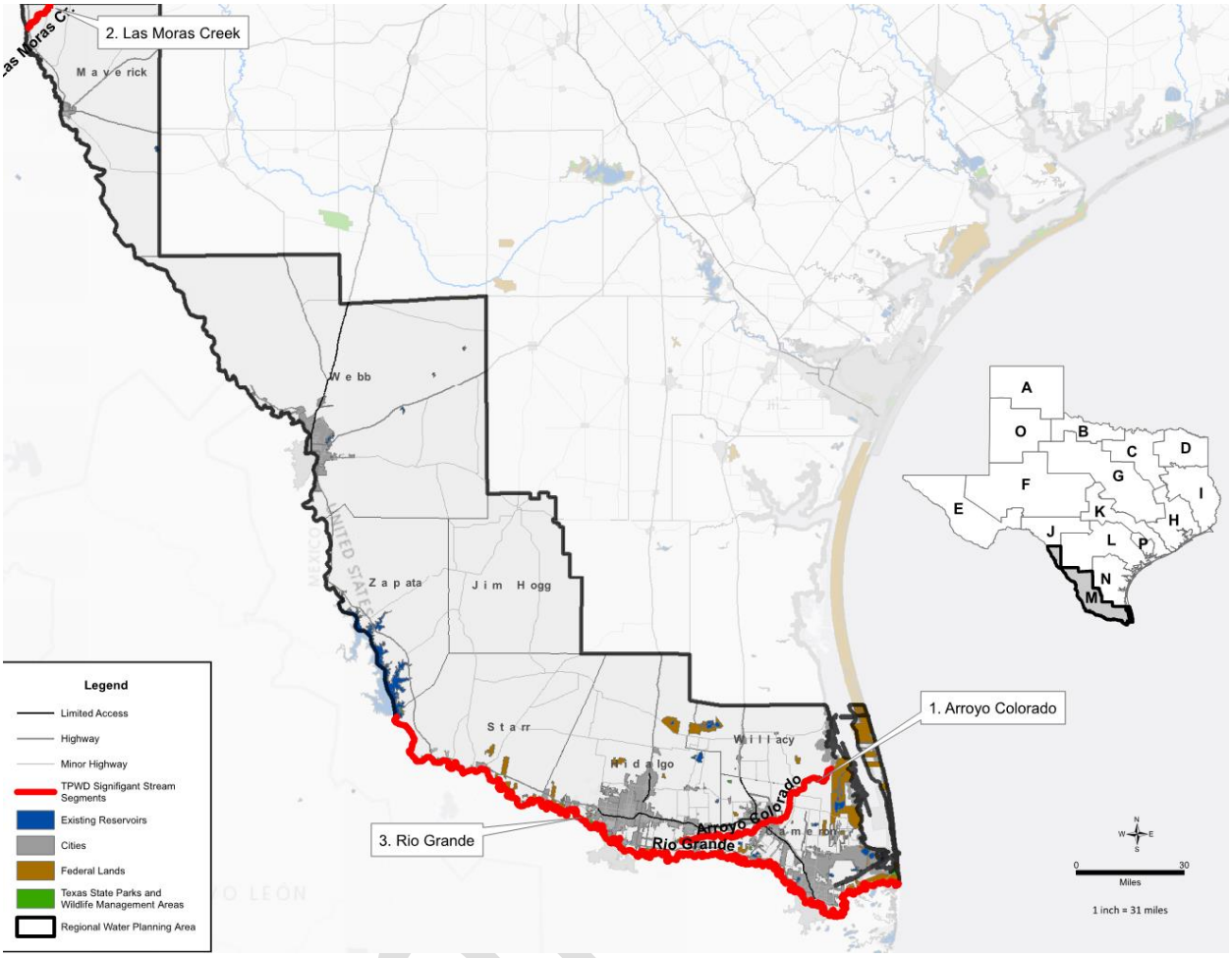

Figure 8-1 TPWD Proposed Ecologically Significant Stream Segments

The Rio Grande RWPG also received suggestions from the US Fish and Wildlife Service (USFWS), Zapata County, and the Texas Shrimp Association through two stakeholder focus group meetings during previous planning cycles. The focus group meetings were held in December 1999 and January 2000, and more than 200 individuals representing local, state, and federal agencies, environmental groups, and other parties with a known interest in the subject received written invitations to attend and provide input.

