



United States Department of the Interior



FISH AND WILDLIFE SERVICE

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RECEIVED
12/1/08 Date

Kirk Holland
Barton Springs/Edwards Aquifer Conservation District
1124 Regal Row
Austin, Texas 78748

Dear Mr. Holland:

I am writing to express the U.S. Fish and Wildlife Service's (Service) continued commitment to the District in the development of a Habitat Conservation Plan (HCP) for the Barton Springs segment of the Edwards Aquifer. The Service received the electronic copy of your draft Environmental Impact Study and HCP (dEIS/HCP) from your web site on June 15, 2007. Subsequently you met with Will Amy of my staff to discuss comments related to the dHCP (chapter 6) on June 22, 2007, with comments on other chapters that followed electronically. Though not required, you openly posted those comments on your website. However, there appears to have been an oversight in those postings as they did not contain all of the comments that were provided.

Though a considerable amount of effort has gone into the dEIS/HCP, the Service has some concerns that need to be addressed before a notice of availability of the document for public comment will be submitted to the Federal Register. I would encourage the District to continue to work with our office to refine the dEIS/HCP. Additionally, I would hope the District would work with the City of Austin to develop an agreement to coordinate efforts to conserve salamander habitat. There may be opportunities for the District to contribute toward improving the physical habitat conditions for the salamanders at Barton Springs.

Many of the measures for Alternative 2, as well as Alternative 3, depend on future authorization by the District's board or State legislation, or on the results of future studies, which may or may not provide mitigation. With this uncertainty, I would suggest the District apply for an incidental take permit (ITP) with the shorter term of 20 years with the understanding that if it is successful biologically and procedurally, it can be renewed or amended to better realize the purpose of the HCP. A shorter term would provide take coverage under the Endangered Species Act (Act), of 1973, as amended, while the District works toward maximizing the benefits of the HCP.

Recent information suggests water quality at the springs has degraded over time due to urbanization over the recharge and contributing zones of the Barton Springs segment of the Edwards Aquifer. This information should be brought forth as part of the cumulative effects analysis in the dEIS if it can be sufficiently substantiated.

The following comments are not all inclusive, but are intended to address major concerns with the dEIS/HCP.

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1. Though the District was encouraged to produce a combined dEIS and HCP document when it first initiated this process in 2003, the complexity of the current dEIS/HCP document makes it difficult for the public to understand the measures in each of the alternatives. We recommend that the District consider separating the two documents to clearly distinguish the HCP and the alternatives analyzed in the dEIS.
2. The titles for the alternatives are long and should be shortened for readability. For example, Alternative 2 should be labeled "Preferred Alternative." Alternative 1 should be titled, No Action Alternative.
3. The documents should be referred to as draft (e.g. dHCP or dEIS), not preliminary draft.
4. Management by the District could lead to a cessation of spring flow (2004 Sustainable Yield report) and potentially jeopardize the Barton Springs salamander. Jeopardy is defined as "an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, number, or distribution of that species (50 CFR 402.02)." The District should expand its modeling of projected spring flows during low flow conditions (see comments for page 2-35 and 6-12). This analysis would look at the trend in spring flow without the proposed action, which is a current snapshot in time (baseline), and compare that to the trend with the action; which would be with the conservation measures in the HCP. The Service would then be able to use the expanded modeling information to determine if the action would be expected to reduce appreciably the likelihood of both the survival and recovery of the salamander in the wild. We would be happy to meet with you to further discuss the jeopardy analysis and how modeling could be used to complete this analysis.
5. Page iii, 2nd paragraph. When the dEIS/dHCP meets the Service's issuance criteria under the Act, the draft documents will be made available to the public for review and comment. Any comments received must be addressed, either separately or incorporated into the documents. Upon addressing all comments, the documents will be finalized and the Service will process the ITP.
6. Page 1-8, 3rd paragraph. State the seven management goals.
7. Page 2-4, 2nd paragraph. This paragraph is unclear. The following is a suggested rewrite for this paragraph.

