

ATTACHMENT 1

TWDB Contract No. 0704830693

Region H, Region-Specific Studies 1 - 3:

TWDB Comments on Draft Final Region-Specific Study Reports:

1. **Environmental Flows Investigations for Region H**
2. **Impact of Drought Management Strategies on Surface Water Reservoirs in Region H**
3. **Interruptible Water Supplies**

Region-Specific Study Number 1: Environmental Flows Investigations for Region H

1. Page ES-3, Max H definition: Please replace "annual inflows" with "sequence of monthly inflows" to more correctly define Max H.
2. Page ES-3, Min Q definition: Please replace "minimum annual inflow" with "sequence of monthly inflows that minimizes annual volume needed" to more correctly define Min Q
3. Page ES-3, Min Q-Sal definition: Please replace entire definition with "sequence of monthly inflows that maintains B&E salinity constraint". The Min Q-Sal condition has no harvest or production goal, but merely meets the constraint.
4. Page ES-4, 1st paragraph: Please provide reference for GBFIG-proposed frequencies. Also, please provide how the GBFIG document defines "frequency of attainment".
5. Page ES-4, last paragraph: Please more clearly explain how seasonal Frequency of Target Attainment (FTA) was developed and presented in Figure ES-3, noting if the monthly flows were summed and if the same was done for seasonal target flows. Also, please note that based on Figure ES-1, March might better belong in the winter season than in the spring season.
6. Page ES-8, 2nd paragraph, 2nd sentence: Please clarify that the frequency goals are those as defined by GBFIG and evaluated in the report.
7. Page ES-12, 1st sentence: TWDB conducted a Streamflow Assessment for the 2007 State Water Plan. Please correct the reference in this sentence.
8. Pages ES-14 and 4-3, Tables ES-7 and 4-2: Footnote 1 states that the flow was estimated to be below the Lyons flow. The tables show Lyons flow to be 1,217 cfs, and the observed flow to be <10,000 cfs. Please clarify the observed flow value.
9. Page ES-17, Instream Flows Conclusion 3: This conclusion states that "Despite this flow condition, there were no indications of impaired stream health ...". Please explain if there was any indication that the observed low flows had occurred for significant enough time for there to be an ecological response. Also, please explain if this flow condition is a significant factor in using the TCEQ Surface Water Quality Monitoring procedures.

10. Page 3-8, 2nd paragraph, 1st sentence: The sentence states “It was assumed that B&E inflow targets are achieved by any flow that equals or exceeds the target flow; thus, flow cannot be too high for the target, but can be too low.” Since this statement applies to the Max H target, it appears to be inaccurate. Fisheries harvest has been shown to decrease with an excessive volume of fresh water (i.e. flow can be too high for the target). Please clarify or revise the statement.
11. Page 5-3, Figure 5-1: In the figure title, please consider clarifying by changing "Trinity Basin B&E Discharge" to "Trinity Basin B&E Median Monthly Discharge".

Region-Specific Study Number 2: Impact of Drought Management Strategies on Surface Water Reservoirs in Region H

1. Page 2-2, last sentence: Refers to “Figure 1”. Please correct all figure references (e.g. to ‘Figure 2-1’) throughout report.
2. Page 2-3, 1st line and Figure 2-1: Please elaborate on the reasonableness and basis for the assumption that “non-seasonal (e.g., indoor) water uses are more or less the same in each community,” considering the variations in city sizes and socioeconomic conditions. In addition, please note this assumption ignores the influence of commercial water use, which is also a part of per capita water use for some entities.
3. Sections 4 and 5: Please consider clarifying in Section 5 the impacts to “storage capacity” or “full permitted capacity” in Section 4.
4. Page 5-2, Table 5 (and similar tables thereafter): Please consider providing an explanation of how a decimal point of months is obtained with WAM’s monthly time step of simulation.
5. Section 7: Please clarify in the text that the graphs in this section are based upon firm yield of these reservoirs.
6. Page 7-4, Table 22: In Table 22, the meaning of ‘Impact’ is unclear from the limited table content. Please clarify the meaning of the ‘Impact’ field.
7. Page 8-1, 6th paragraph; and page 8-2, bullet #6: The basis for the conclusion that the “stretching of water supplies due to drought contingency measures are relatively insignificant in terms of annual increased supply and certainly non significant in the context of long-term water planning.” does not appear to be supported by the analysis (e.g. 150,000 acre-feet of water at Lake Livingston per figure 7-1) especially considering that long-term regional water planning is based on addressing limited term, drought-of-record conditions. Please substantiate or modify the conclusion.
8. Appendix E: Please indicate what units the values represent in this appendix.

Region-Specific Study Number 3: Interruptible Water Supplies

1. Page 1-1, 2nd paragraph, 1st sentence: The planning guidelines of the TWDB allow for the use of “safe yield” for planning purposes if approved by the Executive Administrator. Please clarify this statement in the final report.
2. Page 3-1, 2nd paragraph, lines 11-12: Please consider clarifying the statement that the monthly test “does not consider the magnitude of monthly diversions”.
3. Page 3-2, 3rd paragraph, last sentence: Please consider elaborating on why over-appropriation is indicated if the interruptible supply portion exceeds firm yield.
4. Page 3-3, 5th sentence: The word “form” should be “from”. Please correct.
5. Page 3-3, Table 8: Please verify the permitted amount for the two water rights presented in the table.
6. Page 3-12. Figure 3-1 is also identified as Figure 5. Please clarify the figure numbering.
7. Page 3-13, 1st paragraph, 2nd line: Reference is made to Figure 2.1 and should be made to Figure 3-1. Please correct.
8. Page 3-14. Figure 3-2 is also identified as Figure 6. Please clarify the figure numbering.