Action was considered as part of the 2006 planning cycle to accept the designation of the segment of the Rio Grande from the mouth of the Rio Grande upstream to the upstream boundary of the USFWS Tulosa tract. The motion died for a lack of a second. No action has been considered since, including during the 2026 planning cycle.

8.1.3 Recommendation

Lack of action by the Rio Grande RWPG indicates a non-designation of unique stream segments recommendation at this time. It was agreed that the issue could be brought up and considered in the future.

8.2 Reservoir Sites

TWDB rules (31 TAC, Section 357.9) for the preparation of regional water supply plans provide that the RWPGs "…may recommend sites of unique value for construction of reservoirs by including descriptions of the sites, reasons for the unique designation and the expected beneficiaries of the water supply to be developed at the site." TWDB rules further specify that the following criteria be applied to determine whether a site is unique for reservoir construction:

- Site-specific reservoir development is recommended as a specific WMS or in an alternative long-term scenario in an adopted RWP; and
- 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 the following:
  - 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.

The 1944 Treaty states in Article 5, Section II, that three reservoirs should be constructed on the Rio Grande, but one may be omitted: one between Santa Elena Canyon and the mouth of the Pecos (the approximate location of Amistad Reservoir), one in the section between Eagle Pass and Laredo (no existing dam), and one between Laredo and Roma (Falcon Reservoir). Additional sites have been evaluated since the treaty but have not been found geographically or geologically acceptable.

Three reservoir sites have been considered by the Rio Grande RWPG: (1) the proposed Brownsville Weir and Reservoir; (2) the proposed Banco Morales Reservoir; and (3) the proposed Laredo Low Water Weir. Each project, as well as two others, is briefly discussed below.

8.2.1 Brownsville Weir and Reservoir

An overview of the proposed Brownsville Weir and Reservoir is provided in Chapter 5 of this plan. The City of Brownsville Public Utilities Board (BPUB) has acquired the required state water right permit and the federal Section 10/404 permit for this project. Implementation of the project is a federal project that requires bi-national sponsorship and support from federal agencies, such as the IBWC, and Mexico. Currently, a timetable has not been set for this project.

The Brownsville Weir and Reservoir project is expected to provide approximately 2,035 acre-feet per year (ac-ft/yr) of additional dependable surface water supply for the City of Brownsville. This additional supply will play an important role in meeting Brownsville's projected water supply needs through the planning period. The development of the project is included as a water supply strategy in the first (2001) Rio Grande RWP (Region M) and in the resulting (2002) State Water Plan. The project has continually been included in each ensuing Region M and State Water Plan, including this 2026 Region RWP. Recent discussions with BPUB have noted prioritization of other projects (e.g., Resaca Restoration), which has pushed implementation of the Brownsville Weir and Reservoir to the 2030 decade.

8.2.2 Banco Morales Reservoir

The Banco Morales Reservoir is being proposed by the BPUB as a surface water development project on the Lower Rio Grande in Cameron County. This project is proposed to provide additional dependable water supply for municipal and industrial use for the City of Brownsville by capturing and diverting

"excess" flows of US waters in the Rio Grande, as well as storing the city's existing water rights. As it stands now, the excess water is currently allowed to flow through Brownsville and into the Gulf of Mexico. This project provides the opportunity to capture releases from the Rio San Juan. These flows will now have a chance to be captured and stored and pumped to future users. This project is proposed to meet the future municipal and industrial water needs of the BPUB and the region. Existing municipal and industrial water supply sources for BPUB cannot currently satisfy the anticipated future water needs for the region.

