

Texas Water Development Board



2016 Region M Water Plan

Appendix H: Response to Comments

TWDB Comments on the Initially Prepared 2016 Rio Grande (Region M) Regional Water Plan

Level 1: Comments and questions must be satisfactorily addressed in order to meet statutory, agency rule, and/or contract requirements.

1. Chapter 2: The plan does not appear to include wholesale water provider (WWP) demands by county, river basin, and water use category. Please include WWP demands by county, river basin, and water use category in the final, adopted regional water plan. [31 Texas Administrative Code (TAC) §357.31(b)]

The WWP demands tables have been included in Chapter 2 with WUGs contract demand separated by River Basin.

2. Please include a summary of the the municipal demand savings due to plumbing fixture requirements (as previously provided by TWDB) in the final, adopted regional water plan. [31 TAC §357.31(d)]

The municipal demand savings due to plumbing fixture requirements have been included.

3. Section 3.1.1, Pages 3-7 and 3-8: Please clarify that the approved Region M Rio Grande Basin hydrologic variance for the "Simplified Rio Grande WAM Run 3" is considered the most current Texas Commission on Environmental Quality (TCEQ) WAM Run 3 for this basin, per TCEQ letter dated January 14, 2014. [31 TAC §357.32(c)]

This clarification has been added to Chapter 3.

4. It is not clear whether the plan presents all contractual obligations of water user groups (WUGs) and WWPs. Please confirm that the plan includes the current contractual obligations of WUGs and WWPs in addition to any demands projected for the WUG and WWP in the final, adopted regional water plan. [31 TAC §357.31(c)]

All current contractual relationships between WUGs/WWPs have been shown in the appendix.

5. The plan does not appear to include a listing of the water rights that are the basis for the surface water availability in the plan. Please include such a listing in the final, adopted regional water plan. [Contract Exhibit 'C', Section 3.1]

All water rights have been shown in the appendix.

6. The plan does not appear to tabulate the local supplies used in the plan, along with an explanation of the basis of the associated local supply water volumes. Please include the required information on local supplies in the final, adopted regional water plan. [Contract Exhibit 'C', Section 3.3]

Local supplies, limited in the plan to livestock supplies, have been tabulated and included in Chapter 3. The current livestock demands and known groundwater and

surface water supplies are used to estimate the local supplies that are used to meet the remainder of livestock demand.

7. Page 4-3: The plan does not appear to include projected needs associated with each WWP, by category of use and county and river basin splits. Please include WWP needs in the final, adopted regional water plan. *[31 TAC §357.33(b),(d)]*

The WWP needs/surplus tables have been included as an appendix to Chapter 4. Additionally, the supply and demand evaluation tables in Chapter 5 show the needs and the secondary needs analysis (needs after conservation WMS).

8. Pages 4-2 and 4-3: The plan appears to consider a water management strategy of "short-term contracts" and describe that such a strategy is not available under drought of record conditions. Please remove strategy or confirm whether the short-term contracts will provide supplies available under drought of record conditions in the final, adopted regional water plan. *[31 TAC §357.10(10) and §357.34(b)]*

The language has been changed so that the supply chapter does not appear to make a recommendation, rather describes a current practice of obtaining water through short-term contracts. Short term contracts are not included anywhere in the "recommended WMS" section.

9. The plan does not appear to indicate whether there are any unmet needs remaining after water management strategies have been recommended. Please include a summary of unmet needs, if any, in the final, adopted regional water plan. If no unmet needs exist, please include a statement to that effect. *[31 TAC §357.35(d) and §357.40(c)]*

A summary of unmet needs has been added.

10. Pages 4-10 and 4-11; Appendix B: The plan does not appear to recommend water management strategies to meet all identified irrigation needs. Please provide documentation for reasons that strategies were not considered feasible to meet these identified needs in the final, adopted regional water plan. *[31 TAC §357.35(d)(1)]*

Additional discussion and documentation has been added regarding unmet needs.

11. Section 5.2.5, Page 5-16; Chapter 5: It is not clear from the information presented in the plan what specific best management practices (BMPs) compose the Advanced Municipal Water Conservation strategy and how the costs were estimated. For example, page 5-17 presents 20 BMPs that appear to be considered as part of the Advanced Municipal Water Conservation strategy, but it is not clear whether all 20 BMPs are to be applied to each WUG for which conservation is recommended in order to achieve the estimated 0.5% water savings. For each entity that has municipal conservation as a recommended or alternative water management strategy, please clarify what conservation BMP components and associated costs have been assigned to each entity in the final, adopted regional water plan and regional water planning database. *[31 TAC §357.34(e)]*

Although we discuss all of the best management practices for Advanced Municipal Conservation, the Unified Cost Model (UCM) 'simple approach' only includes certain

portions of these strategies. We have identified the conservation strategies on which the costs are based.

