

# Biological Advisory Team

## Southern Edwards Plateau Habitat Conservation Plan

### Summary Response to First Draft of the SEP-HCP Top Eleven Concerns

The Biological Advisory Team is comprised of 8 well qualified biologists, and represents considerable experience and knowledge of the life history and biological requirements of the local species considered under this SEP-HCP. As per Recovery guidelines, threats to the species are a biological concern, so we included consideration of local and regional threats, both current and expected.

In addition to the attached list of comments by the BAT, we would like the CAC and the Plan Applicants to pay particular attention to the following 11 issues.

1. Instead of allowing the Plan Administrator to create advisory committees as desired "...applicants may create advisory committees..." we recommend that the wording be changed to "shall" and that the purposes of those committees be loosely, rather than expressly defined or defined not at all:

*"To inform adaptive management strategies, applicants **shall** create regularly convened advisory committees. Advisory committee meetings shall have a public input component."*

We recommend 2 committees: a scientific advisory committee and a committee made up of landowners and citizens. (These committees would assist, rather than burden the Plan Administrator. For example, they could provide valuable input on, preserve acquisition, configuration and management; drought response; strategic planning, etc. ). The BAT suggests the committees meet at least annually, but preferably more frequently.

2. Much of the current plan gives a great amount of leverage to the Plan Administrator whether to conduct important actions (such as management and monitoring). The BAT feels this is unwise, and prefers that important items be required as part of the Plan.

3. We recommend removing the whooping crane (*Grus americana*) from Voluntarily Conserved Species. Though the whooping crane may migrate over the Plan Area, or temporarily use isolated habitat sources, the species will likely not benefit from the actions taken by the Plan, nor will incidental take for the whooping crane be sought within our plan area.

4. The Plan establishes Baseline Review, System Level Surveys, and Management Planning every 10 years. While long-term planning is preferred to keep from burdening staff with ever-rotating review schedules, we feel it is important to inform decision making more frequently in the first decade. We recommend that Baseline Review, System Level surveys, and Management Planning should be in year 5, year 10, and then at a frequency agreed upon with USFWS. (e.g. 8-10 year cycles)

5. The Plan currently proposes the use of abbreviated surveys for karst invertebrates (5 days as opposed to 15) in certain circumstances (voids discovered during construction). Five day surveys may actually decrease the chance of detection for some species. Appropriate methods require time for the bait to ripen to detect certain organisms, which can take up to 2 weeks. We recognize the need to expedite surveys in certain circumstances, but it is biologically

inappropriate to shorten the survey period. We recommend following the approved USFWS protocol, as that will reflect the most current, acceptable methodologies.

6. The Plan currently intimates the use of abbreviated surveys for demonstrating songbird absence. (eg. 1 year data is sufficient as opposed to 3 years). Due to the varying nature of songbird abundance, annual variability in foraging quality, and almost weekly variability in detectability, the BAT feels it is inappropriate to deviate from the USFWS requirement of 3 years to document absence. Participants should only be allowed to demonstrate a decrease in mitigation requirements by following the Service Recommendations of 3 years of Presence/Absence Surveys.

7. We recommend that occupied cave zones should be defined as the sum total of all areas within 345 ft of the feature footprint and the surface and subsurface drainage basin. Within this 345 ft buffer, oftentimes the surface and subsurface basins are included, so this is not a dramatic departure from the proposed 345 buffer. These drainages are important for determining the impact of the Take on the caves.

8. In the sections concerning secondary uses for karst preserves and bird preserves, please convey the extremely sensitive nature of these lands. We specifically request that the list of secondary uses be omitted and replaced with only: "*certain sustainable land uses, research, and education.*" We also request that the language developed in subcommittee meetings be inserted into the document outlining appropriate education and research (please refer to written karst subcommittee recommendations and 20110401\_songbird subcom.mp3). It should be conveyed that the Plan aims to protect these sensitive features and preserves and they should not be challenged by threats such as utilities and infrastructure and other currently listed secondary uses.

9. The BAT made several recommendations for Research needs and we request those be inserted into the document.\*

#### 10. Configuration of Habitat Preserve

The BAT and the USFWS have consistently held that it is vitally important to provide mitigation as close as possible to the Habitat Impact. The omission of the requirement of new Bexar County preserve lands to offset Approved Take within Bexar County is an egregious error. As previously described, and as referenced in our letter to the CAC dated January, 2011, preserve lands must be spread evenly across the landscape to prevent catastrophic events (fire, oak wilt, etc) from removing sole sources of habitat. As currently proposed in the Plan, Take Authorization is confined largely to Bexar County, so it becomes even more important to require mitigation within Bexar County. The basic tenets of sound management require that habitat is as continuous as possible. HCPs require that mitigation is as close as practicable to the Impact. We do not believe that 50-96 miles is "as close as practicable." Though we stand by our previous recommendation, the attached recommendation may be used as an alternative to previous recommendations. In an urban linear preserve situation, The Plan should strive to decrease edge:interior ratio. Please reference BCCP documents about edge:interior ratios.

#### 11. Authorized Take for songbirds

In consideration of the first draft of the SEP-HCP, and operating under the requirements and authority of Chapter 83.015(a-c)\*\* , the BAT carefully evaluated the amount of harm proposed and the size and configuration of the proposed preserve. We find that the proposed preserve size is inadequate to address the amount of harm resulting from the proposed amount of Take. If Bexar County is not appropriately mitigated, there is a significant chance that regional recovery would not be possible, thereby possibly leading to a Jeopardy determination. Bexar County is subject to such rapid urbanization and loss of habitat, that we could result in a "habitat void" in Bexar County. Depending on how USFWS redraws its new Recovery Regions, Bexar County's region

could be unrecoverable, which would make us vulnerable to federal court injunctions against any construction or development (reference Travis County in the early 1990s).

We are concerned that the conservation value of an HCP with so little mitigation is severely diminished, especially with no requirements to mitigate within Bexar County. We recommend reducing the amount of Take Authorization, and only authorizing 7500 acres of Take for GCW and 2500 ac for BCVI until those other counties participate in the Plan to seek Take.

Though we stand by our previous recommendation, the attached recommendation may be used as an alternative to previous recommendations. The main difference is a reduction in Take Request and a spatial shift in which areas receive various mitigation ratios.

12. In addition to the attached XX pages of changes, we request the following content changes:

- The section on karst mitigation is difficult to follow. The addition of examples and flowcharts would significantly help the document.
- Add a section that describes the voluntary conservation program (outreach, education, research, etc.) for Category 3 species.
- The BAT made several recommendations to preserve the autonomy of The Plan to conduct management activities on lands within the Preserve (such as prescribed fire, ability to manage vegetation, remove invasive wildlife, etc). These practices are vital to these species, and urban encroachment can threaten the use of valuable tools (ref Camp Bullis JLUS). We request that this language be included in the document.
- The BAT would like to make sure that preserves accepted into the system are roughly comparable in value to fees that otherwise would have been levied. Reiterate on Page 96 “in lieu of fees” that low quality preserves do not count towards the current conservation level for a species.
- Chapter 6.4 is missing a section on management of the BCV & GCW.
- No covered activities for a given species should be allowed within the Occupied Cave Zone (as defined in Item 9), until all KFRs for that particular species achieve downlist criteria to assure regional recovery.
- Due to the lack of definitive information regarding species distributions, genetics, and status, participation limits in the karst program should remain in place until regional downlisting criteria are met for all covered karst-invertebrate species.
- Due to the paucity of distribution and taxonomic information and the continuing need for research on species status, the required investigation of accidentally discovered caves and voids should remain in place until all listed species in all KFRs in the SEPHCP region achieve actual downlisting by the Service.
- In the SEPHCP, the search for new localities of rare karst species focuses on existing conservation (managed) areas. However, we urge that these investigations give equal attention to urban, suburban, and developing areas, including private lands, to assess status and risk factors important to adaptive management and emerging protection needs.
- We recommend that low-quality preserves not be accepted in lieu of per acre participation fees, unless perpetual management expenses are included as an endowment for such donations, to avoid impact to acquisition and management funding of medium and high quality karst preserves. In any case, due to low biological value and low sustainability, low-quality preserves should not be considered when examining the current conservation level for a karst species.

\* As one example of this request, please ref 20100707\_BAT\_minutes\_approved.pdf :

*“The response from the consultant was that a section in the HCP would include ‘research species’ that would identify needed research but would not obligate the operator to fund the research during the life of the permit.”*

\*\* Sec. 83.015. BIOLOGICAL REVIEW; CRITERIA. (a) Except as provided by Subsection (f), a regional habitat conservation plan, including any mitigation fee, shall be based on the amount of harm to each endangered species to be protected under the regional habitat conservation plan.

(b) Except as provided by Subsection (f), the size of proposed habitat preserves shall be based solely on the amount of harm to the endangered species to be protected in the regional habitat conservation plan.

(c) ...The team shall assist in:

- (1) the calculation of harm to the endangered species; and
- (2) the sizing and configuring of the habitat preserves.

# Alternative Solution

## GCW

Reduce the requested amount of take to 7500 acres; additional take up to 12,000 acres may be requested only after the 6 counties not currently participating come into the plan. The reduction in requested take is necessary because otherwise all 12,000 acres of the take could essentially happen in Bexar County, and this is biologically unacceptable. Ensure there is some mitigation in Bexar County and the nearby areas.

Mitigate at a 3:1, 2:1, and 1:1 depending on the size of the patch and the quality of habitat as determined by a computer model (see below).

## BCV

Reduce requested take to 2500 acres; additional take up to 4000 acres may be requested only after the 6 counties not currently participating come into the plan. The reduction in requested take is necessary because otherwise all of the take could essentially occur in Bexar County.

Mitigate at a ratio of 2:1 (acres of mitigation:acres of take) for direct impact throughout the plan area. The proposed ratio of 1:1 is biologically unacceptable. Ensure there is some mitigation in Bexar County and the nearby areas.

To clarify, the 7500 ac for GCWA and 2500 ac for BCVI are listed in a couple tables in the draft HCP as the amount of take to cover in Bexar County. Since no other counties besides Bexar are currently interested in the Plan, we want to make sure it is clear in the text that there is a maximum amount of take of 7500 GCWA-ac and 2500 BCVI-ac allowed to occur within the boundaries of Bexar county. Even if/when other counties do participate, there should still be that maximum amount allowed within Bexar county boundaries. The “adjacent sectors” shouldn’t be considered until those respective counties agree to participate. Mitigation for those acres should only occur in/near Bexar County until other counties agree to participate (i.e., mitigate close to take). Financial considerations may be adjusted accordingly.

## **Alternative Participation Process for GCWA Take Only:**

In the current Draft Plan, potential GCWA participants must hire a permitted biologist and submit their finding to the Plan Administrator, a process that would take about a month. Using a process similar to the Travis County BCCP, the Plan Administrator would endorse a model of potential habitat (such as Model C 2010 or TAMU model) and would then create a map of the entire plan area that shows all GCWA habitat. The participant would come in with the boundaries of the proposed project and request a cost estimate to participate.

Instead of placing value on habitat within Bexar County, higher value would be placed on larger patches of higher quality habitat. The Plan would then use this map to determine mitigation ratio for direct impact. The best habitat in the larger patches will be mitigated at 3:1, medium at 2:1, and lowest at 1:1 throughout the plan area. For example, if habitat patch size is > 500 acres and is rank 3 or 4 in Model C2010, then it is categorized as the

best habitat and will be mitigated at 3:1; > 100 acres, but less than 500 acres and rank 3 or 4 will be mitigated at 2:1; <100 acres and any rank (1, 2, 3, or 4) will be mitigated at 1:1. This process would take a few weeks and would not require a habitat assessment for GCW. (A geologic assessment for karst would still be required). It also incentivizes the protection of larger patches.

Very little of the currently managed ("protected") GCW habitat in the SEPHCP area has any permanent protection, and therefore we recommend that such habitat not be counted as progress towards regional recovery. However, one way to achieve a goal of preserving new lands in Bexar County without causing financial difficulties is to investigate the purchase of management easements on protected lands. These acres would count toward a Biological Goal (like preserving 5000 acres in Bexar County), but would not count toward Take credits. So there would be no "double dipping" of existing preserve lands. Section 6 grants already do this.

## Page 25 Section 2.2.3 Participation Area

**Comment [RDH1]:** The distinction between this and "permit are" is unclear to me. Is this saying that, in the near future, take is only allowed to occur in the areas bulleted below, while conservation measures can occur anywhere?

Section 2.4.1 under Golden Cheeked warbler, please change to:  
The species was listed as federally endangered via an emergency rule on May 4, 1990, with final ruling on December 27, 1990, and the Service....

### 3.2.3.1 GCW and BCV Participation

#### HABITAT IMPACT ASSESSMENTS

To streamline and simplify participation in the SEP-HCP, the SEP-HCP Administrator will typically determine the acres of GCW and BCV habitat that would be affected by a covered activity in the following manner:

1. All acres of suitable GCW and BCV habitat within a Project Area are assumed to be directly impacted by the covered activity ("On-site Habitat Impacts"). Portions of a Project Area within an Occupied Cave Zone or within critical habitat for a listed karst invertebrate will be excluded from the assessment of direct impacts if karst participation for these zones is not obtained.
2. All acres of suitable GCW and BCV habitat within 300 feet outside of a Project Area are assumed to be indirectly impacted by a covered activity ("Off-site Habitat Impacts"). Any area within an Occupied Cave Zone or within critical habitat for a listed karst invertebrate that is excluded from the assessment of direct impacts will be considered indirectly impacted.

**Comment [RDH2]:** Does this mean take would not be authorized in this area?

**Comment [RDH3]:** This is not clear to me. Please clarify.

To potentially reduce the number of habitat acres that are assumed to be affected by a covered activity, a potential participant may optionally submit species survey information collected in accordance with the Service's presence/absence protocols with their application. The SEP-HCP Administrator will exclude patches of GCW and BCV habitat from the habitat impact assessment that are shown by such surveys to not be occupied by the species. For the purpose of the SEP-HCP, individual "patches" of GCW and BCV habitat are discrete areas of suitable habitat separated from other such patches by at least 50 feet. A single year of surveys conducted no more than three years prior to the date of application will be sufficient to refine the impact assessment for participation in the SEP-HCP.

**Comment [RDH4]:** Does this imply that one year of survey is sufficient to determine absence of GCW or BCV at a site? If yes, does that meet FWS guidelines?

TABLE 6. SEP-HCP Mitigation Ratios for GCW and BCV Habitat Impacts.

|  | GCW  | BCV  |
|--|--|--|
| On-site Impacts<br>(Directly Taken Habitat)            | 2 : 1<br><br>(2 acres of protected GCW habitat as mitigation for each acre of directly taken habitat)      | 1 : 1<br><br>(1 acre of protected BCV habitat as mitigation for each acre of directly taken habitat)       |
| Off-site Impacts and Other<br>Indirectly Taken Habitat | 0.5 : 1<br><br>(0.5 acre of protected GCW habitat as mitigation for each acre of indirectly taken habitat) | 0.5 : 1<br><br>(0.5 acre of protected BCV habitat as mitigation for each acre of indirectly taken habitat) |

**Comment [RDH5]:** What forced the ratios down from our original numbers (i.e., 3:1, 2:1)? I don't see much conservation benefit for either species with these ratios.

TABLE 9. Activities Eligible for Karst Coverage at Different Conservation Levels.

| Location of Activity | Conservation Level  |                                      |   |
|----------------------|---|--------------------------------------|---|
|                      | 1<br>(downlisting criteria not yet achieved)  | 2<br>(downlisting criteria achieved) | 3<br>(2x downlisting criteria achieved) |
| Critical Habitat     | Not Covered   | Not Covered                          | Available                               |
| Occupied Cave Zone   | Not Covered unless 1 high quality or 2 medium quality karst preserves are accepted in lieu of participation fees for each affected cave | Available                            | Available                               |

TABLE 9. Activities Eligible for Karst Coverage at Different Conservation Levels.

| Location of Activity             | Conservation Level  |  |   |
|----------------------------------|---|--|---|
|                                  | 1<br>(downlisting criteria not yet achieved)  | 2<br>(downlisting criteria achieved)   | 3<br>(2x downlisting criteria achieved) |
| Karst Zones 1 and 2 <sup>1</sup> | Available with special conditions for void surveys and additional Service consultation for voids occupied by Category 2 karst species | Available with special conditions for void surveys until Conservation Level 2 is achieved for all species in a KFR | Available                               |
| Karst Zones 3 and 4 <sup>1</sup> | Available   | Available  | Available                               |

<sup>1</sup> Applies only to areas outside of Critical Habitat Units and Occupied Cave Zones.

**Comment [RDH6]:** This is the first time "category 2 karst spp" is mentioned in the draft. Needs to be defined in chapter 2 (as does "category 1"), especially since it is used frequently from this page onward.

**Seasonal Clearing and Construction Restrictions**

Participation Agreements will require SEP-HCP participants to minimize impacts to the GCW and BCV during their respective breeding seasons by imposing seasonal clearing and construction restrictions. These seasonal clearing restrictions will only apply to voluntary SEP-HCP participants on Project Areas enrolled in the SEP-HCP. Bexar County will not impose these restrictions on non-participants or lands not enrolled in the SEP-HCP.

The seasonal clearing and construction restrictions will be in effect between March 1 through July 31 for activities affecting GCW habitat and between March 15 through August 31 for activities affecting BCV habitat.