The Banco Morales Reservoir project is expected to provide approximately 140 ac-ft/yr of additional dependable surface water supply for the City of Brownsville. The additional supply will play an important role in meeting Brownsville's projected supply needs through the planning period. Similar to the Brownsville Weir and Reservoir above, implementation of the Banco Morales Reservoir is planned for the 2030 decade.

8.2.3 Laredo Low Water Weir

Laredo has been investigating the feasibility of developing a low water weir on the Rio Grande approximately 200 feet downstream of the existing La Bota site. The project will not develop additional water supply. Rather, the project is proposed to improve water quality, provide a diversion location for a new regional water treatment plant, and provide hydroelectric power. Recreational amenities may also be developed. The proposed structure would be 56 feet high, which would provide a water surface elevation below the 100-year floodplain. The design and operation of the structure would not alter the normal flows of the Rio Grande. The weir would store approximately 66,007 acre-feet (ac-ft) of water. Laredo intends to lease water rights for the initial filling of the reservoir.

During the 2021 planning cycle, at the request of Laredo, the Rio Grande RWPG endorsed further investigation of the feasibility of the Laredo low water weir and any potential groundwater recharge associated with the weir. This would include more detailed evaluation of project costs, benefits, impacts, and permitting requirements.

8.2.4 Hidalgo County Drainage District Delta Region Water Management Supply

The drainage district has proposed construction of three reservoirs in northeastern Hidalgo County to capture tailwaters and precipitation runoff for beneficial use, discussed in detail in Chapter 5. The existing and proposed Engleman Reservoirs (77 acres), the proposed Santa Cruz reservoir (418 acres) and the proposed Delta "Panchita" Reservoir (25 acres) are all in the Delta Watershed, which is distinct from other portions of the Nueces-Rio Grande Watershed and impact no downstream water rights. Recently established environmental flow requirements for the Nueces Rio Grande Basin do not place any limitations on the drainageways that will be impacted by this strategy. These reservoirs will allow for better control and management of flows in the drainage network and will allow for the drainage district to treat and distribute a portion of the flows for sale to potential customers.. The proposed Engleman Reservoir would be constructed using a ring dike around a 12-foot depth reservoir, next to the existing Engleman Reservoir. The Santa Cruz reservoir requires construction of a ring dike around a 14-foot depth reservoir adjacent to Lake Edinburg. The existing Panchita control structure and associated weir would be raised for the Delta "Panchita" Reservoir, which is proposed to be 12-feet deep.

8.2.5 United Irrigation District Off-Channel Reservoir

A storage reservoir has been completed between the pump station at the Rio Grande and the first pump station within the United Irrigation District (ID) canal network, which would have a 640 ac-ft storage

capacity, as opposed to the estimated 80 ac-ft capacity that was previously available in the main canal. This allows for general operational improvements within the district but will also yield an estimated additional 2,000 ac-ft of supply in a drought of record scenario without any additional water rights. This reservoir will allow United ID to better meet the needs of Region M over the planning horizon and beyond.

8.2.6 Recommendations

The Brownsville-Matamoros Weir and Reservoir has been considered a recommended alternative on the basis of cost, yield, and permitting concerns. The Laredo Low Water Weir may have considerable value as a flood control mechanism but does not meet the requirements to be recommended in the plan because it does not provide an increase in supply. The Banco Morales Reservoir and the United Off-Channel Reservoir have all been recommended by the RWPG. The Delta Region Water Management Supply reservoirs were recommended by the RWPG under the September 2022 Amendment to the 2021 Rio Grande Regional Water Plan and are being reevaluated this cycle.

None of these sites are recommended as unique reservoir sites.