12. Chapter 5: The plan does not appear to provide all of the required cost elements for each water management strategy evaluation. For example, the Brownsville PUB Banco Morales Reservoir strategy evaluation on page 5-36 provides total capital cost, total O&M cost, total annual cost, and a unit cost as "\$/1,000 gallons", but does not present power and permitting and mitigation costs. Please include these required cost elements where appropriate throughout in the final, adopted regional water plan. [*Contract Exhibit 'C', Section 5.1.2*]

Additional cost detail has been added for all water management strategies. Where the UCM was applicable, all cost estimates are reported through the cost summary from the UCM. Where the UCM was not used, additional information was provided.

13. Chapter 5: The plan does not appear to present all unit costs of water in the dollars per acre-foot format. For example, pages 5-34 through 5-99, 5-113 to 5-192, and others present cost as "\$/1,000 gallons" rather than dollars per acre-foot. Please present information in the dollar per acre-foot format in the final, adopted regional water plan. [*Contract Exhibit 'C', Section 5.1.2*]

All costs have been presented in dollars per acre foot per year.

14. Chapter 5: The plan in some instances, does not appear to include a quantitative reporting of impacts to agricultural resources. For example, pages 5-50 and 6-2 describe acquisition of irrigation water rights through urbanization, but there appears to be no quantification of agricultural impacts from the strategy. Additionally, there does not appear to be quantification of agricultural impacts, even when there may not be any impacts, for the strategy evaluations in Chapter 5. Please include quantitative reporting of impacts to agricultural resources in the final, adopted regional water plan. [*31 TAC §357.34(d)(3)(C)*]

Impacts of WMS on agricultural and natural resources have been quantified and included in each WMS discussion.

15. Pages 5-4, 5-8, 5-105, 5-111, 7-20, Table 5-118; Appendix B: The irrigation district (Hidalgo County Drainage District No.1 (HCDD1) and United Irrigation District) recommended conservation water management strategies appear to be combined with non-conservation strategies, including new reservoir construction, reservoir improvement, new pump stations and canal dredging work. For example, Table 5-118 provides partial cost information for a proposed storage reservoir to be built by the HCDD1. It appears this strategy belongs as a component within the subsequent HCDD1 Delta Watershed Project strategy. Additionally, the plan states that "drought management WMS that were evaluated for all possible WUGs include advanced municipal conservation, irrigation district conservation, municipal potable reuse, municipal non-potable reuse, mining conservation and reuse, steam-electric conservation and reuse, and livestock conservation." Strategy types must remain independent of one another for purposes of accounting of water availability, to reflect implementation, and to facilitate project prioritizations for funding. Please revise as appropriate throughout the final, adopted regional water plan and in the regional water planning database. [*31 TAC §357.10(26), 31 TAC §357.34(e); Contract Exhibit 'D', Section 5.3*]

Reservoir WMS have been separated from Conservation WMS, and presented as separate strategies.

Pg. 5-4: Revisions have been made to clarify what measures are considered conservation WMS. Reservoirs are included in "ID Improvements" but not conservation.

Pg. 5-8: New Reservoir and Reservoir Improvements were further clarified to require documented water loss data in DOR conditions. Also, miscellaneous ID improvement recommendations were refined to education and evaluation of existing systems, and some of the recommendations from this section were moved into Chapter 8.

Pg. 5-105: The Delta Watershed Project was identified as development of surface water supply rather than a conservation measure. More detailed cost information has been added.

Pg. 5-111: United ID projects were separated into two distinct projects: ID conservation and off-channel reservoir.

16. Pages 5-4, 5-8 and 5-111: The United Irrigation District's recommended water management strategy evaluation information does not appear to clearly describe the project location and layout of the storage reservoir and associated infrastructure. Please include information regarding the locations of the proposed reservoir and associated infrastructure, for example, using a map/figure in the final, adopted regional water plan. *[31 TAC §357.34(e)]*

Detailed information and figures have been added for United ID's off-channel storage WMS.