No clearing or other removal of woody vegetation that would cause the loss or degradation of suitable habitat for the GCW or BCV may occur during these periods. Other construction-related activities that do not involve the removal of vegetation may occur during these periods if (1) the construction activities are part of a continuous set of clearing and/or construction activities that began during the non-breeding season; (2) the activities are performed in a reasonably prompt and expeditious manner; and (3) the disturbance activity is mitigated appropriately for all direct and indirect effects on and off of the project site (i.e., the participant is complying with all of the terms and conditions of the Participation Agreement).

**Comment [J7]:** Not clear. Does this mean

The SEP-HCP Administrator may grant exceptions to these restrictions if a GCW or BCV survey conducted during that species' breeding season indicates that the species is not present within 300 feet of the planned activity. An applicable species survey must be conducted in the same year as the start of the planned clearing or construction activity. The dates for seasonal restrictions are supported by the breeding phenologies presented in Ladd and Gass (1999) and Grzybowski (1995) (see the GCW and BCV assessments in Appendix C).

**Comment [J8]:** Results from one survey season is sufficient to determine absence from a site?



**Oak Wilt Prevention**

Participation Agreements will require SEP-HCP participants to minimize potential impacts to GCW habitat

Please change to read “to minimize potential impacts to GCW and BCV habitat

Participation in the SEP-HCP will be voluntary, and it is expected that not all of the anticipated GCW and BCV habitat losses will actually be authorized through the SEP-HCP. Some project proponents may seek authorization for incidental take directly from the Service via interagency consultations or with individual Habitat Conservation Plans. Others may choose to design projects in a way that avoids incidental take and results in no obligation to seek ESA compliance. Finally, some project proponents may otherwise determine that ESA compliance is not necessary or desired for their project.

**Comment [RDH9]:** Is it possible to include somewhere in the introductory chapters what the penalties may be for not complying with the ESA? This makes it sound like compliance with the law is optional.

Page 64, Table 14 change “Achieve Recovery” to “Achieve Regional Recovery”  
Page 66, 3<sup>rd</sup> paragraph, 4<sup>th</sup> line, 150 acres potential GCW... is missing the word “of”

Section 4.4.3

“Society on the number/distribution”: replace ‘/’ with ‘and’

Other approved regional habitat conservation plans for the GCW (i.e., the Williamson County, Hays County, and Comal County regional plans) have basic mitigation ratios of 1 acre of protected habitat for each acre of impacted habitat. Service policy also advises that adjacent plans should have similar mitigation requirements (see the Service’s HCP Handbook, page 3-23).

**Comment [RDH10]:** Even if conditions in adjacent areas are very different from one another? This doesn’t offer much room for improving upon the status quo.

For the SEP-HCP, the loss of GCW habitat is expected to be greatest within Bexar County and the “high growth” portions of adjacent counties (see the Section 4.3.3). However, it is anticipated that a substantial portion of the corresponding mitigation may be located outside of this high growth area, where development pressures are less intense and larger preserves may be acquired more cost effectively.

As described in more detail below, the GCW mitigation ratios for SEP-HCP participants will generally be set at the equivalent of 2 acres of protected habitat for each acre of habitat that is impacted. While other regional habitat conservation plans for the GCW only require a 1:1 basic mitigation ratio, the geographic extents of these plans are confined to a single county and ensure that mitigation will be located close to the impacts. For the SEP-HCP, a higher 2:1 mitigation ratio is used to compensate for the wide-ranging distribution of preserves across a seven-county Plan Area. Bexar County believes that this approach provides an appropriate and practicable level of mitigation for the anticipated impacts to the GCW. This approach is consistent with the requirements of the ESA, Service policy, and the purpose, goals, and objectives of the SEP-HCP.

**Comment [RDH11]:** This is not a clear justification for 2:1 ratio. Why does this only apply to GCW and not BCV?

For the BCV, the SEP-HCP will generally use a simple mitigation ratio of 1 acre of protected habitat for each acre of habitat that is impacted. This ratio is consistent with the requirements of the ESA, Service policy, and the purpose, goals, and objectives of the SEP-HCP. Based on information

from the Texas Parks and Wildlife Department and the Service, BCVs have not been recorded in high numbers within or in the immediate vicinity of Bexar County. Only a small population of BCVs has been documented on protected lands in Bexar County and there are no recent records of the species from Comal County. ~~Therefore, it may be unnecessary to focus BCV conservation efforts in Bexar County.~~

Comment [RDH12]: Based on how much survey effort?

Comment [RDH13]: Seems like this could be used as a loophole for people not to try to conserve BCV habitat in Bexar.

**OBJECTIVE 1: Permanently protect and manage double the number of karst preserves needed to downlist each of the listed karst invertebrates, as described in the 2008 Bexar County Karst Invertebrates Draft Recovery Plan.**

One of the stated purposes of the SEP-HCP and a principle biological goal is to contribute to the recovery of the Covered Species in a substantial or meaningful way. In the case of the listed karst invertebrates, the SEP-HCP seeks to achieve double the Service's draft downlisting criteria in terms of number and type of preserves in each KFR. The rationale for this objective is based on both the practicality of measuring take and issuing participation permits and also on biological reasons.

Measuring the amount of harm to listed karst invertebrates and determining an appropriate level of mitigation is a complex task. First, the Category 2 karst species occur in so few localities that any direct take of an entire cave may not be permissible by the Service (e.g., there is a potential that jeopardy would occur). Second, there are a wide variety of types of impacts, many of which degrade habitat but do not necessarily cause direct take. Weighing the myriad potential habitat degradations against specific habitat improvements is not feasible in the scope of a streamlined permitting process, and the balance of specific degradations against specific conservation actions may not be conclusively validated by scientific research. Finally, there is a paucity of information on the long-term effects of the various types of impacts. Therefore a conservative approach to karst conservation may be prudent.

Biological reasons for the level of proposed karst conservation include: (1) substantial uncertainties regarding the taxonomic status of these poorly known species; (2) a lack of knowledge about the persistence of the species within preserves under changed circumstances; and (3) the paucity of basic biological and habitat and range information for these species.

Comment [RDH14]: Aren't these reasons *not* to include the species in an incidental take permit? I'm unclear on the reasons why category 2 species are included in the permit.

Section 6.1

1<sup>st</sup> paragraph, 4<sup>th</sup> line missing "of": awarded a number of "conservation credits"

***Other GCW and BCV Conservation Measures***

Comment [RDH15]: Need to include a section on management (e.g., see section 7.3.2)

Section 7.3.1 second paragraph delete "tens of"  
Section 8.1.4 2<sup>nd</sup> paragraph delete the term "nuisance"

**8.1.5 Adaptive Management Commitments**

The SEP-HCP Administrator will not be required to implement management or monitoring activities that are not practicable. Practicability may be influenced by the level of funds available for

Comment [RDH16]: The way this is worded, it seems to leave open the option not to manage or monitor at all. The plan is worthless if neither are enforced.

Page 111

The estimated size of the karst preserve system is 2,400 acres, which represents the

**Comment [j17]:** How was this number derived? It seems inappropriate to request 16,500 ac of take (p. 70) and offer only 2,400 ac of preserve.

Page 117

While the Funding Plan models a small tax

**Deleted:** s

Section 14.0 Glossary of Terms

Category and definition for the following should be included in Chapter 2: Category 1 Karst Species and Category 2 Karst Species

## Comment Set #2

Overall, it seemed to be very close to what we've been discussing for the last year. Here are a few things that I noticed.

In Section 2.4.2 (Voluntarily Covered Species) it says that Tobusch fishhook cactus has been recently recommended for downlisting to threatened status. I'm not sure where this came from. I haven't seen anything official from USFWS. I might have mentioned at a meeting that I thought that it could be downlisted to threatened, but neither I nor anyone or any agency or NGO have made an official statement. Unless this statement can be referenced, it should be deleted. Also, under Tobusch fishhook cactus, threats in addition to those mentioned include parasitism by a longhorn beetle and mammal herbivory.

In this same section under big red sage, Kerr County needs to be added to the distribution. The species was found there last summer on the North Fork of the Guadalupe River by Bill Ward, Patty Leslie Paztor, and others.

Same section, bracted twistflower. Chris Best, USFWS botanist for Texas, sent a review of this species to the USFWS Regional Office, recommending that this species become a candidate. As far as I know he hasn't heard anything back yet, but someone at Loomis and/or Bexar County should get on Chris' email list to be notified when he hears the results.

Section 8.1.1 (Assessing Baseline Conditions) under "General Preserve Information" in the first bullet, I would suggest adding conducting a plant species inventory so that any rare species and/or endemics as well as invasive species are found. It would also be helpful if the general location and abundance of all plant species could be noted as well. You won't get this through vegetation transects or descriptions of the major community types.

In Appendix B, General Vegetation Communities, Section 2.3 South Texas Plains Ecoregion, note that plains bristlegrass is not *Setaria vulpiseta*. It's *S. macrostachya*. I'm sure that this happened by looking up a common name in the PLANTS database. Plant common names are not standardized although the PLANTS database would like everyone to think so. Aside from one citation in one of the statewide checklists, no other Texas references use this species. Nor does Flora North America.

I wasn't going to point out typos, etc. but this one is on the cover page of the Terrains, Soils and Geology review (Appendix B). It should be Conservation in the title, not Sonservation. And in the Plant Species of Concern review, under Section 2.10 Llano Butterweed, the second paragraph starts with "Llano bitterweed". It's butterweed; bitterweed is an entirely different plant.

Still in Appendix B, Plant Species of Concern review, Section 2.17 Big Red Sage has been relocated in Kerr County so the paragraph needs to be changed. Also, browsing should be added to the threat section.

Still in Appendix B, Plant Species of Concern review, Section 2.19 bracted twistflower, see my previous comment about this species potentially becoming a candidate for federal listing. Also in the third paragraph, first sentence change "bracketed" to "bracted".

And that's it for my comments. I was impressed that it was such a well-written document.

### Comment Set #3

I am sending this comment to the group now since it represents a significant departure from my previous position regarding buffer areas. I carefully reviewed Veni et al (2002) and examined Veni's estimates of surface and subsurface drainage basins for a couple dozen ES caves in Bexar County. In all but a couple of cases, the estimated surface and subsurface drainage basins were significantly smaller than the area defined by the 345-ft cricket foraging buffer. A buffer based on combining the areas covered by the 345-foot cricket foraging buffer, surface drainage basin, and subsurface drainage basin (if available) would best capture the area of greatest sensitivity. Granted, landowners cannot necessarily control areas that extend beyond the property line so drainage basins may be truncated in this approach. Nonetheless, in most cases, the combined buffer area would be identical to the area covered by the 345-ft buffer.

This would result in the following changes on page 46 of the draft document:

- A map showing the footprint, a 150-foot buffer, and a 345-foot buffer around each species-occupied feature (i.e., "Occupied Cave Zones").[\[a1\]](#)
- A map showing the boundaries of any CHUs that occur within or within 300 feet of the Project Area.

Comment [a18]:

Participants must also submit maps of the approximate surface and, if available, subsurface drainage basins of the feature, with a description of the methods used to delineate these areas.[\[a2\]](#) Therefore, at the time of application, potential participants and the SEP-HCP Administrator should know if a Project Area:

Comment [a19]:

### General

Seems that a great deal is left to the discretion of the Permit Administrator, who may/may not seek the counsel of biologists, financial planners, citizens advisory groups, and who may be significantly influenced by politics and the political climate. See page 24 (section 2.1.4). I also am concerned about how the Permit Administrator will actually manage properties to maintain or improve conservation value and how the Administrator will negotiate in lieu land acquisition..

Document is quite repetitive. Sometimes whole paragraphs seem to be repeated verbatim.

This draft is incomplete in that there are sections, such as 4.4.6 and 4.5 (on p.79) that have not been fully composed—but just consist of a list/outline of topics to be covered.

After everything Willie Conrad said, I found no suggestion of establishing a process for dealing with what happens when conservation and public usage issues “collide”.

I did not see much on Voluntarily Conserved Species (except for their names in a list). If these species are supposed to have conservation measures implemented—I did not see that explained or detailed.

### Comments/Questions Specific to Main Document (pages cited are page numbers of Draft SEPHCP text)

#### P.1

The SEP-HCP will also provide a voluntary option for achieving compliance with the federal Endangered Species Act (“ESA”) with respect to 11 endangered species (i.e., the SEP-HCP “Covered Species”). The Covered Species include the following:

- Golden-cheeked warbler – *Dendroica chrysoparia*, “GCW”
- Black-capped vireo – *Vireo atricapilla*, “BCV”
- Listed Karst Invertebrates:
  - Government Canyon Bat Cave Spider (*Neoleptoneta microps*)
  - Robber Baron Cave Meshweaver (*Cicurina baronia*)
  - Madla Cave Meshweaver (*Cicurina madla*)
  - Bracken Cave Meshweaver (*Cicurina venii*)
  - Government Canyon Bat Cave Meshweaver (*Cicurina vespera*)
  - *Rhadine exilis* (no common name)
  - *Rhadine infernalis* (no common name)

Comment [cu20]: Add explanation of the difference between cat 1 and cat 2

- Helotes Mold Beetle (*Batrisodes venyivi*)
- Cokendolpher Cave Harvestman (*Texella cokendolpheri*)

I really don't understand this. I thought the permit would cover category 1 species now, category 2 if/when there are sufficient populations so that incidental take could be permitted. In addition, I thought there were also category 3 and category 4 species. Why isn't this all explained, including listing the species in each category?

PP 3-4 See red comments boxes for parts that were left out of BAT approved document

Therefore, the purposes and objectives of the SEP-HCP are:

- 1) REGIONAL CONSERVATION: To design and implement a regional conservation program focusing on habitat protection for the covered species and that supports the conservation of other regionally important natural resources.
  - a) Protect and manage native habitats for the golden-cheeked warbler, black-capped vireo, and other native species that depend on these habitats.
  - b) Protect and manage karst habitat, surface and subsurface drainage basins, and surface vegetative communities for sensitive karst organisms.
  - c) Contribute to recovery of the region's threatened or endangered species.
  - d) Contribute to the protection of other important ecosystem functions, such as water quality and quantity in the Edward's Aquifer system.
  
- 2) SUPPORT FOR CAMP BULLIS: To support the military training mission at Camp Bullis by helping to alleviate local and regional endangered species issues.
  - a) Facilitate and promote ESA compliance on private lands in the vicinity of Camp Bullis.
  - b) Prioritize opportunities to protect and manage endangered species habitats in the vicinity of Camp Bullis.

**Comment [cu21]:** And the stabilization or improvement of the status of other rare species in the region to the extent practical

**Comment [cu22]:** By facilitating the incidental take permit process

P.6

- **Edwards Plateau Woodland** – The Edwards Plateau Woodlands represent the central part of the Edwards Plateau (and the northern part of the SEP-HCP Plan Area). Edwards Plateau Woodland is characterized by a savanna of grasslands with scattered oak, juniper, and mesquite trees. Some woodlands or shrublands in this region provide habitat for the GCW or BCV.

**Comment [cu23]:** This makes it sound like the area is largely savannas of grasses with scattered trees. I think the area is dominated more by live oak and juniper trees with scattered grasslands.

P.7

The Texas Parks and Wildlife Department identified nearly 70 percent of the vegetation communities in the SEP-HCP Plan Area as some combination of oak and juniper woodlands or parklands (McMahan et al. 1984). Similarly, the National Land Cover Dataset also mapped approximately 70 percent of the Plan Area as woodland or shrubland (Homer et al. 2004). Land cover changes during the 1990's indicate that the conversion of forest/woodland cover to another land cover type (most commonly grassland/shrub vegetation) was the most common land cover change in the Plan Area and resulted in a net loss of approximately 127,447 acres of forest cover (approximately 8 percent of the total) during that decade. Urban land cover types increased by approximately 12 percent during the 1900's, and were mostly frequently created from areas that were previously forested.

**Comment [cu24]:** Definition?

**Comment [cu25]:** most

p.14

Approximately 50,000 acres of potential GCW habitat may occur within these existing conservation lands, and at least some of these currently conserved properties contain known populations of the BCV.

**Comment [cu26]:** I am suspect of this number. Many of the areas listed are small and are surrounded by development so there is no potential to add greenspace onto them (like Huebner Creek Park); are tiny (Oxbow Park is < 1 acre); or have no habitat (Voelcker Park).

Potential habitat for the listed karst invertebrates occurs on 77 of the existing conservation parcels, and these properties include approximately 22,600 acres over Karst Zone habitat (zones 1 through 4). In addition, eight of the Critical Habitat Units (CHUs) identified by the Service for these species occur entirely or partially on existing conservation lands.

p.25 and figure 1 (p.2)

## Participation Area

While the Permit Area defines where the SEP-HCP's incidental take authorization may legally be used for the purposes of the Incidental Take Permit, the SEP-HCP establishes additional administrative conditions on where it will use its incidental take authorization. These administrative limits are intended to be responsive to the desires and concerns of other communities within the Plan Area for partnering with Bexar County in this regional plan. These administrative limits initially restrict the use of the SEP-HCP's incidental take authorization to:

- The geographic extent of Bexar County;
- The geographic extent of SEP-HCP sectors within the Permit Area that are adjacent to Bexar County; and
- The geographic extent of individual activities anywhere within the Permit Area that the Bexar County or the City of San Antonio (as a significant SEP-HCP Partner) deem beneficial on a case-by-case basis.

Reading this text and looking at the map (figure 1)—I don't understand why half of Bexar County appears (on the map defined by a brown line) to be omitted from the Participation Area.

Why are sectors (I assume SEP-HCP sectors = census sectors) used to define the participation area rather than the 5 mi extent the BAT recommended?

p.26

- The listed karst invertebrates are threatened by primarily habitat loss associated with filling or collapsing of caves, alternation of natural drainage patterns and surface plant and animal communities, contamination of groundwater, and quarry or mining operations.