8.3 Legislative Recommendations

TWDB rules provide that RWPs may include "regulatory, administrative, or legislative recommendations that the regional WPG believes are needed and desirable to facilitate the orderly development, management, and conservation of water resources and preparation for and response to drought conditions…." [31 TAC 357.7(a)(10)]

8.3.1 Recommendations on State Issues

1. The RWPG recommends continued evaluation of the connection between the pumping of groundwater and its impact on surface water, specifically the impact of pumping groundwater in the Pecos and Devils River watersheds on the flows into the Rio Grande. For example, current studies indicate that up to one-third of the recharge flows into Amistad Reservoir depend on flow from the Pecos and Devils River valleys and Goodenough Springs, which are shown to be sensitive to groundwater pumping.[9] There is not a Groundwater Conservation District (GWCD) in the area, which could provide a mechanism for local management of these interconnected resources. The RWPG recommends enforcement of current laws and consideration of new laws establishing rules for permitting that acknowledge the impact of groundwater development on surface water. The RWPG recommends the Texas Legislature allocate funding to study the interconnectivity between groundwater pumping and surface water flows.
2. The Lower RGV farmers, as a result of the uncertainty of surface water delivery and the fact that most farmers do not own their own Rio Grande water rights, are limited in their ability to provide collateral for loans for on-farm conservation and improvements. This makes many of the loan programs currently available to farmers in other regions of Texas difficult for farmers in the RGV to access. Additionally, in many cases the types of irrigation conservation measures used in the RGV are installed underground as opposed to aboveground equipment like center pivots used in the High Plains. The TWDB and the State of Texas should work with farmers in the region to develop loan programs that enable on farm water conservation specific to this region.

[9] Green, R.T. and Fratesi, B. and Toll, N. and Bertetti, F. Paul and Nunu, R. (2019). Devils River watershed: Southern Edwards-Trinity Aquifer. 10.1130/2019.1215 (08).

3. There is not a mechanism or entity in the RGV to accept on-farm irrigation conservation loans from the TWDB and to lend those funds to farmers for on-farm water conservation.

4. Stakeholders who depend on the water of the Rio Grande should be involved and informed of state activities related to negotiations with Mexico regarding implementation of the 1944 Treaty.

5. Recent droughts make it imperative that the Rio Grande Water Availability Model (WAM) is continually updated. The naturalized flow record in the current Rio Grande WAM extends from 1940 through 2018. The drought conditions the region has been experiencing over the last few years may be worse than the current drought of record. The state should fully fund updates to the WAM to extend the naturalized flows using the most current data available, every 10 years.

6. The State should continue to consider the impacts of climate change in terms of Regional Water Planning and future water supplies. The US Bureau of Reclamation's Lower Rio Grande Basin Study evaluated climate impacts on the availability, which should be considered in future planning efforts.

7. The State should encourage IBWC to give Mexico delivery credit of the annual minimum 350,000 ac-ft from only the named tributaries as stipulated in the 1944 Treaty during a 5-year cycle or as provided in Minute No. 234 of the IBWC dated December 2, 1969.

8. The State should assist in finding new technical and financial resources to help the region combat Arundo Donax, aquatic weeds, and salt cedar and thus protect its water supplies. The Rio Grande RWPG encourages funding for projects aimed at eradicating Arundo Donax, aquatic weeds, and salt cedar in the Rio Grande watershed and for ongoing long-term brush management activities. The USDA has studied and implemented a biological controls program with costs and quantified water savings, and continued work and monitoring is recommended WMS in this Plan.[10]

9. The State should continue providing technical and financial resources to fully develop the regional groundwater availability models. The Brackish Resources Aquifer Characterization (BRACS) 2014 report for the Lower RVG is an essential resource as brackish groundwater desalination continues to be one of the recommended strategies to meet future needs.[11]

10. The Texas Commission on Environmental Quality (TCEQ) should work with the Rio Grande RWPG to review rules on converting water rights from one use to another and considers appropriate rule amendments, if necessary. As water rights are converted from irrigation to municipal and the WAM is updated, it is recommended that the conversion factor rule and operational rules should be reevaluated. These conversions may have the effect of reducing the water volume demand on the Rio Grande making the reservoir system less efficient. In this regard it is noted that the conversion rule is an administrative rule in that it was not required in the court adjudication in the Valley Water Suit Judgment or in the adjudication case covering the Middle Rio Grande.