17. Pages 5-4, 5-8 and 5-111; Appendix B: The United Irrigation District's recommended water management strategy evaluation information does not appear to provide drought of record firm yield supply as determined by the TCEQ Rio Grande WAM that is associated with this project. Please include this additional firm yield supply information in the final, adopted regional water plan. *[31 TAC §357.32(c); §357.34(b); Contract Exhibit 'C', Section 5.1.1]*

Detailed information and figures have been added for United ID's off-channel storage WMS.

18. Page 5-35: The plan in some instances, does not appear to include a quantitative reporting of environmental factors. For example, on page 5-35, the Banco Morales Reservoir states that the reservoir site has "several environmental issues including... potential impacts to habitat from reservoir construction" however these potential impacts are not quantified in plan. Additionally, on page 5-36, the Brownsvill PUB Non-Potable Reuse strategy states that impacts could include "decreases to streamflow/level and effects to fish and wildlife that inhabit the streams," however these potential impacts are not quantified in the plan. Please include quantitative reporting in the final, adopted regional water plan. *[31 TAC §357.34(d)(3)(b)]*

Impacts of WMS on agricultural and natural resources have been quantified and included in each WMS discussion.

19. Pages 5-36, 5-106, 5-246, and 5-243: The plan does not clearly state whether the Banco Morales, Delta Watershed Project, and Brownsville-Matamoros Weir and Reservoir water management strategy evaluations incorporated environmental flow requirements. Please clarify whether analyses considered environmental flow requirements in the final, adopted regional water plan. If environmental flow requirements were not considered, please present results with environmental flow requirement considerations in the final, adopted regional water plan. *[31 TAC §357.34(d)(3)(B)]*

A discussion of Environmental Flow requirements has been added for all relevant WMS.

20. Pages 5-44, 5-45, 5-62, 5-241, and others: From the information presented in the plan, it is not clear whether the Unified Costing Model was utilized for cost estimates or if other project-specific methodologies were utilized. Please clarify the costing methodology utilized for any water management strategy cost estimates that were not produced using the Unified Costing Model and include the cost output sheets from the Unified Costing Model, for example as an Appendix, in the final, adopted regional water plan. *[31 TAC §357.34(d)(3)(A), Contract Exhibit 'C', Sections 5.1.2 and 5.1.2.1]*

The method of estimating costs for each type of strategy is included in section 5.2, WMS Evaluation Assumptions and Methodology. The UCM was utilized where it was appropriate, and UCM summary tables have been used in place of the cost tables that were previously included. For those projects that were not able to be estimated using UCM (e.g. irrigation district improvements) cost methodology is explicitly explained and cost data is included with each WMS.

21. Pages 5-68, 5-126, and 5-204; Appendix B: The plan appears to include recommended strategies that do not provide strategy supply under drought of record conditions. For example, the "Advanced Municipal Conservation" for Los Fresnos, "New Raw Water Reservoir" for the City of Donna, and "Meter Replacement" for the Rio Grande City reflect zero strategy supply. Please remove or include a justification for including recommended strategies that do not provide an increase to water supply volumes under drought of record conditions in the final, adopted regional water plan. *[Contract Exhibit 'C', Section 5.1.1]*

The following strategies were removed from the RWP because data is not available to quantify water savings in DOR conditions:

Entity	Water Management Strategy
East Rio Hondo WSC	FM 510 to SH 100 16" Transmission Pipeline
East Rio Hondo WSC	Interconnect with BPUB, SRWA, or RGRQA
East Rio Hondo WSC	Partial AMI
Escobares	Advanced Municipal Conservation
Indian Lake	Advanced Municipal Conservation
Jim Hogg County-Other	Advanced Municipal Conservation
La Joya	Brackish Groundwater Desalination Plant
Los Fresnos	Advanced Municipal Conservation
Lyford	Advanced Municipal Conservation

Entity	Water Management Strategy
Manufacturing - Webb -Rio Grande	Implementation of Best Management Practices
Mining - Starr - Nueces Rio Grande	Rio Grande City Brackish Groundwater Desalination Plant
North Alamo WSC	NAWSC 1 MG Water Tower - Edinburg/Pharr
North Alamo WSC	NAWSC 1 MG Water Tower - Mid Valley
North Alamo WSC	NAWSC Plant No. 5 - 16" Waterline Expansion
Rio Hondo	Advanced Municipal Conservation
San Juan	Raw Water Reservoir Improvements
Sebastian MUD	Advanced Municipal Conservation
Sharyland WSC	Construction of 10 MG Reservoir
Weslaco	Water Conservation Practices for AMI
Weslaco	Expanded Use of Existing Supplies (Reservoir)
Weslaco	Emergency Transfers of Surface Water or Interconnects Between Systems
Willacy County-Other	Advanced Municipal Conservation
Willacy County	Meeting Willacy County's Existing and Future Water Needs
Portions of Irrigation District Conservation WMS for which an amount of water produced or conserved could not be determined.	

