

FINAL

Southern Edwards Plateau Habitat Conservation Plan
Citizens Advisory Committee
Work Session –June 15-16, 2011
Helotes Ag Activity Center (4H), 12132 Leslie Road
9 a.m. – 4 p.m.

Desired Outcomes:

- Each stakeholder subgroup will identify a preferred scenario that balances four variables: amount of take authorization needed; mitigation ratios; preserve land distribution; and participation fees.
- The CAC, as a whole, will identify a preferred scenario that they will support as a viable alternative moving forward.
- The CAC will gain a better understanding of its role in the development of the Habitat Conservation Plan.
- Bexar County and Loomis will have a better understanding of the CAC's issues and concerns.

Agenda

- 9:00 a.m. Call to order and public comment
- 9:30 a.m. Workshop Setup
- Review desired outcomes and agenda overview
 - Set guidelines for working together
 - Expectations for the workshop
- 9:45 a.m. Filling in the Information Gaps
- Funding options
 - Comments received on First Draft
 - BAT and CAC recommendations
 - Others as requested by CAC members
- 10:15 a.m. Break**
- 10:25 a.m. What is Consensus?
- 10:45 a.m. Stakeholder Work Groups
1. Select a reporter and a recorder.
 2. Each stakeholder group (real estate/business; environmental; agencies; and landowners) is to come to a general agreement on the preferred combination of the variables listed below.
 - Amount of preserved acres
 - How those preserved acres will be distributed- how much in Bexar County and how much adjacent to it.
 - Preferences or priorities for acceptable levels of authorized habitat loss
 - Mitigation ratios
 - Appropriate balance of participation fees vs. public funds

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3. Begin by considering the amount of acreage the group believes should be included in the habitat conservation plan. Use the suggested range as a beginning point.
4. Then decide how much of that acreage should be included in Bexar County and how much should be in adjacent counties. Use the graphic as a guide for the implications of where the acreage is located.
5. Identify what your group considers to be an acceptable level of authorized habitat loss.
6. Come to a general agreement on the mitigation ratios.
7. Agree on the appropriate balance of participation fees vs. public funds.
8. How would we work toward consensus on an alternative with the larger group? What are we willing to negotiate to get the desired outcome for this workshop?

11:30 a.m. Group Reports and Discussion

- What common elements can you identify?
- Where could there be agreement?
- What is going to be our biggest challenge for the afternoon session?

Noon -1:00 p.m. Break for Lunch (provided at workshop location)

1:00 p.m. Getting Back to Work

- Review the Stakeholder Groups Outcomes
- Focused Conversation

1:30 p.m. Mixed Work Group Alternatives (take break as needed)

1. Select a reporter and a recorder.
2. Consider the elements of an alternative that is reflective of the CAC's interest (not a particular stakeholder group).
3. Consider the importance of the CAC endorsing one alternative.
4. Come to general agreement on:
 - Amount of preserved acres
 - How those preserved acres will be distributed- how much in Bexar County and how much adjacent to it.
 - Preferences or priorities for acceptable levels of authorized habitat loss
 - Mitigation ratios
 - Appropriate balance of participation fees vs. public funds
5. Check with every member of the group before deciding on the alternative
6. What do you think is the greatest advantage to your proposed alternative?

2:45 p.m. Group Reports and Discussion

3:00 p.m. Focused Conversation on the Outcomes – Moving Toward Consensus

3:30 p.m. Where are we?/Wrap-Up

- What do we need to get agreement?
- Meet again tomorrow?
- Next CAC meeting for possible action

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3:50 p.m. Public Comment

4:00 p.m. Adjourn

MEMORANDUM

DATE: May 26, 2011

TO: SEP-HCP Citizens' Advisory Committee

FROM: Amanda Aurora (Loomis Partners) and Christopher Allison (ME Allison)

SUBJECT: Southern Edwards Plateau Habitat Conservation Plan (SEP-HCP)
Funding Plan Options

Both the Endangered Species Act (ESA) and Texas State Law require that a Habitat Conservation Plan describe the funding that will be available to implement the plan. Under the ESA, the U.S. Fish and Wildlife Service must find that "the applicant will ensure that adequate funding for the plan will be provided" (see 16 USC §1539(a)(2)(B)(iii)).

The First Draft SEP-HCP anticipates funding the SEP-HCP with a combination of three reliable and well accepted revenue sources:

1. **Participation fees** paid by voluntary Plan participants;
2. A **Tax Increment Diversion** that allocates a portion of the County's and City's future property tax revenue from new development to the Plan; and
3. Some limited savings obtained by **leveraging currently available conservation dollars** from the City's 2010 Edwards Aquifer Protection Initiative (i.e., the plan anticipates that some of the land purchased for water quality protection will also protect endangered species habitat).

The First Draft also notes that the Plan Administrator will actively seek grants and other types of non-assured funding sources to help implement the plan.

The funding plan outlined in the First Draft of the SEP-HCP illustrates how the Plan may be funded using the most assured and practical funding options that are available. However, the funding plan does not preclude Bexar County or the Plan Administrator from seeking other types of revenue sources that may be less certain or reliable. The Plan does not "lock in" any particular funding mechanism, but rather demonstrates that the Plan can be funded with reliable means. Other potential funding sources are briefly described below.

