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July 31, 2015

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Dr. Kathy Alexander
Texas Commission on Environmental Quality
P.O. Box 13087
MC 160
Austin, TX 78711-3087

Via email to: yras@tceq.texas.gov

Re: SB3 Implementation

Dear Dr. Alexander:

The Texas Water Conservation Association (TWCA) Board of Directors recently created a Surface Water Committee to explore various issues related to surface water management and regulation. The Committee's first task was to create a subcommittee to review the TCEQ's June 2015 DRAFT SB3 Permitting Guidelines. The attached document reflects the consolidated comments from a group of technical and legal experts from TWCA's membership with particular expertise in water rights permitting, environmental flows, and water availability modeling.

We appreciate this opportunity to provide input to TCEQ regarding the implementation of SB3 environmental flow standards and look forward to continuing the subcommittee's involvement with this effort on behalf of TWCA. If you have any questions or want to discuss these comments further, please feel free to contact us.

Sincerely,

Robert J. Brandes, PE, PhD
Co-Chair, TWCA Environmental Flows and WAM Subcommittee

Lyn Clancy
Co-Chair, TWCA Environmental Flows and WAM Subcommittee

The TWCA is a statewide organization composed of individuals, firms, corporations, cities, water districts and authorities, public and private agencies, and groups dedicated to the task of conserving, developing, protecting and utilizing the water resources of Texas for all beneficial purposes.

TWCA COMMENTS ON TCEQ DRAFT SB3 PERMITTING GUIDELINES

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1 General

The Texas Water Conservation Association (TWCA) is providing consolidated comments herein regarding the Draft SB3 Permitting Guidelines issued by the Texas Commission on Environmental Quality (TCEQ) in June 2015. These comments generally are organized according to the major headings included in TCEQ's Draft SB3 Permitting Guidelines document.

TCEQ's effort to develop these Draft SB3 Permitting Guidelines and to consider input from the water rights community is appreciated. It is important to let applicants and others know how the rules will be applied in permitting decisions. The guidelines should provide a framework up front that apprises applicants of what to expect with regard to e-flow requirements, and it should minimize confusion and conflicts during the permitting process.

To that end, the overarching objective of the guidelines should be to provide specificity and clarity wherever possible as to how the SB3 standards are to be applied. The guidelines should be as specific as possible, with surety that the guidelines will not change as issues arise unless absolutely necessary. With the current version of the Draft SB3 Permitting Guidelines, this kind of clarity has not been fully achieved, and there remains considerable latitude for interpretation when applying the SB3 e-flow standards. However, it is recognized that some of this uncertainty is unavoidable due to specific circumstances that often are associated with individual applications, and it is difficult to set out specific guidelines that will always fit every situation. Still, opportunities for reinterpreting and changing the e-flow guidelines as issues arise should be minimized. Similarly, it is important to avoid the appearance that these guidelines are merely a starting point for how new applications will be reviewed with regard to e-flow requirements, and/or that they are

subject to substantive change as applications move through the permitting process. Such an approach would not give an applicant much certainty with respect to e-flows implementation and thus would undermine the usefulness of the guidelines.

TWCA recognizes that the application of the SB3 e-flow standards can involve complex procedures for some water rights situations, and that TCEQ has attempted to describe some of these types of situations in the Draft SB3 Permitting Guidelines document. Rather than trying to generalize these complicated situations, it would be more helpful to TWCA members if real-life examples of special conditions were included in the document, so as to illustrate the concepts discussed.

It also would be helpful if TCEQ would provide insight as to how e-flow requirements are to be addressed in river or coastal basins for which no SB3 e-flow standards have been adopted. Is it anticipated that the SB3 process for developing e-flow standards will be undertaken in some of these other basins, but will TCEQ continue to address new water rights applications on a case-by-case basis and employ desktop methods for establishing instream e-flow requirements in basins where SB3 e-flow standards have not been adopted? What about bay and estuary freshwater inflow requirements for coastal basins that have not been addressed through adopted e-flow standards?

Overall, TWCA recommends that TCEQ consider creating a workgroup of experts and stakeholders to work with staff to further discuss and resolve the issues that are presented in these comments, as well as others that may be presented by other commenters.

2 Scope

- 2.1 In the first paragraph, the discussion regarding when SB3 Permitting Guidelines are to be applied to new applications is somewhat confusing, distinguishing those that request a new appropriation from those that do not request a new appropriation. The guidelines state, "For applications that do not request a new appropriation of water, the commission's Executive Director (ED) still intends to recommend permit special conditions, as appropriate, to protect environmental interests." This language needs to be further clarified and explained. One approach would be to provide a descriptive list of specific circumstances when (and how) adopted SB3 standards will be used to develop special conditions for applications that do not request a new appropriation.
- 2.2 There are a number of situations when the agency may include environmental flow conditions in water rights: (1) They may be included in water rights permits that are clearly subject to SB3 standards because they are new appropriations; (2) Further, they may be included in some situations where water rights amendments are requested, and the Draft SB3 Permitting Guidelines suggest that SB3 standards will be relied upon in some form or fashion to develop such conditions in basins where such standards exist; and (3) In basins where no SB3 standards are adopted, TCEQ may still need to develop special conditions to address environmental flow concerns for various water rights applications. The Draft SB3 Permitting Guidelines purport to address categories (1) and (2), but do not address category (3). As indicated by TWCA's comments herein, the treatment of issues under category (2) in the Draft

SB3 Permitting Guidelines presents a number of questions and concerns. Moreover, stakeholders are clearly also interested in category (3). TWCA thus would like to encourage TCEQ to consider whether it would be appropriate to expand the scope of these Guidelines to provide more certainty on how the agency develops environmental flow conditions under all three categories, maybe segregated according to category.

- 2.3 Changing or relocating a diversion point could be an example of an amendment that TCEQ considers to be an amendment that is not a new appropriation but nevertheless may result in a special condition being included to “protect environmental interests”. If so, does it matter whether the amendment is: (a) adding or changing the diversion point of a run-of-river water right based on native flows (not return flows and not imported water); (b) adding or changing the diversion point of a run-of-river water right based on return flows; or (c) adding or changing the diversion point of a run-of-river water right based on imported water? These are examples of circumstances that should be affirmatively addressed in the guidelines.
- 2.4 The Draft SB3 Permitting Guidelines are silent with respect to the application of SB3 e-flow standards to bed and banks permits. This is a matter that should be affirmatively addressed in the SB3 Permitting Guidelines document.
- 2.5 There are numerous existing permits that have environmental flow requirements as special conditions (e.g., instream flow restrictions). The Draft SB3 Permitting Guidelines do not address the application of SB3 e-flow standards for amendments of these permits. What if TCEQ’s adopted e-flow standards are less stringent than those in the special conditions in the permit? TCEQ seems to be indicating that the special conditions still need to be followed even though the standards would suggest they are unnecessary. This should be affirmatively addressed in the SB3 Permitting Guidelines document.
- 2.6 The Draft SB3 Permitting Guidelines do not address application of SB3 e-flow standards to applications involving return flows. For example, with respect to an application by a holder of a water right based on return flows seeking to add a diversion point upstream of the water right holder’s existing diversion point, will e-flow restrictions be imposed on diversions at the new diversion point?
- 2.7 The Guidelines should address the interplay between environmental flow special conditions and other special conditions that may be needed to address impacts to other water rights. For example, how will impacts to water rights be assessed and addressed when SB3 streamflow restrictions may also be needed for an application that is seeking to add a new diversion point? If the evaluation of the application’s impacts occur after inclusion of e-flow conditions, the potential impacts to water rights may be inappropriately masked.
- 2.8 The Draft SB3 Permitting Guidelines document does not address application of SB3 standards in the context of subordination. If a new permit is subordinate to an existing senior water right that is itself subject to e-flow standards, is the subordinate permit also subject to a call to meet those standards? If so, how would existing

permits junior to the subordinate permit, but not subordinate to the senior water right with e-flow standards, be addressed?

- 2.9 The Draft SB3 Permitting Guidelines seem to suggest that, if an applicant proposes environmental flow special conditions in its application, TCEQ will incorporate the request in the WAM before assessing whether the application can satisfy the SB3 applicable standards. If an applicant proposes to voluntarily include special conditions that are more stringent than the standards would require, the TCEQ's analysis would show that the permit met the standards and, assuming other requirements were met, the permit could be issued. TWCA is concerned that issuing permits with special conditions that are voluntarily more stringent than the SB3 standards could adversely affect water availability for future applicants and, in effect, has the practical effect of appropriating water solely for environmental flows – something that is not authorized under law. Accordingly, TCEQ should clarify that, if proposed special conditions are more stringent than required, TCEQ will reduce the special conditions to require no more stringent restrictions than needed to satisfy the SB3 standards.

3 Water Availability

- 3.1 The first paragraph on page 2 of the Draft SB3 Permitting Guidelines states:

“In some basin and bay systems, certain applications are exempt from high flow pulse requirements. Including the complete set of adopted instream standards (subsistence flows, base flows, and high flow pulses) in the WAM will protect high flow pulse standards from being permitted to smaller applicants for new appropriations. This ensures that the water availability analysis for a new permit will consider any downstream flow standards even though those downstream flow standards would not be included in the special conditions for that permit.”

This indicates that the standards will be applied and potentially lead to permit denial even if the application is explicitly exempted from the standards under the rules. This seems inappropriate. If the original analysis (with all of the standards applied) shows insufficient water available for appropriation, TCEQ could conduct a second analysis, without the standards that do not apply to the application, to see if the result is different. Can the high flow pulse requirements be “turned off” in the WAM when these smaller water rights are encountered during a simulation loop, so their water availability would not be impacted? In addition, this leads to the question of whether a senior right subject to high flow pulse requirements can prevent junior rights not subject to the requirements from making diversions that might result in the pulse requirement not being met thereby causing the senior right to not be able to divert. Further clarification of this issue needs to be provided.

- 3.2 The concept that is introduced here of considering e-flow standards at all downstream measurement points when evaluating water availability for a new water right application but stipulating in the special conditions of the permit that compliance with e-flow standards is limited to only the nearest measurement point needs to be fully vetted among stakeholders and the TCEQ staff. This approach is confusing, and

may lead to inconsistency between water availability results and permit conditions, as well. This issue is discussed further below.