22. Section 5.3.2, Page 5-106: The HCDD1 Delta Watershed Project recommended strategy evaluation information does not adequately describe the project location and layout of associated infrastructure. Please include additional information regarding the general locations of the proposed reservoirs and associated infrastructure, for example, using a map/figure in the final, adopted regional water plan. [31 TAC §357.34(e)]

Detailed information and figures have been added for the Delta Watershed WMS.

23. Section 5.3.2, Page 5-106: The HCDD1 Delta Watershed Project recommended strategy evaluation information does not appear to provide drought of record firm yield supply as determined by the modified TCEQ Nueces-Rio Grande WAM and the associated required TCEQ water rights permit. Please include firm yield supply information in the final, adopted regional water plan. [31 TAC §357.32(c); §357.34(b); Contract Exhibit 'C', Section 5.1.1]

Firm Yield has been added for the Delta Watershed WMS.

24. Page 5-118: The project description for the City of Alamo's recommended water management strategy, Brackish Groundwater Well, appears to contain contradicting water quality information. The plan states that "The new well will be located approximately 1,000 feet from the existing well. It is assumed that the salinity of the new well will be similar to the existing well, so it is assumed primary desalination treatment will not be needed." Please clarify the strategy source and water quality in the final, adopted regional water plan. [31 TAC §357.34(e)]

The project was mislabeled as brackish well, and the name has been corrected to Groundwater Well.

25. Sections 5.3 and 5.4; Appendix B: Please clearly identify each reuse water management strategy evaluation as either direct or indirect reuse in the final, adopted regional water plan and in the regional water planning database. *[31 TAC §357.34(e)]*

All of the Reuse WMS have been identified as direct or indirect.

26. Page 5-192: The plan does not appear to consider conservation as a potentially feasible strategy for all identified water supply needs, such as the Jim Hogg County Irrigation WUG. Please include documentation that conservation was considered to meet all identified needs and, if not recommended, please document the reason in the final, adopted regional water plan. *[31 TAC §357.34(f)(2)(B)]*

Conservation has been considered to for all WUG with needs. For all industrial WUG, Best Management Practices were recommended as a means of conservation, on-farm conservation was recommended for all irrigation WUG, Advanced municipal was considered for all Muni WUG, Livestock has no needs.

27. Section 5.4.1, Page 5-240 and 5-241: From the information presented in the plan, it is not clear what the costs, supply yields, and locations are for the individual facilities that appear to be aggregated as "RGRWA Regional Brackish Desalination Project." Strategy costs must be prepared and presented separately and discretely for separate facilities to be located in multiple locations. Please provide strategy description, location, and costing information for each of the three separate regional desalination plant projects, in the final, adopted regional water plan. *[31 TAC §357.34(e); Contract Exhibit 'C', Section 5.1.2]*

Detailed information about the RGRWA Project has been added.

28. Section 5.4, Pages 5-240, 5-243, 5-315, 5-316; Appendix B: The plan does not appear to provide complete strategy evaluations for alternative water management strategies. For example, the "Rio Grande Regional Water Authority Regional Brackish Desalination" strategy does not identify the three potential well field/treatment plant locations; the Resaca Restoration strategy does not present the strategy firm yield, capital costs, or location of water supply source(s); and, the Willacy County Desalination strategies each state that "there is not enough information to cost this project." Please relabel strategies or include fully evaluated alternative water management strategy information in the final, adopted regional water plan. *[31 TAC §357.34(d) and (e), §357.35(g)(3); Contract Exhibit 'C', Section 5.1.5]*

Detailed evaluations have been included for all alternative WMS where available, and Willacy County Desalination has been reclassified as not recommended based on a lack of information.

29. The plan does not appear to present, separately, the reservoir and mitigation land costs. Please include reservoir and mitigation land costs, separately, in the final, adopted regional water plan. *[Contract Exhibit 'C', Section 5.1.2]*

UCM cost summaries have been included for all Reservoir WMS, which include mitigation land costs as a separate line item.