Sales Tax Revenue

San Antonio has successfully used a 1/8th cent sales tax to fund water quality protection efforts with voter-approved ballot propositions in 2000, 2005, and 2010. These measures will have generated approximately \$335 million for land acquisitions and park improvements by the expiration of the 2010 Proposition 2.

Two sales tax revenue options for the SEP-HCP may be available:

1. Seek another extension(s) of the current 1/8 cent sales tax upon expiration of the 2010 Proposition 2 that includes habitat protection for the covered species as a primary use of the funds; and
2. Seek the use of a new 1/8 cent sales tax increase to fund habitat protection for the covered species.

Potential Benefits: The previous sales tax propositions have generated substantial funds over approximately 10 years at a scale that could address the level of public funding needed to support the Plan.

Potential Drawbacks:

- This funding source would require voter approval, which is not assured. While San Antonio voters have demonstrated a willingness to accept a modest tax increase to fund water quality protection, it is less likely that voters would approve such a tax targeting habitat protection for endangered species.
- There are a number of other constituencies that would also be competing for this sales tax revenue. Dedicating sales tax revenue to endangered species habitat protection may not be popular or feasible during the economic downturn that is affecting funding for other important public services.
- Sales tax collections typically vary more than property tax revenue and could result in occasional annual budget shortfalls.

Real Estate Transfer Taxes

Real estate transfer taxes are fees assessed on real property when ownership of the property is transferred between parties. These taxes are typically assessed as a small percentage of the sales price of a property or as a flat fee per transaction. Real estate transfer taxes are used in other states to fund programs designed to preserve rapidly depleting open spaces in developing areas.

Potential Benefits:

- Real estate transfer taxes have been shown to be a significant and dependable funding source in other states, particularly in rapidly developing areas.

Potential Drawbacks:

- New real estate transfer taxes would have to be approved by the Texas Legislature. Several previous attempts to use this funding mechanism in Texas have failed, and it is unlikely that the current Texas Legislature would approve any new taxes for endangered species habitat protection. Therefore, this potential funding source is not assured.
- The earliest date that this funding source could be approved would be 2013 for the 2014 fiscal year. If the proposal did not pass in 2013, it would be years before another proposal could be brought forward for consideration.
- New real estate taxes would likely encounter strong political opposition by the real estate industry and property owners concerned about diminishing property values.
- Real estate transfer taxes would primarily affect the same group of constituents that would be paying the Plan's participation fees.

Impact Fees

An impact fee is a one-time charge imposed on new development that can be used to help recover capital costs associated with providing the infrastructure and other required improvements to provide service to that new development. Impact fees are already assessed by the City and or County when plats are filed and when construction is approved.

Potential Benefits: The County and City currently have the administrative capacity to assess and collect impact fees from new development. Impact fees could efficiently collect funds from all new development projects affecting habitat for the covered species as a requirement for the approval of permits, plans, or services.

Drawbacks: Chapter 83 of the Texas Parks and Wildlife Code (Sec. 83.014(d)) specifically prohibits governmental entities from requiring the payment of fees or the setting aside of land for endangered species as a condition for the issuance of a permit, approval, or service. Governmental entities can not require people to pay into the plan. Therefore, unless the Texas Legislature were to change this existing law, impact fees would not be a legal funding source for the Plan.

Grants

Grant funds may be available to help support the conservation of the covered species. Most grant programs are highly competitive and require local matching funds. The largest pool of grant funds for endangered species conservation is currently the USFWS Cooperative Endangered Species Conservation Fund grant programs (i.e., ESA Section 6 grants).

The USFWS awarded approximately \$77million nationwide for endangered species conservation in FY2010 including:

- o Conservation Grants – \$11 million for a variety of activities related to habitat restoration, management planning, surveys, and research
- o Recovery Land Acquisition Grants - \$15 million for acquisition of habitat in support of draft or approved recovery plan objectives
- o HCP Land Acquisition Grants - \$41 million to acquire land associated with approved HCPs. Grants do not fund the mitigation required of an HCP permittee; instead, they support conservation actions that compliment the HCP's biological goals and objectives. Typical individual awards in FY2010 were between \$1 million and \$6 million.

Potential Benefits: Grant awards can help leverage local funds by expanding programs for research and outreach, and may contribute to achieving the biological goals and objectives of the plan.

Potential Drawbacks: The Plan may not rely on the availability of grants or other non-assured funding sources. Furthermore, while federal grants may be used to help achieve the overall biological goals and objectives of the Plan (such as contributing to recovery), federal grants may not be used to acquire mitigation for the impacts of authorized incidental take.

For more information

The USEPA has published a comprehensive guide designed to assist interested parties with finding mechanisms to finance environmental protection initiatives ("Guidebook of Financial Tools: Paying for Sustainable Environmental Systems"). See <http://www.epa.gov/efinpage/guidebook.htm> for more information.

Comparison of Committee Recommendations and the First Draft SEP-HCP

- BAT charged with providing guidance on matters affecting the biological integrity of the plan, the calculation of harm to covered species, and the sizing and configuration of preserves.
- CAC charged with providing recommendations for plan goals and objectives, plan area, covered species, covered activities, conservation measures (including the methods for calculating take and the form and level of mitigation), and funding strategy.