Comment [cu27]: alteration

Simple typo.

p.27

- **Helotes Mold Beetle (*Batrisodes venyivi*)** – A karst-dwelling beetle that is currently known from known from eight caves in Bexar County.

Comment [cu28]: repetitive

Typo.

P.33

For example, potential participants with Project Areas occurring over Karst Zone 1 (which area areas known to contain listed karst invertebrates) and within the range of the GCW must submit both karst survey results and a GCW habitat assessment with the application.

Comment [cu29]: are

Typo

Pp 33-34

GCW and BCV habitat assessments supporting an application for SEP-HCP participation must meet the following criteria:

- Must be prepared by a biologist holding valid USFWS Threatened and Endangered Species permits for the GCW and BCV;
- Must delineate all portions of the Project Area that meet the Service's definition of suitable habitat for GCW and BCV (currently reported in Campbell 2003, but subject to future revision), regardless of occupancy;
- Must delineate areas of suitable GCW and BCV habitat that occur within 300 feet outside of the Project Area boundary;
- Must be based on a review of the best available information, and must include a discussion of actual site conditions as determined from a site visit to the Project Area and any accessible adjacent properties by the preparing biologist;

Comment [cu30]: I think that this should be reworded. As written this statement could be construed to mean that the habitat has to be suitable for both GCWs and BCVs. Maybe just replace "and" with "and/or suitable habitat for".

- Must have been completed no more than three years prior to the date of the application; and
- Must include a description of the information and methods used to delineate areas of suitable GCW and BCV habitat.

**Comment [cu31]:** I am not comfortable with the 3 yr period. Applying for a permit basically says there is occupied habitat. Why would someone need to be able to submit a 3 yr old habitat assessment?

Potential participants may optionally submit additional species survey information that identifies occupied and unoccupied habitats within the Project Area. Survey data that was collected in accordance with the Service's GCW and BCV presence/absence survey protocols, if provided, may help refine the mitigation assessment (see Section 3.2.3.1 for more details).

**Comment [cu32]:** were

p.36

- **Step 1:** Conduct an initial karst feature surface survey for the presence of caves, voids, or other karst features. If no karst features are found within the Project Area, then no further investigation is needed.
- **Step 2:** If karst features are identified within the Project Area, then assess each feature for the characteristics of suitable karst invertebrate habitat. This step may require some excavation to determine if a feature has the potential to lead to a void with suitable habitat. If none of the karst features has the characteristics of suitable karst invertebrate habitat, then no further investigation is needed.
- **Step 3:** If features with suitable habitat are identified, then a Service-permitted karst invertebrate biologist must conduct a presence/absence survey of each potentially occupied feature to determine whether or not the feature is occupied by one or more of the listed karst invertebrates. If none of the listed karst invertebrates is found in the surveyed features, then no further investigation is needed.
- **Step 4:** For karst features that are found to contain one or more of the listed karst invertebrates, a Service-permitted karst biologist must, to the extent practicable, map the humanly accessible footprint of the cave.

**Comment [cu33]:** BAT rec 11.17.10: prefer that geologists performing these surveys have experience conducting karst invert habitat with a permitted biologist

**Comment [cu34]:** BAT rec 11.17.10 geologists be experienced (same language as above comment)

**Comment [cu35]:** Shouldn't this be a geologist?

p.37

- A map showing the footprint, a 150-foot buffer, and a 345-foot buffer around each species-occupied feature (i.e., "Occupied Cave Zones").
- A map showing the boundaries of any CHUs that occur within or within 300 feet of the Project Area.

**Comment [cu36]:** Add "the surface drainage basin and subsurface drainage basin (if available)

Participants may also submit maps of the approximate surface and subsurface drainage basins of the feature, with a description of the methods used to delineate these areas; although, drainage basin information is not required. Participants may elect to use the boundaries of a feature's surface drainage basin instead of the 150-foot buffer and the feature's subsurface drainage basin instead of the 345-foot buffer. If a participant elects to use the drainage basins are used in place of the designated buffer distances, these drainage basin boundaries will delineate the Occupied Cave Zones for that feature.

**Comment [cu37]:** Replace with: Participants must also submit maps of the approximate surface and, if available, subsurface drainage basins of the feature, with a description of the methods used to delineate these areas.

See also Andy G.'s recommended changes with which I agree (except Andy referenced p 46 and I think it should be p 37)

**P.38**

HABITAT IMPACT ASSESSMENTS

To streamline and simplify participation in the SEP-HCP, the SEP-HCP Administrator will typically determine the acres of GCW and BCV habitat that would be affected by a covered activity in the following manner:

3. All acres of suitable GCW and BCV habitat within a Project Area are assumed to be directly impacted by the covered activity ("On-site Habitat Impacts"). Portions of a Project Area within an Occupied Cave Zone or within critical habitat for a listed karst invertebrate will be excluded from the assessment of direct impacts if karst participation for these zones is not obtained.
4. All acres of suitable GCW and BCV habitat within 300 feet outside of a Project Area are assumed to be indirectly impacted by a covered activity ("Off-site Habitat Impacts"). Any area within an Occupied Cave Zone or within critical habitat for a listed karst invertebrate that is excluded from the assessment of direct impacts will be considered indirectly impacted.

**Comment [cu38]:** I don't understand this. If karst participation for these zones is not obtained, why would they be exempt from direct impacts?

**Comment [cu39]:** I don't understand. Does this mean that if there is an occupied cave zone or CHU and this cave zone/CHU has BCV/GCW habitat within 300 ft, then the Cave Zone/CHU can only be indirectly impacted?

p.38

To potentially reduce the number of habitat acres that are assumed to be affected by a covered activity, a potential participant may optionally submit species survey information collected in accordance with the Service's presence/absence protocols with their application. The SEP-HCP Administrator will exclude patches of GCW and BCV habitat from the habitat impact assessment that are shown by such surveys to not be occupied by the species. For the purpose of the SEP-HCP, individual "patches" of GCW and BCV habitat are discrete areas of suitable habitat separated from other such patches by at least 50 feet. A single year of surveys conducted no more than three years prior to the date of application will be sufficient to refine the impact assessment for participation in the SEP-HCP.

**Comment [cu40]:** Where did all this come from? I don't see how a single yr of sureys is adequate, especially if it can be 3 yrs old. You could do surveys one year, development could occur in neighboring areas, and the birds could move to the site of the project seeking an incidental take permit. If one yr's worth of surveys is sufficient, I think those surveys need to be done within one yr. See also p 55 for why 1 yr of surveys seems insufficient

From p 55 of the draft:

"... number, size, and location of individuals or breeding territories on a property that may vary from year to year. In addition, the impacts of a given activity may not be fully felt in a single season and may be spread over several or even many years,. During this time, the utilization of a given area may vary quite significantly for reasons unrelated to the activity in question. This variability is influenced by species preferences or environmental factors that may include natural year-to-year variations in the precise habitat utilized by individual animals, variations in individual behavior that influence detectability, variations in the ability of surveyors to detect and accurately map individuals,

and survey methodology. Therefore, estimates of take and mitigation based on impacts to individuals or territories as delineated by surveys in any given year are highly variable.”

MITIGATION RATIOS

The SEP-HCP Administrator will apply the mitigation ratios shown in Table 6 to the number of acres of GCW and BCV habitat that are assumed to be impacted by a covered activity.

Comment [cu41]: Where did these figures come from??? I want to discuss this with rest of BAT.

TABLE 6. SEP-HCP Mitigation Ratios for GCW and BCV Habitat Impacts.

|  | GCW  | BCV  |
|--|--|--|
| On-site Impacts<br>(Directly Taken Habitat)            | 2 : 1<br><br>(2 acres of protected GCW habitat as mitigation for each acre of directly taken habitat)      | 1 : 1<br><br>(1 acre of protected BCV habitat as mitigation for each acre of directly taken habitat)       |
| Off-site Impacts and Other<br>Indirectly Taken Habitat | 0.5 : 1<br><br>(0.5 acre of protected GCW habitat as mitigation for each acre of indirectly taken habitat) | 0.5 : 1<br><br>(0.5 acre of protected BCV habitat as mitigation for each acre of indirectly taken habitat) |

For the purpose of evaluating participation in the SEP-HCP, an "Occupied Cave Zone" will be established around each of the species-occupied caves found within or adjacent to a Project Area during the pre-application surveys. The Occupied Cave Zone will extend 345 feet from the mapped footprint of the cave or may optionally be delineated as the extent of the surface and subsurface drainage basins of a cave. The defined distance buffer approximates the currently known foraging area of cave crickets, which are an important component of the cave ecosystem.

To be consistent with Andy's recommendation for changes to text on p.37 of the Draft, changes also need to be made to this paragraph. I believe the option of considering surface and subsurface drainage basins (instead of 345 cave cricket foraging range buffer) needs to be removed.

Potential participants wishing to complete the enrollment of a project in the SEP-HCP may purchase the appropriate number of conservation credits from the SEP-HCP Administrator. The number of conservation credits that must be purchased to complete enrollment are determined by the SEP-HCP Administrator as described in Section 3.2.3.1 – Mitigation Ratios.

Comment [cu42]: is

The purchase fees for each GCW and BCV conservation credit are set at the discretion of the SEP-HCP Administrator and may change over time. The SEP-HCP Administrator will publically advertise the current fee amounts on a program website, with printed program brochures, or other through similar methods of communication. Initially, the SEP-HCP Administrator will set the per credit fees at the following levels:

Comment [cu43]: advertise

Comment [cu44]: through other

Grammatical and/or spelling mistakes

p.45

IN-LIEU PRESERVE LANDS

In lieu of purchasing conservation credits from the SEP-HCP conservation bank, a potential participant may offer GCW and BCV preserve land as full or partial mitigation for a covered activity. The SEP-HCP Administrator will have the discretion to accept or reject all offers of preserve land in lieu of conservation credit purchases on a case-by-case basis. Any preserve land offered by a potential participant as mitigation for a participating Covered Activity must meet the minimum standards for a SEP-HCP GCW or BCV preserve, as described in [Section 6.2.1](#). By accepting an offer of in-lieu preserve land, the SEP-HCP Administrator commits to protect and manage the offered preserve land in perpetuity, in the same way as other SEP-HCP preserves. The level of mitigation provided by an offer of preserve land will be established in the same manner as for other SEP-HCP preserves and will be expressed in terms of the number conservation credits for each species.

**Comment [cu45]:** Don't recall discussing this. Seems like rules need to be written to guide this process. Is in lieu lands done at the same mitigation ratios as conservation banking?

p.45

- Option 2: The SEP-HCP Administrator may negotiate the purchase the excess credits from the participant and make the excess credits available for purchase at large by other potential participants.

**Comment [cu46]:** of

Pp45-46

TABLE 10. Initial Karst Participation Fee Levels.

| Fee Zone               | Applicability  | Initial Amount     |
|------------------------|--|--------------------|
| Karst Zone 3 and 4     | Portions of a Project Area over Karst Zones 3 or 4, but outside of an Occupied Cave Zone or Critical Habitat Unit.   | \$100 per acre     |
| Karst Zone 1 and 2     | Portions of a Project Area over Karst Zones 1 or 2, but outside of an Occupied Cave Zone or Critical Habitat Unit.   | \$500 per acre     |
| Occupied Cave Zone "B" | Portions of a Project Area that are between 150 feet and 345 feet of a species-occupied cave or optionally within the subsurface drainage basin of a cave. Assessed for any physical incursion within this zone. Zone "B" fee is waived if Zone "A" fee is paid for a feature. | \$40,000 per cave  |
| Occupied Cave Zone "A" | Portions of a Project Area that are within 150 feet of a species-occupied cave or optionally within the surface drainage basin of a cave. Assessed for any physical incursion within this zone.  | \$400,000 per cave |

**Comment [cu47]:** Another place where the option may need to be removed based on Andy's recommendation as related to 345 ft vs surface and subsurface drainage basins.



p.47

- One high quality karst preserve or two medium quality karst preserves for each of the listed species within an Occupied Cave Zone may be accepted in lieu of participation fees before Conservation Level 2 has been achieved. The karst preserves must be located in the same KFR as the Project Area. Acceptable offers of this nature may allow coverage of activities within an Occupied Cave Zone before Conservation Level 2 has been achieved for those species in that KFR.

All accepted offers of preserve land will also require the approval of the Service to be used as mitigation for the impacts of incidental take. Exceptions to these general standards may also be accepted by the SEP-HCP Administrator, with approval of the Service.

**Comment [cu48]:** Why not also for BCV and GCW

p.49

No clearing or other removal of woody vegetation that would cause the loss or degradation of suitable habitat for the GCW or BCV may occur during these periods. Other construction-related activities that do not involve the removal of vegetation may occur during these periods that (1) the construction activities are part of a continuous set of clearing and/or construction activities that began during the non-breeding season; (2) are performed in a reasonably prompt and expeditious manner; and (3) the disturbance activity is mitigated appropriately for all direct and indirect effects on and off of the project site (i.e., the participant is complying with all of the terms and conditions of the Participation Agreement).

**Comment [cu49]:** define

p.50

Special conditions related to the listed karst invertebrates will include measures requiring the investigation of accidentally discovered voids for the presence of listed species, additional consultation with the Service if the very rare Category 2 karst species are encountered, and implementation of best practices to minimize impacts to species-occupied caves.

**Comment [cu50]:** I thought the Service was going to decide about all karst species, not just cat 2, on a case by case basis.

p.51

### **Investigation of Accidentally Discovered Voids**

The SEP-HCP may cover activities that occur over Karst Zones 1 and 2 before the draft downlisting criteria have been achieved, but participants will be required to investigate accidentally discovered voids encountered during implementation of the Covered Activity for the presence/absence of Category 2 karst species. The requirements for investigating accidentally discovered voids will be lifted within a KFR once Conservation Level 2 has been achieved for all species known to occur in that KFR.

**Comment [cu51]:** Why not also cat 1 sp? Just figure if you are looking anyway...

p.51

Participants may utilize an abbreviated survey protocol when evaluating accidentally discovered voids. This abbreviated protocol involves a shortened survey period requiring five survey visits in one week versus the standard protocol requiring three visits over three weeks. The abbreviated survey protocol need not adhere to the Service's recommended suitable sampling conditions, but consistency with these recommendations is encouraged. However, all other standard survey protocols should be followed, including sampling thoroughness, specimen collection and preservation, baiting, and reporting.

**Comment [cu52]:** Even if NONE of the sampling conditions meet Service's recommendations? This seems wrong to me.

p.52

- store fuel and other hazardous materials outside of the Project Area or outside of the surface and subsurface drainage basins of a species-occupied cave.

**Comment [cu53]:** What about cave cricket foraging zone for these two bullets

- avoid refueling equipment or vehicles within the Project Area or the surface and subsurface drainage basins of a species-occupied cave; and

p.53

So long as the SEP-HCP's Incidental Take Permit remains in effect and a participant is in compliance with its Participation Agreement, that participant shall be deemed to have (with respect to the property covered by the Participation Agreement) the full rights, benefits, and authorizations of the SEP-HCP Incidental Take Permit. The Service agrees that a breach by a participant of its obligations under a Participation Agreement will not be considered a violation by Bexar County, the SEP-HCP Administrator, or any other participant or partner of the SEP-HCP. In the event a participant has materially breached its Participation Agreement and, after reasonable notice by Bexar County and opportunity to cure, such participant fails to cure, remedy, rectify, or adequately mitigate the effects of such breach, then Bexar County or the Service may terminate that participant's Participation Agreement.

Comment [cu54]: What does this mean?

p.55

Incidental take of the Covered Species will be measured in terms of the direct and indirect impacts to potential habitat that results from otherwise lawful land uses. Impacts to habitat will be used as a proxy for impacts to individual animals, breeding pairs, or territories, since the actual abundances of the Covered Species within any particular Project Area are unknown.

Comment [cu55]: result

p.65

TABLE 14. Estimated GCW Regional Recovery Potential.

|  | 7-county Plan Area <sup>1</sup> | Bexar/Kendall/Comal Counties <sup>2</sup> |
|--|---------------------------------|---|
| GCW Regional Recovery Standards <sup>3</sup>                           |                                 |   |
| GCW Population   | 6,000 pairs                     | 3,000 pairs                               |
| Protected Habitat  | 150,000 ac                      | 75,000 ac                                 |
| Estimated Current Progress Towards GCW Regional Recovery               |                                 |   |
| Total Available GCW Habitat (Model C2010 - Ranks 3 and 4) <sup>4</sup> | 674,059 ac                      | 255,484 ac                                |
| Currently Protected GCW Habitat <sup>5</sup>                           | 48,682 ac                       | 23,005 ac                                 |
| Additional Habitat Acres Needed to Achieve Recovery                    | 101,318 ac                      | 51,995 ac                                 |
| Estimated Habitat Availability for Future GCW Conservation Actions     |                                 |   |
| Habitat Acres Not Currently Protected                                  | 625,377 ac                      | 232,479 ac                                |

Comment [cu56]: As indicated elsewhere I am not convinced that habitat designated as currently protected is very well protected. or actually amounts to the estimates given.

TABLE 14. Estimated GCW Regional Recovery Potential.

|   | 7-county Plan Area <sup>1</sup> | Bexar/Kendall/Comal Counties <sup>2</sup> |
|---|---------------------------------|---|
| Projected Future Habitat Loss Over 30 Years <sup>6</sup>  | 51,150 ac                       | 41,459 ac                                 |
| Remaining Habitat Available for Conservation Actions <sup>7</sup>   | 574,227 ac                      | 191,020 ac                                |
| Currently Available GCW Habitat In Excess of the Amount Needed to Achieve Recovery and Accommodate Projected Habitat Loss | 472,909 ac                      | 139,025 ac                                |

1 Assumes that the 7-county Plan Area represents the equivalent of two GCW recovery units.

2 Assumes that Bexar, Kendall, and Comal counties represent the equivalent of one relatively high priority GCW recovery unit. Consistent with the analysis presented in Groce et al. (2010).