4 Applicability of Measurement Points

- 4.1 The concept relating to the inconsistent treatment of measurement points for compliance with e-flow standards in the water availability analyses and in the real world through permit conditions is reaffirmed here. While TCEQ has adopted e-flow standards for specific basins through the SB3 e-flow process, there remain questions as to what TCEQ is trying to accomplish with standards from an ecological viewpoint, how well standards represent protective e-flow regimes, how accurate are they in terms of real world ecological needs, and to what extent are sound ecological conditions at downstream locations dependent on satisfying e-flow standards at a measurement point far upstream. What are the legal implications of including all SB3 e-flow measurement points in evaluating an appropriation, but only including the first downstream measurement point as a special condition in a water right water right that is granted? Does this affect the amount of water available and the appropriation amount or just the reliability of the water right? Answers to these types of questions should be factored into the decision making for determining the best approach for selecting e-flow measurement points. There needs to be a rigorous process undertaken to assess whether using all downstream measurement points or using just the immediately downstream measurement point is the appropriate approach for water rights permitting.
- 4.2 It appears that the complexities of modeling the e-flow standards for a particular basin for purposes of determining water availability for existing and new water rights may be driving how the e-flow measurement point issue is being considered by TCEQ when processing new water right applications. If the present structure of the WRAP software and the data input capabilities of the water availability models (WAMs) in general do not readily support being more selective or descriptive with regard to which e-flow measurement point or points should be applied for a particular water right, then WRAP software coding modifications need to be made to improve the capabilities of the WAMs to apply to a broader range of situations. For example, in a WAM, there needs to be the capability to easily “turn off” all of the e-flow requirements at all measurement points in a basin except the one immediately downstream from a new water right to facilitate a better representation of the conditions that are actually going to be included in the permit once it is granted and the conditions under which it will actually be operated.
- 4.3 Are there any cases in which TCEQ would consider “all measurement points in the adopted rules” to include the impact to all standards throughout the basin including those upstream of a new diversion point? For an upstream or tributary contract for firm stored water in a downstream senior reservoir or as part of a subordination agreement, it is conceivable (depending on the WRAP modeling options) that the inclusion of the contract in the WAM could alter the modeled sequence of senior calls for flow passage and ultimately the sequence of regulated flows in other portions of the basin.

- 4.4 Use of the “nearest” e-flow measurement point as the basis for evaluating compliance with e-flow standards for a new water right in practice may not always be the best approach, as the nearest measurement point may be in an adjoining basin or could be on or immediately below a major intervening tributary. The best measurement point should reflect hydrologically and ecologically similar conditions in proximity to the water right in question. For an application or amendment in a coastal basin that does not include a measurement point, it is noted in the Draft SB3 Permitting Guidelines document that adopted standards “may be translated from the nearest measurement point...” This could be interpreted to mean a measurement point in another river basin. Would a measurement point in another river basin be used as the metric, or merely used for the translation? It is not readily apparent that the nearest measurement point is the most appropriate, nor is it clear how TCEQ will determine which measurement point is the most appropriate. Is the same approach proposed for an application or amendment in a basin for which no e-flow standards have yet been adopted? Clarification is needed from TCEQ on using the “nearest measurement point” for evaluating compliance with e-flow standards for new water rights and amendments.
- 4.5 Page 3 of the Draft SB3 Permitting Guidelines document states, “If the measurement point was upstream of the proposed diversion location, the permit special condition would add the proposed diversion rate to the values in the adopted standards for the measurement point.” It is not clear whether the “proposed diversion rate” is the diversion rate in the application (or permit) or the rate at which the applicant actually diverts at any given time. The special condition in the permit for an upstream measurement point should allow diversion of the amount by which flows at the upstream measurement point exceed the adopted standards at that point. This will allow diversion of flows that are in excess of the flow standards, just as would be the case for a downstream measurement point. In some cases, the permit holder may be able to divert at a lesser rate but not able to divert at the full permitted rate.

5 Translating Environmental Flow Standards

Subsistence and Base flows

- 5.1 The discussion of how these e-flow translations would be made needs clarification, and in one particular instance the described approach appears to be incorrect. Also, examples should be provided of how SB3 e-flow standards have been translated for the special conditions in existing water rights permits to see what the outcomes were.
- 5.2 The first sentence below Figure 1 on page 4 of the Draft SB3 Permitting Guidelines document states that “Staff would then calculate the total naturalized flows at the applicant’s location for each season.” How these calculations are to be performed is not described, but it is presumed that a drainage area ratio reflecting the drainage area above the applicant’s location to the incremental drainage area between Gages A and B would be applied to the total naturalized incremental flows derived for Gages A and B. This needs to be confirmed. Then it is stated “Finally, for each season, staff would calculate the ratio of the seasonal naturalized flows at the applicant’s

location to the incremental flow (flow factor). The adopted subsistence and base flow standards at Gage A would then be multiplied by the flow factor to develop the permit condition for the new water right.” The word “incremental” in the first sentence above appears to be incorrect. Instead, it should say “total naturalized flow at Gage A”. This would provide the proper translation of the subsistence and base flow standards at Gage A to the applicant’s location based solely on total naturalized flows at both locations.

- 5.3 With regard to the same example, there may be cases when Gage B is included as a measurement point in the adopted standards, but the new water right on the tributary is hydrologically unrelated to the flow regime being protected at Gage B. Gage B may be a mainstem gage with thousands of square miles of contributing drainage area. The new water right may be located on an ephemeral or intermittent tributary with tens of square miles of drainage area or less. In such cases, the applicant and TCEQ should have the discretion to appropriately translate environmental flow requirements to the tributary that reflect the potential for impact to the flow regime at Gage B, considering drainage area ratios and other factors.
- 5.4 TCEQ should address when, if ever, it may appropriate to require a new streamflow gage to be installed at or near a new diversion point when the next nearest measurement point either is too far away to make a meaningful translation of the e-flow standards or it does not reflect the flow regime conditions at the new diversion point.
- 5.5 The last sentence of the first paragraph on page 5 of the Draft SB3 Permitting Guidelines document states that “If negative incremental flows are an issue at a particular location, staff could use a drainage area ratio to develop the flow factor.” The Guidelines document should provide additional details on how these situations with negative incremental flows will be resolved to result in positive e-flow requirements at a tributary location.

Pulse Flows

- 5.6 The issue of exempting certain permits with small authorized diversion or impoundment amounts needs to be discussed and further clarified with respect to how these situations are handled in the WAM for permitting purposes, particularly considering that the exemption thresholds vary somewhat from basin to basin. Is the intent to apply the exemption thresholds to tributaries similarly from basin to basin, or will the implementation of these thresholds be interpreted specific to each basin? The application of pulse flows to small permits on tributaries, even if the same permit on the mainstem would be exempt and not have a pulse flow requirement, may be inconsistent with the intent of the BBEST and/or BBASC for that basin. For example, Colorado SB3 e-flow requirements only have pulse flow exemptions for mainstem diversions, with no exemptions for diversions on tributaries downstream, even for very small pre-existing diversions. TCEQ seems to be taking a very literal and narrow view of exemptions. This could be an issue for multiple basins.

- 5.7 Incorporation of the pulse flow requirements into the WAM to “protect [them] from being permitted to smaller applicants for new appropriations” even when the pulse flow requirements aren’t intended to apply to the small diversions seems inconsistent. Wasn’t the intent that allowing those small diversions would not appreciably impact the pulse flow, such that these small diversions can appropriate a small portion of the pulse flow without impacting ecological conditions?
- 5.8 More discussion is needed of how the “duration exponent obtained from a power law relationship between pulse volumes and trigger flows in a given basin” is actually derived. Where do the basic data come from and to what accuracy is the duration exponent calculated? Simply referencing the underlying research document is not very helpful.
- 5.9 The pulse scaling methodology described on page 5 of the Draft SB3 Permitting Guidelines document is adopted from a thesis submitted in May 2013. The thesis is available at the url, <http://www.crrw.utexas.edu/reports/2013/rpt13-2.shtml>. The findings of the pulse scaling methodology were based on pulse flow standards that were available at the time of the research, namely for the Trinity, San Jacinto, Sabine, and Neches basins. Has additional research been conducted to determine if the same pulse scaling methodology is generally applicable in the additional basins with adopted e-flow standards? Page 52 – 53 of the thesis acknowledges that testing in additional basins is an area of further research. For example, the thesis found that a duration exponent of 0.105 was applicable within the 4 basins of east Texas and noted that additional research is needed to determine the exponent for the other basins. On page 53 of the thesis (url above) it is acknowledged that the WAM naturalized flows should be tested for applicability in the pulse scaling methodology. The TCEQ WAM contains methods to distribute naturalized flows to all ungaged control points. WAM naturalized flows, if they are found to replicate the pulse scaling results obtained with the NHDPlus mean annual flow dataset, may be a better default source of data for pulse scaling so that consistency is maintained with the water availability analysis conducted by TCEQ staff.

Bay and Estuary Evaluation

- 5.10 TCEQ states in the first full paragraph on page 6 of the Draft SB3 Permitting Guidelines “The WAM used to process applications will be available to applicants and others who request the model and will be posted on TCEQ’s website.” This has not been the case in the past. In general, WAMs have been updated through the permitting process, and the only way to determine if the WAM on the web was current and accurate was to contact TCEQ staff and request the most updated model. Certainly, all of the applicable versions of the baseline WAMs used to establish the adopted bay and estuary (B&E) freshwater inflow standards have not been posted to date on TCEQ’s web site, much less the “spreadsheet calculators” referenced in the Draft SB3 Permitting Guidelines document. How will TCEQ ensure that the WAMs on the web are kept up to date and available for applicants’ use?
- 5.11 Experience has shown that the B&E freshwater inflow standards, in particular the frequencies at which certain seasonal and annual bay inflows are to be maintained,

sometimes cannot be satisfied in the baseline WAM even without a new water right being modeled. It is apparent that these initial bay inflow frequencies were derived with a specific version of the baseline WAM that may not be available in its original form. Additional guidance needs to be provided as to exactly which baseline WAMs are to be used for the bay inflow analyses and how the TCEQ staff will resolve such baseline noncompliance issues.

5.12 What level of accuracy will be used to assess compliance with the flow frequencies stated in the B&E freshwater inflow standards? Is it the whole percentage point or some fraction of a percentage point or is it subject to interpretation depending on circumstances?

5.13 Under the Galveston Bay heading on page 6 of the Draft SB3 Permitting Guidelines document, the meaning of the last sentence of the first paragraph needs clarification – “In the event that frequency requirements are not met prior to processing the first application for a new appropriation of water, staff will consider whether the application has the potential to worsen these existing conditions.” This is confusing because it initially refers to baseline condition frequencies that are not met, and then refers to how an application might worsen these frequencies, with the uncertainty of compliance or noncompliance apparently left to staff interpretation. Is this correct? The SB3 Permitting Guidelines document should provide clarity on this issue and also explain if there is expected to be a threshold for “worsen” below which an application may be approved even if freshwater inflow frequency requirements are not met because the permit has a de minimus effect on achievement frequencies.

5.14 Also, does the sentence referenced in item 5.13 above imply that a “non-degradation” freshwater inflow standard for Galveston Bay has been adopted by staff? How does this concept apply in other bay systems? Or to instream e-flow requirements? Has TCEQ determined that inclusion of bay special conditions in permits based on the standards is not practicable? When would TCEQ include a special condition in a permit to restrict diversions to prevent inflow reductions below monthly minimum flows? The basis for the approach taken by TCEQ for the B&E freshwater inflow standards for Galveston Bay needs to be explained in the e-flow guidelines document along with a discussion of how the adopted standards were derived.