Plan Component	BAT Recommendation / Action	CAC Recommendation / Action	First Draft SEP-HCP
Community Goals and Objectives (Section 1.1)	July 28, 2010 Consensus Action: recommend revisions to a draft version of community goals and objectives for CAC consideration	September 13, 2010 Approved Action: <ul style="list-style-type: none"> • Regional conservation • Support Camp Bullis • Stakeholder involvement • Streamline permitting • Locally appropriate & cost effective • Leverage resources 	Only minor revisions from CAC-approved language
Plan Area (Section 2.2)	February 8, 2010 Consensus Action: draft recommendation for Plan Area to include 7 counties with possible addition of Uvalde and Gillespie	February 18, 2010 Approved Action: Plan Area to include 7 counties with possible reconsideration of Comal Co.	Combined Plan Area: 7 counties Permit Area: 6 counties (excludes Comal Co.) Participation Area: initially restricted to Bexar County and adjacent sectors (excludes Comal Co.) Conservation Area: 7 counties
Plan Duration (Section 2.3)	June 18, 2010 Approved Action: BAT does not object to a 30-year duration	July 12, 2010 Approved Action: recommend 30-year duration for plan and permit	30-year duration

Plan Component	BAT Recommendation / Action	CAC Recommendation / Action	First Draft SEP-HCP
<p>Covered Species (Section 2.4)</p>	<p>February 22, 2010 Approved Action: adopt species category framework and preliminary classification of species in each category (Cat 1 = GCW, BCV, and 3 Karst Inverts; Cat 2 = 6 Karst Inverts)</p> <p>May 28, 2010 Approved Action: add 3 mussels to list of voluntarily conserved (Cat 3) species with BAT taking responsibility for developing conservation measures for these species</p> <p>April 1, 2011 Approved Action: add 7 Eurycea salamanders to Cat 3; add 4 Eurycea salamander to Cat 4; add 2 Eurycea salamanders to Cat 5</p>	<p>June 7, 2010 Approved Action: add 3 mussels to Cat 3 and all other aquatics to Cat 5</p>	<p>Covered Species: GCW, BCV, 9 Karst Invertebrates (all Cat 1 and Cat 2 species)</p> <p>Voluntarily Conserved Species: includes the Cat 3 species</p> <p>Additionally Conserved Species: includes the Cat 4 species</p> <p>First Draft does not include the <i>Eurycea</i> salamanders</p>
<p>Covered Activities (Section 3.0)</p>	<p>May 28, 2010 Consensus Action: allow BAT Chair to draft proposal for CAC consideration</p>	<p>June 7, 2010 Approved Action: cover take associated with otherwise lawful activities (note specific examples for clarity)</p>	<p>Any otherwise lawful activity that may cause the loss or degradation of habitat for the Covered Species, with specific examples</p>

Plan Component	BAT Recommendation / Action	CAC Recommendation / Action	First Draft SEP-HCP
<p>GCW Take and Mitigation (Sections 4.1, 4.2, 4.3, 5.0, 6.0)</p>	<p>November 4, 2010 Approved Action:</p> <ul style="list-style-type: none"> - Consider authorizing approximately 8,000 acres of take in Bexar County and approximately 7,361 acres of take outside of Bexar County (15,361 acres total). - Take in Bexar County be mitigated at a ratio of 3:1, with 60% of the mitigation located within or within 5 miles of Bexar County and 40% located anywhere within the plan area. - Take outside of Bexar County be mitigated at a ratio of 2:1, with the mitigation located anywhere within the plan area. <p>November 17, 2010 Approved Action: adopt BAT recommendations for GCW as presented to CAC, including:</p> <ul style="list-style-type: none"> • Mitigation must be in place before take occurs • Mitigate in proportion to severity of impact/harm 	<p>December 6, 2010 meeting: The CAC voted on a motion to accept the BAT's biological recommendations for the GCW, subject to later modification by the CAC, but the motion did not pass.</p> <p>March 7, 2010 Small Group Exercise: Group 1 Alternative received most votes, but no clear consensus and no action taken:</p> <ul style="list-style-type: none"> • 6,900 ac of total take authorization • Take in Bexar County be mitigated at a ratio of 3:1, with 60% of the mitigation located within or within 5 miles of Bexar County and 40% located anywhere within the plan area. • Take outside of Bexar County to be mitigated at a ratio of 2:1, with the mitigation located anywhere within the plan area. • Mitigation = \$5,500/credit (\$16,500/acre of impact) 	<p>Authorized Take: 12,000 acres of habitat loss/degradation (43% of total anticipated loss)</p> <p>Within Participant-defined Project Areas:</p> <ul style="list-style-type: none"> • On-site Habitat Impacts: 2:1 • Off-site Habitat Impacts: 0.5:1 <p>Mitigation may be placed anywhere within 7-county Plan Area</p> <p>Conservation banking strategy ensures mitigation occurs prior to corresponding use of authorized take</p> <p>Conservation credits = initially \$5,000 / credit</p>

