

Ron Fieseler, GMA-9 Coordinator,

The Groundwater Management Area (GMA) water resource planning system plays a critical role in our state's water planning process, and the Hill Country Alliance, the San Marcos River Foundation, the Hill Country Conservancy, Wimberley Valley Watershed Association, and Connie Barron (hereafter known as the undersigned) are appreciative of the huge effort that is involved in creating regional Desired Future Condition (DFC) guidelines. Our comments reflect the collective vision of our Hill Country supporters, stakeholders, businesses, and elected officials for a groundwater planning tool that recognizes the need to protect long-term spring-flow, optimal inter-aquifer communication, and functional surface and groundwater interaction to provide sustained groundwater resources for current and future generations.

Our comments on the prescribed *GMA-9 Public Comment Form* (below) will include that specific DFCs be set at a zero drawdown, and comments on specific aquifers' (non)relevance. Additionally, though it is beyond the scope of this specific planning exercise, the undersigned would like to submit broad recommendations for the improvement of the DFC process, specific commendations drawn from individual Groundwater Conservation District (GCD) policies outlined in their management plans, and recommendations for additional study and research.

The undersigned acknowledge that some of our recommendations may require action by the Texas Water Development Board and/or the Legislature, and may not be the sole responsibility of GCDs in this GMA; however, this planning group should press for the incorporation of these recommended concepts, as they are able.

Broad Recommendations: Only by constantly seeking improvements to the GMA groundwater planning process can we ensure that our aquifers continue to provide sustained groundwater levels, base-flow to Hill Country streams and rivers, and thus economic viability to the region for all future generations.

- In order to provide water for future generations, the undersigned recommends that the GMAs adopt and apply a set of **guiding principles** that will serve as a blueprint for long-term water sustainability. An example: *The economy and land values of Texas depend on meeting its water needs in a way that does no harm to rivers, streams, springs, and aquifers.*
- Due to the importance of spring-flow on the base-flow of our rivers, it is reasonable that Hill Country Groundwater Conservation Districts consider **management rules designed to protect minimum levels of spring-flow.**
- The undersigned would like to commend GMA-9's member GCDs for adhering to the rational practice of only permitting within the limits of its **MAG.**
- **Rainwater harvesting** should be widely encouraged to meet rural and 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.

- Considering the challenge and cost of providing surging numbers of new water customers with finite water supplies, outdated infrastructure-intensive water management strategies need to be discouraged in favor of innovative localized modern **water neutral solutions**. GCDs should prioritize and encourage new development with decentralized systems and new technologies that capture, use, and reuse water in place through groundwater management plan rules. Rainwater harvesting, aquifer recharge, and reclaimed water for non-potable uses are among a variety of alternatives to groundwater. While we understand that each GCD's authority will vary, protecting our groundwater resource will require more proactive management in the future.

Study and Data Needs: The undersigned would congratulate the excellent and persistent exploration of aquifer science by GMA-9 member districts, and will continue to assist in all possible opportunities for specific studies that will serve to shed more information on specific aquifer qualities and quantities.

- **Aquifer Science** - The Hill Country is underlain by limestone aquifers in which there are many remaining hydrological questions. A basic, unbiased, scientific study that encompasses the hydrologic characterization of the inter-formational flow between these adjacent and associated aquifers and their contribution to surface water flows is needed in order for the local groundwater management entities to make informed management decisions and recommendations that maintain sustainable systems.
- **Headwaters Groundwater/Spring-flow Analysis** - Surface water base-flow in most Hill Country Rivers is derived almost exclusively from groundwater discharge through springs. However, development of management practices is impaired by a lack of understanding about how groundwater level elevations relate to spring-flow rates. Few monitoring wells are in place that can provide continuous water level readings, and no attempt has thus far been made to relate this 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.
- **Groundwater/Surface Water Relationship** – The undersigned will continue to encourage the State (TWDB) to embrace this concept and focus water availability studies on this topic. This water supply policy definition can best be achieved when the relationship between groundwater and surface water is fully understood.
- **Unpermitted Withdrawals of Riparian Aquifer Water** - A significant amount of unpermitted riparian water is withdrawn from river alluvium that is unaccounted for in the Water Availability Models. GCDs should devise a survey method to establish a reasonable estimate of these diversions and regulate them where allowable by rule.

