

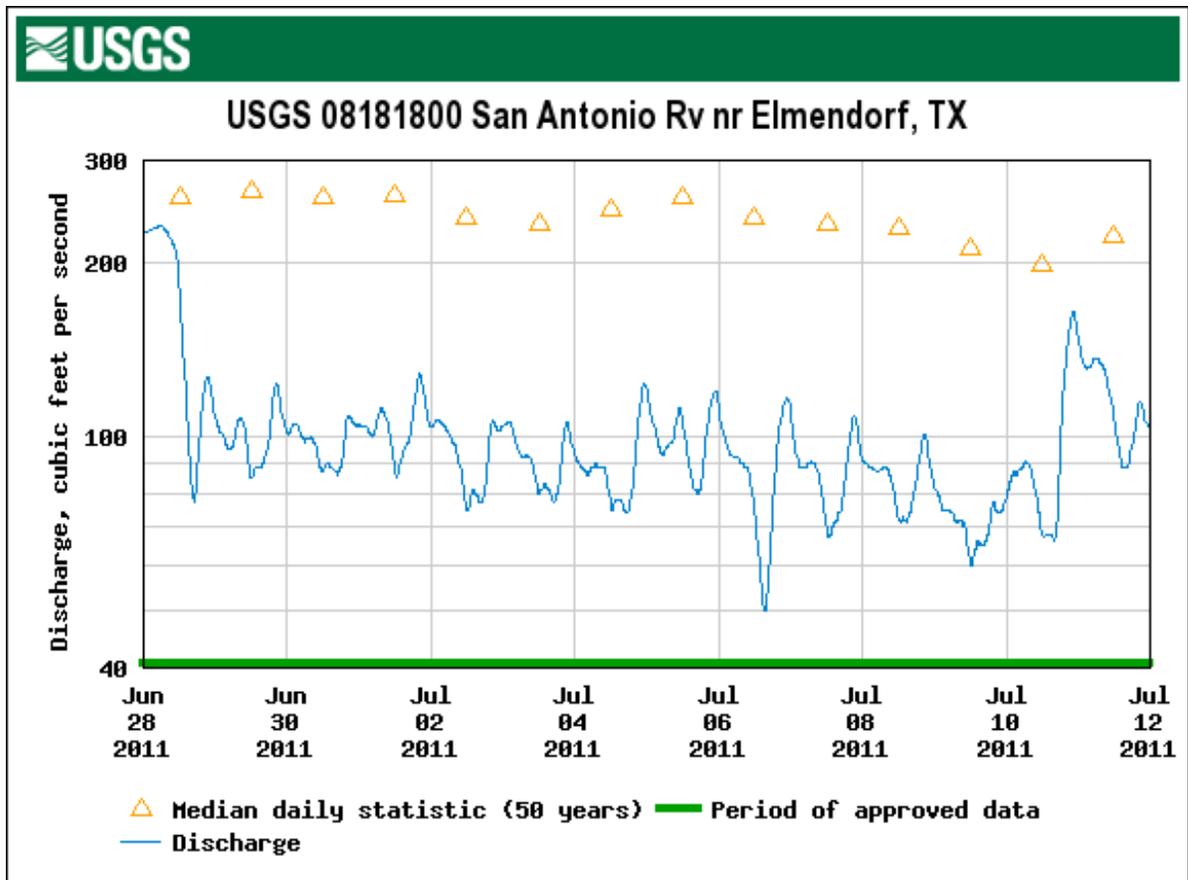
**Developing a Large Woody Debris Budget for the Lower San Antonio River
Draft-final report to the Texas Water Development Board**

Contract number 1104831140

REQUIRED CHANGES

General Draft Final Report Comments:

1. Please correct the following typos:
 - a. Page 1, 1st paragraph, 1st sentence: “recently has its importance” should be “recently has their importance.”
 - b. Page 1, 3rd paragraph, 4th sentence: “management effects have had on LWD” should be “management has affected LWD.”
 - c. Page 8, 2nd paragraph, 1st sentence: “Geomorphic difference” should be “Geomorphic differences.”
 - d. Page 19, 1st paragraph, 4th sentence: “in many case” should be “in many cases.”
 - e. Page 24, 1st paragraph, 4th sentence: “elevations differences” should be “elevation differences.”
 - f. Page 27, 2nd paragraph, 2nd sentence: “was wadeable” should be “were wadeable.”
 - g. Page 29, 3rd paragraph, 3rd sentence: “were be measured” should be “were to be measured.”
 - h. Page 53, 3rd paragraph, 2nd sentence: “LWD volume this may” should be “LWD volume. This may.”
 - i. Page 53, 3rd paragraph, 2nd sentence: “bedrock with in that” should be “bedrock within that.”
 - j. Page 54, 3rd paragraph, 1st sentence: “evident of the high” should be “evidence of high.”
2. Some of the text in Figure 4 on page 11 is clipped and difficult to read. For example, “DECAY,” “WIND MORTALITY,” and “OUTFLOW.” Please reformat/edit this figure to ensure readability.
3. The discharges reported in Table 5 on page 36 appear to be in error. For example, for the Calaveras site, average river discharge during the sampling period is reported as 30.18 cubic meters per second. This would be equivalent to more than 1,000 cubic feet per second, a very significant flow for this river at this location. During the sampling period, the USGS gage near this site recorded flows closer to 100 cubic feet per second (see figure below). Please recheck the values in Table 5 and revise as necessary.



4. On page 38, the statement is made that “The sub-samples also were used to identify the species of tree.” However, the number of sub-samples does not appear to match up with the species identified at each site as reported in Table A39. For example, the number of sub-samples from the Calaveras site was 166 (from Table 8) but the number of species identified at this site was 180 (from Table A39). The number 189 is equal to the total number of LWD pieces inventoried at the site. It appears that the species of all inventoried pieces were identified (not just the sub-samples). Please explain or correct the statement in the document as needed.
5. On page 51, the statement is made that “At the McFaddin site 542 pieces were in the decay class 4 and only 135 pieces were in the decay class 5 which might suggest that debris may be washed downstream rapidly during high flow events.” As mentioned on page 24, LWD at this site was removed in 2008-2009. Please comment if the removal of LWD at this site about three years prior to this study may also explain why the majority of LWD did not fall into decay class 5.

SUGGESTED CHANGES

6. On page 38, reference is made to Table A39 in the appendix. Since this table warranted mentioning within the main body of the document, consider including the table in the main body instead of the appendix.
7. On page 52, the statement is made that “Assuming the climate would lead to higher decay levels, 7% loss was selected.” It is unclear what reference is being used to establish that the

decay rate for this site is “higher.” Has a lower decay rate been found in previous studies in colder climates? Please consider providing the reader with more context to understand why a decay loss level of 7% is appropriate for this project.

- 8.** On page 54, the authors conclude that “Protection of upstream riparian forest vegetation may be necessary to maintain current LWD dynamics.” Given the authors expertise in forestry, it would be helpful to have their opinion regarding the extent of the upstream area that may be impacting LWD dynamics in the lower San Antonio River. Also, it would be helpful to have a listing of some of the protection measures that may be helpful and could be considered. Although outside the direct scope of this study, any insights the authors could provide would be appreciated.