Plan Component	BAT Recommendation / Action	CAC Recommendation / Action	First Draft SEP-HCP
<p>GCW Biological Goals and Objectives & GCW Preserve Standards (Sections 5.0, 6.0, 8.0)</p>	<p>October 8, 2010 Approved Action: Draft preserve size goal of 85,000 to 100,000 acres for the GCW; the actual amount and configuration of the preserve will depend on the locations of currently available habitat and anticipated habitat losses</p> <p>November 4, 2010 Approved Action: Up 10% of preserve lands may be composed of existing public lands, but 0% is preferred.</p> <p>November 17, 2010 Approved Action:</p> <ul style="list-style-type: none"> • 500 acre minimum size • Priority for 5k to 10k acre focal preserves • Priority for at least 1 focal preserve in each county except Blanco • Priority for building upon existing protected lands 	<p>December 6, 2010 meeting: The CAC voted on a motion to accept the BAT's biological recommendations for the GCW, subject to later modification by the CAC, but the motion did not pass.</p>	<p>Permanently protect and manage approximately 30,000 acres of GCW habitat in the Plan Area.</p> <p>Create GCW preserves that include at least 500 acres of GCW habitat and prioritize the creation of larger "focal" preserves that contain at least 5,000 acres of GCW habitat.</p> <p>Protect 5,000 acres of GCW habitat within Bexar County or within approximately five miles of the Bexar County boundary.</p> <p>Prioritize the creation of a focal preserve for the GCW in each of the Plan Area counties.</p> <p>Prioritize the acquisition of GCW and BCV preserve parcels that expand upon or help connect existing conserved lands and parks within the Plan Area.</p>

Plan Component	BAT Recommendation / Action	CAC Recommendation / Action	First Draft SEP-HCP
<p>BCV Take and Mitigation (Sections 4.1, 4.2, 4.3, 5.0, 6.0)</p>	<p>November 17, 2010 Approved Action: approve subcommittee recommendations for BCV conservation program</p> <ul style="list-style-type: none"> • Consider up to 6000 acres of take authorization • 2:1 mitigation ratio for all areas • Mitigation in place before take occurs • Mitigate in proportion to severity of impact/harm 	<p>December 6, 2010 Approved Action: Accept BAT's recommendations for the BCV conservation measures, but acknowledge that the CAC may issue different recommendations for the BCV based on further discussions.</p> <p>March 7, 2010 Small Group Exercise: Group 1 Alternative received most votes, but no clear consensus and no action taken:</p> <ul style="list-style-type: none"> • 2:1 mitigation ratio for all areas • Mitigation = \$5,500/credit (\$11,000/acre of impact) 	<p>Authorized Take: 4,000 acres of habitat loss/degradation (43% of total anticipated loss)</p> <p>Within Participant-defined Project Areas:</p> <ul style="list-style-type: none"> • On-site Habitat Impacts: 1:1 • Off-site Habitat Impacts: 0.5:1 <p>Mitigation may be placed anywhere within 7-county Plan Area</p> <p>Conservation banking strategy ensures mitigation occurs prior to corresponding use of authorized take</p> <p>Conservation credits = initially \$5,000 / credit</p>

Plan Component	BAT Recommendation / Action	CAC Recommendation / Action	First Draft SEP-HCP
<p>BCV Biological Goals and Objectives & Preserve Standards (Sections 5.0, 6.0, 8.0)</p>	<p>November 17, 2010 Approved Action: approve subcommittee recommendations for BCV conservation program:</p> <ul style="list-style-type: none"> • goal to acquire and manage 12,000 acres for BCV • 100 acre minimum managed area within a minimum 500 acre protected property • Priority for at least 1 focal preserve of 2k to 4k acres in western part of plan area • Priority for expanding existing protected lands • Up 10% of preserve lands may be composed of existing public lands, but 0% is preferred. 	<p>December 6, 2010 Approved Action: Accept BAT's recommendations for the BCV conservation measures, but acknowledge that the CAC may issue different recommendations for the BCV based on further discussions.</p>	<p>Permanently protect and manage approximately 4,000 acres of BCV habitat in the Plan Area.</p> <p>Create BCV preserves that include at least 100 acres of BCV habitat and prioritize the creation of one focal BCV preserve that contains at least 2,000 acres of BCV habitat.</p> <p>Prioritize the acquisition of GCW and BCV preserve parcels that expand upon or help connect existing conserved lands and parks within the Plan Area.</p> <p>Minimum isolated preserve size = 500 acres with capability to generate at least 100 BCV credits</p>

Plan Component	BAT Recommendation / Action	CAC Recommendation / Action	First Draft SEP-HCP
<p>Karst Take and Mitigation (Sections 4.1, 4.2, 4.4, 5.0, 6.0)</p>	<p>November 4 and 17, 2010 Approved Action:</p> <ul style="list-style-type: none"> • No take authorization until draft downlisting criteria are met for a particular species in a particular KFR • Contribute to achieving 2x draft downlisting criteria • Able to use collected mitigation fees to purchase karst preserves in other KFRs • Karst survey protocol • Impact Zones <ul style="list-style-type: none"> ○ 0 – 150 ft ○ 150 – 345 ft 	<p>December 6, 2010 Approved Action:</p> <p>Accept the BAT recommendations for karst conservation measures, subject to later modification by the CAC.</p>	<p>Establishes eligibility criteria for participation based on the level of conservation achieved for a particular species in a particular KFR:</p> <ul style="list-style-type: none"> • Conservation Levels based on progress towards meeting or exceeding draft downlisting criteria • Take associated with activities conducted within 345 ft of an occupied cave not typically eligible for coverage until 1x of draft downlisting criteria met. • Take associated with activities conducted within designated critical habitat not typically eligible for coverage until 2x of draft downlisting criteria met. <p>Participation requires extensive karst surveys.</p> <p>Karst participation fees:</p> <ul style="list-style-type: none"> • Karst Zone 1&2 = \$500/ac • Karst Zone 3&4 = \$100/ac • OCZ A (150 – 345 ft) = \$40,000 per cave • OCZ B (0 – 150 ft) = \$400,000/cave