The Act provides civil and criminal penalties for violation of its provisions, including fines and imprisonment. Without the issuance of an ITP, entities of individuals withdrawing water from the aquifer may be in violation of the Act. In light of this potential Federal liability, alternatives involving conservation agreements, land acquisition, or implementation of management strategies that result in take not authorized by an ITP do not meet the purpose and need for the proposed action. Either these alternatives have been eliminated from further consideration, or certain selected measures have been incorporated in the HCP.

8. Page 2-18, section 1.2.6. There is a discrepancy between this measure as stated and table 2.3-1 where the board would increase the pumping fee cap in this paragraph, but would need to seek authority to raise fees in the table.
9. Page 2-19, section 1.2.8. This measure states the District would seek authority to adopt, implement, and enforce rules that limit pumping on all non-exempt pumpers. This would seem to be critically important since “almost 90 percent of all the groundwater withdrawn in the District is by non-exempt wells (page 1-10).” The thrust of the conservation measures in the HCP hinge on the District’s ability to limit pumping during drought. The District must have the authority to implement the measures of the HCP for the Service to be able to issue an ITP (issuance criteria, 50 CFR 17.22(b) (2)).
10. Page 2-19, section 1.3.4. This measure references Texas Commission on Environmental Quality (TCEQ) best management practices (BMPs) under 30 TAC Section 213 (the so-called Edwards Rules). The District should be aware and adopt the Optional Enhanced Measures (RG-348a) that provide additional measures of protection for water quality for the Barton Springs segment of the Edwards Aquifer. Additionally, it is not clear how this measure relates to measure 1.2.8, which refers to limiting use by non-exempt pumpers.
11. Page 2-21, section 2.2. This measure describes how the District declares an Alarm Stage and refers to “Lovelady well level is more than 180.8 feet below land service or when the 10-day average discharge of Barton Spring is less than 38 cubic feet per second (cfs) and the District’s Board declare an Alarm Stage Drought.” This measure needs further clarification as to when the District Board would meet to make this declaration and what would take priority should those measurements not correlate with each other.
12. Page 2-23, section 2.3.2.5. In general, the dEIS/HCP lacks mitigation for impacts to federally-listed species. Many of the measures constitute avoidance or minimization through pumping reductions, environmental education, measures employed during drought, or measures employed after they are studied and determined to be feasible. While investigations, studies, and agreements will likely provide benefits to the salamander, they do not constitute mitigation. The District needs to develop measures that would directly offset the impacts to the Barton Springs salamander to mitigate conditions where District authorized pumping degrades salamander habitat (i.e., water quantity). For example, mitigation might include cooperative efforts between the District and the City of Austin on improving systems for flow measurements or restoration of spring habitat at Old Mill and Eliza springs.
13. Page 2-30, sections 4.3 and 4.4. Alternatives to augment ground water with surface water would seem to be less feasible than providing treated surface water directly to the user while requiring a curtailment of pumping. Aquifer augmentation with treated effluent would also seem unfeasible. Treatment costs of effluent prior to input into the spring system was determined to be high for Comal Springs because of the nutrient loading