6 Guidelines for §298.25: Process for Adjusting Environmental Flow Conditions in Certain Permits

Administrative Procedure for Adjustments

6.1 On page 8 of the Draft SB3 Permitting Guidelines document, it is stated that TCEQ staff “will review all permits and amendments **subject to the standards**, which were issued before the standards were adopted, and determine whether permit conditions should be adjusted.” The phrase “subject to the standards” should be replaced with “that include an SB3 reopener provision” to make clear that these are the only water rights that can be adjusted. This is especially important since TCEQ indicates in this document that it will use the SB3 standards to develop special conditions in other

types of water rights applications that are not subject to including a SB3 reopener clause.

- 6.2 To the extent that TCEQ has made any adjustments to water rights with a reopener clause based on SB3 standards, the Draft SB3 Permitting Guidelines should include specific examples of where and how such adjustments have been done.

Technical Procedure for Adjustments

- 6.3 Will TCEQ modify a permit condition in an existing permit with a SB3 reopener clause if a new measurement point is identified in a basin that is closer to the permit than the measurement point that formed the basis for the existing permit condition?

Consideration of Voluntary Contributions

- 6.4 If a Voluntary Contributions strategy is devised to increase B&E freshwater inflows so that the B&E inflow frequency requirements are satisfied, then can a strategy also be developed to increase the amount of flow in the river (e.g. return flows explicitly left in the river) to satisfy instream e-flow standards, and can this strategy be represented explicitly in the water availability modeling to determine achievement of instream/estuary flow criteria (not to affect the calculation of availability)? If such a strategy is in a permit, then should it be equivalently considered during the assessment of regulated flow in the WAM?
- 6.5 Page 11 of the SB3 Permitting Guidelines document states “The rule gives the water right holder credit for 50% of the amount, so long as that amount is not used for its original purposes.” Does the phrase “that amount” refer to the full amount of the original permit? What credit is given if some portion is used for its original purposes?



July 31, 2015

Dr. Kathy Alexander
Texas Commission on Environmental Quality
P.O. Box 13087, MC 160
Austin, Texas 78711-3087

Re: SB3 Implementation

Dear Dr. Alexander:

Thank you for the opportunity to review the Draft SB3 Implementation Guidelines you prepared on behalf of the Executive Director of the Texas Commission on Environmental Quality (“TCEQ”). The draft guidelines are an important step in the implementation of the environmental flows (“e-flow”) standards set out in 30 TAC §298; the guidelines appear to apply the standards in a predictable and transparent manner.

I have had the opportunity to participate in Surface Water Committee of the Texas Water Conservation Association (TWCA) and to review comments prepared and submitted by the TWCA. The TWCA comments identify important issues voiced by water rights holders throughout the state regarding the application of SB3 e-flows standards in the water rights permitting process. These issues can be clarified in subsequent draft SB3 implementation guidelines. DWU believes your consideration of the TWCA comments on the draft guidelines will lead to more robust guidelines and a streamlined permitting procedure, to the benefit of both water rights applicants and TCEQ staff alike.

I look forward to working with you as the process of developing implementation guidelines for the SB3 e-flows standards continues. Thank you again for the opportunity to review and comment on the SB3 e-flows standards.

Sincerely,

Denis W. Qualls, P.E. D. WRE,
Senior Program Manager, Planning
Dallas Water Utilities Department

cc: Jo M. (Jody) Puckett, P.E., Dallas Water Utilities
Gwendolyn Webb, Webb & Webb
Cory Shockley, P.E., HDR Engineering, Inc.

Our Vision: To be an efficient provider of superior water and wastewater service and a leader in the water industry

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July 30, 2015

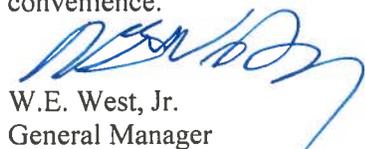
TCEQ, Dr. Kathy Alexander
PO Box 13087, MC 160
Austin, TX 78711-3087

RE: SB3 Implementation

GBRA appreciates TCEQ's development of Draft SB3 Permitting Guidelines as well as its willingness to accept and consider comments leading to refinement of these guidelines. GBRA, therefore, offers the following comments organized by section of the draft guidelines:

- 1) GBRA applauds the TCEQ staff for developing this general guidance document. As standards vary by basin and bay area and water rights permitting actions to which they apply are often unique, it is understood and recognized as appropriate that this guidance document need not be sufficiently specific to address each and every situation.
- 2) Scope – Please provide clarification of the third and fourth sentences of this paragraph. If the “guidelines in this document are not intended to apply to applications that do not request a new appropriation of water (fourth sentence),” why does the ED “still intend to recommend permit special conditions for applications that do not request a new appropriation of water (third sentence)?” To what types of permitting actions not involving a new appropriation of water does the TCEQ intend to apply environmental flow standards and why would such application be necessary?
- 3) Water Availability – Draft language in this section suggests that all pulse flow standards at all measurement points will be included in the evaluation of water availability for a small application exempt from some or all pulse flow passage requirements. Including pulse standards from which an application is exempt when evaluating said application would unduly constrain availability for that applicant and effectively cancel the exemption provided by rule. Please clarify language to demonstrate that availability for small applicants will be unconstrained by pulse flow standards from which they are exempt by rule.
- 4) Translating Environmental Flow Standards (Subsistence and Base Flows) – Revise language to reflect that staff would calculate the “flow factor” as the ratio of the seasonal naturalized flows at the applicant’s location to the seasonal naturalized flows at the measurement point (Gage A).
- 5) Translating Environmental Flow Standards (Bay and Estuary Evaluation) – GBRA fully supports TCEQ’s decision (consistent with the adopted rules) to “not implement the freshwater inflow standards as special conditions in new water rights subject to the adopted standards.”
- 6) Process for Adjusting Environmental Flow Conditions in Certain Permits (Administrative Procedure for Adjustments) - GBRA fully supports TCEQ’s intention (consistent with the adopted rules) not to add freshwater inflow special conditions to permits subject to adjustment.
- 7) Process for Adjusting Environmental Flow Conditions in Certain Permits (Consideration of Voluntary Contributions) – GBRA supports TCEQ’s guidance regarding voluntary contributions and amendments for instream uses and freshwater inflows stating that “the amount of water must be evenly distributed over the full year” with the possible exception of stored water contributions.

Should you need additional information regarding these suggested comments, please contact me at your convenience.



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GBRA Guadalupe-Blanco River Authority
flowing solutions



July 30, 2015

Via email to: wras@tceq.texas.gov

Dr. Kathy Alexander
TCEQ
P.O. Box 13087
MC 160
Austin, TX 78711-3087

RE: Draft SB3 Permitting Guidelines

Dear Dr. Alexander:

The Lower Colorado River Authority (LCRA) appreciates the opportunity to review and comment on the DRAFT SB3 Permitting Guidelines document, which was provided to the public on June 1, 2015. LCRA has participated in the development of consolidated comments filed by the Texas Water Conservation Association and generally supports those comments. In addition, LCRA has specific comments which it is transmitting with this letter, that are particularly relevant to the lower Colorado River basin.

If you have any questions or would like additional information, please feel free to contact me at 512-578-3378, or Karen Bondy, Senior Vice President, Water, at 512-578-4019.

Sincerely,

A handwritten signature in cursive script that reads "Lyn E. Clancy".

Lyn E. Clancy
Managing Associate General Counsel
& Senior Water Policy Advisor

LCRA COMMENTS ON TCEQ DRAFT SB3 PERMITTING GUIDELINES

I. General

LCRA hopes that the release of the draft guidelines are just the start of a lengthier and more thorough conversation over the issues raised in LCRA's comments, as well as those of others. While the SB3 standards are appropriately unique to each basin in many respects, the development of special conditions to implement these standards, particularly those that are structured similarly in other basins, has the potential to significantly impact others seeking new or amended water rights. Accordingly, it is critically important for the agency to ensure broad participation and a thorough discussion of the matters addressed by these guidelines. LCRA believes that the most effective way to achieve this would be for TCEQ to create a workgroup of experts and stakeholders to work with staff on the myriad issues that are likely to arise through the comments on these guidelines.

II. Scope

- A. TCEQ should consider whether to issue separate Guidelines for those applications that are new appropriations where SB3 Standards clearly apply and other types of applications where environmental flow special conditions may be included (whether or not SB3 standards may be relied upon). Alternatively, TCEQ should consider broadening the Guidelines to include a discussion of how TCEQ will develop special conditions where no SB3 standards exist to rely upon for development of special conditions.
- B. The Guidelines suggest that the standards will be used to develop special conditions for permits involving water rights amendments that are not otherwise considered "new appropriations" but nevertheless have the potential to impact environmental flows. The Guidelines should more positively reiterate that the only impacts warranting attention are those resulting from a comparison with and without the water right amendment, assuming full use of the water right as currently authorized.
- C. The Guidelines would benefit from some specific examples of applying the SB3 standards to new appropriations, detailing how the WAM has been modified, how the permit conditions are written, etc.
- D. If the Commission intends to apply the standards to applications that do not include a new appropriation, it would be helpful to specifically identify the circumstances where this is anticipated. For example, how (if at all) will the SB3 standards be used to develop special conditions for the following types of water rights amendments:
 1. Addition of (or relocation of) a diversion point (upstream or downstream).
 - a) When below a third party reservoir with specified flow conditions,

- b) When below the applicants reservoir with already established flow conditions.
- 2. Authorization of an on-channel reservoir
 - a) Upstream, supported by subordination to downstream run of river right
 - b) Downstream, supported by a compensatory release of water from an upstream reservoir

III. Water Availability

- A. The applicability of pulse flows in the context of applications (particularly on tributaries) needs further discussion. (See p.2, ¶ 1) LCRA is concerned that the discussion in the Guidelines means that certain permit applications will be denied based on the lack of water available to meet pulse requirements even if rules specify these applications to be exempt from those pulse standards. At the same time, LCRA is cognizant that water needed to meet senior water rights that have special conditions for pulse flow requirements should not be impaired by junior rights that do not have these requirements.
- B. The Guidelines should address how environmental flows factor into an analysis of an application where the water right will be used in conjunction with other water rights such that a high level of reliability of the requested water right is not required. This type of application may be more and more common in the future.
- C. The concept that is introduced here of considering e-flow standards at all downstream measurement points when evaluating water availability for a new water rights application but stipulating in the special conditions of the permit that compliance with those e-flow standards is limited to only the nearest measurement point needs to be fully vetted among stakeholders and the TCEQ staff. This approach is confusing, and may lead to inconsistency between water availability results and permit conditions, as well. This issue is discussed further below.

IV. Applicability of Measurement Points

- A. It seems that TCEQ may be inconsistent in its approach to determining water availability vs. development of special conditions. There may be legal implications of including all SB3 e-flow measurement points in evaluating water availability, yet only including the first downstream measurement point for special conditions in a water right that is granted.
- B. Use of the nearest e-flow measurement point as the basis for evaluating compliance with e-flow standards for a new or amended water right may not always be the best approach and may not ensure that the actual impacts of

the proposed permit (or permit amendment) are appropriately assessed and addressed. The nearest measurement point may be immediately below a major intervening tributary, thus masking the effects of the permit on the mainstem of the river upstream of that measurement point. The best measurement point should reflect hydrologically and ecologically similar conditions in proximity to the water right in question.