Plan Component	BAT Recommendation / Action	CAC Recommendation / Action	First Draft SEP-HCP
<p>Karst Preserves (Section 7.2)</p>	<p>November 4, 2010 Approved Action: Preserves consistent with standards in draft recovery plan</p>	<p>December 6, 2010 Approved Action: Accept the BAT recommendations for karst conservation measures, subject to later modification by the CAC.</p>	<p>Minimum standards:</p> <ul style="list-style-type: none"> • Legal protection in perpetuity • 18 ac (500 ft buffer) for low quality preserve • 40 ac or extent of surface basin for medium quality preserve, whichever is smaller • 90 ac or extent of surface and subsurface basin for high quality preserve, whichever is smaller • 345 buffer around all cave footprints • Demonstrated occupancy by one or more listed karst invertebrate

Plan Component	BAT Recommendation / Action	CAC Recommendation / Action	First Draft SEP-HCP
<p>Karst Biological Goals and Objectives (Section 5.0)</p>	<p>November 4, 2010 Approved Action: BAT approved recommendations for the karst conservation program, including:</p> <ul style="list-style-type: none"> • No take allowed until draft downlisting criteria are met for individual species in individual KFRs • Contribute to achieving 2x of draft downlisting criteria • Mitigation fees may be used to perform conservation in other KFRs 	<p>December 6, 2010 Approved Action: Accept the BAT recommendations for karst conservation measures, subject to later modification by the CAC.</p>	<p>Permanently protect and manage double the number of karst preserves needed to downlist each of the listed karst invertebrates. Minimize impacts in close range to occupied caves. Perform investigations to discover new localities for rare species Improve management at known localities for rare species.</p>

Plan Component	BAT Recommendation / Action	CAC Recommendation / Action	First Draft SEP-HCP
<p>Preserve Management and Monitoring (Section 8.0)</p>	<p>November 4 and 17, 2010 Approved Action: BAT approved recommendations for the conservation programs, including:</p> <ul style="list-style-type: none"> • GCW & BCV - Manage protected habitats within preserves for the benefit of the species by minimizing threats and maintaining, restoring, or enhancing high quality habitat. • GCW & BCV - Monitor populations and habitats to track the status of the species within the preserve system and to inform the adaptive management process. • BCV - Management staff should be given authority to use lethal means to manage excessive numbers of depredatory species and other traditional land management practices, such as prescribed fire. • Adaptive management strategies should be implemented to prevent detriment to other listed species. 	<p>December 6, 2010 Approved Action: Accept BAT's recommendations for the BCV conservation measures, but acknowledge that the CAC may issue different recommendations for the BCV based on further discussions.</p>	<p>Commitment to implementing within the preserves such measures as are both necessary and practicable to maintain suitable habitat conditions for the Covered Species and address threats to these species.</p> <p>Describes an adaptive management process with a 10-year cycle:</p> <ul style="list-style-type: none"> • Assess baseline conditions of preserves to document current conditions and assess threats • Prepare/update management plans to address treats • Conduct management activities in accordance with plan, including annual "end of year" assessments of progress • System-wide species and habitat monitoring studies <p>Annual reporting to FWS and other coordination commitments related to enrolling participants, preserve acquisitions, and adaptive management</p>



MEMORANDUM

DATE: May 27, 2011

TO: Andy Winter
Bexar County, Infrastructure Services

FROM: Clif Ladd and Amanda Aurora

SUBJECT: Southern Edwards Plateau Habitat Conservation Plan (SEP-HCP):
Conservation Measures Approved by USFWS under the Highlands Dominion/Camp
Bullis Biological Opinion compared with the Conservation Measures Proposed in
the First Draft SEP-HCP
(Loomis proj. no. 080801-03)

As you requested, we reviewed the Highlands Dominion/Camp Bullis Biological Opinion with respect to the mitigation achieved and compared it with the recommendations in the First Draft SEP-HCP. The Highlands Dominion project was the subject of an article in the San Antonio Express News article on April 11, 2011. As the only recent golden-cheeked warbler permitting action in the San Antonio area, it has received some attention and merits this review.

	Highlands Dominion/Camp Bullis Biological Opinion (Approved by USFWS February 11, 2011)	Proposed First Draft SEP-HCP (Released for comment April 12, 2011)
GCW Mitigation Ratios	1.8 acres mitigation : 1 acre of impact to habitat	2 acres mitigation : 1 acre of impact to habitat
	<ul style="list-style-type: none"> Provides 125 acres of mitigation to compensate for 69 acres¹ of impacts to GCW habitat from residential development BO does not address off-site impacts to habitat (indirect) 	<ul style="list-style-type: none"> Additional 0.5 : 1 mitigation required for off-site impacts within 300 ft of a project site



GCW Mitigation Lands

20% of mitigation lands located in Bexar County adjacent to Camp Bullis

- 36 acres within the project area to be protected by restrictive covenants or a conservation easement and managed by a Homeowners Assoc. and TNC²
- 80% of mitigation lands located in Bandera County adjacent to TNC Love Creek Preserve, to be protected by conservation easement and managed by TNC

Goal to acquire 16% of mitigation lands in/adjacent to Bexar County

- Biological Goals & Objectives and Funding Plan anticipate 5,000 acres of 30,000 total acres of GCW mitigation to be created within Bexar County or within 5 miles of county boundary

Any GCW preserves created within the 7-county Plan Area can generate conservation credits for the Plan.