**GMA-9 Public Comment Form
90-Day Public Comment Period
Proposed Desired Future Conditions**

Dear Interested Member of the Public:

On September 28, 2015, the Groundwater Management Area 9 Joint Planning Committee (GMA-9) adopted proposed Desired Future Conditions (DFCs) for the Trinity, Edwards-Trinity (Plateau), Ellenburger-San Saba and Hickory aquifers within the management area. In addition, GMA-9 is proposing to classify certain aquifers or portions of those aquifers as non-relevant for the purposes of joint planning. As summary of these proposals follows:

MAJOR OR MINOR AQUIFER: POSSIBLE AUTHORIZED DESIRED FUTURE CONDITION OR NON-RELEVANT AQUIFER CLASSIFICATION

Edwards Aquifer (Balcones Fault Zone)

- Non-Relevant Aquifer Classification (in Bexar, Comal, Hays and Travis Counties)

Edwards-Trinity (Plateau)

- Allow for No Net Increase in Average Drawdown in Bandera and Kendall Counties Through 2070
- Non-Relevant Aquifer Classification (in Blanco and Kerr Counties)

Ellenburger-San Saba

- Allow for An Increase in Average Drawdown of No More Than 2 Feet in Kendall County Through 2070
- Non-Relevant Aquifer Classification (in Blanco and Kerr Counties)

Hickory

- Allow for An Increase in Average Drawdown of No More Than 7 Feet in Kendall County Through 2070
- Non-Relevant Aquifer Classification (in Blanco, Hays, Kerr and Travis Counties)

Marble Falls

- Non-Relevant Aquifer Classification (in Blanco County)

Trinity

- Allow for An Increase in Average Drawdown of Approximately 30 Feet Through 2060 (Throughout GMA-9) Consistent With “Scenario 6” in TWDB GAM Task 10-005

On Wednesday, September 30, 2015, notice of these proposals was sent to each of the ten Groundwater Conservation Districts (GCDs) within GMA-9. Therefore, the official 90-day public comment period related to the proposed DFCs began on Thursday, October 1, 2015, and will close on Thursday, December 31, 2015. Public comments can be submitted directly to your local GCD at any time before the 90-day public comment closes. Also, each GCD will hold a public hearing regarding the proposed DFCs related to that GCD, as may be applicable. To find out the time, date and location for your local GCD’s public hearing, please contact them directly as follows:

Groundwater Conservation District Contact Information

Bandera County River Authority and Groundwater District

GMA-9 Contact: c/o Bandera County River Authority and Groundwater District
P.O. Box 177
Bandera, TX 78003
(830) 796-7260

Barton Springs/Edwards Aquifer Conservation District

GMA-9 Contact: c/o Barton Springs/Edwards Aquifer Conservation District
1124 Regal Row
Austin, Texas 78748
(512) 282-8441

Blanco-Pedernales Groundwater Conservation District

GMA-9 Contact: c/o Blanco-Pedernales Groundwater Conservation District
P.O. Box 1516
Johnson City, TX 78636
(830) 868-9196

Comal Trinity Groundwater Conservation District

GMA-9 Contact: c/o Comal Trinity Groundwater Conservation District
P.O. Box 450
Bulverde, TX 78163
e-mail address: info@comaltrinity.com

Cow Creek Groundwater Conservation District

GMA-9 Contact: c/o Cow Creek Groundwater Conservation District
201 E. San Antonio Ave., Ste. 100
Boerne, TX 78006
(830) 816-2504

Edwards Aquifer Authority (EAA)

GMA-9 Contact: c/o/ Edwards Aquifer Authority
900 E. Quincy
San Antonio, TX 78215
(210) 222-2204

Hays Trinity Groundwater Conservation District

GMA-9 Contact: c/o Hays Trinity Groundwater Conservation District
P.O. Box 1648
Dripping Springs, Texas 78620
(512) 858-9253