V. Translating Environmental Flow Standards

- A. TCEQ should test its method for translating standards to see if the proposed method is actually successful in protecting the environmental flow standard. This could be accomplished by comparing two WAM runs, one that includes just the translated standard and another model that includes the actual standard. It may be necessary to perform this analysis using a daily, rather than monthly WAM model when such models become available.
- B. The scenario used by TCEQ in its guidelines to discuss translation seems as though it may be incompletely described. Is there a downstream gage C that has a standard, or is the standard at A supposed to apply all the way to the coast?
- C. Bay and Estuary Evaluation

LCRA requests that TCEQ clarify its interpretation of the bay standards for the Colorado River basin.

30 Tex. Admin. Code § 298.330(a) (emphasis supplied), provides:

(a) A water right application in the Colorado River Basin which increases the amount of water authorized to be stored, taken or diverted ... shall not **cause or contribute** to an impairment of the inflow regimes as described in the figure in this subsection. Impairment of the inflow regime shall be evaluated as part of the water availability determination for a new water right or amendment that is subject to this subchapter. For purposes of this subsection, impairment would occur if the application, when considered in combination with any authorizations subject to this subchapter, which were issued prior to this application, would:

- (1) decrease the annual average freshwater inflow, at the most downstream point in the Colorado River Basin, below 60% of the long-term annual strategy quantity listed in Figure: 30 TAC §298.330(a)(2);
- (2) decrease the modeled annual frequency of any inflow regime [as set forth in the rules]; or,
- (3) decrease the monthly inflow quantity to Matagorda Bay below 15,000 acre-feet per month.

For purposes of this discussion, the referenced figure provides a threshold minimum bay inflow of 15,000 acre-feet/month. 30 Tex. Admin. Code § 298.330(a)(2).

LCRA understand this rule to mean that an applicant cannot be allowed to reduce the flow below 15,000 acre-feet/month in any of the modeling done to evaluate the application. However, a permit could still be granted with special conditions that prevent the application from causing the flow to drop below 15,000 acre-feet/month. In other words, if 15,000 acre-feet isn't getting to the bay because of other diversions or low inflows, an applicant could not divert in that month, but in other months when the flows to the bay would be *at least* 15,000 acre-feet without the requested permit, the applicant should be able to divert so much as would be allowed so long as 15,000 acre-feet still got to the bay in that month (assuming the other standards, such as the long-term annual average inflow test can be satisfied, with inclusion of appropriate special conditions).



July 31, 2015

Dr. Kathy Alexander
TCEQ, P.O. Box 13087, MC 160
Austin, Texas 78711-3087

Re: SB3 Implementation

Dear Dr. Alexander,

The San Antonio River Authority (SARA) has been engaged with SB3 implementation since the bill was first drafted, and continues to support the Guadalupe – San Antonio Basin and Bay Stakeholder Committee as well as the associated Expert Science Team. SARA appreciates the Texas Commission on Environmental Quality (TCEQ) staff for your continued work and support of the implementation of the environmental flows program.

Generally, SARA believes the Draft SB3 Implementation Guidelines are comprehensive and reflective of earlier input provided by the Science Advisory Committee, Basin and Bay Expert Science Teams, Basin and Bay Area Stakeholder Committees and other concerned stakeholders.

There are four items SARA suggests TCEQ clarify in the final SB3 Implementation Guidelines.

1. *For applications that do not request a new appropriation of water, the commission's Executive Director (ED) still intends to recommend permit special conditions, as appropriate, to protect environmental interests.*

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Understanding the application of SB3 environmental flow standards is restricted to new appropriations of water, SARA requests the addition of a statement following the above sentence to clarify when permit special conditions might be appropriate for applications that do not request a new appropriation of water. SARA suggests providing a descriptive list of specific circumstances (i.e. amendments to diversion points, diversion rates, etc...) determinative of when the adopted SB3 standards will be implemented to develop special conditions for applications not requesting a new appropriation.

- 2. An application for a new appropriation will be assigned a modeled priority date junior to the adopted standards if the priority date of the new application is senior to the modeled priority date of the standards and the application is subject to the adopted standards. The modeled priority date does not change the actual priority date of the application.*

Suspecting this guideline is referring to pending applications from between September 1, 2007 and the priority date assigned to the adopted standards in the WAMs, SARA suggests the following change for clarification:

An application for a new appropriation submitted after September 1, 2007 and before the modeled priority date of the adopted standards will be assigned a modeled priority date junior to the adopted standards ~~if the priority date of the new application is senior to the modeled priority date of the standards and the application is subject to the adopted standards.~~ in priority order with respect to other applications from the same time period. The modeled priority date does not change the actual priority date of the application.

- 3. SARA suggests the SB3 Implementation Guidelines include a statement expressly stating that SB3 environmental flow standards do not apply to bed and banks permit applications that are not accompanied by a new appropriation.*

4. The need for a process where limited data are available drove the development of the method for translating SB3 environmental flow standards. This considered, the guidelines should include an exception for cases where more detailed site specific studies have been performed to allow the results of the studies to guide the translation of pulse flow trigger, volume, and duration standards.

5. Please ensure that permits subject to the 12.5% reopener provision are re-analyzed using both the revised instream flow standards and the bay and estuary inflow standards to determine 1) any necessary changes in specific instream flow permit special conditions and 2) whether the permit, as originally issued, is in conformance with or violates the revised bay and estuary standards. This could necessitate a modification of diversion rate, diversion amount or other permit conditions to bring it in compliance with the revised bay and estuary standards.

Thank you for the opportunity to comment on the Draft SB3 Implementation Guidelines.

Sincerely,

A handwritten signature in black ink that reads "Suzanne B. Scott". The signature is written in a cursive, flowing style.

Suzanne B. Scott
General Manager
San Antonio River Authority



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Executive Director

July 31, 2015

Dr. Kathy Alexander
Texas Commission on Environmental Quality
P.O. Box 13087
MC 160
Austin, Texas 78711-3087

Re: Comments Regarding Draft Senate Bill 3 Permitting Guidelines

Dear Dr. Alexander,

The Texas Parks and Wildlife Department (TPWD) appreciates the opportunity to comment on the draft Senate Bill 3 (SB 3) Permitting Guidelines related to Chapter 298 - Environmental Flow Standards for Surface Water. TPWD staff recognizes the complexity of implementing environmental flow standards adequate to support sound ecological environments to the maximum extent reasonable while considering other public interests.

TPWD, like the Texas Commission on Environmental Quality (TCEQ) and the Texas Water Development Board, provided extensive support to all phases of the SB 3 process and worked closely with the Basin and Bay Expert Science Teams (BBEST) and Basin and Bay Area Stakeholders Committees as those groups developed environmental flow regime recommendations. TPWD provided formal comments to TCEQ during the rulemaking process for adopting environmental flow standards. Also, as requested by TCEQ in 2011, the department provided recommendations for a guidance document to assist in the development and implementation of environmental flow standards and set-asides.

Thank you for your consideration of the attached comments. TPWD looks forward to working collaboratively with TCEQ and others to implement and, through adaptive management, fine tune the environmental flow regimes needed to maintain the state's ecologically and economically important natural resources for the benefit and enjoyment of current and future generations. Please be aware that, pursuant to Texas Parks & Wildlife Code Section 12.0011(c), a written response to these TPWD recommendations and comments received by a state governmental agency may be required. Should you have any questions regarding TPWD's comments, please contact Cindy Loeffler at (512) 389-8715.

I. General Clarification and Process Comments

TPWD recognizes the complexity of translating complicated analyses and exercises into a user-friendly set of guidelines. In its June 15, 2015 letter announcing the draft guidelines, the commission sought additional input from stakeholders in order to finalize the guidelines. The letter also stated TCEQ's goal to provide an understanding of the implementation process. In response to stakeholder input, the proposed document may expand in length and subject matter. For ease of reference, it would be helpful if the document is published in outline form or a similar manner with subject matter headings and section identification. Also, for any guideline that states a general rule but allows for the TCEQ to consider alternative actions or information, the criteria used to inform discretionary decisions should be identified. Examples that illustrate a potential departure from a general rule would be helpful.

Based upon the range of issues relevant to water rights permitting under Senate Bill 3, TPWD recommends the formation of an ongoing formal work group to provide input to TCEQ as the agency works through implementation issues. One option would be for the guidelines to be contained in a "living document" and be updated at regular intervals or when particular events happen, such as a revision of environmental flow standards. Having input from an array of water professionals would assist the agency as it monitors whether the environmental flow standards are working to maintain ecologically sound environments, determines how to adjust permit conditions to be compliant with environmental flow standards within legislated constraints, and works through the process for revising flow standards. TPWD acknowledges the difficulties in implementing the environmental flow standards, especially considering the variability of the natural environment, the number of proposed unique water supply strategies, and the adaptive management of environmental flow protection through revised environmental flow standards.

II. Comments Responsive to Specific Draft Guidelines

A. Scope (Page 1)

The text states that the guidelines are not intended to apply to applications that do not request a new appropriation of water but that, "the numerical values in the adopted standards may be used in other permitting actions to provide consistency in water rights administration." Clarification is needed to identify the types of permitting actions referenced and an explanation of how the numerical values will be evaluated as to whether they are the appropriate protection level for such permits. The flow standards contain values, sometimes negotiated, that weighed water availability and environmental protection concerns and were derived to apply to future new appropriations. The full set of these

considerations are likely not relevant to permitting actions that do not trigger and require application of environmental flow standards. It is not clear that the environmental flow standards can stand in as an appropriate substitute for an environmental impacts review of a specific project not governed by Senate Bill 3.

B. Applicability of Measurement Points (Page 3)

The conclusion that “the measurement points adopted in the rules are the only measurement points an applicant is required to include in its application” seems unduly limiting. The document provides that, “if the applicant requests, and the ED approves, special conditions with more measurement points could be put in a permit.” The TCEQ should retain the flexibility to require the applicant to add or change a measurement point should that be appropriate based upon consideration of the specific characteristics and circumstances of a proposed project. It is unclear why only the applicant is allowed discretion in this consideration. The guidelines should explicitly allow for the Executive Director, even in the absence of a request by the applicant, to include special conditions referencing additional measurement points as needed to protect a sound ecological environment. The TCEQ rules at 30 Texas Administrative Code (TAC) Section 298.15 direct the commission to “incorporate into every water right permit any condition, restriction, limitation, or provision ... that is reasonably necessary to protect environmental flow standards.” It is not possible to know in advance that all future projects will appropriately meet environmental flow standards with only the published measurement points. For example, new gages or unique physical conditions may require the use of a different measurement point. Similarly, the conclusion that, “in any case” special conditions would not require compliance with standards at all downstream measurement points is too broad and restrictive in light of 30 TAC Section 298.15(c) and the potential geographic scale and complexity of future water right projects developed through amendments and original appropriations.