3 Recovery standard targets are based on the recommendations of the 1992 GCW Recovery Plan and the 1995 GCW Population and Habitat Viability Workshop. Estimates of the amount of protected habitat needed to support a viable population are based on an average density of 4 GCW pairs per 100 acres (the approximate long-term density of GCWs found on Camp Bullis).

4 Includes the entire geographic extent of the 7-county Plan Area, including Comal County and Camp Bullis.

5 See analysis in the Existing Conservation Lands resource assessment in Appendix C, limited to Model C2010 Ranks 3 and 4.

6 See habitat loss projections described in Section xxx, including the SEP-HCP incidental take request.

7 Calculated as Habitat Acres Not Currently Protected minus Projected Future Habitat Loss. Represents the acres of habitat that are not currently protected or expected to be lost to development over 30 years.

p.66

A substantial amount of conservation at least partially benefiting the GCW has already been achieved in the Plan Area. The Plan Area already contains approximately 49,000 acres of GCW habitat that is within public or privately owned properties having some degree of protection from future development (see the *Existing Conservation Lands assessment in Appendix C*). In Bexar County alone, approximately 17,600 acres of potential GCW habitat occurs within existing protected lands, including Government Canyon State Natural Area, parks and natural areas owned by the City of San Antonio, and several privately owned conservation tracts. Depending on the level of protection specifically afforded the GCW, many of these existing protected lands could already be contributing to the recovery of this species. For example, 49,000 acres of currently protected GCW habitat may represent approximately 30 to 65 percent of the acreage needed to achieve recovery in this region.

**Comment [cu57]:** It is in Appendix B. Several of the city owned properties on the list either have no GCW/BCV or the acreage amounts are drastically overestimated. Moreover, the level of protection afforded several of these properties is very, very limited.

p.66

## BCV Recovery Potential

p.68

**Comment [cu58]:** Not near the detail and info as covered in GCW section (4.3.4)

Figure 3 (see page X) shows the boundaries of the Bexar County Karst Zones in relation to the SEP-HCP sectors and the general representation of each sector with respect to the KFRs described in the Draft Karst Recovery Plan. Since the boundaries of the KFRs are not explicitly defined and do not encompass the entire area of potential karst habitat, each SEP-HCP sector was assigned to a “KFR Group” representing one or more KFRs.

Comment [cu59]: I didn't see the sectors on the figure 3 on p 35

p.71

Detailed karst feature surveys and karst faunal surveys conducted on Camp Bullis were used to extrapolate the total number of caves that may be occupied by one or more of the listed karst invertebrates in the vicinity of the northern group of KFRs (i.e., the Government Canyon, Helotes, UTSA, and Stone Oak KFRs). Similar, although less rigorous, data compiled by the Texas Speleological Society on the number/distribution of karst features and species-occupied caves were used to estimate the total number of species-occupied caves that might occur in the vicinity of the southern Culebra Anticline and Alamo Heights KFRs. The results of this analysis are summarized in Table 17 below, and more detailed information is attached in Appendix E.

Comment [cu60]: Is this an appropriate way to estimate total number of occupied caves?

p.75

It is possible that participating covered activities could impact up to 16,000 acres of potential karst habitat, including up to 7,800 acres of potential habitat in Karst Zones 1 and 2. These activities could affect approximately 37 caves occupied by one or more of the listed karst invertebrates. It is not known precisely which of the listed species may be found in these 37 occupied caves. However, it may be assumed that the relatively common Category 1 karst species will be encountered more frequently than the relatively rare Category 2 karst species.

Comment [cu61]: Where did these figures come from? Using Appendix E, I can get the 16,000 acres, but not the 7800. Using Appendix E I can get the 37 caves also.

p.76

The true distribution of listed karst species across Bexar County will probably be different than the assumed distribution in Table 19, but this approximation provides a reasonable estimate of potential species-level impacts until more detailed, site-specific data is available from implementation of the SEP-HCP conservation program and participation process.

Comment [cu62]: are

p.78

## Listed Karst Invertebrate Recovery Potential

The SEP-HCP karst conservation program and participation process contains built-in safeguards to avoid precluding recovery, adversely modifying designated critical habitat, or jeopardizing the survival and recovery of these species in the wild. By seeking to achieve or exceed the draft downlisting criteria for each of the listed karst invertebrates, minimizing the impacts from authorized incidental take, and funding karst conservation measures independently of direct participation in the SEP-HCP karst conservation program, the SEP-HCP will ensure that recovery of these critically endangered species is not precluded.

Comment [cu63]: elaborate....

p.78

The Service's proposed rule for revisions to the critical habitat designations for the listed karst invertebrates includes the most comprehensive and publicly available information on the locations of currently known species-occupied caves. The proposed CHUs are associated with at least 64 of the 87 currently known species-occupied caves (most of the remaining caves are located within Camp Bullis and were excluded from the proposed CHU designations). **A review of the land uses and vegetation communities within the boundaries of the proposed CHUs suggests that sufficient natural vegetation may surround approximately 55 of the known sites considered in the Service's proposed rule such that protection of a high or medium quality karst preserve containing at least 90 acres or 40 acres of native vegetation, respectively, might be possible. Indeed, 34 of these caves might already be receiving some degree of protection within Government Canyon State Natural Area, lands owned by the City of San Antonio, or private karst preserves.**

**Comment [cu64]:** Interesting that so much is known about vegetation communities, but degree of protection is not known. Seems info is slanted towards how good conditions currently are vs the reality of how much protection these karst features really have. Crownridge Cave is completely vulnerable to impacts from development off site but within 50 m of the cave. This development stripped most of the hill above the cave of all vegetation so the area is significantly impacted by sediment. This has been the case for years. This is just one example of "protection."

p.80

### **gcw AND bcv Biological OBJECTIVES**

**OBJECTIVE 1: Permanently protect and manage approximately 30,000 acres of GCW habitat in the Plan Area.**

**Comment [cu65]:** Where did this figure come from? BAT rec'd 85,000 and presented a more modest figure of 48,403.

One of the stated purposes of the SEP-HCP and a principle biological goal is to contribute to the recovery of the Covered Species in a substantial or meaningful way.

The SEP-HCP will contribute to the recovery of the GCW by the acquisition and management of preserve lands. At full implementation of the SEP-HCP, the Plan could contribute approximately 30,000 additional acres to the suite of existing conservation lands containing GCW habitat. On their own, the SEP-HCP's GCW preserves could represent approximately 20 to 40 percent of the acreage needed to achieve the equivalent of regional recovery. When combined with the acres of GCW habitat that are already conserved, the total level of conservation could represent approximately **55 to 113** percent of the acreage thought to be needed for regional recovery.

**Comment [cu66]:** Huge range. And remember the inventory of "already conserved" GCW habitat is not accurate.

p.81

**OBJECTIVE 2: Permanently protect and manage approximately 4,000 acres of BCV habitat in the Plan Area.**

**Comment [cu67]:** BAT recommended 12,000—based on assumption of losing 6000 acres and mitigating at a ratio of 2:1.

The SEP-HCP will also contribute to the recovery of the BCV by acquiring and actively managing habitat for the benefit of the BCV. At full implementation, the SEP-HCP could contribute approximately 4,000 acres of actively managed habitat to the current inventory of lands managed for this species.

The SEP-HCP BCV preserves could contribute substantially to the recovery of the species. The 1991 BCV Recovery Plan calls for the protection of 500 to 1,000 breeding pairs in each recovery region. Assuming an overall

BCV density of approximately 10 pairs per 100 acres of suitable habitat (which may be a conservative estimate considering that BCV territory size is typically between two and four acres, but one that recognizes that not all suitable habitat may be utilized by the species), the protection and management of 4,000 acres of BCV habitat could support a population of approximately 400 BCV breeding pairs (approximately 40 percent of a viable population for recovery purposes). **Therefore, the SEP-HCP could raise the total protected population of BCVs in the Southeast Edwards Plateau BCV Recovery Region to a level that is consistent with the upper end of the range called for in the 1991 BCV Recovery Plan.**

**Comment [cu68]:** If our data for estimated existing population size are so old and are extrapolated from roadside counts—how can this statement be justified?

p.82

**OBJECTIVE 5: Protect 5,000 acres of GCW habitat within Bexar County or within approximately five miles of the Bexar County boundary.**

**Comment [cu69]:** Where did this figure come from? BAT's 2 scenarios were for 27,000 and 18,000.

p.82

**OBJECTIVE 7: Prioritize the acquisition of GCW and BCV preserve parcels that expand upon or help connect existing conserved lands and parks within the Plan Area.**

Prioritizing future preserve acquisitions around existing protected lands addresses another purpose of the SEP-HCP: to make the most efficient use of conservation resources. Where practicable, building upon existing protected lands will leverage past and present financial resources to achieve biologically significant, regional conservation of the GCW and will complement other conservation efforts in the region, such as aquifer protection.

**Comment [cu70]:** Insert the BCV

p.83

Other approved regional habitat conservation plans for the GCW (i.e., the Williamson County, Hays County, and Comal County regional plans) have basic mitigation ratios of 1 acre of protected habitat for each acre of impacted habitat. Service policy also advises that adjacent plans should have similar mitigation requirements (see the Service's HCP Handbook, page 3-23).

**Comment [cu71]:** HCP Handbook also says that differences in mitigation requirements may be warranted by biological considerations—Bexar County's loss of GCW habitat is severe.

p.83

For the BCV, the SEP-HCP will generally use a simple mitigation ratio of 1 acre of protected habitat for each acre of habitat that is impacted. This ratio is consistent with the requirements of the ESA, Service policy, and the purpose, goals, and objectives of the SEP-HCP. Based on information from the Texas Parks and Wildlife Department and the Service, BCVs have not been recorded in high numbers within or in the immediate vicinity of Bexar County. Only a small population of BCVs has been documented on protected lands in Bexar County and there are no recent records of the species from Comal County. Therefore, it may be unnecessary to focus BCV conservation efforts in Bexar County.

**Comment [cu72]:** How does this relate/justify 1:1 rather than 2:1?

p.84

One of the stated purposes of the SEP-HCP and a principle biological goal is to contribute to the recovery of the Covered Species in a substantial or meaningful way. In the case of the listed karst invertebrates, the SEP-HCP seeks to achieve double the Service's draft downlisting criteria in terms of number and type of preserves in each KFR. The rational for this objective is based on both the practicality of measuring take and issuing participation permits and also on biological reasons.

**Comment [cu73]:** Should be rational; wording of whole sentence is awkward

p.85

Karst species are exceptionally difficult to differentiate because of convergent evolution. Similar ancestors invade caves and experience the same selection pressures (i.e., lack of light, near constant temps, high humidity, paucity of food, and periodicity of nutrients) and this tends to make species morphologically indistinguishable. For this reason, it is common for populations that had been previously considered to be a single species to be split into two or more different species as more detailed research is performed. If the species are split, then their range may also be reduced.

**Comment [cu74]:** Should be temperatures

**Comment [cu75]:** Is it not also possible that species thought to be different, with more research, turn out to be the same?

p.85

Because of this uncertainty, the draft recovery plan also calls for monitoring to demonstrate population viability for at least 30 years. Since all of those additional actions will not necessarily be done in the timeframe of the SEP-HCP, the additional preserves in each KFR may serve as a 'buffer' to make up for that lack of information.

**Comment [cu76]:** Wording is unclear—is the monitoring required for 30 yrs? Or does the population have to be viable for 30 yrs?

p.85

Five of the nine karst invertebrates are known occur in only one or two localities.

**Comment [cu77]:** Insert to before occur

p.87

With each new preserve acquisition, the SEP-HCP will be awarded a number “conservation credits” for the GCW or BCV based on the number of habitat acres that are protected. The SEP-HCP Administrator will “bank” these conservation credits and then sell them to potential SEP-HCP participants as mitigation for the impacts of their projects.

**Comment [cu78]:** Insert of

**Comment [cu79]:** and type (BCV and/or GCW)

p.89

For the purposes of evaluating whether or not a property meets the minimum size criteria, a “protected” property must be legally protected in perpetuity from land uses that are incompatible with the conservation of the Covered Species. In this context, legal commitments for perpetual management and monitoring of habitats for the Covered Species are not necessary.

**Comment [cu80]:** Just want to be sure I understand this. A 50 acre potential SEPHCP acquisition for GCW mitigation credits could be adjacent to a 500 acre property (not part of the SEPHCP preserve system) that has 450 acres of GCW habitat. This 450 acre property is legally protected in perpetuity from land uses that are not compatible with the conservation of the GCW, but there are no legal commitments for perpetual mgmt for GCWs. Is it true that the 50 acre property would generate GCW conservation credits? What if the 500 acre property was hit by oak wilt? What good is that 50 acre property unless there is a commitment to stop the oak wilt outbreak?

p.89

### Occupancy

To be eligible for conservation credit, the presence of the GCW or BCV (depending on the type of habitat being protected) must be confirmed within the property. Species observations recorded up to three years prior to the request for conservation credit may support this criterion.

**Comment [cu81]:** Who is qualified to confirm presence? Up to 3 yrs prior seems excessive—a lot can happen in 3 yrs.

p.89

### Uses of Preserve Lands

The legal protections for SEP-HCP preserves will establish that the primary purpose GCW and BCV preserve lands is for the long-term conservation of these species.

**Comment [cu82]:** of

However, other uses of preserve lands may be allowed if these uses are: (1) conducted in a manner consistent with the conservation of the GCW and BCV; (2) conducted in accordance with an adaptive management plan that identifies and minimizes potentially related threats to the species; and (3) approved by the Service. By way of example, secondary uses may include, but are not limited to, public or private recreational activities, agricultural activities, low-density residential activities, hunting activities, and utility or infrastructure corridors.

**Comment [cu83]:** This opens a huge can of worms. I think the bird subcommittee definitely recommended that mt biking be prohibited, no new trails or roads, only fee-simple may have potential public access, properties would be open only to limited, guided educational opportunities and scientific research that is specifically authorized by permit from the SEP-HCP Administrator and/or SEPHCP biological team

If the Service determines that proposed secondary uses of GCW and BCV preserves have a reasonable likelihood of materially reducing the long-term conservation value of the protected habitat for the GCW or BCV, then the Service may require the expenditure of conservation credits to compensate for the reduction in conservation value and to mitigate for any incidental take resulting from the proposed use.

**Comment [cu84]:** Really don't understand this. After getting land into the program, could activities be allowed that would then need to be mitigated????

p.91

- Must be prepared by a biologist holding a valid USFWS Threatened and Endangered Species permits for the GCW and BCV;

**Comment [cu85]:** delete

p.93

Priority will be given for research projects that address uncertainties related to effective preserve management and maintaining the long-term conservation value of protected GCW and BCV habitats.

**Comment [cu86]:** Substitute "to" for "for"

pp.95-96

For the purposes of the SEP-HCP, minimum karst preserve sizes are as follows:

- "High quality" karst preserves will include at least 90 acres surrounding the cave footprint and/or the approximate extent of the surface and subsurface drainage basins of the cave, whichever is smaller.
- "Medium quality" karst preserves will include at least 40 acres surrounding the cave footprint and/or the approximate extent of the surface drainage basin of the cave, whichever is smaller.
- "Low quality" karst preserves will include the area within at least 500 feet surrounding the cave footprint (a minimum of approximately 18 acres).

**Comment [cu87]:** 4.11 BAT rec is at least 100 acres and does not say anything about "whichever is smaller"

**Comment [cu88]:** BAT rec 4.11 does not say anything about whichever is smaller—just says 40 -100 acres

**Comment [cu89]:** Where did this come from?

p.96

Low quality karst preserves may be accepted as mitigation in lieu of the payment of per acre karst zone participation fees, but might not be able to be considered when evaluating the current conservation level for a species without specific approval from the Service.

**Comment [cu90]:** Is this acceptable?

p.96

Other uses of karst preserves may be allowed if these uses are (1) conducted in a manner consistent with the conservation of covered karst species; (2) conducted in accordance with an adaptive management plan that identifies and minimizes potentially related threats to these species; and (3) approved by the Service. Secondary uses may include, but are not limited to, public and private recreational activities, agricultural activities, low-density residential activities, research and/or educational activities, and utility or infrastructure corridors.

**Comment [cu91]:** This statement almost totally contradicts what I thought we recommended. I thought the only access would be for activities with demonstrated positive impact on the cave or the species, and this would be evaluated on a case by case basis. Also thought there would be no recreational activities. Maybe what I thought applied to the whole preserve only applies to caves?

p.100

1. ASSESSING BASELINE CONDITIONS – This first step in the adaptive management process documents the current condition of a preserve and determines management needs. Baseline Preserve Assessments will be completed within one year of each new preserve acquisition and will be updated every approximately 10 years;
2. PRESERVE MANAGEMENT PLANNING – The next step in the process involves planning appropriate, property-specific management strategies and practices that address the identified management needs for each preserve. Preserve Management Plans will be completed within one year of each new preserve acquisition and will be updated every approximately 10 years;

Comment [cu92]: Seems way too long, thought BAT rec'd 5 yrs.

Comment [cu93]: 5 yrs

p.100

The SEP-HCP Administrator will update each Baseline Preserve Assessment approximately every 10 years. These assessments may be updated more frequently, if conditions warrant. A slightly longer update period may also be appropriate for some preserve properties. For example, the first update for a preserve property that was established as an addition to a previously acquired preserve might be delayed for a few years to coincide with the update cycle for the original parcel.