30. Please indicate how the planning group considered the Texas Clean Rivers program in the final, adopted regional water plan. *[31 TAC §357.22(a)(7)]*

Chapter 6 and Section 1.2.4 have been revised to discuss the Texas Clean Rivers program and considerations.

31. Please indicate how the planning group considered the U.S. Clean Water Act in the final, adopted regional water plan. *[31 TAC §357.22(a)(8)]*

Chapter 6 and Section 1.2.4 have been revised to discuss the Clean Water Act and considerations.

32. Section 7.4, Page 7-20; Appendix B: The plan does not appear to consider drought management as a potentially feasible strategy for all identified water supply needs. Please include documentation that drought management was considered to meet identified needs and, if not recommended, please document the reason in the final, adopted regional water plan. *[Texas Water Code (TWC) §16.053(e)(5); 31 TAC §357.34(c)(3); 31 TAC §357.42(f); Contract Exhibit 'C', Section 5.1]*

Section 7.4 has been revised to include further discussion of potentially feasible WMS evaluated for all identified water supply needs.

33. The plan does not appear to include a consideration of third-party social and economic impacts resulting from voluntary redistribution of water, including analysis of third-party impacts of moving water from rural and agricultural areas. Please include this information in the final, adopted regional water plan. *[31 TAC §357.34(d)(7)]*

Voluntary redistribution has been evaluated and is discussed in Chapter 6.

34. The plan does not appear to include model water conservation plans. Please include model conservation plans in the final, adopted regional water plan. *[31 TAC §357.34(g)]*

Model Conservation plans have been included along with the Model Drought Contingency Plans.

35. The plan does not appear to include information on impacts of other other water resources of the state, including potential impacts to groundwater and surface water interrelationships. Please include this information in the final, adopted regional water plan. *[31 TAC §357.40(b)(2)]*

Impacts of 'other water resources of the state' have been considered and are discussed in Chapter 6.

36. Chapter 7: Please indicate how the planning group considered relevant recommendations from the Drought Preparedness Council (a letter was provided to planning groups with relevant recommendations in November 2014) in the final, adopted regional water plan. *[31 TAC §357.42(h)]*

Drought Preparedness Council recommendations have been considered and documented.

37. Chapter 7: The plan does not appear to provide drought response recommendations regarding the management of each existing groundwater and surface water source in the planning area,

by the manager of each water source and the entities relying on each water source, for a minimum of 'severe' and 'critical/emergency' conditions. Please include this information in the final, adopted regional water plan. *[31 TAC §357.42(c); Contract Exhibit 'C', Section 7.4]*

Recommendations for management of each water source have been included in Chapter 7.

38. Chapter 7: The plan does not appear to provide drought response recommendations regarding the development and implementation of local drought contingency plans, including drought response triggers and actions. Please include this information in the final, adopted regional water plan. *[TWC §16.053(e), 31 TAC §357.42(i)]*

Recommendations for drought response and drought contingency plans including triggers and responses have been further clarified in Chapter 7.

39. Chapter 7: The plan does not appear to provide a general description of the local drought contingency plans that involve making emergency connections between water systems or wholesale systems. Please include these descriptions of local drought contingency plans, if any, in the final, adopted regional water plan or, if no local drought contingency plans involve making emergency connections, please indicate so in the final, adopted regional water plan. *[31 TAC §357.42(e)]*

General discussion of emergency interconnects as drought contingency measures was included.

40. Page 7-17, Table 7-11: The plan does not appear to include Maverick County in the analysis of the potential emergency responses evaluation. For example, there is no representation of "Maverick County-Other". Please include this information in the final, adopted regional water plan. *[31 TAC §357.42(g)]; Contract Exhibit 'C', Section 7.5]*

Table 7-11 has been revised to include Maverick County.

41. Please clarify in the final, adopted regional water plan whether plan development was guided by the principal that the designated water quality and related water uses as shown in the state water quality management plan shall be improved or maintained. *[31 TAC §358.3(19)]*

The plan has been revised to reflect this.

42. Appendix B: The plan's "Potentially Feasible Water Management Strategies" table appears to present incomplete information (e.g., blank fields) for strategy yield, total capital cost and unit cost. For example, the Agua SUD Non-Potable Reuse and Brownsville PUB Resaca Restoration alternative strategies and the Webb County-Other Supply from Other Entity recommended strategy. Please provide a complete summary of water management strategy evaluations in the final, adopted regional water plan. *[31 TAC §357.34(d)(2)]*

All Recommended/Alternative WMS have been revised to include complete evaluations.