TPWD does not support the proposition that conditioning water rights to honor flow standards at an upstream measurement point could be an appropriate choice across all applications. It might be a feasible approach for smaller rights, but specific criteria for determining whether an upstream approach is appropriate, such as a maximum diversion rate or amount, should be identified. A detailed approach is necessary here, as adding the proposed diversion rate to the values in the standards for the measurement point may not be adequate. The guidelines’ approach might be valid in the absence of intervening diversions or impoundments between the measurement point and the new permit’s diversion point. In determining whether the new permit will achieve compliance with environmental flow

standards, the TCEQ must be able to account for the effects of intervening diversions and impoundments that are not regulated by flow or other environmental flow protection permit conditions.

The guidelines should acknowledge when TCEQ has discretion in determining what conditions to impose on new water rights, but likewise the guidelines must be carefully crafted to operate within the scope and constraints of Senate Bill 3. The draft guidelines state that, “for an application for a new appropriation of water in a coastal basin that does not include a measurement point, or in other limited circumstances, adopted standards may be translated from the nearest measurement point...” Identification of the “other limited circumstances” is necessary to understand this statement. More importantly, it is not clear that the TCEQ has the authority to apply or “translate” environmental flow standards from one basin to another basin, as in the stated example of a different coastal basin lacking a measurement point. This guideline applies the standards beyond the scope of TWC Section 11.147 (e-1) and applies standards to a basin where there is no applicable standard. By their very nature, environmental flow standards reflect the specific environmental and water supply conditions unique to a geographically and hydrologically connected basin and bay system; translation from one basin to another contravenes the purpose and the development of the environmental flow standards. Using a drainage area ratio to apply standards from a different basin does not appear to be a valid approach to environmental flow protection in coastal basins lacking measurement points. Inflow standards for these coastal basins should be developed; in their absence, the TCEQ should make an independent analysis of environmental impacts and craft special conditions appropriate to protect environmental flows.

C. Translating Environmental Flow Standards (Pages 4-7)

For subsistence and base flows, the TCEQ identifies use of a drainage area ratio as the preferred method of translating environmental flow standards from adopted measurement points. This simple approach may be appropriate for translating within the same watershed and/or across areas without significant hydrologic control points, but other methodologies should be constantly evaluated and considered. The flow factor method planned for use by TCEQ in some circumstances is a good example of a potentially better translation method. It would be helpful for the guidelines to identify criteria (such as springflow contribution) used to differentiate when flow factoring will be used in preference to drainage area ratio.

TPWD is also concerned that, given the geographic distribution and small number of measurement points within the standards, there are

potential gaps in river protection, essentially “stranded stream segments” that are created by limiting environmental flow protection to those measurement points. TPWD considers stranded stream segments to be those that may be impacted by storage and diversion operations but whose environmental restriction is tied to an upstream gage or to a downstream gage that receives flows from other streams in addition to the stranded segment. At times, the stranded segment could be left unprotected or even dry while streamflow at the environmental flow standard measurement point is met from other streams/sources. TPWD recommends that such situations/locations be identified and a methodology to protect these streams be included in the permitting guidelines.

An example from the Brazos River system illustrates potential deficiencies in using an upstream measurement point and a potential stranded gage situation. An environmental flow standard measurement point is located on the Lampasas River at Kempner. The Kempner location is upstream of Stillhouse Hollow Reservoir and will not be affected by downstream activities including lake operations. If a hypothetical permit was issued downstream of the reservoir and linked to the Kempner gage, the addition of the proposed diversion rate to the regime standard would not compensate for intervening diversions and/or the effects of a major hydrologic control such as a reservoir. Kempner is also upstream of major stretches of the stream that support an ecologically and economically important White Bass fishery. The next downstream environmental flow standard measurement point is at the Little River at Little River gage. Streamflow from the Lampasas River and Leon River contribute to the flows at this location. Flow from one river could account for meeting the environmental flow standard, even if the flow in the other river was extremely low or zero. For this reason, the Little River at Little River gage is not suitable for accounting for environmental flows, including subsistence flows, in the Lampasas River. In this example, the streamflow gage on the Lampasas River near Belton more appropriately reflects conditions on the entirety of the Lampasas River, is directly affected by operations at Stillhouse Hollow Reservoir, and is a better location for monitoring conditions in the river.

For pulse flows, new methods and best available science should continually be evaluated to identify the most effective method for translating and implementing pulse flow standards to the location of new water rights. Additionally, a peer review process should be employed to evaluate proposed implementation methods. The “Pulse Scaling Method” described in the supporting documentation shows promise as a method for translating pulse components upstream from locations where standards have been adopted; however, TPWD

observes that the report lacks peer review and lacks a demonstration that the translated pulse components actually achieve the desired goal at the downstream location. In addition, the analyses that TCEQ plans to use for implementing pulse flow requirements for off-channel projects, including new reservoirs or aquifer storage and recovery projects, needs to be described. Identifying and meeting pulse flow requirements related to flow, volume, and duration triggers is difficult enough for on-channel projects; there are complicating issues that must be addressed to allow for diversion of water without reducing or eliminating the ecological benefits of high flow pulses.

Many of the difficulties pertain to the a priori identification of qualifying high flow pulses, operational uncertainty in meeting a pulse requirement while maintaining flexibility to capture or divert during high flow events, and preservation of ecological benefits of high flow pulses while determining if a qualifying pulse event is occurring. It might be possible, though at an ecological cost, for an on-channel project to temporarily store water during the rise of a potential pulse event to determine if the flow, volume, and/or duration criteria are met. If the event proves to be a qualifying pulse event a release of stored water could be made to provide the required pulse elements. In this instance, the pulse would be delayed and contain less sediment than a run-of-river pulse, but still provide some ecological benefit. For an off-channel project, be it reservoir or aquifer storage and recovery, it would be inefficient and operationally challenging to release stored water to the source watercourse if the event proved to be a qualifying pulse event. TPWD suggests that more analyses, discussion, and evaluation are needed to develop a strategy that meets the needs of the environment and does not penalize the water right holder while determining if a nascent pulse event will turn into a qualifying event.

For bay and estuary evaluation and protection, TPWD proposes that freshwater inflow standards be specifically incorporated into permits in a manner that illustrates compliance with the specific standards and the reopener provision requirements of TWC Section 11.147 (e-1). TPWD would be happy to work with the TCEQ and other stakeholders to explore options for doing so consistent with the language of the standards. At a minimum, permit language should identify and clearly require compliance with the freshwater inflow levels necessary to support a sound ecological environment as provided in the adopted environmental flow standards. Consistent with 30 TAC Section 298.380 (a), TPWD also recommends reporting of data related to diversions and freshwater inflows that would allow for an analysis of whether the permit operates in such a

way so as to not cause or contribute to an impairment of the adopted inflow regimes.

D. Technical Procedures for Adjusting Permit Conditions to Reflect Revised Flow Standards (Pages 7-11)

If specific environmental flow permit conditions require adjusting to achieve compliance with applicable flow standards, TPWD recommends maximum flexibility be allowed in redistributing environmental flows to meet the standards as long as the annualized volume adjustment does not exceed the mandated 12.5%. For example, it might be more ecologically beneficial to seasonally redistribute flows by increasing one seasonal standard rather than distributing the flows uniformly throughout all seasons. The guidance document would benefit from examples demonstrating a few different outcomes.

On page 9 of the draft guidelines, TCEQ states that environmental flow permit condition adjustments will be applied “after appropriate consideration of both environmental and water supply needs.” However, the statute controlling these adjustments, TWC Section 11.147(e-1) does not reference or require any special consideration of water supply needs; the 12.5% upward limit on the adjustment encompasses consideration of water supply needs. The legislature provided certainty regarding the maximum impact to water supply due to adjustments. Likewise, 30 TAC Section 298.25, the commission rule that addresses the process for adjusting environmental flow permit conditions to achieve compliance with flow standards is silent as to any additional consideration to water supply needs beyond the 12.5% upward limit. The guidelines should be consistent with the statute and the TCEQ rules.

A critical underpinning of Senate Bill 3 is adaptive management for the protection of environmental flow regimes for a full basin and bay system. It is important that, whether or not a new permit includes operational freshwater inflow requirements (necessitating operating the project in response to specific inflow conditions), a permit must effectively incorporate the reopener provision required by TWC Section 11.147 (e-1). The reopener is required for both instream flow and freshwater inflow protection. However, the guidance appears to suggest that the reopener provision would not be applied for freshwater inflow protections. The TCEQ rule at 30 TAC Section 298.225 (b) sets out the commission’s method for adjusting inflow requirements in accordance with TWC Section 11.147 (e-1) and there is nothing in the Texas Water Code that provides support for excluding freshwater inflows from adaptive management and protection.

III. General Comments Related to Items Not Included in Draft Guidelines

A. Analysis of and Permit Conditions for Environmental Impacts Not Addressed by Environmental Flow Standards

The TCEQ rule at 30 TAC Section 298.15(c) direct the commission to “incorporate into every water right permit any condition, restriction, limitation, or provision ... that is reasonably necessary to protect environmental flow standards.” Additionally, 30 TAC Section 298.10(b) provides flexibility and broad authority to the commission to protect environmental flow, stating that, “This chapter does not otherwise amend or restrict the commission's authority to impose special conditions on water right permits, including special conditions to protect environmental flows.”

The draft document indicates that TCEQ interprets Rule 298.15(b) as comprehensively replacing TCEQ’s obligations under Texas Water Code (TWC) Sections 11.147 (b)–(e) and 30 TAC Sections 297.53 – 297.56 regardless of whether the flow standard adequately addresses the full scope of relevant impacts to instream uses, freshwater inflows, water quality, and fish and wildlife habitat. Not all of the requirements set out in TWC Sections 11.147 (b)–(e) and 30 TAC Sections 297.53 – 297.56 are met by setting environmental flow regime targets. Issues related to no net loss of wetlands, riparian habitat protection, entrainment and impingement, water quality protection, and the various and important components of freshwater inflows may not be adequately addressed by implementation and compliance with environmental flow standards focused solely on instream flow levels. The document needs qualifying statements that while “flow restrictions” are intended to protect environmental flow standards; other types of conditions may still be necessary. Under TWC Section 11.147(b), (d), and (e), the statutory obligation to include in permits conditions necessary to maintain beneficial inflows, existing instream uses, water quality, and fish and wildlife habitats is independent of whether factors to be considered in such conditions include adopted environmental flow standards or the factors identified in TWC Section 11.147(b)-(e). More specific guidance is needed as to what information the TCEQ will consider and how the TCEQ will address environmental issues not captured or protected by an adopted flow standard.