11. The RWPG encourages entities within the region to cooperate to resolve water issues through such means as regional water and wastewater utilities. The Rio Grande Regional Water Authority, Southmost Regional Water Authority, and other entities have pursued and, in some cases, constructed regional projects that supply water to multiple cities.

[10] Goolsby, John. Biological Control of Arundo Donax; and invasive weed of the Rio Grande Basin. USDA, 2007.
[11] Meyer, John E. Brackish Groundwater in the Gulf Coast Aquifer, Lower RGV, Texas, September 2014. TWDB.

12. The formation of GCDs should be encouraged as a means to protect groundwater supplies, which are increasingly being tapped as a new water supply for municipal, industrial use, and mining use. As the aquifers in Region M are more extensively developed, the impact of pumping has started to be seen in spring flows and drawdown. Region M supports new and expanded groundwater districts to protect the regional groundwater resources and recommends that the state provide continued technical assistance regarding formation, structure, and technical basis for GCDs to operate meaningfully.

13. The State should appropriate sufficient funds to the Texas Railroad Commission to allow for capping abandoned oil and gas wells that threaten groundwater supplies.

14. The Texas Legislature should continue to provide technical and financial assistance to implement WMSs identified in the regional water plans. In 2013, the Texas legislature passed House Bill 4 and Senate Joint Resolution 1, which created the State Water Implementation Fund for Texas (SWIFT) and the State Water Implementation Revenue Fund for Texas. Companion legislation, House Bill 1025, provided $2 billion in initial funding for SWIFT from the state's Economic Stabilization Fund. In November 2013, Texas voters approved the funding to support the implementation of projects recommended by the State Water Plan. In 2023, the Texas Legislature passed Senate Bill 28 and Senate Joint Resolution 75, which provided for the creation of the Texas Water Fund. Additionally, Senate Bill 30 authorized a $1 billion appropriation of revenue to the Texas Water Fund. In November of 2023, Texas voters approved Proposition 6, which created the Texas Water Fund. Both funding appropriations have been important to moving water infrastructure projects forward in Texas. The RWPG supports the Texas Legislature providing funding in perpetuity for water projects.

15. The Texas legislature should appropriate funds to continue the regional water planning process.

16. Educational programs for farmers, ID Boards of Directors, and ID employees are recommended and should be supported by the TWDB, TCEQ, and universities in Texas.

17. The Rio Grande Center for Ag Water Efficiency (Texas AWE) flowmeter demonstration and calibration facility is intended to be available as an educational, testing, and calibration resource for districts looking to implement or expand their metering programs. Continued funding and expanded use of these facilities is recommended by the Rio Grande RWPG.

18. Continued evaluation of ID infrastructure is recommended, including the work that has been done by Texas A&M University through the Texas Water Resource Institute and the ID Engineering and Assistance Program. This program has assisted districts in mapping and evaluating the current state of their conveyance systems and rates of urbanization. These measures can assist districts in prioritizing improvements so that the greatest gains are made with the least cost.

19. Since the Watermaster program collects funds through assessed fees, it is recommended that the fund balances be rolled over into the operating budget for the next fiscal year. It is also recommended that the Watermaster Advisory Committee (WAC) continues to oversee the Watermaster budget.

20. It is recommended that the United States be officially recognized as a water user by Mexico and allocate water to the United States as a part of its annual water allocation process.

21. It is recommended that the Texas Legislature provide funding to study the hydrology and inflows of the US tributaries that flow into the Rio Grande.

22. It is recommended that the State encourages municipalities within Region M to have 2 to 3 weeks of storage to limit the need for irrigation districts to charge their systems. It is recommended that the State also identify funding opportunities for those entities that would need to implement.