43. Appendix B: The plan's "Potentially Feasible Water Management Strategies" table appears to not include all strategies considered potentially feasible as mentioned in Section 5.1.1 and

Section 5.2. For example, the On-Farm Irrigation Conservation strategies presented in Section 5.2.8 and the Biological Control strategies presented in Section 5.2.9 are not included in the Appendix B table. Please revise as appropriate throughout the final, adopted regional water plan. [*Contract Exhibit 'C', Section 12.1.2*]

All Recommended/Alternative WMS have been revised to include complete evaluations.

Level 2: Comments and suggestions for consideration that may improve the readability and overall understanding of the regional water plan.

1. Section 3.2, Page 3-20; Section 11.3, Page 11-10: Please consider providing a complete description of the groundwater availability methodology employed for Non-MAG groundwater sources in the final, adopted regional water plan.

Has been included

2. Page 5-14: Please consider adding the City of Weslaco's Brackish Groundwater Mixing project (page 5-182) to the List of Local Brackish Groundwater Development and Treatment, in the final, adopted regional water plan.

Has been included

3. Pages 5-118 and 5-119: Please consider further clarification to distinguish between the two City of Alamo recommended brackish groundwater WMSs: "Brackish GW Well" and "Brackish GW Well/Desalination Plant" in the final, adopted regional water plan.

Has been included

4. For all direct potable reuse "Implementation Issues" sections, including pages 5-145, 5-147, 5-152, 5-157, and 5-165, please consider revising, if appropriate, the first sentence that refers to each of these strategies as "indirect" potable reuse.

Has been included

5. Section 5.3.2, Page 5-106, and HCDD1 Delta Watershed Project: Please consider including the updated versions of the Black & Veatch and TEDSI technical memos dated February 10, 2014 and September 25, 2014, respectively that are associated with this water management strategy project, for example as an appendix.

Has been included



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August 14, 2015

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Mr. Kenneth N. Jones, Executive Director
Lower Rio Grande Valley Development Council
301 W. Railroad
Weslaco, Texas 78596

Re: 2016 Rio Grande Regional Water Planning Group Initially Prepared Plan

Dear Mr. Jones,

Thank you for seeking review and comment from the Texas Parks and Wildlife Department ("TPWD") on the 2016 Initially Prepared Regional Water Plan (IPP) for the Rio Grande Regional Water Planning Group (RGRWPG) Region M. As you know, water impacts every aspect of TPWD's mission to manage and conserve the natural and cultural resources of Texas. As the agency charged with primary responsibility for protecting the state's fish and wildlife resources, TPWD is positioned to provide technical assistance during the water planning process. Although TPWD has limited regulatory authority over the use of state waters, TPWD is committed to working with stakeholders and others to provide science-based information during the water planning process intended to avoid or minimize impacts to state fish and wildlife resources.

TPWD understands that regional water planning groups are guided by 31 TAC §357 when preparing regional water plans. These water planning rules spell out requirements related to natural resource and environmental protection. Accordingly, TPWD staff reviewed the IPP with a focus on the following questions:

- Does the IPP include a quantitative reporting of environmental factors including the effects on environmental water needs and habitat?
- Does the IPP include a description of natural resources and threats to natural resources due to water quantity or quality problems?
- Does the IPP discuss how these threats will be addressed?
- Does the IPP describe how it is consistent with long-term protection of natural resources?
- Does the IPP include water conservation as a water management strategy?
- Does the IPP include Drought Contingency Plans?
- Does the IPP recommend any stream segments be nominated as ecologically unique?
- If the IPP includes strategies identified in the 2010 regional water plan, does it address concerns raised by TPWD in connection with the 2010 Water Plan.

According to the IPP, the population of the 8 county Lower Rio Grande Regional Water Planning Area (RGRWPA) is expected to grow from about 1.2 million in 2013 to about 4 million by 2070. Population in the region is concentrated in Cameron, Hidalgo, and Webb counties, accounting for 90.5% of the regional total in 2010. Total water needs are expected to grow slightly from about 1.5 million acre-feet in 2020 to about 1.6 million acre-feet/year in 2070. Irrigation represents the largest water demand in the region but is projected to decrease as a result of both urbanization of lands and increasing pressure on the region's water resources. Municipal demands are expected to approximately double from a projected 311,591 acre-feet/year in 2020 to 612,127 acre-feet/year in 2070. Livestock, mining, steam-electric power generation, and manufacturing demands make up a very small portion of the region's water use as a whole, relative to irrigation and municipal demands. It is not clear whether additional demands related to Liquefied Natural Gas (LNG) facilities have been included in the water demand projections. The water requirements of these facilities may prove substantial.