B. Consideration of Additional Environmental Information

TWC Section 16.059 sets out the Texas Instream Flow Program (TIFP) and requires the TCEQ to consider the results of the state instream flow studies in its review of any management plan, water right, or interbasin transfer. TIFP anticipates having study results with recommended flow regimes to support sound ecological

environments in priority sub-basins by December 2016. Guidance is needed to explain how the TIFP studies will be used in water right permitting decisions where environmental flow standards apply. Guidance is also needed to understand the conditions, if any, under which TCEQ will accept and/or require site specific studies to evaluate environmental impacts in order to craft appropriate special conditions to protect particular environmental needs affected by specific projects. For stream segments that contain exceptional or unique biological communities, species, or functions; threatened or endangered species; or exceptional water quality, TPWD recommends that criteria related to the size, location, and geographic scope be used to require studies demonstrating that the water project will not impair the unique or exceptional stream characteristics.

C. Amending Environmental Flow Special Conditions in Pre-Senate Bill 3 Water Rights

For water rights issued prior to September 1, 2007, guidance is needed to understand how TCEQ will review and process potential applications to amend environmental flow special conditions to be consistent with adopted flow standards. Issues to consider are: whether the application of standards may allow a water right holder to obtain additional firm yield as a result of compliance with lesser protective conditions and what priority date would apply to the increased yield; whether TCEQ will perform additional technical and environmental review of permit impacts; and whether such amendment applications will be subject to notice and opportunity for contested case hearings. Special conditions necessary to protect exceptional or unique biological communities or functions, threatened or endangered species, or exceptional water quality should be retained.

Careful guidance is needed to avoid unintended consequences from the amendment of pre-SB 3 environmental flow special permit conditions. The flow standards were adopted with a determination that current river/bay system conditions represent a sound ecological environment. This determination was made with an assessment of existing water rights being fully used in compliance with existing environmental flow permit conditions. For adopted flow standards considerably lower than existing environmental flow permit conditions, amendments seeking to conform to the standards will reduce or remove some of the protective conditions that were built into the basis for finding a present sound ecological environment. Amending permits to meet the lower levels of flow protection could result in additional diversions and less instream flow protection than what was assumed in the rulemaking exercise that evaluated whether current conditions represented a sound ecological environment. If the TCEQ does allow amendments that impair the sound ecological

environment finding, it should provide guidance on how the adopted flow standards will be amended to reflect the changed conditions.

C. Monitoring and Enforcement

As stated in Texas Water Code Section 11.0235(f), the legislature determined that the new Senate Bill 3 approach to protect instream flows and freshwater inflows requires more effective administration and enforcement systems than are currently available in most areas of the state. Guidance is needed on how TCEQ will implement TWC Section 11.0235, particularly how the agency will monitor the effectiveness of and compliance with adopted flow standards. In particular, it is unclear how the freshwater inflow levels necessary to support a sound ecological environment will be identified in permit language and tracked for compliance. The same is true for how to track compliance to ensure relevant modeled attainment frequencies are met. Consistent with 30 TAC Section 298.380 (a), TPWD recommends permits contain conditions that require reporting of data related to diversions and freshwater inflows sufficient to allow for an analysis of whether the permit operates in such a way so as to not cause or contribute to an impairment of an adopted inflow regime. Clarification is also needed as to the appropriate response should TCEQ, when evaluating an application, find that exercise of the new permit would impair freshwater inflow standards. If permit denial is a possibility, then criteria for denial should be identified. TCEQ proposes using the WAM in the freshwater inflow evaluation but does not state which run will be used. TCEQ's inflow calculation methodology should be explained and the consequence of not checking the attainment frequency approach against the actual inflow on any given season/year identified.

IV. Conclusion

As noted above, TPWD recommends the formation of an ongoing formal work group to provide input to TCEQ as the agency works through Senate Bill 3 implementation issues. Also recommended is that agency guidelines be contained in a "living document" that is updated at regular intervals or to reflect changed circumstances.

TPWD plans to continue participating in the WRAP Technical Users Group and assisting in the future development and modification of WRAP for more accurate assessment and implementation of the environmental flow standards. TPWD encourages TCEQ to consider alternative methods for modeling environmental flows such as daily time step analyses for pulse flows. TPWD heartily endorses the use of a daily time step which will allow for a more accurate, efficient and effective analysis of the benefit of environmental flow standards and improve management of the state's waters to meet those standards.

Texas Commission on Environmental Quality

July 31, 2015

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The Texas Parks and Wildlife Department looks forward to continuing to work with the TCEQ and others to address Senate Bill 3 implementation issues and as we strive to ensure that the needs of Texas fish and wildlife resources are considered and protected across the state. Should you have any questions, please contact me at 512 389 8715.

Sincerely,

A handwritten signature in black ink that reads "Cindy Loeffler". The signature is written in a cursive style with a large, looped "C" and a long, sweeping "L".

Cindy Loeffler, Chief
Water Resources Branch



July 31, 2015

Dr. Kathy Alexander
TCEQ, P.O. Box 13087, MC 160
Austin, TX 78711-3087

Re: Comments of the National Wildlife Federation, Lone Star Chapter of the Sierra Club, and Caddo Lake Institute on Draft SB3 Permitting Guidelines

Dear Dr. Alexander:

The National Wildlife Federation, the Lone Star Chapter of the Sierra Club, and the Caddo Lake Institute appreciate the opportunity to provide these comments on the draft Senate Bill 3 permitting guidelines developed by the Executive Director. Our comments are organized to follow the headings included in the draft guidelines document.

General Information about the Adopted Standards

The first sentence in this section seems to indicate that the adopted standards apply only at the measurement points included in the rules. We suggest that the phrase "where the adopted standards apply" should be deleted. We understand the standards to apply to new appropriations throughout the area covered by the rules rather than just at the few specific measurement points actually listed in the rules. We believe the question of applicability is a different issue from where and how assessment of compliance will be undertaken, which is addressed elsewhere in the guidelines.

Applicability of Measurement Points

The guidelines should avoid stating any hard-and-fast determination that an applicant is required to include in its application only the measurement points in the rules. There simply is no way to be certain that the use of only those measurement points will be adequate to achieve the purposes of the flow standards in all circumstances. The general rules governing flow standards implementation expressly dictate the agency "will incorporate into every water right permit any condition, restriction, limitation, or provision ... that is reasonably necessary to protect environmental flow standards." 30 TAC §298.15 (c). Because it is not possible to determine in advance that the use of a different gage or measurement location will never be reasonably necessary, the limitation indicated in the draft guidance is inconsistent with the rules.

The guidelines should retain flexibility for the Executive Director, even in the absence of a request by the applicant, to include special conditions referencing additional measurement points, which might also be referred to as compliance points, as needed to protect achievement of the standards and the purposes of the standards. The guidelines should also maintain flexibility for the Executive Director to require an applicant to include additional compliance points in its application.

The statement that special conditions will never require compliance with standards at all downstream measurement points is too sweeping and is not justified. It simply is too difficult to anticipate all future circumstances. The rules expressly dictate the agency “will incorporate into every water right permit any condition, restriction, limitation, or provision ... that is reasonably necessary to protect environmental flow standards.” 30 TAC §298.15 (c). Because it is not possible to determine in advance that the use of all downstream measurement points will never be reasonably necessary, the limitation indicated in the draft guidance is too sweeping and inconsistent with the rules.

For example, the statement would indicate that, when there are only two downstream measurement points, compliance at both points could never be required under any set of circumstances. That conclusion is overbroad and, again, inconsistent with the rules. It might be justified for the guidance to indicate that the Executive Director anticipates that an applicant would rarely be required to demonstrate compliance at all downstream measurement points, but an absolute statement to that effect is unduly limiting and inconsistent with the rules.

When using an upstream measurement point, as discussed in the last sentence of the first paragraph of this section, it is not necessarily sufficient simply to have a permit condition that adds the proposed diversion rate to the values in the standards for the measurement point. That likely would be sufficient if there were no intervening diversions or impoundments between the measurement point and the diversion point for the new permit. However, if such intervening diversion or storage is occurring that is not subject to the standards or equivalent flow restrictions, diversions or storage under the new permit would reduce flows to below the levels protected by the standards. That situation does not represent compliance with the standards. Any permit condition must ensure that the level of flow required by the environmental flow standards is protected at least to a point immediately downstream of the lowermost diversion or storage point under the new permit. When a downstream measurement point is applicable, diversions are only allowed if remaining flows at that point comply with the standards, which accounts for the combined effects of all diversions, storage, and channel losses within the reach. A similar result must be achieved when an upstream measurement point is used or, if that is not possible, an alternate downstream compliance point should be established.

The reference, in the second paragraph of this section, to the treatment of an application for a new appropriation in a coastal basin without a measurement point appears to apply the standards beyond the scope of Section 11.147 (e-1). In that example, unless the standards expressly indicate otherwise, there would not be an applicable flow standard to apply. The basis for applying standards in coastal basins other than those for which the standards were developed is far from clear. Inflows from those coastal basins were, presumably, expected in addition to compliance with the flow standards when the recommendations for standards were developed and when the standards were adopted. Thus, for example, as illustrated in the table in Section 298.225 of TCEQ’s rules, inflow standards for Galveston Bay are established only for the Trinity and San Jacinto basins. The values in the standards were set by TCEQ based on WAM modeling to assess availability of unappropriated flow and impacts on water availability within those specific basins, while assuming full authorization levels of inflows, or some other scenario, for the coastal basin inflows. Applying some form of drainage area ratio to the standards to apply them in coastal basins would not necessarily reflect underlying expectations about the amount of future inflows from those coastal basins that were initially employed in developing the standards. Certainly, inflow standards for coastal basins not currently addressed in the standards should be

developed in the future, but the current standards do not apply in those basins. TCEQ does have reasonable discretion in determining what conditions to impose on new water rights in those coastal basins, but the standards do not include the basins and do not apply there. The guidance document should recognize that.

Translating Environmental Flow Standards

To avoid undue confusion, the first sentence in this section should be qualified to note that the goal of “flow restriction” special conditions in a permit will be to protect achievement of compliance with the standards. As properly noted in the Scope section of the document, the guidelines address how recommendations for flow restriction special conditions to implement the standards will be developed. Other special conditions related to environmental issues may be included in a permit to meet other goals and the guidelines should acknowledge that. For example, if a reservoir is proposed, special conditions under Section 11.152 may be necessary to address terrestrial or riparian habitat mitigation issues not considered in the flow standards. Similarly, as the rules acknowledge in Section 298.10 (b), TCEQ retains authority to impose special conditions pursuant to Sections 11.042 and 11.046 of the Water Code independent of the standards. Special conditions imposed under those provisions could be crafted to achieve other purposes consistent with protecting the standards.

With respect to the second sentence of the first paragraph of this section, the potential to require use of a different gage, or compliance point, than the ones listed in the standards in appropriate circumstances should be recognized, regardless of whether it is requested by the applicant. The use of different gages should not be a one-way street available only at the request of an applicant. Nothing in the rules supports that. If the use of a different gage is needed to ensure effective protection of flows consistent with the standards, the guidance document should recognize that potential. The rules expressly dictate the agency “will incorporate into every water right permit any condition, restriction, limitation, or provision ... that is reasonably necessary to protect environmental flow standards.” 30 TAC §298.15 (c). Because it is not possible to determine in advance that the use of a different gage will never be reasonably necessary to ensure compliance with the standards, the limitation indicated in the draft guidance is inconsistent with the rules. For example, as discussed above, an alternate compliance point may be needed to replace an upstream measurement point to account for intervening diversions or storage under existing permits. The use of the adopted measurement points in the standards should be further qualified to note that the effect must be to adequately achieve the purposes of the standards: “[t]o the maximum extent reasonable and practicable *while achieving the purposes of the environmental flow standards*, permit special conditions will be based on adopted standards at adopted measurement points.”