- (LBG-Guyton, 2004).¹ High costs coupled with the potential to degrade water quality at Barton Springs, significantly reduces the feasibility of this measure. It may be a better use of resources to pursue some of the other research needs identified in the dHCP. The biological advisory team (BAT) should be retained to assist the District in review and prioritizing research projects.
14. Page 2-35, section 2.4.4. This section identifies the incidental take as flows less than 33 cfs, but does not identify the duration flows would be less than 33 cfs except to say it would be 28 percent of the time over the modeled period of record (1917-2004). The total duration as well as the longest period of time flows would be less than 33 cfs needs to be stated. The period of record should also include 2006, a recent severe drought year.
 15. Page 3-57. Scientific names should only be used when first mentioned in the document and put in parentheses and in italics (e.g., *Quercus stellata*). When writing a second species of the same genus, the genus name is abbreviated (e.g., *Q. texana*). Check the document for consistency.
 16. 3-59 and 3-61. Need to update the status of the Bald eagle.
 17. Page 4-23. The first paragraph under Other Creeks heading suggests that surface water outside the HCP planning area could be diverted into creeks in the planning area to augment ground water and refers to measure 1.3.1. Measure 1.3.1 (Table 2.3-1) refers to recharge enhancement. This seems to be blurring the lines between recharge enhancement which typically refers to recharge structures and maintenance of recharge features and not augmentation which is address in measures 4.3 and 4.4. These concepts need to be kept separate for the purpose of this analysis so that the reader will understand what each measure intends to accomplish.
 18. Page 4-26, section 4.3.3, 4th paragraph. This paragraph discusses the potential take of the federally-listed Bee Creek Cave harvestman within the project area from the District's activities, though the District is not requesting take coverage for this species. If sufficient information is available, the District should analyze the effects of the three alternatives and request take coverage if its action will result in take of the species. A plan should be developed to address the situation of encountering a karst feature occupied by federally-listed species during the ground disturbing activities identified in this section.
 19. Page 4-27, section 4.3.4, 1st paragraph. This paragraph states that limited information on the Austin blind salamander precludes the ability to estimate impacts to this species, but then assumes the analysis of the Barton Springs salamander approximates the impacts to the Austin blind salamander. For the Service to provide incidental take coverage for a species, a reasonable attempt to assess how the covered activities result in take of the covered species and the measures the District will take to avoid, minimize, and mitigate to the maximum extent practicable for those actions must be described. The District needs to address the habitat needs of the Austin blind salamander, analyze the effects

¹ LBG Guyton, 2004. Evaluation of Augmentation methodologies in support of in-situ refugia at Comal and San Marcos Springs, Texas. Appendix D, Page D-17.

from the covered activities, and discuss how the proposed measures meet the issuance criteria.

20. Page 4-29, Figure 4.3-2. Revise this figure to be consistent with table 4.3-1 and table 4.3-3 with regard to predicted dissolved oxygen concentrations below 16 cfs of spring flow.
21. Page 4-33, section 4.3.4.3. At the bottom of this section, you briefly explain alternative 3, but you need to explain why alternative 3 is not the preferred alternative since it would provide a greater benefit for the species.
22. Page 4-34, section 4.4, 1st paragraph. Need to keep units of measure consistent. This paragraph references acre-feet of water used instead of cfs. If this level of use is too low to express in cfs, then provide a reference for the reader to relate cfs to acre-feet (e.g., 1.0 cfs = xxx acre-feet).
23. Page 4-67, table 4.10-2 and table 6.8-1. These tables do not reflect where the full \$550,000 is being spent by the district to implement the HCP. Table 6.8-1 shows where \$70,000 would fund four measures. This table needs to be expanded to show the intended expenditure for all measures under the three alternatives.
24. Page 4-85, 1st paragraph. The last sentence says the District will seek to enter into a Memorandum of Understanding with the City of Austin that would invoke constraints on the operation and maintenance of the Barton Springs pool to minimize or avoid cumulative impacts. It is unlikely the City of Austin would enter into such an agreement. This statement should be deleted as it could impede relations between the City and the District and a positive working relationship is important for the conservation of the salamander. The City of Austin's ITP for pool operations and maintenance prevents the City from conducting activities that would affect the Barton Springs salamander at flows less than 54 cfs without further consultation with the Service.
25. Page 6-2, 6.1.3. The last seven bullets of covered activities need to be discussed in more detail. Covered activities need to be discussed in enough detail for the Service to be able to assess the potential impacts to covered species. Minimization and mitigation for these activities should also be addressed.
26. Page 6-5, Table 6.1-1. The table should reflect the drought curtailment for each permit category in cfs instead of percent since this is the widely used unit of measure for spring flow and pumping.
27. Page 6-12. This analysis refers to the total percentage of time spring flow is expected to drop to 33 cfs or less, but does not discuss the potential increase in duration of lower spring flow over zero-pumping baseline. A 6 percent change in flow (e.g., 34 percent pumping vs. 28 percent) may have a significant effect on the salamander if it corresponds to one incident. The District should include in the analysis the duration by occurrence for each spring discharge level that is anticipated by the modeling.

