



March 20, 2012

Mr. Joe Reynolds, Attorney
Texas Water Development Board
P.O. Box 13231
1700 N. Congress Ave.
Austin, TX 78711-3231

By e-mail and U. S. Mail

RE: **Environmental Stewardship's Petition Appealing GMA-12's
Desired Future Conditions** – Points of clarification

Dear Mr. Reynolds and Board,

I am writing to provide clarification regarding the mischaracterizations of Environmental Stewardship's (ES) positions on several items, and discrepancies that have arisen between actual historical events and timelines as presented at the Environmental Stewardship hearing. Because numerous of Environmental Stewardship's positions on matters of substance were frequently and grossly mischaracterized in both the oral testimony and the Respondent's 36 page brief¹, we believe that these mischaracterizations need to be identified and our *true positions* clarified so that ES's *true positions* are given due merit and consideration as the TWDB staff and Board deliberate a decision.

As you will recall, petitioners provided their evidence to the Board and to the respondents seven (7) calendar days in advance of the hearing date, as prescribed by your February 1, 2012, hearing notice, presumably so that the respondents would have a *fair* opportunity to read, digest, and prepare rebuttal to the petitioners; and Environmental Stewardship complied with those terms. Unfortunately, Environmental Stewardship only had 20 minutes to read, digest and prepare rebuttals to the Respondent's 36 page brief and lengthy affidavits provided to us just minutes prior to the Respondent's testimony. Likewise, we had the same 20 minutes to prepare our response to the oral testimony. By this letter we hope to clarify our positions and identify mischaracterization of particular concern.

I will try, in the following, to clarify some of the misconceptions of Environmental Stewardship's (ES) position conveyed in the hearings, as well as in the GMA-12 exhibits and Respondent's brief.

1. ES Position on the use of streamflow metrics in the DFCs

ES has never contended, or requested, that streamflow metrics be the sole metric used in establishing and measuring the DFCs as implied by GMA's counsel and Mr. Andrew Donnelly. To the contrary, we have asked that the GMA include stream and spring flow metrics as a set of metrics to characterize the DFCs. By including stream and spring flow metrics, the groundwater-surface water relationship of the aquifers and the rivers, streams, and springs would be protected, thereby protecting both the surface water and groundwater resources of the region.

As we demonstrated, Texas Parks and Wildlife Department first proposed the use of streamflow metrics. In reviewing their May 10, 2007 presentation, it appears that they also suggested that

¹ RESPONSE OF DISTRICTS OF GMA 12 ... TO PETITION OF ENVIRONMENTAL STEWARDSHIP, APPEALING DESIRED FUTURE CONDITIONS ADOPTED BY THE DISTRICTS OF GROUNDWATER MANAGEMENT AREA 12. Provided to Petitioner March 7, 2012, minutes before Respondents testimony.

these metrics be included; no suggestion was made that they be the sole metric. TPWD recommended that the GMA “consider impacts to surface waters during DFC deliberations ... [and] include quantitative impacts to surface water in DFC definitions ...”. Ms. Loeffler, in the ES hearing, testified that TPWD still believes that this is reasonable and doable. ES, along with others, took up and continued this appeal.

2. ES Position on GMA’s consideration of groundwater-surface water impacts

Though counsel and witnesses for GMA-12 tried, in retrospect, to paint a picture of a process that considered the groundwater-surface water relationship, the facts tell a different story. Lost Pines, in the affidavit of Michael Neese, cites two presentations by Dr. Robert Kier as evidence that they considered the environmental impacts of pumping on rivers, streams and springs. However, a careful analysis of these exhibits reveals that they discussed the egg carton, and did not evaluate the impact on the eggs. The fact is that LPGCD’s former hydrogeology consultant, Dr. Robert Kier, minimized the necessity, legal or otherwise, of evaluating the impacts of groundwater pumping on surface water, and lead the district and the GMA to disregard consideration of the groundwater-surface water interaction. After a fairly extensive discussion of the alleged weaknesses of the groundwater availability model (GAM), Dr. Kier guides LPGCD to conclude that they can put off environmental considerations until the next round of the 5-year DFC/MAG cycle, falsely comforted by the thought that “not too much damage, if any, will be done in the next 5 years”. In our view, NOTHING COULD BE FARTHER FROM THE TRUTH. The potential damage inflicted over the next five years will be extremely difficult, if not impossible, to unwind and repair. Kier himself, in his “What Are We Trying To Do Here?” presentation states that “response to pumping stresses can be 10s, 100s, or 1000s of years” and, “for large aquifer systems, time to restore equilibrium conditions can be 10s, 100s, even 1000s of years”.