Subsistence and Base Flows

The guidance should acknowledge that the presence of significant spring contributions or concentrated areas of high channel losses also would be examples of situations when a flow factor approach, or something different from a drainage area ratio, likely would be appropriate. In addition, the discussion should acknowledge that use of a gage located on a tributary stream also may be an appropriate, even superior, approach in a situation similar to the one illustrated in Figure 1. For example, use of such a gage would be appropriate to avoid the potential for the diversion on the tributary noted in Figure 1 to completely dewater that stream as long as adequate flow from the other stream reached Gage B.

Pulse flows

It might be helpful to have a transition sentence or phrase between the first sentence, which appears to state an exception to the overall discussion, and the remaining text. If we are correct in our understanding, the Executive Director might consider inserting a phrase such as “for new appropriations that will include pulse flow special conditions,” at the beginning of the second sentence. The discussion in the guidelines does not directly address pulse flow requirements in the standards that do not include a volume component.¹ It does not appear that the referenced technical analysis considered the applicability of the proposed methodology to those types of pulses. It would be helpful to include some discussion of how those types of pulse flow standards might appropriately be translated.

Bay and Estuary Evaluation

As discussed further below, freshwater inflow standards must be incorporated into permits in a manner that effectuates the reopener provision requirements of Section 11.147 (e-1). There likely are multiple options for doing so consistent with the language of the standards.

Galveston Bay

The fifth sentence in this section indicates that, if the frequency criteria in the standards are not met, staff “may” recommend denial of the application. It is unclear on what basis staff could recommend anything but denial under those circumstances. If there are justified exceptions to a recommendation of denial, they should be discussed in the document.

The last sentence in this section indicates that, in circumstances when the frequency requirements are not met prior to the first application subject to the standards, staff will “consider” whether the application has the potential to worsen existing conditions. However, the document fails to indicate the appropriate outcome of that consideration. The guidance document should indicate that if the new appropriation has the potential to increase the extent of noncompliance, the application, unless modified to avoid that result, will be denied.

Matagorda, Lavaca, and San Antonio Bays

It is unclear why Corpus Christi Bay is not included in this section. Those flow standards also provide for consideration of voluntary strategies.² Currently, there is no discussion of review of compliance with flow standards for Corpus Christi Bay and that omission also should be corrected.

¹ Certain pulse standards for the San Antonio River and Cibolo Creek (see, Sections 298.380 (c)(12)(B), (c)(13)(B), (c)(14)(B), and (c)(15)(B)) and for the Colorado River below Lake Travis (see Sections 298.330 (e)(12)(A) and (B), 298.330 (e)(13)(A) and (B), and 298.330 (e)(14)(A) and (B)) have a different structure, defining only trigger levels and durations and having a different mechanism for determining compliance.

² Section 298.430 (b).

San Antonio Bay

The third sentence in this section is not accurate in all instances. Specifically, based on the language of the standards, determination of compliance with Section 298.380 (a)(3)(C) or (a)(4)(C) does not involve addition or subtraction.

Mission and Aransas Bays

Some acknowledgement of the assessment approach for these bays should be added to the guidelines document and the text should recognize the need to protect increased inflows resulting from affirmative strategies.

Guidelines for §298.25: Process for Adjusting Environmental Flow Conditions in Certain Permits

Administrative Procedure for Adjustments

Second full paragraph on page 8: This entire paragraph is confusing. The reference to a review “after standards are adopted for the first three basin and bay systems,” is unclear. First, those standards have already been adopted. Second, the language does not address when reviews will occur in the other basin and bay systems. Third, the language fails to address reviews required after a standards revision process has occurred.

We agree that it is appropriate to establish a schedule for reviews of permits issued after September 1, 2007, which is when the requirement to include reopener provisions in permits and amendments involving new appropriations when into effect. And, we acknowledge that reviews cannot be undertaken until after applicable environmental standards have been adopted. However, such standards have now been adopted for multiple basins. The commenting parties suggest that a specific schedule for completing the initial reviews in all of those basins should be incorporated into the guidance. If some of the reviews have been completed, a description of the review process and outcomes would be a useful addition to the document.

As the rules in Subchapter A of Chapter 298 make clear,³ future reviews would be needed after any revisions of the applicable flow standards. Perhaps future reviews would be appropriate on a periodic basis regardless of flow standards revisions, but, at a minimum, reviews would be needed after any revisions that result in an increase in the level of protection in the standards. As noted in Section 11.147 (e-1) of the Code and Section 298.25 (a) of the rules, the basis for such an adjustment is “to achieve compliance with the applicable environmental flow standards.” If the level of protection is increased, a review is needed to consider changes to achieve compliance. Accordingly, it would be helpful for the guidance to set out a time period after such revisions are adopted during which subsequent reviews would be undertaken. And, of course, such future reviews would include all permits in the relevant areas that were issued after September 1, 2007 and before the adoption of the revised standards.

³ Section 298.25 (h) provides, in pertinent part: “The environmental flow adjustment, in combination with any previous adjustments made under this section may not increase the amount of the environmental flow pass-through or release requirement for a water right permit by more than 12.5% of the annualized total of that requirement contained in the permit as issued” (Emphasis added). That language acknowledges the likelihood that more than one adjustment will take place, provided that the cumulative impact does not exceed 12.5 percent.

The meaning of the second sentence of the second full paragraph on page 8 also is unclear. We suggest that the second and third sentences might be combined to read something like the following: “Staff will propose adjustments to permit conditions to achieve compliance with the adopted standards to the maximum extent reasonable, provided that any adjustment made shall not exceed, on a cumulative basis, 12.5% of the annualized amount of the relevant permit requirement as it existed when the reopener language was included in the permit.”

Third full paragraph on page 8: The meaning of the first sentence would be clearer if it referred to Subsection (i) of Section 298.25. The second sentence does not really provide much insight into how the various factors are taken into account. We suggest that an alternate articulation might indicate that the determination of whether an adjustment will be made and of the nature of any such adjustment will take into account the relationship between the increased environmental flow protection that would be expected and the impact on the underlying use of water, when considering the number and spatial locations of permits that are subject to the adopted standards in a river basin, the priority dates of those permits, and the extent to which existing special conditions in the permits subject to adjustment are consistent with and protective of the adopted standards for that basin.

Carryover Paragraph at bottom of p. 8: Regardless of how freshwater inflow standards are implemented—that is, regardless of whether or not the permit includes specific freshwater inflow requirements as operative permit conditions regulating day-to-day diversions—permits must effectively incorporate the reopener provision required by Section 11.147 (e-1) of the Water Code. That reopener is required for instream flow protection and for freshwater inflow protection. However, the draft guidelines appear to suggest that the reopener provision would not be applied for freshwater inflow protections. That is not consistent with the Water Code or the flow standards.

Section 298.225 (b), in Subchapter B, expressly acknowledges that protections for freshwater inflows are subject to adjustment in accordance with Section 11.147 (e-1). Although comparable provisions are not included in other subchapters, the Water Code does not allow for a distinction in approach to the reopener provision. Even in basins for which no specific freshwater inflow standards are currently in effect, existing permit conditions in permits containing a reopener provision would be subject to adjustment to help meet inflow standards adopted in the future.⁴ Nothing in the subchapters⁵ that do not currently include inflow standards even suggests that the reopener provision would not apply for inflow standards that might be adopted in the future.⁶

⁴ The amount of any adjustment would be limited by the 12.5% level set in Section 11.147 (e-1)(1) as applied to the underlying permit.

⁵ For Subchapter C, which includes the Sabine and Neches Rivers; Subchapter G, which includes the Brazos River and its associated bay and estuary system; and Subchapter H, which includes the Rio Grande, Rio Grande estuary, and Lower Laguna Madre, no separate freshwater inflow standards currently are applicable. None of those Subchapters has language suggesting that a reopener provision would not apply for freshwater inflow standards adopted in the future. Although there may be alternate formulations for how the permit terms are adjusted to help achieve compliance—for example, pulse flow requirements might be increased to help meet inflow targets—the potential for the adjustment to occur must be recognized.

⁶ Even if the rules were to include such language, the language would be ineffectual because the rules must be consistent with Section 11.147 (e-1).

To comply with that reopener requirement, permits in those basins with freshwater inflow standards that are issued after the standards were adopted must incorporate the inflow standards in a way that allows for fully implementing the Section 11.147 (e-1) reopener provision. That likely could be accomplished in a number of ways, including by explicitly incorporating the freshwater inflow requirements in the applicable Subchapter into permits issued, either as an attachment to the permit or by including language explicitly referencing the applicability of the freshwater inflow standards for the purpose of implementing the reopener provision.

Technical Procedure for Adjustments

We understand that the examples represent simplified approaches and appreciate the acknowledgment that alternatives to those simple adjustments would be considered. However, the guidance should avoid any suggestion that such a simplified approach would represent the assumed starting point. Indeed, it was the potential for adjustments focused on one or more key seasons that resulted in the statutory reference to “the annualized total” in applying the 12.5% adjustment. A key factor in that consideration of approaches for distribution of the adjustment should be an evaluation of how the available water, as determined by application of the 12.5% adjustment, could best contribute to achieving compliance with the applicable standards.

Consideration of Voluntary Contributions

The first sentence of the last paragraph seems overbroad. If the underlying water right had a distribution that was not evenly distributed across the year, it would seem that a similar distribution would be appropriate for a voluntary contribution.

Your consideration of these comments will be greatly appreciated. Please contact the undersigned if you have questions about the comments or would like to continue the dialogue. Certainly much will be learned as environmental flow standards are implemented and new challenges will be identified. We encourage the creation of an ongoing and collaborative mechanism for addressing that new information and for updating the guidelines on an ongoing basis.

Sincerely,



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National Wildlife Federation
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Cc: Ken Kramer, Jennifer Walker, Lone Star Chapter, Sierra Club
Rick Lowerre, Caddo Lake Institute



KRC Comments on TCEQ's Policy on SB3 Eflow Implementation

July 31, 2015

BACKGROUND

The draft policy indicates that, for the purposes of evaluating water availability for water rights that request new appropriations of water, the WAM model that will be used to evaluate the application will have all SB3 eflow requirements for all downstream SB3 locations engaged senior to the application (at the SB3 "priority date") even if the water right application is clearly exempt from some of the SB3 eflow requirements (i.e. high flow pulses).

Page 2, second to the last sentence states:

"In some basin and bay systems, certain applications are exempt from high flow pulse requirements. Including the complete set of adopted instream standards (subsistence flows, base flows, and high pulse flows) in the WAM will protect high flow pulse standards from being permitted to smaller applicants for new appropriations."