Karst Invertebrate Conservation Measures

263-foot protected buffer around karst features

- Asserts No Adverse Effects to listed karst invertebrates that are either known to occur or may in the future occur within 2 identified caves located within or immediately adjacent to the project area
- Requires suspension of activities and additional consultation with USFWS if other voids are discovered during construction

345-foot buffer around occupied karst features establishes a criteria for participation, depending on the overall level of conservation that is achieved

- SEP-HCP recognizes that take and adverse impacts may occur even outside of 345-foot buffer
- Requires suspension of activities and additional consultation with USFWS if other voids are discovered during construction that contain the rarest species
- Establishes a funding source for karst conservation that is independent of voluntary participation levels

¹ GCW impacts will occur on 71.34 acres, according to the Conservation Agreement (48.47 acres within the “Highlands Dominion project area” plus 22.87 acres development within the “Highlands Dominion mitigation area”).

² On-site mitigation actually consists of 33.81 acres, according to the Conservation Agreement. The “Highlands Dominion mitigation area” refers to 56.68 acres of partial on-site mitigation (22.87 acres developed and the remainder preserved [33.81 acres]). The “Highlands Dominion mitigation area” would also contain ten two acre tracts of residential development.

Biological Advisory Team

Southern Edwards Plateau Habitat Conservation Plan

EXECUTIVE SUMMARY

The Biological Advisory Team provides this document in response to requests for clarification on BAT recommendations. The questions originated from Bexar County and the Citizens Advisory Committee on Dec 30, 2010.

Regarding the **distribution of mitigation lands**, the BAT recommends that the CAC and plan participants ensure that mitigation lands are strategically located throughout the plan area, including Bexar County. Though HCP guidelines recommend that mitigation occurs as closely as possible to the impact, our recommendation did not indicate a distance from habitat loss, but rather that mitigation occurs anywhere within Bexar County plus an extra 5 miles. This means that 60% of mitigation could occur up to 32 miles from the impact area and the remainder could occur within 95 miles from the impact site. The BAT feels it is important to protect existing habitat throughout the plan area, and not rely on rural habitat alone to prevent harm to the species. Protected habitat in too few blocks, too isolated, or in too small blocks is overly sensitive to population and habitat threats (fire, disease, predators, etc) and may compromise the objectives of the SEP-HCP.

The BAT carefully deliberated over recommendations concerning **mitigation ratios**. Our recommendations were based on the scientific literature, our combined experience in the field, and our professional knowledge of our community, which includes knowledge of threats to the species, and significantly de-emphasizes historical impact to habitat. Our recommendations are not intended to compensate for prior habitat loss, but rather the new loss of habitat that will be authorized by this plan.

The BAT cautions against comparing San Antonio to other communities and other HCPs. Many other communities that have negotiated HCPs have a smaller human population, more available land for development, and less GCWA habitat. Each HCP has a different set of objectives, addresses different threats to the species, and solves different community needs.

The County asked the BAT to propose a new mitigation strategy that would meet minimum issuance standards. It is important to note that regardless of which mitigation ratio the SEP-HCP uses, there will still be a net loss of sensitive habitat. Habitat loss authorized under this plan is gone forever. Additionally, the USFWS is statutorily bound to ensure that there is a contribution to recovery with the issuance of their permits. The BAT feels that the structure of our recommendations allows the CAC to adjust its goals, whether the CAC intended to meet minimum standards or contribute to recovery. This can be done by adjusting the acres of Habitat Take Requested and the resulting acres of Mitigation.

The BAT cautions against comparing the SEP-HCP to the **Camp Bullis** Biological Opinion. Federal installations operate under more strict standards than HCP and have greater management and monitoring requirements. Because the Camp Bullis BO requires that they mitigate for unoccupied habitat, their “overall” or “effective” mitigation ratio is larger than 3:1, and in some cases, could exceed 4:1.

The CAC is reminded that under the BAT recommendations, a potential participant (e.g. a developer) has an important choice that could substantially impact the overall cost of mitigation. In the interest of expediency, a participant may choose to assume occupancy on all forested lands on the property. In this scenario, the developer may get a permit within 3 weeks. Alternatively, if expediency is not necessary, the developer could perform 3 years of USFWS protocol surveys on their project, but would not need to assume occupancy. In this scenario, though the project is slowed, the developer would know exactly how much habitat is occupied, and would only need to mitigate this amount.

The BAT offers 2 areas of **flexibility** for the CAC to consider. First, survey requirements for habitat within Loop 1604 may be relaxed. The conservation value of this habitat is already compromised, and it may be appropriate to accept absence surveys covering fewer than the 3 years traditionally required by USFWS. Secondly, there might be flexibility in the recommendation that the SEP-HCP preserves an additional 25% buffer for GCWA and BCVI mitigation lands.