8.3.2 Recommendations on Federal and International Issues

1. The State of Texas, the US Congress, and the IBWC should renew efforts to ensure that Mexico complies with Minute 309 and set in place means to achieve full compliance with the 1944 Treaty, including enforcement of Minute 234, which addresses the actions required of Mexico to completely eliminate water delivery deficits within specified treaty cycles. Water saved in irrigation conservation projects in Mexico should be dedicated to ensure deliveries to the Rio Grande pursuant to the 1944 Treaty under Article 4B(c) and Minute 309.

2. The United States and Mexico should reinforce the powers and duties of both sections of the IBWC pursuant to Article 24(c) which provides, among other things, for the enforcement of the Treaty and other agreement provisions that "… each Commissioner shall invoke when necessary, the jurisdiction of the Courts or other appropriate agencies of his Country to aid in the execution and enforcement of these powers and duties."

3. Projects funded by national and international agencies to modernize and improve the facilities of water right holders in the Rio Grande Basin should be supported and given priority. In particular, both countries should support continued grant funding for conservation projects and projects that protect water quality.

4. The conservation irrigation projects that are authorized through the Bureau of Reclamation for improvement to the irrigation systems of IDs in the Rio Grande Basin in the United States should be supported, and the US Congress should be encouraged to appropriate money to pay for approved projects. Additionally, the federal government should approve amendments to the Lower Rio Grande Valley Water Resources and Improvement Act of 2000 (Public Law 106-576) to add more projects and authorize funding for them.

5. For purposes of clarity, the IBWC should approve a Minute setting out the definition of "extraordinary drought" as that term is implicitly defined in the second subparagraph of Article 4B(d) as an event that makes it difficult for Mexico "…to make available the run-off of 350,000-acre feet (431,721,000 cubic meters) annually." A drought condition occurs when there is less than 1,050,000 ac-ft annually of runoff waters in the watersheds of the named Mexican tributaries in the 1944 Treaty, measured as water enters the Rio Grande from the named tributaries, of which the US 1/3 share is 350,000 ac-ft. For better water management in the Lower Reach of the Rio Grande, downstream of Anzalduas Dam, both countries should reaffirm operational policies that Mexico continue to take its share of waters through the Anzalduas canal diversion at the Anzalduas Dam or account for its water at that point, including any diversions by Mexico from the proposed Brownsville Weir Project storage, to the extent of its participation in the project and at other points of diversion by Mexico users downstream of Anzalduas Dam.

6. IBWC should continue to convene a bi-national meeting of water planners but include water use stakeholders in both countries within 6 months following completion of the annual water accounting where an annual deficit in flows from the named Mexican tributaries in the 1944 Treaty occurs. This meeting would be designed to share data and information useful in planning for water needs and contingencies in the intermediate future.

7. IBWC should restore the Rio Grande below Fort Quitman, Texas.

8. The IBWC should assume all local and regional financial responsibility for upkeep and maintenance of El Morillo Drain.

9. IBWC should coordinate bilateral efforts to review and evaluate existing sources of data regarding groundwater development in both countries in the Rio Grande Basin below Fort Quitman to the Gulf of Mexico. This effort should be focused on the potential impact on surface water supply in the Rio Grande watershed, with the goal of pursing such actions as may be necessary to evaluate present conditions and promote programs protecting the historical surface water supply in affected regions.

10. Regional watershed planning should be encouraged on both sides of the Rio Grande throughout the basin, including efforts to promote bi-national coordination of long-range water plans and watershed-based plans designed to protect water quality in the river.

11. Interstate compacts between affected states in Mexico, similar to the Rio Grande compact and Pecos River compact between affected states in the United States, which deal with apportionment of available water supply from the Rio Grande and its tributaries to each state consistent with existing domestic and international law, should be encouraged.