In addition, the policy makes it clear that if a permit is granted, the only eflow location that the permit owner will be required to address are those associated with the first downstream SB3 location, not all downstream SB3 locations that are applied in the WAM model for the permit water availability test.

Page 2, last sentence states:

"This ensures that the water availability analysis for a new permit will consider any downstream flow standards even though those flow standards would not be included in the special conditions for that permit."

Such a policy seems problematic for the following reasons:

- (1) The water availability test may eliminate some water right applications by imposing all downstream SB3 standards, even though the lesser requirement that would be contained in the permit special condition (only first downstream SB3 standard) might have "allowed" such application.
- (2) The water availability test may eliminate some water right applications by imposing all components of the SB3 standards, even though smaller water right applications are specifically exempt from high flow pulse requirements per TCEQ rules. Again, if the same eflow requirement was imposed in the WAM water availability test as will be specified in the proposed permit condition (only subsistence and applicable base; no high flow pulse requirement), the water availability test might have "allowed" such application.
- (3) After a water right is granted under the "all downstream SB3 criteria" and the "all SB3 components" but issued to operate under lesser criteria, how will the recently issued water right be represented in the permitting WAM before the next new water right application is evaluated? If the recently issued water right remains represented in the TCEQ's permitting WAM as having to pass inflows to address all downstream SB3 components at all downstream



SB3 locations when in fact this is not required in the authorized permit, the WAM model will not be theoretically correct for evaluating water availability for the next water right application.

DISCUSSION

It appears that at least part of the reasoning the proposed policy sets up the above described inconsistencies may be because of the difficulty in being able to impose individual components of the SB3 standards in the WAM model against some water rights but not others. Using the current approach for implementing SB3 type flow restrictions in the WAM models, often times hundreds of lines of code are needed to represent a single SB3 location and some of the larger basin models have as many as 19 SB3 standard locations (Brazos River Basin). In order to impose part of the SB3 requirements against some water rights (subsistence and applicable base only) and all of the SB3 requirements against other water rights (subsistence, applicable base, and high flow pulses) large blocks of the SB3 code has to be duplicated, enabled with much of detailed portions renamed and retimed, then turned off after one water right is simulated only to be duplicated, renamed and retimed again in order to impose all components against the next water right. This creates excess complications in the WAM input files, a need for constant creative post process checks to ensure the SB3 components are turned off and on consistent with the model user's intention, and also burdens the monthly WAM model's simulation time. As as more time elapses and additional water rights and amendments are issued by the TCEQ after SB3, the problem will just get worse.

RECOMMENDATION

During the WRAP Users Group Meeting on July 24, 2015, Dr. Ralph Wurbs described a process in which a daily version of TCEQ's WAM models was developed to include all of the SB3 eflow requirements. The daily simulation has additional capabilities for modeling high flow pulses that are not part of the monthly modeling package. The daily model sets daily quantities of instream flow targets that are triggered for protecting regulated flows under the SB3 requirements and can automatically accumulate these daily SB3 instream flow targets into monthly volumes. Finally, the monthly SB3 instream flow targets that were output from the daily model can be used as input by the monthly timestep version of the same model. Documentation of this approach is described in detail with a case study using the Brazos WAM in the following report:

R.A. Wurbs and R.J. Hoffpauir, *Environmental Flows in Water Availability Modeling*, TWRI-TR 440, 285 pages, May 2013.

The report may be downloaded at the following locations:

<https://ceprofs.civil.tamu.edu/rwurbs/wrap.htm> under "other reports"; and

<http://twri.tamu.edu/publications/reports/2013/tr-440/>

Some consideration should be given to this overall concept. First, if this information were created using a daily timestep WAM model of the same basin, the resulting monthly volumes should be more appropriate than those being generated in the monthly timestep WAM model simply because the daily WAM model could more accurately represent high flow pulse requirements because of the daily



attributes of trigger, duration and magnitude for the high flow pulses. Second, since the process used to create the monthly time series of flow requirements for each of the SB3 gage locations could now be read into the monthly WAM model (using HI or TS records), all of the complex code currently used in the WAM monthly input files to determine the SB3 requirements could be eliminated. Furthermore, if this process were used, it is possible that the monthly total volume for each “category” of eflows at each SB3 location could be quantified separately in the daily model (ie, subsistence, base, all high flow pulse) and then the appropriate components applicable to a subject water right in the monthly model could be imposed using a single control point and single instream flow record identifier. Finally, since this information would be read into the monthly WAM model as HI or TS records, this information would be readily available at all priority instances within the simulation, not just available after the SB3 priority date has been encountered in WAM, as it is currently. This could be useful for evaluating potential amendments of senior water rights that are considering amendments that would be subject to some portion of the SB3 requirements.

ALTERANTIVE RECOMMENDATION

As an alternative, or as a placeholder in the absence of a daily companion WAM model existing for some basins, some consideration should be given to the same general concept of calculating the volumes of flow required by SB3 requirements in a separate monthly timestep model and then reading these volumes into the regular WAM model as HI or TS records to be called upon whenever needed in the regular monthly WAM model. This modified approach would not have the apparent improved precision in calculating high flow pulse volumes that are based on daily timestep WAM logic; however, the monthly WAM model process would still benefit from having a more manageable way to impose the precise SB3 components that a proposed permit would be subject to. In addition, not having to recalculate the volumes over and over again at different priority date instances would simplify the model significantly and result in a WAM model process that is much easier to maintain and add new water rights to in the future.

MEMORANDUM

TO: Rio Grande Basin, and Bay Area Stakeholder Committee
c/o Tony Reisinger and Cory Horan

FROM: BBASC Committee Members
Michael McCulloch, DVM
Alan Zeman

DATE: November 7, 2012

RE: Recommendation regarding environmental flow standards and strategies to meet these standards.

I. Introduction:

Because of travel logistics and time restraints, we ask the Rio Grande BBASC to accept this document as our contribution to the environmental flow process as established by SB3 and promulgated by the 80th Texas legislature. Since Dr. Bob Brandes, vice-chair of the state-wide Science Advisory Committee (SAC), recommended that we limit our scope to the Presidio to Amistad stretch and because of our lifelong experiences with the Pecos River, we feel that it behooves us to address the environmental soundness of this important tributary to the Rio Grande. More specifically our comment will be limited to Pecos River from the state line to Independence Creek.

II. Overview:

The Pecos River is the 15th longest river in the U.S. and is the largest drainage basin to the Rio Grande River. The Texas segment of the Pecos River from the state line to Independence Creek has extremely salty water, which, in some cases, is not suitable for human or animal use. Although the river has long been used for irrigation, continued use of the salty river water has led to declines in crop production and changes in the crops produced. Human and natural influences throughout the watershed have decreased the water quality and altered the volume of the river's flow. The high salt content in the upstream segment is beginning to affect water quality further downstream. The normal TDS levels for this segment range from 6,000 ppm to 13,000 ppm. At a time of no releases from Red Bluff Water Power Control District (RBWPCD) the TDS's reach the 18,000 ppm range. As a side note, cattle can not drink over 6,000 ppm water. At the Amistad International Reservoir below the outlet of the river, recent evaluations of salinity show that, despite improvements in water quality over the length of the river, the Pecos River still adds about 26 percent of the reservoir's annual salt load while contributing only 9.5 percent of the annual inflow. This reservoir is used as a primary drinking water supply for municipalities in Texas and Mexico. In Texas the drinking water standard for potable water is a maximum TDS of 1,000 ppm. That level has been surpassed twice since the reservoir was completed. Long-term average salinity in the reservoir has steadily increased since construction was completed and is getting closer to the

maximum drinking water standard. The lack of environmental flow standards has made the potential of a salt flush due to a flood event more of a concern for Amistad. Several segments of the river have been identified as having depressed DO levels, elevated golden algae levels, and high nutrient levels. DO and golden algae severely impact aquatic species and should be properly managed to improve the health of the river. Nutrients may also affect the quality of water in the river and may lead to excessive vegetation growth and other problems if their levels increase. Two segments of the river were recently added to the Texas Water Quality Inventory and 303(d) List. Segments 2311_05 and 2311_06, which cover the river between Business I-20 and U.S. Highway 67 (Pecos to Girvin), were included on the 2006 303 (d) List for depressed dissolved oxygen (DO) levels. To be removed from the list, these areas of the river must meet and maintain the state's water quality standards. Biological diversity throughout the riparian corridor has also suffered. Fish, wildlife, and vegetation surveys have detected significant declines in several plant and animal species. Some of the causes were described above.

III. BBEST Analysis:

Since the Rio Grande BBEST study basically resulted in flow recommendations to maintain an unsound stream, we recommend that a reassessment be made based on the conditions that would support the life cycle of a particular fish species that was extirpated from this reach of the Pecos River. It has been reported that 16 of the 35 fish species known to historically occupy this segment of the river have been lost. The reasons for this were previously alluded to, but to reiterate, include flow impacts, increase salinity, decrease DO, and Golden Algae blooms.

IV. Recommendations and Strategies:

For the reason of brevity our recommendations and strategies will be in list form. Further discussion of the items listed will be welcomed at any time that the committee feels it is appropriate. The recommendations and strategies will be categorized as administrative, adaptives, and additional studies.

Administrative Recommendations:

1. Use the ever increasing funds of the Red Bluff Water Power Control District (RBWPCD) for projects to improve the quality and quantity of water in the Pecos River.
2. Change the governance of RBWPCD so as to make them more responsible to the health of the river.
 - i.e. river authority
 - i.e. regional water district.
3. Active water resource management
 - i.e. water master

4. Water marketing
 - i.e. Intracompact marketing (Pecos River Compact Commission)
 - i.e. Interstate marketing
5. Forbearance program
 - i.e. Water right holders assign their usage for environmental flow
6. Eliminate permits for removing water from the river
 - i.e. Oil and Gas industry
7. Engage U.S. Army Corp of Engineers

Adaptive Recommendations:

1. Comprehensive Saltcedar (Tamarisk) control
 - a. Herbicide
 - b. Biological (Diorhabda beetle)
 - c. Revegetation
 - d. Debris remediation
2. Develop the San Andres Aquifer to augment the river's flow. This artesian aquifer is approximately 1600 feet below the surface and contains water in the 2200 – 2600 ppm TDS range.
3. Long-term consistent operation of the Malaga Bend Salt Alleviation Project cooperatively with state (Texas and New Mexico) and federal involvement.
4. Reduce water waste and prevent the unauthorized removal of water from the river:
 - i.e. Irrigated districts – Approximately 80% of the water diverted is lost by the time it reaches the farm
 - i.e. “Free water”
5. Address Golden Algae problems.
6. Eliminate impedance structures that prevent rain water from flowing to river.

7. Promote riparian buffers.
8. Weather modification.

Additional Studies:

1. Time Domain Electromagnetic Survey
EPA, TWRI, TSSWCB & AgriLife
2. Aquifers contribution to the river
U.S.G.S.
3. Hydrological study and development analysis of the San Andres Aquifer
Texas Water Development Board and U.S.G.S.