Comment [cu94]: 3-5

p.102

### Management planning

With the completion of a new Baseline Preserve Assessment, the SEP-HCP Administrator will prepare a Preserve Management Plan that addresses the specific management needs of a particular preserve or cluster of adjacent preserves. A Preserve Management Plan will be completed within one year of the acquisition of a new preserve. The SEP-HCP Administrator is encouraged to seek input from biological experts and the Service when preparing a Preserve Management Plan to ensure that the most up-to-date science regarding management and monitoring practices are considered in the management

Comment [cu95]: Change to will obtain

p.103

- An implementation schedule for preserve management and related monitoring activities for the next 10 years. The implementation schedule should identify the anticipated frequency and/or timing of management and monitoring activities. The schedule may also identify or rank management priorities to assist the SEP-HCP Administrator with allocating available management and monitoring resources.

Comment [cu96]: 3-5

The SEP-HCP Administrator will implement a comprehensive review of each Preserve Management Plan approximately every 10 years, following the release of the relevant updated Baseline Preserve Assessments. However, the Preserve Management Plans may be revised more frequently, if conditions warrant. Further, if appropriate, the Preserve Management Plans may also include their own short-term adaptive management cycles to improve the effectiveness of specific management practices between the comprehensive updates. The SEP-HCP Administrator is encouraged to seek input from biological experts during this process and may elect to convene an advisory committee to assist with management planning.

Comment [cu97]: 5

Comment [cu98]: Change to will obtain

p.104

## Monitoring results

Comment [cu99]: From HCP Handbook, p3-27 For regional HCPs, another way is to establish technical review teams to periodically evaluate HCP compliance and the success of adaptive management programs. Such teams could include species experts and representatives of the permittee, FWS, NMFS, and other affected public agencies. To maintain the credibility of the HCP, it may be beneficial to submit the technical team's findings to occasional review by recognized experts in pertinent fields (e.g., conservation biologists, re-vegetation specialists, etc.)" Seems like given all the controversy in our region, it would be good to have occasional reviews by impartial experts.

p.104

Periodic, system-wide monitoring will be conducted approximately every 10 years on each preserve property and is intended to provide the basic habitat and species information needed for updating the Baseline Preserve Assessments. This type of monitoring is intended to (1) quantify current habitat conditions; (2) estimate the abundance and or diversity of Covered Species within the preserve; and (3) track patterns of habitat use within the preserve.

Comment [cu100]: 5

p.105

## GCW and BCV System-wide Monitoring

To streamline the collection of this system-wide monitoring data over potentially large areas, it is anticipated that a point-based sampling approach will be used to efficiently provide all three components of the system-wide monitoring strategy. However, other suitable methods or protocols may also be used, provided they generate the required information and support analyses for long-term trends. The SEP-HCP Administrator will review its proposed methods with the Service and, at its discretion, other biological experts prior to implementation.

Comment [cu101]: delete

## Karst Invertebrate System-wide Monitoring

It is anticipated that karst fauna surveys conducted in accordance with current Service protocols, with their required reporting of habitat conditions, will be sufficient to accomplish the system wide monitoring objectives. However, other suitable methods or protocols may also be used, provided they generate the required information

and support analyses for long-term trends. The SEP-HCP Administrator will review its proposed methods with the Service and, at its discretion, other biological experts prior to implementation.

Comment [cu102]: delete

p.105

The SEP-HCP Administrator will not be required to implement management or monitoring activities that are not practicable. Practicability may be influenced by the level of funds available for preserve management and monitoring activities, as identified in the Funding Plan, or by other technological or logistical constraints.

Comment [cu103]: Implementation of management and monitoring plans cannot be optional/discretionary

p.106

The adaptive preserve management described herein represents a process for achieving the identified preserve management goals, but does not rigidly prescribe specific management practices that may become unnecessary, inappropriate, impractical, or out-of-date over time. Instead, preserve management will occur via a continuous and cyclical process of assessing needs, forming strategies, implementing actions, and monitoring results. This management approach also complements the flexibility of the conservation banking strategy that forms the basis for the GCW and BCV conservation program and uncertainties regarding the biology and conservation of the listed karst invertebrates.

I think this is much too wide open. There are several elements that I do not think are adequately addressed according to the HCP Handbook. From HCP Handbook p3-25: "Monitoring is an important tool in an adaptive management approach and should be designed in a way that ensures data will be properly collected, analyzed, and used to adjust mitigation strategies, as appropriate. A key element of adaptive management is the establishment of testable hypotheses linked to the conservation strategies and their biological objectives. If monitoring determines that biological conditions are outside specific parameters or thresholds, which are defined in the HCP, the conservation strategies should be reviewed. The "thresholds" for review should be linked to key elements of the HCP and should be obtainable through monitoring data collected during the implementation of the HCP. These "threshold" levels should be clearly defined in the HCP and should be based upon measurable criteria, and monitoring should be clearly linked to those measurable criteria. The establishment of measurable criteria would dictate the type of monitoring including the number of samples, distribution of samples, and use of controls.

Prior to the issuance of a permit, there should be a clear understanding and agreement between the Services and the permittee as to the mitigation range of adjustments which might be required as a result of any adaptive management provisions. A mechanism for determining the magnitude of strategy change to be employed, based upon the results of the monitoring and the level of deviation significance from the desired condition, should be developed in advance so all parties are clear in this regard and can react at the appropriate time. Corrective actions to any of the conservation strategies in the HCP should be based on significant "non-achievement" of the HCP's base mitigation. This does not preclude the Services from working with the applicant to develop a strategy to compensate for external factors (e.g., catastrophic fires) or requesting the applicant to voluntarily increase the base mitigation strategy because of these external factors."

For additional concerns on monitoring, see p.3-26 of the HCP handbook.

p.109

Preserve management and monitoring, as well as program administration, will be supported primarily by public revenue sources since many of these costs will continue in perpetuity.

**Comment [cu104]:** How/why does this justify public revenue use?

p.109

Additional detail regarding the assumptions and rationale behind these costs estimates are discussed in

**Comment [cu105]:** Change to is or change detail to details

p.118

Additionally, some of the preserve lands acquired for the Plan may be available for limited recreational use by the community.

**Comment [cu106]:** And are additional funds budgeted for this? And what about all the Willie Conrad said?

p.121

The Service will review such information and determine the number of GCW and BCV conservation credit that may be added to the SEP-HCP conservation bank as described in Section

**Comment [cu107]:** Add an "s" to "credit"

p.124

For instance, landowners might not be willing to sell land or easements to the SEP-HCP Administrator for key karst preserves, conditions surrounding a species-occupied cave might not be sufficient to meet the criteria for a high or medium karst preserve, or there might not be enough known localities for a particular species achieve the draft downlisting criteria

**Comment [cu108]:** Insert "to" before "achieve"

p.128

Bexar County and the Service agree that a changed circumstance will have occurred if the Service recognizes a change in the taxonomy of one or more of the listed karst invertebrates. In such an event, Bexar County will address the new species in the same manner as the other listed karst invertebrates, including the evaluation of current conservation levels as they affect activities eligible for coverage through the SEP-HCP. The Service will consider any new species to be adequately addressed by the SEP-HCP and will amend the Incidental Take Permit to add any new species to the list of Covered Species.

**Comment [cu109]:** I don't understand this. Suppose the change in taxonomy results in a new species that is as rare as the original one species. Does this mean that the Service will just automatically allow take to the newly identified species no matter how rare it is?

p.129

Bexar County will coordinate with the Service to implement one or more of the procedures described above to ensure protect the mitigation value of the preserve system.

**Comment [cu110]:** Need to reword so this makes sense

p.140

The level of mitigation proposed for the Complete Coverage Alternative is based on the recommendations of the SEP-HCP's Biological Advisory Team (BAT) for the amount of conservation needed to achieve or substantially contribute to the recovery of these species. The BAT recommended mitigation ratios for the GCW of 3 : 1 for habitat loss occurring within Bexar County and 2 :

**Comment [cu111]:** With at least 60% of the mitigation located within Bexar County or a 5-mile buffer around Bexar County and the remaining 40% of the mitigation could occur anywhere within the Plan Area

Please accurately report the BAT recommendation.

#### Comments to Appendix B:

All comments are embedded in text. Be sure to click on yellow stickies!

##### General

I do not understand the organization of this Appendix. There are tables for mammals, amphibians, reptiles, birds. Then there are assessments for rare amphibians, rare arachnids, other avian species of concern, etc. So there end up being tables for some groups but not others, assessments for some groups but not others, and amphibians and birds have both tables and assessments. Looks like a hodgepodge. Would be nice to have some kind of text that explains all this and why it is provided as it is. Anything that is not necessary-- I recommend we omit in the interest of saving paper.

##### Terrains, Soils, etc

Typo or grammar error: title page, p. 8

##### Surface Water

Typo/grammar: pp 1, 5

Comment: p. 2

##### General Wildlife

Comments: pp 1-2, 4

##### Amphibians

Typo: cover page

##### Other bird species of concern

Typo: p 7

Comments: pp. 6, 9

##### Crustaceans

Comment: p 2

##### Fish

Comment: p 2

##### Insects

Comment: p 2

##### Conserved Lands

Comment p 6

Also, in general, I question this list for reasons that I put into my comments on the Main Text of the SEP-HCP.

### **Comments to Appendix E-F combined.**

All comments are embedded in the text of the attached file. Be sure to click on yellow sticky notes!

#### Appendix E

Comment: Analysis of Proposed CHU for Potential Karst Species(this is a table after the references)

#### Appendix F

Comment: p. 11

### **Appendix c:**

All comments are embedded in the text of the attached file. Be sure to click on yellow sticky notes!

#### General

If there are such differences in the various models (Figs 6, 7), which one is the one that will be used to make decisions re: patch size and what qualifies as habitat when it comes to acquiring land. Maybe I just missed this.

Organization is confusing. For GCWs tables are after text; for BCVs tables are within text.

#### GCW

Typos: pp. 2,14, 16

Comments: p. 3, Fig 1 Photo 2,Table 2

#### BCV

Typos: pp 5, 8, 10

Comment: p 12

#### Karst

Comment: Table 2

Reviewer #5:

- 1) I am concerned with the delineation of an “Initial Plan Area” and that this plan area may not follow major land features.
- 2) Pg 4 #3: Stakeholder Involvement: Make sure these advisory groups and their makeup are listed somewhere in the document.
- 3) Pg 18 Table 5.

TABLE 5. Projected Acres of New Development (2010 - 2040).

| County              | Acres of New Developed Land Uses (2010 - 2040) | Average Annual Acre Increase in New Development (2010 - 2040) |
|---------------------|--|---|
| Bandera County      | 8,955  | 289   |
| Bexar County*       | 85,260   | 2,750   |
| Blanco County       | 1,395  | 45  |
| Comal County        | 73,247   | 2,363   |
| Kendall County      | 18,580   | 599   |
| Kerr County         | 12,074   | 389   |
| Medina County       | 41,642   | 1,343   |
| 7-COUNTY PLAN AREA* | 241,152  | 7,779   |

Source: Wendell Davis and Associates 2010b.

\*Includes only portions of Bexar County and the Plan Area that are within a SEP-HCP sector. SOUTH sector and Camp Bullis were not included in this analysis.

Are the numbers in column 3 supposed to equal Column 2/30? Because they currently don't.

- 4) Last paragraph on page 21, first paragraph on page 22 is misleading. Please amend by softening the language or by referencing § 83.018(d) and § 83.018(e):

Page 21&22: According to Texas state law, governmental entities participating in a regional Habitat Conservation Plan must make offers to acquire any land designated in the plan as a proposed habitat preserve no later than four years after the issuance of the federal permit or six years after the initial application for the permit, whichever is later. Acquisition of all habitat preserves identified in a regional Habitat Conservation Plan must be completed no later than the sixth anniversary of the date the Incidental Take Permit was issued (Texas Parks and Wildlife Code § 83.018(c)).

### 5) Section 2.1.1 Permit Applicant / Permittee.

I didn't think this had been decided by the CAC. I have serious concerns that Bexar County singly holding the permit is inadequate.

6. Page 24, 1<sup>st</sup> paragraph. Language appears illegal. Only the Service (& Plan Administrator?) can determine who is eligible to participate. A county government cannot prevent a private landowner from participating any more or less than a county government can allow a private LO to participate. Additionally, this language appears to allow county or city governments to give priority of certain lands within its boundaries over other lands. This could be a clear violation of private property rights and is inconsistent with equal rights for all landowners within the Plan Area.

As negotiated on a case-by-case basis, SEP-HCP Partners may receive the ability to use the SEP-HCP to obtain incidental take authorization for their activities ~~and/or allow private entities within their~~

jurisdictions to obtain incidental take authorization from the SEP-HCP. Formal partnerships may also prioritize targeted conservation efforts within a SEP-HCP Partner's jurisdiction. In return, Bexar County may ask SEP-HCP Partners to contribute funding or other resources to help implement the SEP-HCP.

## 7. Page 24 Section 2.1.4 Advisory committees

Bexar County ~~shall create and convene advisory committees to provide input for the on-going implementation of the SEP-HCP.~~ For example, such committees may include biological/technical groups to assist with the formulation of adaptive management plans or citizens/stakeholder groups to assist with setting priorities for preserve acquisitions. Other types of committees are possible and needs may change over time. ~~Biological/technical advisory committees will meet at least annually. Other advisory committees may be standing appointments or may be convened periodically for a specific purpose or task.~~

Deleted: may

Deleted: , at its discretion,

Deleted: A

While the use of advisory committees is encouraged, Bexar County will not be required to convene advisory committees or to implement the recommendations of its advisory committees. As the permittee, Bexar County will be ultimately responsible for directing the implementation of the SEP-HCP.

8. Please clearly delineate/define Incidental Take in terms of what it is NOT (not condemnation, not eminent domain, etc). Important for early in the document and in the Plan/Permit/Conservation Area sections.
9. Section 2.1.3: the language in this section could be misinterpreted by the public. Please clearly delineate in lay terms that a county government may participate only if it wishes to participate, and only through a formal agreement with the plan administrator.
10. Page 26: **9 Federally listed karst invertebrates:** The listed karst invertebrates are primarily threatened by ~~habitat loss associated with filling or collapsing of caves, alternation of natural .....~~
11. Section 3.1. Covered Activities. I don't remember discussing "Any activities necessary to manage habitat for the Covered Species that could temporarily result in incidental take." .
12. ~~the first 4 parag. In Seciton 3.2.1 are great. It would be very helpful for these paragraphs to be used in the Executive Summary and the Introduction.~~
13. Page 32, 1<sup>st</sup> paragraph, the sentence should not end with "for": "participants will decide for which Covered..."
14. Page 32; Section 3.2.2 the following sentence is missing a word: Biological information that identifies and delineates the area of all potentially suitable GCW and BCV habitat within and within 300 feet of the Project Area;
15. Page 32, section 3.2.2 this sentence says "within OR within 300 ft." shouldn't this say 'and' instead of 'or'. ALSO. Shouldn't the applicant be required to submit their geological assessment?
16. section 3.2.2.3 "Potential participants with Project Areas occurring within the range of the GCW or BCV must submit a habitat assessment for these species with their application" seems to require too much. Applicants can certainly assume

Comment [RDH112]: Should this be alteration?

Deleted: primarily

Formatted: Bullets and Numbering

Deleted: ¶

occupation, thus no assessment is needed. It would be better to say “applicant *may* submit a habitat assessment.” Please reword this section appropriately.

17. Page 38: in the following paragraph, and throughout, the term indirect impact is unclear. The BAT has not recommended configuration of “indirect impact.” Any project within a CHU has direct impact, does it not?

All acres of suitable GCW and BCV habitat within 300 feet outside of a Project Area are assumed to be indirectly impacted by a covered activity (“Off-site Habitat Impacts”). Any area within an Occupied Cave Zone or within critical habitat for a listed karst invertebrate that is excluded from the assessment of direct impacts will be considered indirectly impacted.

18. Bottom of pg 38. It’s inappropriate to allow 1 year of surveys to demonstrate absence in direct contradiction of established FWS policy.

The SEP-HCP Administrator will exclude patches of GCW and BCV habitat from the habitat impact assessment that are shown by such 3-year surveys to not be occupied by the species. For the purpose of the SEP-HCP, individual “patches” of GCW and BCV habitat are discrete areas of suitable habitat separated from other such patches by at least 50 feet. A single year of surveys conducted no more than three years prior to the date of application will be sufficient to refine the impact assessment for participation in the SEP-HCP.

19. The mitigation ratios on Page 39 are insufficient to account for the amount of biological harm by the requested level of incidental take. 2:1 is insufficient to counteract the threats to habitat in such a highly fragmented, rapidly growing city, and 0.5:1 would likely result in a net loss of 75% of available habitat. There is also not appropriate biological justification to treat BCV differently than GCW.

20. Pg 39 3.2.3.2Karst Participation

CATEGORIES OF COVERED ACTIVITIES

21. It is likely that any disturbance....

Deleted: possible

22. Throughout: Several places I’ve seen Bexar County listed as being responsible for management. It is important to clarify that they are only responsible for ensuring that the lands are managed appropriately, and not always will the Plan Admin be directly responsible for management activities.