3. ES Position on the use of the GAM

The GMA argues that ES is finding fault with the model (Res. brief p 4, 5, 11), wanted the model to be modified, or should have designed a different GAM (Res brief p15), or should have used a different model (Res. Brief p5). To the contrary, we do not fault the model, but rather believe the GAM was not used to the extent of its strengths. Even though Dr. Kier guided² that “we must play to the strength of the model, not its weaknesses”, neither Lost Pines or the GMA used the strength of the model in predicting trends to investigate the impacts of pumping on surface water and spring outflows. The GMA has not produced evidence that even one MODFLOW was extracted from the model to consider the trends in surface water and spring outflows, which the model is designed to provide. Not one MODFLOW was extracted to show the impact of the planned pumping on the Colorado and/or Brazos rivers and their tributaries. Had these MODFLOW extractions been done, as we have shown, the GMA would have seen that the downward trends in outflows to surface waters and springs are dramatic, likely resulting in “gaining” rivers and streams becoming “losing” rivers and streams, environmental impacts that should have been investigated.

4. Donnelly Testimonies and Affidavit

Mr. Donnelly, in his testimony and the accompanying slides, mischaracterized what is actually stated in the ES petition to the extent the entirety of his testimony should be disregarded. His misinterpretations and inaccurate paraphrases of the ES petition led to inappropriate “responses” to the petition that made it difficult for the listener to distinguish fact from fiction. Other than his implication that ES was asking for streamflow metrics to be the sole metric (covered in item 1), Donnelly’s main theme was the uncertainty associated with streamflow measurements.

² Michael Neese affidavit

Unfortunately, his obfuscations and misstatements resulted in conclusions in his summary that are not supported by one stitch of evidence from his presentation.

Donnelly argues that the uncertainty related to streamflow is reason enough not to use this metric at all, but fails to acknowledge, much less quantitatively discuss as would be the practice in good science, the uncertainty associated with the metric selected by the GMA – well levels. Although well levels can be measured with some certainty – that is, the distance from the surface of the ground to the surface of the water in the well – they too are not direct measurements of the quantities of water available that these well levels are intended to “measure”. There is a great deal of uncertainty related to the water quantities that are the true objective of the well level measurement. In the case of DFCs and the GAM, these well levels are being used to estimate the volume of water available for pumping (MAG), as estimated by the GAM from drawdowns estimated from demand volumes. The uncertainty related to their accuracy is: first the uncertainty related to the GAM’s ability to estimate drawdowns from demand volume data, second, the ability of the TWDB to estimate MAG from the GAM, and third, the ability of drawdown to estimate the actual amount of water that has been pumped. Multiple levels of uncertainty are likely compounded ... not additive.

Donnelly argues his case with erroneous information applied incorrectly to the situation targeted for protection – critical stream levels during severe drought conditions. He calculates the uncertainty from information in a press release that was corrected on March 2, from 180 million gallons per year, to 12-13 billion gallons per year. Had Donnelly been interested in accuracy in his calculations, he would have obtained the base data (ac-ft/yr) from the three tables in Exhibits 8, 9, and 10 provided on February 29, 2012. With those corrected values, he would have calculated the volumes to be 50-55 cfs (vs. 0.5 cfs). In the Colorado River the volume is 10-15 cfs, 8-12% of the sustainable (critical) insteam flow target recommended by the Colorado Lavaca Basin and Bay Area Stakeholder Committee for the Bastrop gage. The flow at the Bastrop gage was around 200³ cfs at the end of October, 2011, after the rice irrigation flows ended and months of zero precipitation ahead of what has turned out to be a wet fall and winter (see also the scenario provided in Exhibit 25).

Finally, Donnelly draws conclusions in his summary that are not backed by any evidence in his presentation. After discussing uncertainty in streamflow extensively, and without providing evidence to support these particular points, he erroneously draws the following totally unsupported conclusions:

- 1) *“water levels in the aquifer are a much more direct, precise, and repeatable method upon which to base DFCs”*
- 2) *“the lack of a springflow/streamflow specific DFC does not necessarily mean the DFC does not protect spring and streams”*
- 3) *“The GMA sought to balance the impact on water levels (and therefore on surface water resources) with demands for water in the region”* and finally,
- 4) *“The DFCs permit some drawdown in water levels in the aquifer, and drawdowns in water levels, regardless of the reason for the drawdown, may impact streamflow.”*

³ 200 cfs in late October is the best recent indicator of drought conditions at the Bastrop gage. Rice irrigation flows ended in late October and the rainfall started in mid-November. Precipitation for the period was as follows: Jan-June = 7.51”; July-Sept = 0.42”; Oct-Dec = 7.14”; Jan = 19.27”; Feb = 3.37”.