12. The Rio Grande RWPG joins with the Far West Texas and Plateau RWPGs to encourage funding for projects aimed at eradicating Arundo Donax, salt cedar, and aquatic weeds in the Rio Grande watershed and for ongoing long-term brush management activities. These activities are not constrained to state or national boundaries and would benefit from widespread support.

13. The Rio Grande RWPG supports US Congressional legislation that authorizes the US State Department to report to Congress periodically on the status of Mexico's deliveries of water to the Rio Grande for US use.

14. The IBWC should give Mexico delivery credit of the annual minimum 350,000 ac-ft from only the named tributaries as stipulated in the 1944 Treaty during a 5-year cycle or as provided in Minute No. 234 of the IBWC dated December 2, 1969.

15. The El Morillo drain system does not currently convey the design flow; the pump station is capable of operating at the design flow, but the channel is not currently capable of conveying the full design flow. The RWPG recommends that the IBWC and CILA make the necessary improvements to convey the design flow. The RWPG also recommends a SCADA system be funded to provide real-time data.

16. The Rio Grande RWPG supports binational efforts to improve and protect water quality in the Rio Grande. Efforts such as the Lower Rio Grande Water Quality Initiative should be continued and supported through grant funding or other discretionary state of federal funding.

8.3.3 Issues Identified in Previous Planning Cycles

In the second round of regional water planning, the TWDB emphasized "input from RWPGs for the policy portion of the 2011 State Water Plan" (Memo from William Mullican, then Deputy Executive Administrator, Office of Planning, July 2, 2003). The Board disseminated an "Initial List of Policy Topics" as a catalyst for discussion among the planning groups. In September 2003, Rio Grande RWPG members ranked each issue on the list as to level of importance in the region's water planning efforts ("not at all important," "somewhat important," "important," and "extremely important").

The policy issues receiving top rankings from Rio Grande RWPG members fell into the following four major categories:

A. International Compliance with the 1944 Treaty.

B. Competing Water Demands Between Agricultural and Municipal Interests:

   i. Sustainable growth, including impacts of growth.

   ii. Assessment of the current water resources regulatory system to meet water management needs of the 21st century.

   iii. Impacts on water supply and quality resulting from conversion of agricultural lands to urban lands.

   iv. Protecting agricultural and rural water supplies, considering economic constraints and competing purposes.

   v. Conservation of agricultural water for additional agricultural use, urban use, or for environmental purposes.

C. Alternative Water Supply/Water Quality:

   i. Integrating water quality and water supply considerations.

   ii. Watershed planning/source water protection.

   iii. Sustainability and groundwater management.

D. Technical and Financial Resources:

   i. State participation.

   ii. Potential funding sources for water supply.

   iii. Retail customer water pricing.

   iv. Incentives for planning implementation.

   v. Improving groundwater availability data.

   vi. Education.

The Rio Grande RWPG also approved a resolution encouraging the formation of GWCDs and greater oversight by sales of groundwater produced from State-owned lands. The group also approved motions supporting the following:

- Capping abandoned oil and gas wells;
- Improving the stretch of the Rio Grande known as the "Forgotten River," which has a significant amount of salt cedar without defined bed and banks. The water flowing downstream in this area, which could be put to beneficial use downstream, is spread over a large area and experiences high loss rates;
- Identifying and eradicating growing stands of salt cedar;
- Continuing efforts to control and manage Arundo; and
- Supporting ongoing Valley Water Summits.

The Rio Grande RWPG continues to believe that these issues are tightly interconnected and that they cannot be discussed, much less resolved, in a vacuum.

Many of the issues and needs of the region arise from the fact that the Rio Grande is an international river whose waters are shared by the United States and Mexico. No other regional water planning area faces this reality. Water right holders in Texas lack any ready recourse to compel Mexico to observe the 1944 Treaty that apportions inflows between the countries. In addition, international protocols impact efforts to address water quality and resolve problems created by aquatic weeds, such as hydrilla and water hyacinth, and other invasive species, including salt cedar.