It is important to note that BAT recommendations were based on scientific knowledge, needs of the species, and several over-riding biological issues concerning the plan. We also substantially considered the practicability of both implementing recommendations and accomplishing objectives. If the CAC has logistic, economic, or political concerns about our recommendations, we strongly recommend they consider those issues and make an appropriate decision based on the totality of their charge. Our charge, both adopted by the BAT members and statutorily imposed, required that we limit our discussions to mostly biological concerns. However, we did not create biological recommendations without also considering the feasibility and practicability of those decisions. We repeat our offer to be available for joint meetings and workshops. Additionally, we are willing to comment on decisions and drafts created by the County and the CAC.

Biological **A**dvisory **T**eam

Southern Edwards Plateau Habitat Conservation Plan

FROM: Biological Advisory Team
 TO: Citizen's Advisory Committee
 DATE: March 28 2011
 RE: Clarification of Mitigation Standards and Recommendations

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Pg 3 Clarification of BAT Recommendations and Response to Questions

Pg 8 BAT Recommendations as approved fall 2010 (karst has since been revised but not finalized)

Pg 14 Bexar County and CAC Questions to BAT 12/30/2010

The Need for SEP-HCP Protected Lands in Bexar County

The County raised concerns that the BAT Recommendation on the location and distance of mitigation is not appropriate for the SEP-HCP (County's Question 2). The BAT considered the HCP handbook, scientific literature, conservation research, professional biological knowledge, and basic biological principles. The HCP Handbook recommends that mitigation be as close as possible to the loss of habitat.

A likely reason for the negative effect of habitat loss and fragmentation on the genetic health of GCWA is the species' high level of fidelity to breeding sites. Urbanization in Bexar County often clears and fragments mature oak-juniper woodlands, upon which the GCWA depends. As is typical of other species of forest birds, the dependence of GCWA on old-growth woodlands and forests indicates a limited ability to disperse across non-forested areas (Harris and Reed 2002). Studies from Fort Hood found many GCWA individuals establish breeding territories within 2.5 miles (4 km) of where they were born (Ladd and Gass 1999). We also know that adult GCWAs will typically settle within 1.8 miles (3 km) of previously used breeding areas (Jetté et al. 1998).

Our recommendation did not recommend a specific distance from habitat loss, but rather recommended that mitigation for Bexar County habitat loss occur anywhere within Bexar County plus an extra 5 miles. This means that 60% of mitigation could occur up to 32 miles from the location of habitat loss. The remaining 40% of the mitigation could occur up to 95 miles from the impact site. We feel this is extremely generous, more than practicable, and well within the HCP Handbook guidelines to allow for flexibility and individual judgment without requiring a case-by-case analysis.

Additionally, the BAT strongly feels that it is important to protect existing habitat throughout the plan area, and not to rely on rural habitat alone to prevent harm to the species. Realizing that there are both biological and political justifications for this, the BAT relied on the biological knowledge that habitat in too few, too isolated, or too small blocks is unacceptably sensitive to population and habitat threats (fire, disease, new predators, etc.) and also wished to ensure that extremely large geographic areas of habitat are not ignored (e.g., all of the habitat in Bexar County).

Impact assessments of random events and of habitat quantity and quality on species survival are the required data analyses that Harding et al. (2001) found most commonly lacking in the HCPs they examined. As one example, the SEP-HCP region's long-term reproduction failures of deciduous tree species important to the GCWA (Russell and Fowler 1999) need to be assessed in terms of habitat effects on GCWA survival and mitigation measures.

Moreover, fragmentation adversely impacts GCWA reproduction within remaining breeding habitat. Reidy et al. (2009) while quantifying the reduction in GCWA nest survival within fragmented habitats and near edges, hypothesized that increased nest loss in these areas is due to an increase in predation. Their concluding recommendation is to protect both urban and rural preserves with greater than 100 ha of

breeding habitat, by reducing both the fragmentation of habitat patches and the amount of patch edge abutting open areas (Reidy et al. 2009).

The suggestion that larger blocks of habitat should be favored over a consideration of proximity to the habitat loss is accurate. The question for the CAC to consider then, is how would they prefer to structure the size and location of preserve lands. The BAT's recommendation is to create several smaller (at least 500 acres of GCW habitat in size) preserve patches throughout the Plan Area, and to strive to create a limited number of larger patches (focal areas of 5,000-10,000 acres), preferably 1 in each county (except Blanco).

Adequacy of Currently Protected GCWA Habitat in Bexar County

Although GCWA are migratory and may be expanding in terms of population size within the breeding range, gene flow for both GCWA and BCVI remains a concern (Lindsey et al. 2008, Barr et al. 2008, respectively). In an attempt to avoid loss of genetic diversity for GCWA, the BAT feels it is important to protect habitat throughout the breeding range (including Bexar County) so as to maintain adequate gene flow. One study suggests lack of habitat connectivity may result in population isolation for GCWA, which could lead to lower genetic variation in those subpopulations (Lindsey et al. 2008).