Headwaters Groundwater Conservation District

GMA-9 Contact: c/o/ Headwaters Groundwater Conservation District
125 Lehmann Dr. Ste. 201
Kerrville, TX 78028
(830) 896-4110

Medina County Groundwater Conservation District

GMA-9 Contact: c/o Medina County Groundwater Conservation District
1607 Avenue K
Hondo, TX 78861
(830) 741-3162

Trinity Glen Rose Groundwater Conservation District

GMA-9 Contact: c/o/ Trinity Glen Rose Groundwater Conservation District
6335 Camp Bullis Road, Suite 25
San Antonio, Texas 78257
(210) 698-1155

To help the GCDs give your comments their due consideration, GMA-9 developed this public comment form for your use in preparing and submitting comments during the 90-day public comment period. Every section of this public comment form reflects factors the GCDs must consider and document as we make these DFC decisions. To that end, we encourage you to complete as much of the public comment form as possible. You may also attach additional pages, if necessary. Please note, in accordance with Subsection 36.108 (d-2) of the Texas Water Code, the GCDs will only consider public comments that are determined to be relevant.

Completed public comment forms should be submitted directly to your local GCD at the contact information listed above. Copies of your completed public comment forms, along with any other relevant public comments received during the 90-day public comment period, will be reviewed by your local GCD and will be reflected as part of the public comment summaries each GCD will prepare and submit to GMA-9.

Thank you for taking time to participate in this very important process. If you have any questions, please contact your local GCD representative at the contact information provided above.

Contact Information

Name: Charlie Flatten
Address: 15315 Highway 71 West, Bee Cave, Texas 78738
Phone: 512/694.1121
Email: Charlie@HillCountryAlliance.org
Representing in these specific comments only: The Undersigned

Proposed Desired Future Condition(s)

Please be as detailed as possible in describing your proposed DFC. Include the quantifiable value and a description of the method for measuring or calculating the value. Please attach additional pages, if needed.

Aquifer

Proposed DFC and Measuring/Calculating Method

Aquifer Relevancy to Regional Planning Purposes: The undersigned recognize that every Hill Country aquifer is in communication with one or more neighboring aquifers and is therefore - to some degree - connected. In addition, all Hill Country aquifers contribute to spring or base flow of streams and rivers. That is not to say that every aquifer in specific GCDs has a surface relationship, however, aquifers do not recognize GCD boundaries, and all water is hydrologically connected. *The undersigned **recommends that every fresh and saline aquifer should be considered relevant for planning purposes.***

Desired Future Condition: The undersigned recognize the ecological value of spring and base flows into Hill Country waterways, and the economic need for well production consistency. When planning for the future health and productivity of an aquifer, the vision of a Desired Future Condition should not be equated with, or substituted for, an Inevitable Future Condition. It is the Desire of the undersigned's membership and the majority of the citizens of the Hill Country for a planning goal that does no further harm to spring-flow or water well levels. The undersigned ***recommends a Desired Future Condition of zero drawdown.***

Desired Future Condition Calculation Methodology: To quantify a preferred zero DFC, the undersigned recommend that calculations of historic aquifer and spring levels from 1950 be established by this GMA as a baseline. The undersigned *recommends a methodology that utilizes monitor well level data to measure annual average aquifer levels in combination with minimum spring discharge rates suitable to maintain base-flows capable of sustaining the riparian flora and fauna naturally found in the receiving stream.*

Consideration of Proposed Desired Future Condition(s)

The Texas Water Code requires that GMA-9 develop DFCs that “provide a balance between the highest practicable level of groundwater production and the conservation, preservation, protection, recharging, and prevention of waste of groundwater and control of subsidence in the management area.” In the space below, or on additional attached pages, please provide your considerations with regard to the nine items that must be considered, per the Texas Water Code, for the proposed DFC(s).

Consideration 1 – “Aquifer uses or conditions within the management area, including conditions that differ substantially from one geographic area to another:”

- The thinly bedded and heterogeneous major GMA-9 aquifers have never been easy to plan within. Flow-rates and permeability conditions vary greatly within GMA-9’s geographic extent. Population densities vary to an extraordinary degree across GMA-9. However, these circumstances should not inhibit the success of changing to a zero-foot drawdown.