The IPP recommends water conservation and wastewater reuse (potable and non-potable) for meeting future water needs in the Region. In addition, the IPP recommends development of fresh and brackish groundwater as well as the development of a seawater desalination project. Finally, conversion and/or purchase of existing surface water rights is recommended for meeting future water needs for growing municipal areas.

The IPP includes a complete description of natural resources including fish and wildlife resources. The importance of the lower Laguna Madre, and its dependence on freshwater inflows from the Arroyo Colorado and the Rio Grande, is described in detail. Wildlife refuges and preserves, and the roles these areas play in protecting the habitats of threatened and endangered species found there are discussed as well.

Potential threats to natural resources including unchecked development of groundwater and urbanization are discussed in Chapter 1 of the IPP. In particular, groundwater pumping in the Devils and Pecos river basins has been shown to directly impact these streamflows and the flows in Goodenough Springs. TPWD concurs with the statement "Without a GCD, the conservation goals described in the Desired Future Conditions for each aquifer cannot be implemented or monitored."

The RGRWPG is to be commended for its strong emphasis on water conservation, reuse and drought contingency planning. The IPP includes irrigation, industrial and municipal water conservation water management strategies. According to the IPP, per capita water use in the Region is projected to decline over the planning period from 141.8 gallons per person per day in 2020 to 135.6 gallons per person per day in 2070, bringing it under the Texas Water Conservation Task Force goal of 140 gallons per person per day. Potential negative impacts related to wastewater reuse, including decreased streamflows and changes in water quality are Potential environment impacts may be seen due to lower effluent flows to the discharge streams. are described in Chapter 5. This information should also be included in the Executive Summary.

In general, the 2016 Region IPP is a well-written document that acknowledges the importance of environmental protection in the planning area and provides narrative descriptions of potential impacts from recommended water management strategies. However, TPWD believes that as

information becomes available a more quantitative analysis rather than narrative description is needed for the environmental impacts associated with each water management strategy.

While TPWD is pleased to see that many of our earlier comments have been addressed, concerns remain regarding potential impacts associated with several strategies. Several water management strategies are recommended for stream segments identified by TPWD as ecologically significant. Increased groundwater development may impact small springs and adversely impact groundwater-surface water interactions. Increased use of previously unused water rights from the Rio Grande will impact instream flows and freshwater inflows to the Rio Grande estuary that will likely reduce long-term inflows and increase salinities, potentially leading to complex estuarine community changes. Both seawater and brackish groundwater desalination can be ecologically advantageous strategies, as long as issues such as impingement and entrainment at intake locations and brine disposal options are carefully considered. Continued consultation with TPWD staff will help to ensure that fish and wildlife impacts can be avoided or minimized. Please be advised that HB 2031 passed by the 84th legislature requires consultation with TPWD and the General Land Office regarding siting of seawater desalination intakes and discharges.

The plan does not recommend nomination of any stream segments as ecologically unique. As indicated in Table 8.1, TPWD has identified several stream segments in the region that meet at least one of the criteria for classification as ecologically unique should the regional planning group decide to pursue nomination of an ecologically significant stream in the future. These segments include portions of the tidal segment of the Arroyo Colorado, Las Moras Creek, and the Lower Rio Grande. TPWD continues to see importance in recommending and designating significant stream segments and will support the RGRWPG in this regard if requested in the next planning cycle.

Thank you for your consideration of these comments. TPW looks forward to continuing to work with the planning group to develop water supply strategies that not only meet the future water supply needs of the region but also preserve the ecological health of the region's aquatic resources. Please contact Cindy Loeffler at (512) 389-8715 if you have any questions or comments.

Sincerely,

A handwritten signature in blue ink, appearing to read "R. Melinchuk".

Ross Melinchuk,
Deputy Executive Director, Natural Resources

RM: CL:ms

cc: Robin Riechers, Division Director, Coastal Fisheries Division, TPWD
Willy Cupit, Coastal Fisheries Division, TPWD