23. Page 49 Seasonal Clearing. This does not match the body of Scientific Knowledge, or other Section 7 consultations. Please change to March 15-August 15

24. Page 49 4<sup>th</sup> paragraph:

No clearing or other removal of woody vegetation that would cause the loss or degradation of suitable habitat for the GCW or BCV may occur during these periods. Other construction-related activities that do not involve impact to relevant vegetation may occur during these periods provided that (1) the construction activities are part of a continuous set of construction activities that began during the non-breeding season; (2) are performed in a reasonably prompt and expeditious manner; and (3) the disturbance activity is mitigated appropriately for all direct and indirect effects on and off of the project site (i.e., the participant is complying with all of the terms and conditions of the Participation Agreement).

Deleted: the removal of

Deleted:

Deleted: clearing and/or

The SEP-HCP Administrator may grant exceptions to these restrictions if a [USFWS Protocol](#) GCW or BCV survey conducted during that species' breeding season indicates that the species is not present within 300 feet of the planned activity. An applicable species survey must be conducted in the same year as the start of the planned clearing or construction activity. The dates for seasonal restrictions are supported by the breeding phenologies presented in Ladd and Gass (1999) and Grzybowski (1995) ([see the GCW and BCV assessments in Appendix C](#)).

25. Throughout: With the lumping of all karst invertebrate species into "Covered" why is there still mention of Category 2 karst species? Need definition of Category 2 in the beginning.

26. Page 51: **"Participants may utilize an abbreviated survey protocol...."** The BAT has not discussed an abbreviated survey protocol. I do not believe it is appropriate to abbreviate a survey protocol intended to detect organisms that are difficult to find, especially when the proposal is to abbreviate it so drastically.. The approved Protocol is minimally appropriate to allow for variances in detectability (weather, season, time lapsed, sensitivity to survey methods, etc).

27. Page 52 "Install [and maintain](#) sedimentation controls, such as silt fences, around Occupied Cave Zones, unless covered activities have been authorized in these areas;"

28. Incidental take authorization and mitigation ratios does not factor in the importance of conserving land near Camp Bullis, and thus does not provide for mitigation reasonably close to the impact. It is feasible, under the current guidelines that mitigation occurs 90 miles (and 2 counties) from the habitat disturbance.

29. Page 64, the "worst case" descriptor is unnecessary b/c it attaches a negative connotation to an acceptable decision by the Plan Administrator.

30. Page 66: the following sentence makes several unwise assumptions: that all the acreage on protected lands could be potential habitat, that territory densities are both consistent with Bullis and throughout the properties themselves. Best Available Scientific Knowledge tells us at least 2 of these assumptions have been violated. Please remove this sentence

~~"For example, 49,000 acres of currently protected GCW habitat may represent approximately 30 to 65 percent of the acreage needed to achieve recovery in this region."~~

31. Incidental Take Request for songbirds. This seems like an awful lot of work for only 12,000 acres of GCW take. Question for the Service: When the take request is "used up" will it require a major amendment or a brand new HCP to request more?

32. Biological Objectives: Lacks emphasis on ensuring that mitigation is close to impact.

33. Biol Objective 5: Is there a way to make this stronger?

34. Pg 82: Objective 7. The phrase "Where practicable" significantly weakens this statement. The BAT has made habitat connectivity a priority in all discussions and recommendations. Because it is written as an objective and not a requirement, the phrase 'where practicable' can be left off without any negative impact to the Administrator.

35. Objective 8: I do not see the value in this section as an objective. It seems more appropriate as justification for the mitigation ratios than an objective for the Administrator to follow. Recommend removing the entire section. If it is moved to another section of the document, please remove

references to other HCPs. Other counties have differing amounts of habitat, differing growth rates, and different land uses that change the needs and value of an HCP.

36. Page 88. Section 6.2.1.2: The CAC was informed that smaller (<500 acres) pieces of property could be acquired by the Administrator in the hopes of building a 500 acre "bundle," but would not receive Conservation Credits until the 500 acre size is reached. It would help to have Service comment on the appropriateness of including that stipulation.
37. Pg 89 section 6.2.2. The BAT spent considerable time discussing appropriate uses of Preserve lands, and none of that seems to be represented here. Please include the recommendations that came out of both the karst and bird subcommittee on recreation on fee simple lands (and pls differentiate that this is only applicable to fee-simple lands.
38. pg 90 last paragraph, Pg 91, first paragraph. This statement does not cap the "double Credit" that both the CAC And the BAT had asked for in terms of already protected lands entering into the SEP Preserve System. (BAT=10%, CAC=0%). Please verify with the CAC, but the BAT disagrees
39. Pg 91: As written, it seems to be the responsibility of the Administrator to perform surveys on proposed mitigation lands. It would be helpful to clearly state that the Plan Administrator require that these surveys be performed by the holder of those mitigation lands.
40. Pg 93 #2. Replace the word "voluntary." It is written to imply "unforced", but it may be perceived as "unpaid."
41. Pg 93 Research Section. The BAT has made numerous suggestions to list recommended research topics. Please list them here, if even as suggestions.
42. Pg 96 section 7.2.2. Proposed "uses" seem to be in direct opposition to management goals of karst. The BAT did not recommend any public recreation within karst preserves.

### SEPHCP Comments

- Advisory committees – advisory committees are very important for the functionality of this plan. I think it is important that, at the minimum, there is scientific oversight.
- Because many of the other counties have said they will not participate in the plan, it seems obvious that all of the take will occur in Bexar County. Therefore, the plan's authorized take figure should likely be reduced.
- Mitigation ratios in the draft plan are far different than those recommended by the bat and don't seem to include any information about distance from take.
- Requiring a biologist to come out and perform a full habitat assessment on a piece of property that a developer is readily willing to pay for full coverage on doesn't make any sense. Participating in the plan should be as easy as possible.
- We have discussed the amount of protection on Bexar Cnty. and City of SA lands many times before. Additional protection is needed on many of these properties before they should be counted.

*In Bexar County alone, approximately 17,600 acres of potential GCW habitat occurs within existing protected lands, including Government Canyon State Natural Area, parks and natural areas owned by the City of San Antonio, and several privately owned conservation tracts. Depending on the level of protection specifically afforded the GCW, many of these existing protected lands could already be contributing to the recovery of this species. For example, 49,000 acres of currently protected GCW habitat may represent approximately 30 to 65 percent of the acreage needed to achieve recovery in this region.*

- Concerned with the wording about secondary property uses on page 96. Agriculture is too broad of a term to be used in this context being that it could include everything from a dairy operation to row crop farming. There are definitely some forms of agriculture that would be appropriate (responsible livestock grazing, hunting, etc.) and some that would not. Also, utility corridors should not be in this group of land uses. I recommend more general language giving landowners more flexibility to make reasonable agreements with the county on a case by case basis.
- The below statement concerns me a bit because it appears to be an out for any type of management and monitoring. We already know that funding is a concern going in.

#### 8.1.5 ADAPTIVE MANAGEMENT COMMITMENTS

*The SEP-HCP Administrator will not be required to implement management or monitoring activities that are not practicable. Practicability may be influenced by the level of funds available for preserve management and monitoring activities, as identified in the Funding Plan, or by other technological or logistical constraints.*

- Although as a bat, we agree that public access is not ideal, information from other HCPs tells us that it is something that might become necessary in some instances. Budget considerations should at least be penciled in. (9.2.3, page 113)

*The Funding Plan does not address preserve management costs associated with any authorized public access to SEP-HCP preserves. If such access is allowed within the preserve system, the SEP-HCP Administrator will be responsible for providing the funds necessary to adequately address such costs.*

**Individual BAT-Member Comments on 4/1/11 Draft of SEPHCP**

**General:**

1. We recommend that the SEPHCP administrator be an independent non-profit entity, affiliated with but not directly managed by either Bexar County or the City of San Antonio.
2. A new section needs to be inserted following Section 8 of the SEPHCP, which describes voluntary conservation program (outreach, education, research, etc.) for Category 3 species. Conservation measures for these species are currently excluded from the SEPHCP.
3. Assessments of offsite, indirect, and cumulative impacts are cursory. The SEPHCP appears to offer coverage for incidental take only to activities inside the Project Area; mitigation process for indirect and offsite impacts needs to be included.
4. The SEPHCP should establish the structure to receive technical and public input to inform the Adaptive Management strategy. Due to the significant involvement of affected communities and public funding, post-issuance advisory committees with public meetings should be required, including a Science Advisory Committee and a Citizens Advisory Committee.
5. Under Covered Activities, the proposed “temporary take” during land management should be described in further detail, including specific requirements to strictly avoid or at least minimize, and fully mitigate, such take.
6. None of the proposals should be allowed, which exclude Project Areas from mitigation based on abbreviated presence-absence surveys for covered species. Such surveys, which if allowed would likely become the common approach, deviate from standard Service protocols and jeopardize the repeatability and validity of mitigation determinations. Abbreviated presence-absence surveys for covered species are biologically unacceptable, and standard Service protocols should be required instead.
- 6a. The proposed shortcut karst-invertebrate surveys of voids discovered during construction include five surveys during one week. Such activities are unlikely to accurately assess presence-absence of covered species and may well cause harm to the species due to habitat disturbance.
- 6b. The proposal for one year of GCW surveys, to determine presence-absence and therefore mitigation requirements, is significantly less effort than the standard Service requirement of three years of surveys. Due to seasonal and annual variations in precipitation, vegetation, and other important habitat variables, the standard protocol should remain the basis for determining presence-absence.

**Karst Inverts:**

7. All karst applications within Karst Zones 1-4 should require a complete and certified hydrogeological survey.

**8.** In and within 300 feet of the Project Area, "Occupied Cave Zone" should be defined as sum total of all areas that are within 345 feet of a feature footprint and the surface and subsurface watersheds for that feature. No optional definition should be allowed.

**8a.** Accordingly, Cave Zones A and B should be defined as follows. Cave Zone A: sum total of 150-foot buffer and surface drainage basin. Cave Zone B: sum total of 345-foot buffer and subsurface drainage basin.

**9.** For participation in the SEPHCP, we recommend that karst preserves established by non-SEPHCP entities must have permanent protection transferred to the SEPHCP, in order to be counted as contributing to Conservation Levels for a species.

**10.** Special conditions for void surveys should be required for all karst coverage regardless of Conservation Level.

**11.** Due to the paucity of distribution and taxonomic data and the continuing need for research on species status, the required investigation of accidentally discovered caves and voids should remain in place until all listed species in all KFRs in the SEPHCP region achieve actual downlisting by the Service.

**12.** No covered activities for a given species should be allowed within the Occupied Cave Zone (as defined in Item 8), until all KFRs for that particular species achieve downlist criteria to assure regional recovery.

**13.** In light of the lack of definitive information regarding species distributions, genetics, and status, participation limits in the karst program should remain in place until regional downlisting criteria are met for all covered karst-invertebrate species.

**14.** Karst mitigation fees appear too low considering high biological concern and high land values (conservation cost) in Bexar County. Also, the SEPHCP needs to define what happens when multiple projects impact Zones A and/or B of the same occupied cave.

We recommend a more appropriate fee structure of:

- Karst Zone 1 and 2, but outside Occupied Cave Zone and Critical Habitat Unit: \$1000/ac
- Occupied Cave Zone B (redefined as above): \$100,000/cave
- Occupied Cave Zone A (redefined as above): \$1,000,000/cave

**15.** We recommend that low-quality preserves are not accepted in lieu of per acre participation fees, unless perpetual management expenses are included as an endowment for such donations, to avoid impact to acquisition and management funding of medium and high quality karst preserves. In any case, due to low biological value and low sustainability, low-

quality preserves should not be considered when examining the current Conservation Level for a karst species.

**16.** In the SEPHCP, the search for new localities of rare karst species currently focuses on existing conservation (managed) areas. However, we urge that these investigations give equal attention to urban, suburban, and developing areas, including private lands, to assess status and risk factors important to adaptive management and emerging protection needs.

#### **GCW and BCV:**

**17.** We recommend that the following SEPHCP-BAT recommendations be incorporated in the SEPHCP regarding take and mitigation for GCW and BCV:

##### **17a. GCW**

Reduce the requested amount of take to 7500 acres; an additional take of 4500 acres may be requested only after the 6 counties not currently participating come into the plan. The reduction in requested take is necessary because otherwise all 12,000 acres of the take could essentially happen in Bexar County, and this is biologically unacceptable.

Using an existing model (such as Model C 2010 or TAMU model), create a map of the entire plan area that shows all GCW habitat. Use this map and the criteria of habitat patch size and quality to determine mitigation ratio for direct impact. Best habitat will be mitigated at 3:1, medium at 2:1, and lowest at 1:1 throughout the plan area. For example, if habitat patch size is  $\geq 500$  acres and is rank 3 or 4 in Model C2010, then it is categorized as the best habitat and will be mitigated at 3:1 (acres of mitigation:acres of take);  $\geq 100$  acres, but less than 500 acres and rank 3 or 4 will be mitigated at 2:1;  $<100$  acres and any rank (1, 2, 3, or 4) will be mitigated at 1:1.

##### **17b. BCV**

Reduce requested take to 2500 acres; an additional take up to 1500 acres may be requested only after the 6 counties not currently participating come into the plan. The reduction in requested take is necessary because otherwise all of the take could essentially occur in Bexar County.

Mitigate at a ratio of 2:1 (acres of mitigation:acres of take) for direct impact throughout the plan area. The proposed ratio of 1:1 is biologically unacceptable.

**17c.** Since no other counties besides Bexar County are currently participating in the plan, the maximum amount of take should be 7500 GCW-ac & 2500 BCV-ac within the boundaries of Bexar County. Mitigation should occur only in Bexar County until other counties sign on as true participants (take and mitigation). Currently, Bexar County is targeted for all GCW and BCV take in the SEPHCP.

**17d.** If and when other counties do participate, the above maximum amounts of take (7500 GCW-ac & 2500 BCV-ac ) should remain in place within Bexar County boundaries. The “adjacent sectors”

should not be considered until those respective counties agree to participate. Mitigation for GCW and BCV incidental take should only occur in Bexar County until other counties agree to participate (i.e., mitigate close to take). Once other counties are participants, then mitigation for take may occur in both Bexar County and the other participating counties, as long as there is a distance restriction like the original BAT recommendation regarding mitigation (60 % Bexar/40% other) for Bexar County take.

**18.** Price of GCW and BCV credits should be increased (~\$10,000/acre) in and adjacent to Bexar County, to be more commensurate with land values and, thus, allow adequate mitigation and meaningful contribution to recovery in this developing area of incidental take.

**19.** Essentially none of the currently managed ("protected") GCW habitat in the SEPHCP area has any permanent protection, and therefore cannot be counted as progress towards regional recovery.

Reviewer #7: Following this page (which is intentionally blank)

| Additional Line-By-Line BAT-Member Comments on 4/1/11 Draft SEPHCP, 6/10/11 |         |  |   |
|---|---------|--|---|
| Item  | Section | Subsection                             | Comment   |
| 1   | 3.2.2   |  | Here and throughout HCP, application assessments are restricted to within 300 feet of Project Area. What is scientific basis for using this distance, when impacts to Covered Species often extend beyond this distance?  |
| 2   | 3.2.2   |  | All applications within Karst Zones 1-4 should require a complete and certified hydrogeological survey.   |
| 3   | 3.2.2.1 |  | Here and elsewhere throughout the SEPHCP, the "Occupied Cave Zone" should be defined as sum total of all areas that are within 345 feet of a feature footprint and the surface and subsurface watersheds for that feature. This is also the recommendation of the SEPHCP-BAT karst subcommittee and important researchers such as George Veni.  |
| 4   | 3.2.2.2 |  | These three paragraphs are contradictory, and should clarify that only activities inside the Project Area are covered for incidental take, and off-site impacts are not covered.  |
| 5   | 3.2.2.3 | KARST BIOL. INFO.                      | Mesocavernous areas should be emphasized during karst surveys, in addition to caves, voids, and other features. Karst surface surveys during Step 1 should be by a certified hydrogeologist. In Step 4, any occupied feature mapping must include the full "Occupied Cave Zone", consisting of footprint, 150- and 345-foot buffers, and surface and subsurface watersheds.                             |
| 6   | 3.2.2.3 | KARST BIOL. INFO.                      | P. 37, paragraph 1: Rewrite to require maps of surface and subsurface drainage basins. Cave Zone A: sum total of 150-foot buffer and surface drainage basin. Cave Zone B: sum total of 345-foot buffer and subsurface drainage basin.   |
| 7   | 3.2.3.1 | HABITAT IMPACT ASSESS.                 | Three years of GCW and BCV surveys performed according to standard FWS protocols should remain the basis of impact assessment for HCP participation.  |
| 8   | 3.2.3.1 | MITIGATION RATIOS                      | Should follow BAT recommendations.  |
| 9   | 3.2.3.2 | CATEGORIES OF COVERED ACTIVITIES       | In and within 300 feet of the Project Area, "Occupied Cave Zone" should be defined as sum total of all areas that are within 345 feet of a feature footprint and the surface and subsurface watersheds for that feature. No optional definition.  |
| 10  | 3.2.3.2 | ACTIVITIES ELIGIBLE FOR KARST COVERAGE | Only karst preserves established by non-SEPHCP entities, which have permanent protection transferred to the SEPHCP, may contribute to Conservation Levels for a species.  |
| 11  | 3.2.3.2 | ACTIVITIES ELIGIBLE FOR KARST COVERAGE | Table 9: Special conditions for void surveys should be required prior to all karst coverage regardless of Conservation Level.   |
| 12  | 3.2.4.1 | PURCHASE OF CONSERV. CREDITS           | Price of GCW and BCV credits needs to be at least \$10,000 per acre in and adjacent to Bexar County.  |
| 13  | 3.2.4.2 | KARST PARTICIP. FEES                   | Table 10: Fees appear too low considering land values (conservation cost) in Bexar County. We recommend: Karst Zone 1: \$2000/ac, Karst Zone 2: \$1000/ac, Occupied Cave Zone B (redefined as above): \$120,000/cave, Occupied Cave Zone A (redefined as above): \$1,200,000/cave. Also, the SEPHCP needs to define what happens when multiple projects impact Zones A and/or B of the same cave.       |
| 14  | 4.3.4   |  | Table 14: Essentially none of the currently managed ("protected") GCW habitat in the SEPHCP area has any permanent protection, and therefore cannot be counted as progress towards regional recovery.   |
| 15  | 4.3.4   |  | Last paragraph of this section throws Bexar County and adjacent sectors "under the bus." Regional GCW recovery may well be prevented if the projected take in the critical Bexar County area proceeds without sufficient nearby mitigation, as proposed in the draft HCP.   |
| 16  | 4.4.3   |  | P. 73, paragraph 2: No covered activities for a given species should be allowed within the Occupied Cave Zone (as defined in Item 3), until all KFRs for that particular species achieve downlist criteria to assure regional recovery.   |
| 17  | 4.4.3   |  | P. 73, paragraph 4: Due to the lack of definitive information regarding species distributions, genetics, and status, participation limits in the karst program should remain in place until regional downlisting criteria are met for all covered karst-invertebrate species.   |
| 18  | 4.4.3   |  | P. 74, paragraph 3: Due to the paucity of distribution and taxonomic information and the continuing need for research on species status, the required investigation of accidentally discovered caves and voids should remain in place until all listed species in all KFRs in the SEPHCP region achieve actual downlisting by the Service.  |
| 19  | 5.2.1   | OBJECTIVE 1                            | P. 80, Last paragraph: Here and throughout SEPHCP, existing managed areas should not be counted as contributing to regional recovery unless such areas have permanent protection for GCW as a deed restriction. Essentially no existing managed area in the SEPHCP region, including those managed by public agencies, currently have permanent protection for GCW.                                     |
| 20  | 5.2.1   | OBJECTIVE 5                            | P. 82: Please refer to item # 8 in the narrative portion of these comments for recommended modifications to GCW take and mitigation. Briefly, we urge that GCW take be limited to 7500 acres in Bexar County, with all mitigation occurring in Bexar County until other counties commit to full participation (both take and mitigation) in the SEPHCP. Item # 8 provides additional important details. |