Currently, Mexico is in a deficit in the current 5-year cycle under the 1944 Treaty, and enforcement mechanisms do not exist for preventing similar situations in the future.

Because of the unique way in which water rights are prioritized along the Rio Grande, the Mexican water debt has first and foremost directly impacted agricultural interests. However, repercussions from the debt also have affected municipal and industrial users. With the few exceptions of the BPUB, Laguna Madre Water District (serving Port Isabel, South Padre Island, and Laguna Vista) and the City of Laredo, municipal users of surface water depend on IDs to pump and convey water supplies to their treatment plants. When irrigation flows are curtailed, municipalities must either find new ways to push raw water or turn to alternative sources.

Brackish groundwater resources have become a viable alternative for municipal suppliers, especially those located at a distance from the Rio Grande. Improvements in desalination technology, coupled with the cost of surface water rights, are making groundwater desalination an economical and reliable option. However, information about the quality and quantity of groundwater supplies in the region is limited (this has been partially addressed by the BRACS study in the LRGV). Furthermore, groundwater in certain parts of the region is threatened by abandoned uncapped oil and gas wells.

IDs are also looking to new technology and improved processes to minimize conveyance and evaporation losses attributable to an aging infrastructure. Districts do not have ready access to low-cost loans that are readily available to municipal suppliers. Several districts have secured funding from the North American Development Bank and the US Bureau of Reclamation, but others cannot meet the local match requirements. Funding from the North American Development Bank is no longer available, and mechanisms for funding are in need of development.

The water debt has created both challenges and opportunities for municipal and irrigation users to work together. The Rio Grande RWPG has supported initiatives such as the Valley Water Summits that bring different interests together to share problems and jointly create solutions.

The WAC also has proven to be an effective forum for addressing issues. Subsequent to the first planning cycle, the committee developed a rule change that freed up water in storage for irrigation use with no detriment to municipal supplies. Operations of the Rio Grande Watermaster are paid entirely by fees levied on water right holders. However, appropriations to the Watermaster are capped at a level that is significantly lower than revenues. As irrigation flows diminish, it makes it difficult for IDs to solely deliver raw water for municipal needs. The need for additional water to “push” the smaller, yet steady, volume of raw municipal water through IDs large conveyance systems may be needed. It would be helpful if municipalities could have a 2-to-3-week storage capacity so that an ID would only have to fill their systems as needed and not have to continuously keep their conveyance systems full.

Particular attention should be directed to rules pertaining to water rights. Currently, when the intended use of irrigation water rights is changed to municipal and industrial use, a conversion factor provided in 30 TAC § 303.43 is applied so that the municipal use after conversion will receive a "definite quantity of water in acre-feet per annum." This rule is consistent with the treatment of certain municipal, industrial, and domestic allocations approved in the Final Judgment of the Valley Water Suit, which provided for a reserve of 60,000 ac-ft/yr to be held for domestic use and use by cities to support these allocations. This reserve was increased to 225,000 ac-ft/yr, under a conversion rule adopted by the then Texas Water Rights Commission on July 2, 1986, following the conclusion of the Middle Rio Grande Adjudication. Information developed through the WAM and as part of the regional planning process would indicate that this practice should be reviewed with respect to long-term water management practices on the Lower and Middle Rio Grande downstream from Amistad Reservoir. Additional studies are required to analyze the long-term impact of reducing authorized municipal and industrial reserves on two fronts: (1) providing a defined entitlement and (2) promoting water conservation in both Amistad and Falcon Reservoirs.

Finally, international attention also could enhance water quality as well as safety. The funding from the United States is shared between the US section of IBWC and Cameron, Hidalgo, and Willacy Counties. Lower valley water interests were responsible for a significant portion of the construction and upkeep of El Morillo Drain, built in 1969 to divert saline flows before entering into the Rio Grande. The Rio Grande RWPG supports shared responsibility between the United States and Mexican sections of IBWC for the maintenance of El Morillo Drain.