5. Houston Toad Exhibits

Respondents claim that the Houston Toad is not mentioned in the Petition and the exhibits need not be considered. To the contrary, Appeal A. of the Petition contemplates that “the adopted DFCs would unreasonably threaten the groundwater-surface water relationship and would harm terrestrial resources that depend on outflows of water to the surface.” The exhibits demonstrate that the Houston Toad and the Loblolly pines (including the historic and economically important pine seed resource known as the “Lost Pines,” Pet. Appeal F) are two of the terrestrial resources that will be harmed by reduced or eliminated outflows of water (dewatering) that provide habitat for the Houston Toad and the pinewood forest geographic region of the management area.

6. GMA-12 Stakeholder transparency and response

The affidavit of Mr. Westbrook is incomplete with respect to correspondence with me as the petitioner’s representative. The missing correspondence refutes the claim by the Respondent that they specifically made the groundwater availability model (GAM) files available to stakeholders.

The attached documents complete the record provided by Mr. Westbrook’s affidavit regarding Environmental Stewardship’s correspondence with GMA-12. The e-mail correspondence with GMA-12 and Lost Pines GCD show that Environmental Stewardship started requesting water budget information from the GAM runs, and specifically the GAM file "6A", in writing, as early as February 11, 2010, as I stated in my oral remarks at the hearing on March 7, 2012. Though numerous requests were made in public meetings, and directly to Gary Westbrook, Joe Cooper, Steve Young, and Rima Petrossian, we did not receive any quantitative data in response to our requests until we were provided with the "7B" file after the DFCs had been adopted and accepted as administratively complete by the Texas Water Development Board (May 13, 2011, some 15 months after our initial request). These requests are in addition to formal letters also provided. Below is a list of the e-mail correspondence attached:

| <u>Date</u> | <u>To</u> | <u>Subject</u> |
|-------------------|------------------------|------------------------------------|
| October 15, 2009 | Gary Westbrook | GAM results |
| December 18, 2009 | Joe Cooper | Info from Hutchinson Presentation |
| February 11, 2010 | Gary Westbrook | GMA-12 Model file – 6A |
| February 10, 2010 | Gary Westbrook | Comments to GMA-12 (ES letter) |
| March 16, 2010 | Gary Westbrook | Fwd: GMA-12 Model file |
| April 5, 2010 | Cooper/Westbrook | BEG Response by ES |
| May 25, 2010 | Westbrook/Cooper | Letter to GMA-12 |
| October 25, 2010 | Cooper/Westbrook | Letter to TWDB re GMA-12 DFC |
| January 13, 2011 | Steve Young | Water Balance request to GMA-12 |
| February 11, 2011 | Rima Petrossian | Water Budget for GMA-12 |
| April 6, 2011 | Joe Cooper | Water Balance request to GMA-12 |
| April 26, 2011 | Westbrook/Cooper | GMA-12 Model file – 6A (or latest) |
| May 9, 2011 | Westbrook/Young/Cooper | GMA-12 Model file – 6A (or latest) |

Also to complete the record of Mr. Westbrook’s affidavit provided by the GMA-12 respondents, we are providing a copy of Environmental Stewardship’s letter to the GMA-12 board dated February 11, 2010 that was not included in Mr. Westbrook’s affidavit provided at the End Op hearing and referenced in Environmental Stewardship’s hearing.

7. GMA-12 current counsel lacked a basis for claims regarding the DFC adoption process

It is worth noting that counsel that represented the GMA at the hearing had only been engaged by the Lost Pines GCD in 2011, and thus clearly was not present for that board’s DFC deliberations.

No representatives of Graves Dougherty were present for the GMA deliberations. Since current counsel for Lost Pines did not participate in the DFC adoption process, many of counsel's statements regarding that process were limited to advocating on behalf of their client, and not evidence, and in several instances simply inaccurate. It is important that this be recognized because, throughout the hearing and the Respondent's brief, there are numerous statements that reference "evidence" without citing any evidence ("Record evidence demonstrates" p6, "for reasons shown by the evidence" "And as the evidence shows"p7, are examples). Environmental Stewardship is concerned that the statements of GMA's counsel and GMA experts, as well as the exhibits offered by the GMA, introduced unfortunate and critical misconceptions into the record by selectively presenting only a few words as quotations from scientific documents without acknowledging the appropriate context. Because ES was not provided the Respondent's brief and exhibits with adequate time to prepare, it was impossible, in our rebuttal, to cover all the blatant errors put forth, nor will we here try to cover all the errors. The following, however, is provided as an example:

Districts' Response to Claim A.2 (Page 11 of Respondent's brief):

1. Respondent: "Petitioner fails to supply any specific quantitative 'metric' that GMA 12 should have used": FACT, we cited the Saunders gain-loss studies as available methodology (Attachments J&K); LCRA-SAWS LSWP Project Studies providing details on how a groundwater-surface water monitoring program has been set up in Wharton and Matagorda counties (and could have been set up *in addition to, and/or in coordination with*, the GMA's "average drawdown" method), which were incorporated by reference in Appendix 2; and we provided detailed project reports on the instream flow needs of the Colorado River and the relationship to aquatic habitat needs of the State threatened blue sucker, also incorporated by reference in Appendix 2. The GMA seems to take the view that it is not only the petitioner's burden of proof with respect to the unreasonableness of the DFCs, but also our responsibility to demonstrate to the GMA *exactly* how to fix the DFCs. With a truly open and transparent dialogue, we would have had this discussion very early in the process and could have worked out suitable metrics to *include* in the DFCs.
2. Respondent: "Moreover, the very paper cited by Petitioner for this claim concedes that neither data nor analysis are yet available to 'adequately account' for flow from the Aquifers to the Colorado River": FACT, the paper (Pet. Attachment K) *does not concede such*, but to the contrary states "... the net gain-loss is attributed to interaction with groundwater aquifers," and "gains or losses in stream flow attributable to groundwater interactions." (Pet. Attachment J). The other paper (Pet. Attachment J) goes even further: "8.5 CONCLUSIONS As shown in Table 8.1, the total net gain to the Colorado River from the Carrizo-Wilcox Aquifer in Bastrop County was estimated to be 30 cubic feet per second during the November 2008 low-flow event. This compares to the U.S. Geological Survey 1918 estimate of 36 cubic feet per second and the LCRA estimate of 50 cubic feet per second in November 2005" (Pet. Attachment K). These statements are neither equivocal nor capable of being described as "*conceding*" that neither data nor analysis are available to "*adequately account*" account for flows from the aquifers to the river. The author specifically names both the aquifer and the river and puts a quantitative value on the flow, but the words "adequately account" quoted by respondent's counsel do not appear in either paper.
3. Respondent cites: "[F]low from bedrock aquifers through the alluvium to the river is a complicated system and requires further data and analysis" Pet. Ex. K. FACT: Petitioner's Attachment J also makes the same statement but ends with "deserves more understanding". These are standard statements made in most scientific publications to

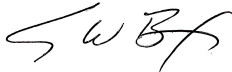
encourage further research (funding) and to qualify the information as not being wholly complete. If we were to agree that this is an adequate standard to reject consideration of technology, methodology, or models, then the GMA would clearly be required to reject the very GAM they have relied upon.

Respondent cites DFCs document: "The Colorado River alluvium is not modeled separately in the currently available GAM...Indeed, the Colorado River alluvium is not designated by TWDB as a major or minor aquifer with GMA 12 and is not a relevant aquifer for which DFCs were required to be adopted." FACT: Designation by TWDB as a major or minor aquifer is not dispositive of whether an aquifer, in this case the Colorado River alluvium, is a *relevant* aquifer within the management area that must be considered under Section 36.108 (d) as an aquifer whose uses or conditions differ substantially from one geographic area to another within the management area. GMA-12 makes similar erroneous assertions regarding Petitioner's position and/or claims in the following statements:

1. Petitioner also claims the current GAM can predict stream flow or spring flow sufficiently accurately for quantitative spring and/or stream flow to be adopted as a DFC (p6). In fact, Petitioner never made such a claim.
2. Petitioner's argument that GMA 12 "should have" designated a different GAM provides no evidence that the GMA 12 DFCs are not reasonable (p15). In fact, Petitioner never argued that use of a different GAM was necessary.

Environmental Stewardship wants to thank the Board and staff for the attention given to the hearings. We want to further thank you for reading and considering these clarifications pertaining to the Environmental Stewardship hearing.

Yours very truly,



Steve Box
Executive Director
Environmental Stewardship

cc: Eric Allmon, Lowerre, Frederick, Perales, Allmon & Rockwell
Michele Gangnes, Neighbors For Neighbors

Environmental Stewardship is a charitable nonprofit organization whose purposes are to meet current and future needs of the environment and its inhabitants by protecting and enhancing the earth's natural resources; to restore and sustain ecological services using scientific information; and to encourage public stewardship through environmental education and outreach. We are a Texas nonprofit 501(c) (3) charitable organization headquartered in Bastrop, Texas. For more information visit our website at Environmental-Stewardship.org.