| Additional Line-By-Line BAT-Member Comments on 4/1/11 Draft SEPHCP, 6/10/11 |         |                        |  |
|---|---------|------------------------|--|
| Item  | Section | Subsection             | Comment  |
| 22  | 5.2.1   | OBJECTIVES 10-12       | The SEPHCP currently specifies essentially no guidelines or measurable objectives for preserve management, protection, habitat enhancement, monitoring, etc. This information should be included for public review.  |
| 23  | 5.2.2   | OBJECTIVE 3            | Here and throughout the SEPHCP, the search for new localities of rare karst species focuses on existing conservation (managed) areas. However, these investigations should give equal attention to urban, suburban, and developing areas, including private lands, to assess status and risk factors important to adaptive management and emerging protection needs.   |
| 24  | 6.3.3   |                        | No conservation credits should be purchased or otherwise transferred to the SEPHCP from a third party, including third-party conservation banks, unless the SEPHCP is fully responsible for all ongoing management, monitoring, and research activities on such lands.   |
| 25  | 7.2.1.1 |                        | This same requirement for perpetual legal protection of karst preserves from land uses that adversely impact covered species should apply equally to all GCW and BCV preserves. To the maximum extent possible, additional conservation easements should be required for all mitigation preserves, including fee-simple parcels, with co-ownership of easements donated to state (TPWD) and federal (USFWS) conservation agencies to attain higher level protection. If preserves are adversely impacted by incompatible uses in the future, lost resource values should be fully replaced, including through additional land acquisition. |
| 26  | 7.2.1.2 |                        | P. 96, Second to last paragraph: Low-quality preserves should not be accepted in lieu of per acre participation fees, unless perpetual management expenses are included as an endowment for such donations, to avoid impact to acquisition and management funding of medium and high quality karst preserves. In any case, due to low biological value and low sustainability, low-quality preserves should not be considered when examining the current Conservation Level for a karst species.   |
| 27  | 7.2.2   |                        | P. 96, Second paragraph: Inappropriate secondary uses of karst preserves (i.e., recreation, most agriculture, residential activities, utility and infrastructure corridors) should not be listed in the SEPHCP as available activities. The BAT only recommended low-impact research and educational uses as possible secondary uses, with the determination of compatible use to be on a case by case basis.  |
| 28  | 8.1     |                        | Baseline Preserve Assessments and Preserve Management Plans should be updated within five years of initial completion, then updated every 6-8 years thereafter, or more frequently as needed to address significant events. These documents should be subject to required review by the Service and by public advisory committees.   |
| 29  | 8.1.4.2 |                        | To obtain the best conservation oversight, we recommend that the SEPHCP Administrator be required to review its proposed monitoring methods with other biological experts including a mandatory scientific advisory committee.   |
| 30  | 8.1.5   |                        | Minimum requirements based on quantitative objectives should be specified for implementation of all proposed management and monitoring activities.   |
| 31  | 8.1.5   |                        | P. 106, third to last paragraph: The SEPHCP Administrator should be required to implement management and monitoring outside of SEPHCP preserves, including outreach and research, in order to assess and manage covered species and category-3 species.  |
| 32  | 9.1     |                        | No incidental take of covered karst species should be allowed prior to acquisition of preserves that serve as mitigation of such take.   |
| 33  | 9.1     |                        | Preserve management and monitoring should not depend on uncertain public revenue, but should instead be guaranteed as much as possible by the establishment of permanent endowments as added costs during every preserve acquisition.  |
| 34  | 9.2     |                        | Table 20: Allocating 89 % of SEPHCP implementation costs to preserve acquisition may jeopardize the sustainability of the SEPHCP. For example, permanent set asides for long-term management typically amount to at least 25 % of acquisition costs.   |
| 35  | 10.2.1  | CHANGED CIRCUMSTANCE 9 | As described above, assured funding for preserve management should be an integral component of every preserve acquisition. If preserve management funding becomes inadequate, then this should be a serious breach of permit conditions. Outreach, education, and research programs should be emphasized as essential to the long-term success of the SEPHCP, and not jettisoned due to an inadequate funding model.   |

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- A map of karst features identified within the surveyed area and a description of each feature that supports a determination of “suitable habitat” or “not suitable habitat;”
- Identification of any listed karst invertebrates found within suitable habitat on the Project Area;
- A map showing the footprint, a 150-foot buffer, and a 345-foot buffer around each species-occupied feature (i.e., “Occupied Cave Zones”).
- A map showing the boundaries of any CHUs that occur within or within 300 feet of the Project Area.

**Comment [a1]:** A map showing the footprint, a 150-foot buffer, a 345-foot buffer around each species-occupied feature (i.e. “Occupied Cave Zones”), the surface drainage basin, and subsurface drainage basin (if available).

**Deleted:** ay

Participants must also submit maps of the approximate surface and, if available, subsurface drainage basins of the feature, with a description of the methods used to delineate these areas. Therefore, at the time of application, potential participants and the SEP-HCP Administrator should know if a Project Area:

**Comment [a2]:** I carefully reviewed Veni et al (2002) and examined Veni’s estimates of surface and subsurface drainage basins for a couple dozen ES caves in Bexar County. In all but a couple of cases, the estimated surface and subsurface drainage basins were significantly smaller than the area defined by the 345-ft cricket foraging buffer. A buffer based on combining the areas covered by the 345-foot cricket foraging buffer, surface drainage basin, and subsurface drainage basin (if available) would best capture the area of greatest sensitivity. Granted, landowners cannot necessarily control areas that extend beyond the property line so drainage basins may be truncated in this approach. Nonetheless, in most cases, the combined buffer area would be identical to the area covered by the 345-ft buffer.

**Deleted:** ; although, drainage basin information is not required

- Occurs over potential karst habitat (Karst Zones 1 through 4);
- Contains any part of an area officially designated by the Service as critical habitat for one or more of the listed karst invertebrates; and
- Contains any other identified caves or voids that are occupied by one or more of the listed karst invertebrates.

**Deleted:** . Participants may elect to use the boundaries of a feature’s surface drainage basin instead of the 150-foot buffer and the feature’s subsurface drainage basin instead of the 345-foot buffer. If a participant elects to use the drainage basins are used in place of the designated buffer distances, these drainage basin boundaries will delineate the Occupied Cave Zones for that feature.¶

The information required to support an application is intended to identify, to the maximum extent practicable, all caves within a Project Area that are known to be occupied by one or more of the listed karst invertebrates. However, some caves or voids may not have surface expression within a Project Area and their presence might not be detected during the pre-application karst surveys. A participant who has already completed the participation process and obtained a Participation Certificate authorizing take might encounter such a feature while engaging in surface grading or subsurface drilling, trenching, or other similar activities. The possibility of accidentally discovering a species-occupied feature during construction activities is substantially higher over Karst Zones 1 and 2 than it is over Karst Zones 3 and 4. Measures addressing the discovery of such features are addressed as special conditions of SEP-HCP Participation Agreements (see [Section 3.2.4.4](#)).

### 3.2.2.4 VERIFICATION OF BIOLOGICAL INFORMATION

The SEP-HCP Administrator will review all submitted biological information to ensure it meets the standards listed above. If submitted biological information does not meet the minimum standards, then the SEP-HCP Administrator will notify the potential participant of any deficiencies and request a revision. The SEP-HCP Administrator will not process an application for participation without a complete application.

The SEP-HCP Administrator will also require that potential participants provide access to the Project Area for the SEP-HCP Administrator to conduct at least one site visit to visually confirm habitat conditions; although, the SEP-HCP Administrator is not obligated to conduct a site visit.

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TABLE 6. SEP-HCP Mitigation Ratios for GCW and BCV Habitat Impacts.

|  | GCW  | BCV  |
|--|--|--|
| On-site Impacts<br>(Directly Taken Habitat)            | 2 : 1<br><br>(2 acres of protected GCW habitat as mitigation for each acre of directly taken habitat)      | 1 : 1<br><br>(1 acre of protected BCV habitat as mitigation for each acre of directly taken habitat)       |
| Off-site Impacts and Other<br>Indirectly Taken Habitat | 0.5 : 1<br><br>(0.5 acre of protected GCW habitat as mitigation for each acre of indirectly taken habitat) | 0.5 : 1<br><br>(0.5 acre of protected BCV habitat as mitigation for each acre of indirectly taken habitat) |

These mitigation ratios determine how much preserve land for each species must be permanently protected and managed as mitigation for incidental take associated with a participating Covered Activity.

### 3.2.3.2 KARST PARTICIPATION

#### CATEGORIES OF COVERED ACTIVITIES

It is possible that any disturbance of natural surface vegetation, alteration of natural drainage patterns, filling or collapsing caves, surface or subsurface construction-related activities, or introduction of chemicals or pollutants over any of the karst habitat zones, among other types of actions, could have the potential to impact habitat for the listed karst invertebrates. If such impacts could result in incidental take, then compliance with the ESA would be necessary.

For the listed karst invertebrates, the SEP-HCP offers incidental take authorization for activities within a Project Area based on (1) the location of the activity in relation to the mapped Karst Zones, Service-designated CHUs, and Occupied Cave Zones and (2) level of conservation that has been achieved for a given listed species in a given KFR.

As described above, the boundaries of Karst Zones 1 through 4 and the boundaries of Critical Habitat Units are established by the Service. Maps of these areas will be made available to potential participants.

For the purpose of evaluating participation in the SEP-HCP, an "Occupied Cave Zone" will be established around each of the species-occupied caves found within or adjacent to a Project Area during the pre-application surveys. The Occupied Cave Zone will encompass the area delineated by the combined areas of the estimated surface drainage basin, subsurface drainage basin (if available), and a 345-foot cricket foraging buffer. The defined distance buffer approximates the area where surface and

**Deleted:** extend 345 feet from the mapped footprint of the cave or may optionally be delineated as the extent of the surface and subsurface drainage basins of a cave

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TABLE 10. Initial Karst Participation Fee Levels.

| Fee Zone               | Applicability  | Initial Amount     |
|------------------------|--|--------------------|
| Occupied Cave Zone "B" | Portions of a Project Area that are between 150 feet and 345 feet of a species-occupied cave or optionally within the subsurface drainage basin of a cave. Assessed for any physical incursion within this zone. Zone "B" fee is waived if Zone "A" fee is paid for a feature. | \$40,000 per cave  |
| Occupied Cave Zone "A" | Portions of a Project Area that are within 150 feet of a species-occupied cave or optionally within the surface drainage basin of a cave. Assessed for any physical incursion within this zone.  | \$400,000 per cave |

If Conservation Level 3 is achieved, karst participation fees within CHUs will be assessed in accordance with the fee zones described above.

If a Covered Activity occurs within the Occupied Cave Zone of more than one species-occupied cave, then participation fees will be assessed for each affected feature.

Payment of participation fees allows the participant to be covered for any incidental take of the listed karst invertebrates associated with activities conducted in the authorized zones. The karst participation fees collected from participants are intended to help offset the costs of SEP-HCP implementation pertaining to the karst conservation program, including preserve acquisitions and management, other proposed conservation measures, and program administration.

### KARST PRESERVES IN LIEU OF FEES

**In lieu** of paying karst participation fees to the SEP-HCP Administrator, a potential participant may offer new karst preserves as mitigation for incidental take. The SEP-HCP Administrator will have the discretion to accept or reject all offers of preserve land towards the payment karst participation fees on a case-by-case basis.

In general, the following standards will apply to offers of karst preserve land **in lieu of** participation fees:

- A low quality karst preserve (defined for this purpose as the area within 500 feet of the footprint of a species-occupied cave) that is established within the same KFR as the Project Area may be accepted in lieu of the per acre Karst Zone participation fees.
- One high or medium quality karst preserve for each of the listed karst invertebrates within an Occupied Cave Zone may be accepted **in lieu of** participation fees after Conservation Level 2 has been achieved. The karst preserve does not need to be located in the same KFR as the Project Area and may contain any of the listed karst invertebrates.

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**Comment [a3]:** I am not certain what the intent is here but I am more comfortable with preserves being offered *towards* payment of karst participation fees rather than *in lieu of* such fees. As written, this could open up the doors for all sorts of bad trades that would leave us broke and lacking adequate karst preserves.

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**Comment [a4]:** The value of the lo-qual preserve should be assessed under the valuation structure provided by the Plan. Then, if deemed acceptable by the Administrator, that value can be applied towards the Karst Zone participation fees. This should not be considered in lieu of payment but can be applied towards the total bill. Same goes for med- and hi-qual preserves mentioned below.

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- One high quality karst preserve or two medium quality karst preserves for each of the listed species within an Occupied Cave Zone may be accepted **in lieu of** participation fees *before* Conservation Level 2 has been achieved. The karst preserves must be located in the same KFR as the Project Area. Acceptable offers of this nature may allow coverage of activities within an Occupied Cave Zone before Conservation Level 2 has been achieved for those species in that KFR.

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All accepted offers of preserve land will also require the approval of the Service to be used as mitigation for the impacts of incidental take. Exceptions to these general standards may also be accepted by the SEP-HCP Administrator, with approval of the Service.

By accepting an offer of **in-lieu** preserve land, the SEP-HCP Administrator commits to protect and manage the offered preserve land in perpetuity, in the same way as other SEP-HCP preserves.

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### 3.2.4.3 DETERMINATION LETTERS

For each complete application submitted by a potential participant, the SEP-HCP Administrator will complete the following tasks:

1. For GCW and BCV:
  - a. Determine the acres of GCW and BCV habitat associated with the Project Area that would be directly or indirectly taken;
  - b. Calculate the number of GCW and BCV conservation credits that would be needed to mitigate for the direct and indirect take, based on the established mitigation ratios; and
  - c. Determine whether sufficient credits are currently available for purchase from the SEP-HCP conservation bank to cover the mitigation needs for the Project Area.
2. For Listed Karst Invertebrates:
  - a. Determine what portions of the Project Area may be covered for incidental take of listed karst species based on current conservation levels (i.e., Critical Habitat Units, Occupied Cave Zones, and/or Karst Zones);
  - b. Determine the acres of the Project Area that would be subject to per acre Karst Zone participation fees; and
  - c. Calculate the total participation fees that would be needed to complete enrollment in the Plan, based on the established fee structure;
3. Determine whether or not to accept an offer of preserve land **in lieu of** the purchase of GCW or BCV conservation credits or karst participation fees, if such an offer has been made; and

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of Category 2 karst species. The requirements for investigating accidentally discovered voids will be lifted within a KFR once Conservation Level 2 has been achieved for all species known to occur in that KFR.

When a previously unknown void is encountered within Karst Zones 1 and 2, the participant must:

1. Immediately stop all construction-related activities within ~~of the combined buffer area of the void (cricket foraging area plus surface and subsurface drainage basins)~~, cover the void with a tarp or similar temporary covering to help prevent contamination, and notify the SEP-HCP Administrator within 24 hours of discovery that a previously unknown feature has been encountered;
2. Within 48 hours of discovery, have a Service-permitted karst biologist assess the feature for the presence of suitable habitat characteristics; and
3. If the feature is determined to have suitable karst invertebrate habitat, have a Service-permitted karst biologist conduct a karst invertebrate presence/absence survey.