Consideration 2 – “The water supply needs and water management strategies included in the state water plan:”

- A change in DFC to a zero-foot drawdown is consistent with the *State Water Plan’s* mandate that groundwater sourced Water Management Strategies not exceed established Modeled Available Groundwater numbers.
- There are no active *State Water Plan* Water Management Strategies that would be affected by a zero-foot drawdown.
- Future growth would need to comply with a zero-foot drawdown or show the ability to provide its water needs through enhanced conservation, Low Impact Design, or rainwater harvesting.

Consideration 3 – “Hydrological conditions, including for each aquifer in the management area the total estimated recoverable storage as provided by the executive administrator, and the average annual recharge, inflows, and discharge:”

- The undersigned recognize the limited value of quantifying a total aquifer storage volume in terms of numerical data for water planning purposes. Furthermore, any assertion that a **total estimated recoverable storage** (TERS) value represents a consistent volume of water that one may expect to recover from an aquifer is mistaken. Indeed, the irrelevance of a TERS value in aquifer planning cannot be overstated.
- A change in DFC to a zero-foot drawdown would bring most aquifers in GMA-9 into hydrologic balance and (except under extraordinary drought conditions) would increase discharge to the benefit of surface flows across the region.

Consideration 4 – “Other environmental impacts, including impacts on spring flow and other interactions between groundwater and surface water:”

- A change in DFC to a zero-foot drawdown would have significant beneficial impact on spring-flow and on every other surface and groundwater interaction.

Consideration 5 – “The impact on subsidence:”

- The undersigned would not consider subsidence to be a normal effect of a DFC changed from thirty feet to zero feet. However, to the extent that fuller aquifers reduce subsidence, there may be beneficial impacts on subsidence.

Consideration 6 – “Socioeconomic impacts reasonably expected to occur:”

The undersigned recognizes that the economy of the Hill Country is intrinsically linked to healthy hydrologic systems. Managed depletion of our groundwater resources is a very certain way to degrade real and attached property values and significantly harm the business climate that fuels our economic engine.

- Negative economic impact:
 - Speculative developers without a realistic understanding of the carrying capacity of a semi-arid environment
- Neutral economic impact:
 - Tens of thousands of current water well owners
 - New users who implement rainwater harvesting rather than drilling a new well
- Beneficial economic impact:
 - The many well owners who are looking at near-term pump lowering
 - Regional surface water irrigators
 - Ranchers
 - Agriculture
 - Riparian oriented businesses
 - Tourism
 - Bay and estuary commercial fisheries
 - Fish and wildlife interests
 - Regional municipalities reliant on surface water

Consideration 7 – “The impact on the interests and rights in private property, including ownership and the rights of management area landowners and their lessees and assigns in groundwater:”

- Provided that the DFC is administered equitably and within the parameters of GCD Management Plans, exempt well owners are not subject to restriction by rule and may indeed see positive impacts due to a reduction of DFC to zero feet.
- During major drought condition, non-exempt and commercial production would likely be subject to temporary permit curtailment more rigorous than those under the previous 30-foot DFC.

Consideration 8 – “The feasibility of achieving the desired future condition:”

- From a strictly administrative standpoint, the feasibility of managing to a zero feet DFC by GCDs would be no more costly than managing to a thirty-foot DFC.
- Member GCDs would need to update their management plans to reflect this change in DFC.
- From a technical standpoint, the required spring-flow measurement apparatus and monitor wells capable of measuring discharge and aquifer levels are currently in place and functional.

Consideration 9 – “Any other information relevant to the specific desired future conditions:”

The undersigned recognize that permit curtailments beyond those being currently implemented will need to be written into Management Plans. However, we feel that the economic benefit of maintaining the long-term hydrologic integrity of the aquifer-surface water systems outweighs the temporary losses of commercial pumpers.

The following respectfully submit these public comments to GMA-9 on December 31, 2015.

Thank you,
Hill Country Alliance,
The San Marcos River Foundation,
The Hill Country Conservancy,
Wimberley Valley Watershed Association,
and Connie Barron