28. Page 6-15, Table 6.4-2. This table needs to be corrected. The table suggests that Alternative 3 would produce a shorter duration at each spring flow discharge than under baseline conditions (e.g., baseline would produce longer low discharge conditions than alternative 3).
29. Page 6-46, section 6.6.2. The District's level of commitment to adaptive management is unclear. The adaptive management measures need to be further clarified and quantified. The section discusses how the District will work with others on further studies, but does not define many of the parties the District will work with and to what level of commitment. The adaptive management plan should also address how the District will respond to the changed circumstances identified in 6.9.5.
30. Page 6-47, sections 6.7 and 6.7.1. Here the dHCP discusses other entities involved in the HCP, but does not identify who those entities are. The Service is not aware of other entities responsible for implementing the District's HCP. If other participants are involved, the HCP needs to clearly identify them, describe their responsibilities in the HCP, and their authority to carry them out.
31. Page 6-50, section 6.7.1.6. This section states that a process will be developed to evaluate performance. The HCP must specify how the conservation measures in the plan will be evaluated for performance as part of the adaptive management plan.
32. Page 6-54 and Table 6.8-1. Adequate funding to implement the HCP must be identified. The document states that the HCP will be incorporated into the District's Management Plan and will therefore be funded with the entire operating budget for the District. This lack of specificity is insufficient to meet the Service's issuance criteria for an ITP. The District needs to specifically state the amount of funding that will be used to implement the measures identified in the HCP (refer to comment for page 4-67).
33. Page 6-63. This section needs further detail on what actions the District would take to address changed circumstances identified in section 6.9.5.
34. Page 6-64. The second paragraph is incorrect. It states "Upon receipt of notice of the potential listing of an uncovered Species, the District may enter into a consultative process with the Service regarding necessary modification, if any, to the District DHCP required to amend the applicable federal permit to cover the uncovered species." To be correct it should read: "Upon receipt of notice of the listing of an uncovered Species, the District must enter into a consultation with the Service regarding necessary modification, if needed, to the District DHCP."
35. Page 6-65. The identification of the potential invasion by an exotic species under section 6.9.7 could be addressed under changed circumstances. The effects of an exotic species, combined with the effects of the District's pumping, could worsen the status of the covered species. The District should develop, as part of the HCP, a plan to address such an event.

36. Page 6-66, section 6.9.10. Delete this section. The Antideficiency Act prohibits Federal agencies from obligating or expending Federal funds in advance or in excess of an appropriation or apportionment per 31 U.S.C. § 1351 and 31 U.S.C. § 1517(a).
37. Page 6-68, section 6.10.3. This section should be rewritten. The Service cannot require the District to amend the HCP once an ITP is issued. Circumstances may arise during the term of an ITP which necessitates a permit amendment. Any amendments would be accomplished through cooperation between the Service and the District and in accordance with all applicable laws.

For overall clarity in the document, Chapter one has several areas of redundancy. Information should be stated where first needed, then referenced later in the document and not restated. Also, language should be kept succinct and to the point. I recommend review of the Federal Plain Language Guidelines that can be found at <http://www.plainlanguage.gov>. Another resource that you may find useful is the US Government Printing Office Style Manual (<http://www.gpoaccess.gov/stylemanual/browse.html>).

Minor comments are as follows:

1. The document should be left justified.
2. There should be two spaces between sentences.
3. Act should replace ESA throughout the document [e.g., Endangered Species Act (Act), of 1973, as amended].
4. All personal communications cited in the document must be recorded as to the date the communications took place.
5. Copies of all referenced material must be submitted to the Service prior to final submission of the EIS/HCP.
6. Federal should be capitalized, but federally-listed is lower case.
7. Keep acronyms to a minimum. Do not use acronyms if only used a couple of times or where there is considerable length between occurrences. The reader will forget what the acronym stood for by the time they see it again.

The District recently received a \$105,000 Habitat Conservation Planning assistance program grant to continue the work on developing the dEIS/HCP. This work should proceed in coordination with our office.

Thank you for your concern for endangered and threatened species and other natural resources. We appreciate the opportunity to comment on the proposed project. If we can be of further assistance or answer questions about these comments, please contact William Amy at 512-490-0057, extension 234.

Sincerely,

A handwritten signature in black ink, appearing to read 'Adam Zerrenner', with a long horizontal line extending to the right.

Adam Zerrenner
Field Supervisor