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~~Participants may utilize an abbreviated survey protocol when evaluating accidentally discovered voids. This abbreviated protocol involves a shortened survey period requiring five survey visits in one week versus the standard protocol requiring three visits over three weeks. The abbreviated survey protocol need not adhere to the Service's recommended suitable sampling conditions, but consistency with these recommendations is encouraged. However, all other standard survey protocols should be followed, including sampling thoroughness, specimen collection and preservation, baiting, and reporting.~~

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**Comment [a5]:** I am not in favor of offering the option of an abbreviated survey protocol. First, I do not think the abbreviated protocol is adequate and few participants would take the additional steps recommended by the Service if this option were available. If we are committed to offering such a "carrot" then we need to provide the scientific justification for abbreviated surveys (Krejca's and Taylor's studies) as well as a clear description of the specific circumstances under which this option may be available. As written, any participant may consider this to be the defacto protocol when, in truth, it is a rarely-considered option. Also, I would haggle over the offer and suggest something on the order of five visits over a period of ten days. This protocol may be more amenable to statistical analysis, especially if the visits are evenly spaced within the sampling period.

Participants must report the findings of the karst habitat assessment and any presence/absence surveys to the SEP-HCP Administrator. The following conditions apply with respect to accidentally discovered voids:

- **No Habitat or No Listed Species** - If an accidentally discovered void is found to not represent suitable habitat for karst invertebrates or the feature is not found to be occupied by any of the listed karst invertebrates, then the participant may resume Covered Activities after reporting the findings to the SEP-HCP Administrator.
- **Category 1 Karst Species Only** - If an accidentally discovered void is found to contain only Category 1 karst species (i.e., the three relatively common listed karst invertebrates), the participant may resume Covered Activities after reporting the findings to the SEP-HCP Administrator. Participants may rely on the assurances of their Participation Agreement that incidental take of the Category 1 species under this circumstance is authorized. However, the participant will be required to implement best practices to minimize impacts of the activity on the affected karst habitat.
- **Category 2 Karst Species** - If one or more of the very rare Category 2 karst species are discovered in the void, then the participant must suspend all construction-related activities and consult with the Service regarding appropriate case-by-case measures to avoid jeopardizing the survival and recovery of these very rare species. The participant

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may resume Covered Activities within the combined buffer area of the void (345-foot cricket foraging area plus surface and subsurface drainage basins), only after obtaining authorization from the Service to proceed and notifying the SEP-HCP Administrator that such authorization has been granted.

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## Best Practices to Minimize Impacts to Species-occupied Caves

Participation Agreements will require participants to implement all applicable and appropriate “best practices” within Project Areas to minimize impacts to species-occupied caves, including accidentally discovered features.

The following best practices will be required within all enrolled Project Areas over Karst Zones 1 through 4:

- Install fencing around Occupied Cave Zones and CHUs, unless covered activities have been authorized in these areas;
- Install sedimentation controls, such as silt fences, around Occupied Cave Zones, unless covered activities have been authorized in these areas;
- Install flagging or other signage around accidentally encountered voids until covered activities are authorized to proceed; and
- Divert surface runoff away from accidentally encountered voids using berms, filtration socks, or similar techniques until covered activities are authorized to proceed.

Participants will be encouraged to implement other best practices that may reduce impacts to karst habitat within a Project Area, such as:

- Limit vegetation clearing and other surface or subsurface disturbances to those areas essential to the Covered Activity;
- Revegetate disturbed areas with native plants and manage open spaces in a manner that maintains the characteristics of a natural woodland or savanna plant community;
- Install semi-pervious surfaces in place of impervious surfaces; and
- During active construction within a Project Area:
  - use non-permeable drip collectors under construction equipment when the equipment is idle;
  - inspect equipment daily for leaks and immediately repair all leaks or remove the leaking equipment from the Project Area;
  - store fuel and other hazardous materials outside of the Project Area or outside of the surface and subsurface drainage basins of a species-occupied cave;

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minimized by the administrative limits and the participation fee structure set by the karst participation process until a certain level of conservation is in place (see Section 3.2.3.2 for more details).

Under this approach, the SEP-HCP would not generally cover activities conducted within the combined buffer area (cricket foraging area plus surface and subsurface drainage basins) of a known species-occupied cave until karst preserves are in place at a level consistent with the downlisting criteria described in the 2008 Bexar County Invertebrates Draft Recovery Plan. For example, *Rhadine exilis* is known to occur in four of the six KFRs and the draft downlisting criteria for this species specify that one high quality preserve and two medium quality preserves would be needed in each of the KFRs where this species occurs. Therefore, the SEP-HCP would not cover incidental take of *R. exilis* associated with activities occurring within the combined buffer area of a cave unless one high quality and two medium quality preserves had been established within that particular KFR.

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In this way, the SEP-HCP would minimize most of the direct and highest intensity impacts to listed karst invertebrates by requiring participants to avoid conducting activities close to known species-occupied caves until the draft downlisting criteria for the number and type of karst preserves in a KFR were achieved. Once the necessary number of karst preserves is in place for a particular species in a KFR, then SEP-HCP participants may be authorized to conduct covered activities within the combined buffer area (cricket foraging area plus surface and subsurface drainage basins) surrounding a cave occupied by that species, since the regional recovery potential for that species will have been secured. Continuing the previous example, once one high quality and two medium quality cave preserves were established for *R. exilis* in the KFR "A", then SEP-HCP participants with projects in the KFR "A" could obtain incidental take authorization from the SEP-HCP for activities within the combined buffer area (cricket foraging area plus surface and subsurface drainage basins) a cave occupied by *R. exilis*.

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Even if the regional recovery potential for a listed karst invertebrate has been secured and the SEP-HCP was able to authorize incidental take within the combined buffer area (cricket foraging area plus surface and subsurface drainage basins) of a species-occupied cave, the participation fee levels for such coverage are set at a level that continues to encourage minimizing activities close to such caves.

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These limits on participation in the karst program will avoid the most severe impacts to species-occupied caves, such as filling or excavating known caves or voids which can directly and permanently destroy the physical karst environment and could even directly kill or wound individuals of the listed species. These limits would remain in place until regional downlisting criteria for one or more of the species have been met.

By encouraging participants to avoid disturbing the surface and subsurface elements of karst habitat within the combined buffer area (cricket foraging area plus surface and subsurface drainage basins) of the footprint of an occupied cave, the SEP-HCP will also minimize the potential indirect and/or less severe direct adverse impacts of land development and construction on the listed karst invertebrates. The combined cave buffer is consistent with areas of likely surface and subsurface recharge as well as the known foraging range of cave crickets (*Ceuthophilus* spp.), which are a major component of the cave ecosystem. This buffer would also contain at least 8.5 acres of surface vegetation community and drainage basins associated with the cave. Avoiding disturbance within this zone will minimize the intensity of potential changes to the nutrient, hydrologic/humidity, and

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temperature regimes of the cave ecosystem that might be associated with Covered Activities conducted outside of the combined buffer zone. This measure will also help minimize the potential for invasion of species-occupied caves by red-imported fire ants (*Solenopsis invicta*) which can alter the surface animal community (potentially disrupting natural nutrient pathways) and prey directly on the listed karst invertebrates. Retaining natural vegetation around a cave can also help filter pollutants or other contaminants from surface runoff before it enters a cave.

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Finally, given the critically endangered status of many of the listed karst invertebrates, the SEP-HCP would administratively limit incidental take authorization for activities conducted within designated critical habitat for these species until sufficient karst preserves were in place to achieve twice the level of habitat protection specified by the draft downlisting criteria. These limits would be applied on an individual species and individual KFR basis. The critical habitat designations for the listed karst species include some or all of the primary constituent elements of viable habitat for these species; although, some special management or protection may be required to maintain these conditions over time. Therefore, the SEP-HCP would effectively avoid authorizing incidental take or adverse impacts to the species or their habitats associated with nearly all of the species-occupied caves that are known to occur at the time of this writing. These limits would remain in place until the level of conservation achieved within the Permit Area makes the critical habitat designations irrelevant to the survival and recovery of one or more of the listed karst species in a given KFR.

Despite strong avoidance and minimization measures for known species-occupied caves, the requested incidental take could result in direct and potentially severe impacts to previously unknown species-occupied caves or voids discovered accidentally during implementation of a Covered Activity. While most species-occupied caves present within a participating Project Area would be discovered during the mandatory pre-application karst studies, some caves or voids may not have detectable surface expression and might be discovered only during subsurface construction activities. In such cases, the act of discovering the feature could result in direct, physical disruption of the karst habitat and, if the feature were occupied, the incidental take of one or more of the listed karst invertebrates.

The SEP-HCP karst program will minimize the potential impacts of any incidental take associated with the discovery of a species-occupied cave or void during implementation of a covered activity (see [Section 3.2.4.4 – Special Conditions for Karst Invertebrates for more details](#)). Until the draft downlisting criteria for all of the listed species in a particular KFR have been achieved, participants will be required to investigate accidentally discovered caves or voids to determine if they are occupied by one or more of the listed species. For accidentally discovered features found to be occupied by one or more of the six rarest listed karst invertebrates (i.e., “Category 2” karst invertebrates), participants will be required to consult with the Service and implement all reasonable and prudent minimization and mitigation measures at that site. Such measures could include resealing the void and altering the participant’s activities to avoid or minimize additional impacts to the discovered feature.

## 4.4.4 IMPACTS TO INDIVIDUAL KARST SPECIES

Impacts to species-occupied caves would not be expected to affect the individual listed karst species equally, since some of these species are more common and wide-spread than others. In general, three of the listed karst invertebrates are relatively common: *Rhadine exilis*, currently known

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- “Low quality” karst preserves will include the area within at least 500 feet surrounding the cave footprint (a minimum of approximately 18 acres).

All SEP-HCP karst preserves must protect a buffer of at least 345 feet ([cricket foraging area plus surface and subsurface drainage basins](#)) from the cave footprint.

High and medium quality karst preserves may contribute to the recovery of the listed karst species and will be considered when evaluating the current conservation level for a species. High and medium quality karst preserves may also be accepted as mitigation in lieu of the payment of participation fees. Low quality karst preserves may be accepted as mitigation in lieu of the payment of per acre karst zone participation fees, but might not be able to be considered when evaluating the current conservation level for a species without specific approval from the Service.

The Service may allow exceptions to these minimum standards on a case-by-case basis.

### 7.2.1.3 OCCUPANCY

SEP-HCP karst preserves accepted as mitigation for incidental take must be shown to be occupied by one or more of the listed karst invertebrates no more than three years prior to acquisition.

### 7.2.1.4 LOCATION

The Draft Karst Recovery Plan specifies the number, type, and distribution of karst preserves that would be needed for the Service to consider downlisting these species from endangered to threatened. These criteria are summarized in [Table 7](#). The biological goals and objectives for the SEP-HCP karst conservation program are consistent with these draft recommendations.

## 7.2.2 USES OF PRESERVE LANDS

The legal protections for SEP-HCP preserves will establish that the primary purpose of karst preserve lands is for the long-term conservation of the covered karst species.

Other uses of karst preserves may be allowed if these uses are (1) conducted in a manner consistent with the conservation of covered karst species; (2) conducted in accordance with an adaptive management plan that identifies and minimizes potentially related threats to these species; and (3) approved by the Service. Secondary uses may include, but are not limited to, public and private recreational activities, agricultural activities, low-density residential activities, research and/or educational activities, and utility or infrastructure corridors.

For example, the Service has determined that some types of public access and vehicular uses of access roads or trails may be allowed within the surface and subsurface drainage basins of a species-occupied cave without harming the water quality or the environmental integrity of the karst feature (see the description of “Allowed and Prohibited Activities” in Section 3.1 of Appendix B of the September 2007 Texas Commission on Environmental Quality publication RG-348B pertaining to Optional Enhanced Measures for the Protection of Water Quality in the Edwards Aquifer and Related Karst Features that May Be Habitat for Karst Dwelling Invertebrates).

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|                             |  |
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| GIS                         | Geographic Information System  |
| Habitat Conservation Plan   | A plan prepared under the Endangered Species Act by non-federal parties wishing to obtain permits for the incidental taking of threatened and endangered species. A Habitat Conservation Plan is required to obtain an Incidental Take Permit under Section 10(a)(1)(B) of the ESA.  |
| Harass                      | An intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering (50 CFR § 17.3).   |
| Harm                        | An act which actually kills or injures wildlife and may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns including breeding, feeding or sheltering (50 CFR § 17.3).  |
| HCP                         | Habitat Conservation Plan  |
| HCP Handbook                | The Service's <i>Habitat Conservation Planning and Incidental Take Permit Processing Handbook</i> which provides guidance on the elements of a Habitat Conservation Plan.  |
| High Quality Karst Preserve | For the purposes of the SEP-HCP, a "high quality" karst preserve will include at least 90 acres surrounding the cave footprint and/or the approximate extent of the surface and subsurface drainage basins of the cave, whichever is smaller. All SEP-HCP karst preserves must protect a buffer of at least 345 feet from the cave footprint. <u>This buffer should include the surface and subsurface drainage basin and the cricket foraging area (345 feet from the footprint of the cave).</u> |
| Human Environment           | A variety of resources such as water, air quality, cultural and historic resources, and socioeconomic resources in which direct, indirect, and cumulative impacts of the action are evaluated.   |
| Incidental Take             | Taking of a threatened or endangered species that result from carrying out an otherwise lawful activity.   |
| Incidental Take Permit      | A permit issued by the Service under Section 10 of the ESA to non-federal entities authorizing the incidental taking of a threatened or endangered species.  |
| Indirect Effects            | Effects for which an action is an essential cause, and that are later in time, but still are reasonably certain to occur.  |
| Interlocal Agreement        | An interlocal agreement is a contract between government agencies.   |

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| Jeopardize                    | Defined by the ESA as “to engage in 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)   |
| Karst                         | A terrain characterized by landforms and subsurface features, such as sinkholes and caves, which are produced by solution of bedrock. Karst areas commonly have few surface streams and most water moves through cavities underground.   |
| Karst Conservation Level      | Establishes eligibility for participation in the SEP-HCP with respect to the Listed Karst Invertebrates. Karst conservation levels reflect the progress towards achieving the draft downlisting criteria specified in the 2008 Bexar County Karst Invertebrates Draft Recovery Plan.   |
| Karst Fauna Region “KFR”      | KFRs are geographic areas delineated based on discontinuity of karst habitat that may reduce or limit interaction between populations of karst species.  |
| Karst Zones                   | Geographic areas delineated based on geologic and topographic features that facilitate assessment of the probability of the presence of rare or endemic karst species. Potential karst habitat occurs in Karst Zones 1 through 4.  |
| KFR                           | Karst Fauna Region   |
| KFR Groups                    | Groups of SEP-HCP sectors that generally correspond to the region of one or more of the KFRs described in the 2008 Bexar County Listed Karst Invertebrates Draft Recovery Plan.  |
| Listed Karst Invertebrates    | A group of nine invertebrates, including five spiders, three beetles, and one harvestman, that were federally listed as endangered on December 26, 2000. These species live entirely underground in the limestone caves and passages of the karst geologic formations that underlie the northern portion of Bexar County and adjacent areas. These karst invertebrates are Covered Species.                                  |
| Low Quality Karst Preserve    | For the purposes of the SEP-HCP, a “low quality” karst preserve includes the area within at least 500 feet surrounding the cave footprint (a minimum of approximately 18 acres).   |
| Medium Quality Karst Preserve | For the purposes of the SEP-HCP, a “medium quality” karst preserve includes at least 40 acres surrounding the cave footprint and/or the approximate extent of the surface drainage basin of the cave, whichever is smaller. All SEP-HCP karst preserves must protect a buffer of at least 345 feet <u>(combined buffer zone: cricket foraging area plus surface and subsurface drainage basins)</u> from the cave footprint. |

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| Mitigation                                 | Actions that compensate for the impacts of incidental take on a species.   |
| National Environmental Policy Act ("NEPA") | A United States environmental law that established a national policy promoting the enhancement of the environment. Establishes procedural requirements for all federal government agencies to prepare documentation evaluating the environmental effects of proposed federal agency actions.   |
| NEPA                                       | National Environmental Policy Act (42 USC § 4321 et seq.)  |
| NMFS                                       | National Marine Fisheries Service  |
| No Surprises Rule                          | The Service's Habitat Conservation Plan Assurances ("No Surprises") Rule provides regulatory assurances to the holder of a Habitat Conservation Plan incidental take permit issued under Section 10(a) of the ESA that no additional land use restrictions or financial compensation will be required of the permit holder with respect to species covered by the permit, even if unforeseen circumstances arise after the permit is issued indicating that additional mitigation is needed for a given species covered by a permit. |
| Occupied Cave Zone                         | For the purpose of evaluating participation in the SEP-HCP, an "Occupied Cave Zone" will be established around each of the species-occupied caves found within or adjacent to a Project Area. The Occupied Cave Zone will extend <u>a minimum of 345 feet</u> from the mapped footprint of the cave. <u>This buffer should include the surface and subsurface drainage basins and cricket foraging area.</u>   |
| Off-site Habitat Impacts                   | All acres of suitable GCW and BCV habitat within 300 feet outside of a Project Area are assumed to be indirectly impacted by a covered activity. Any area within an Occupied Cave Zone or within critical habitat for a listed karst invertebrate that is excluded from the assessment of direct impacts will be considered indirectly impacted.   |
| On-site Habitat Impacts                    | All acres of suitable GCW and BCV habitat within a Project Area are assumed to be directly impacted by the covered activity. Portions of a Project Area within an Occupied Cave Zone or within critical habitat for a listed karst invertebrate will be excluded from the assessment of direct impacts if karst participation for these zones is not obtained.   |
| Participant                                | Any non-federal entity, including private citizens, businesses, organizations, or state or local governments or agencies, that voluntarily obtains incidental take authorization for the Covered Species through the SEP-HCP.  |