In response to Bexar County's Question 3, the important issue is not whether the currently protected lands represent GCWA habitat, but rather whether those lands are truly perpetually protected:

- Camp Bullis could at any time be declared exempt from ESA laws by the Department of Homeland Security
- The City of San Antonio properties are not bound to manage their lands for warblers, vireos, or endangered karst species. Over time, through neglect, mismanagement, or a lack of funding, these lands could become unsuitable for warblers and the conservation value of those lands would be lost.
- Portions of Government Canyon State Natural Area are not bound by conservation easements. Other portions are bound only by aquifer-related easement language, and these areas may be threatened by several factors, including local efforts to create regional flood control structures. In addition, those parts of GCSNA not bound by legal easements for warblers could be annexed by the General Land Office and sold.

It is critical that the SEP-HCP considers only perpetually protected lands as resources that can perpetually provide for the Golden-cheeked warbler. The BAT carefully considered this issue, and felt that "new" habitat loss authorized under the SEP-HCP warrants "new" mitigation. It is unwise to expect a few properties to carry the biological burden of widespread habitat loss. However, we do feel that currently protected lands can provide limited new conservation benefit with the addition of new legal protection. While there are political and logistical concerns with this strategy, we feel that using these properties as anchors for a preserve system and to jumpstart the economics can be biologically justified.

The BAT strongly reminds the CAC that their committee must consider political, economic, biological, and logistical concerns. The BAT provided biological recommendations that we feel were practicable and feasible. However, we would like to clarify that we are very willing to review any changes that the CAC makes to our recommendations and to comment on whether we think those decisions are biologically appropriate. There may be an economic or political need to adjust our recommendations, and it is up to the CAC to find an appropriate solution.

The Role of Population Estimates

Though some progress has been made in assessing habitat extent and presence/absence within the breeding range (e.g. Diamond et al. 2007, Morrisson et al. 2010), data on range-wide status of reproduction and colonization success are lacking, and essentially no population trend data is known for GCWA. In addition, a quantitative link between habitat decline (past and future) and numbers of birds is unavailable for an accurate analysis of the reproduction and colonization necessary to maintain populations. Thus, the BAT feels that estimates of current population size alone are not sufficient to address the issues relevant to the SEP-HCP.

Within the SEP-HCP area, an accurate determination of the relationship between habitat trends and long-term GCWA sustainability may depend upon a monitoring program, which provides a statistically valid measure of actual take and mitigation effectiveness. Linking monitoring and adaptive management through frequent oversight is essential, especially in light of the lack of definitive data.

The BAT reminds the CAC that both the Golden-cheeked Warbler and the Black-capped Vireo were listed primarily due to the anticipated *threats* to habitat loss. Regardless of how many individuals exist, threats to habitat loss and poor reproductive success remain. The recent studies by Texas A&M University are useful in deciding how to address those threats, and where those threats are greatest. However, ultimately the TAMU studies are best used by the USFWS in their decision to downgrade or delist the species. The role of this SEP-HCP process is to minimize the threats so that existing populations can continue to thrive. Only after a sufficient population is documented AND species threats have been addressed can the USFWS reconsider the listing status of the GCWA.

Bexar County Section C

The mitigation ratios framework allows the CAC to choose a ratio based on the CAC's goal, regardless of whether or not the goal is to make a significant contribution to recovery. Mitigation ratios are intended to offset Take of covered species associated with covered activities under the SEP-HCP. Take may be the result of direct effects or indirect effects of completing a covered activity.

Mitigation Ratios & Camp Bullis Biological Opinion

Question 1: The County asked for clarification of the biological rationale for the recommended mitigation ratios. It is important to note that because the Golden-cheeked Warbler was listed due to both a lack of knowledge of population size *and* the substantial level of threats to habitat loss, we must consider several issues. First, we must consider the amount of habitat that historically existed as well as the amount that currently exists. Secondly, we must consider the rate at which GCWA habitat has been and continues to be lost in Bexar County. Other HCPs were written for areas with varying amounts of habitat that needed protection, and substantially different rates of threat to that habitat. Development rates are not as indicative of biological threat as acres of habitat lost over time. In Bexar county, 10,544 acres of prime GCWA habitat were lost in an 8 year period. This rate is alarming, and biologically unsustainable.

It is possible that the County has misunderstood language within the Camp Bullis Biological Opinion. The "extraordinary measures" reference refers to the extraordinary measures of protection and research that Camp Bullis has undertaken beyond their regulatory responsibility. Their data collection methods, karst preserve standards, karst management plan, research projects, and GCWA habitat classification exceed what is required by both Section 10 standards (non-federal HCPs) and Section 7 standards (federal T/E requirements). In return for these activities, they have negotiated different mitigation ratios with the USFWS. If the CAC would like to require such extraordinary measures of either the HCP administrative entity or plan participants, the BAT would make different recommendations for the SEP-HCP mitigation ratios. Camp Bullis spends approximately \$1M annually on their research and monitoring activities alone. We believe that implementing such extraordinary measures in the SEP-HCP would be financially and logistically impractical.

Generally speaking, the BAT recommends against comparing the SEP-HCP to Camp Bullis. Not only are different standards applied to HCPs and to federal installations, but specifically, Camp Bullis is required to mitigate for both occupied and unoccupied habitat. The SEP-HCP will only require mitigation for *occupied habitat*. This means that if a potential participant invested the time and money to perform bird surveys and demonstrated that all or a portion of his property was unoccupied, those portions would not need to be mitigated at all, even if these areas were expected to be habitat by a map, computer model, etc. Because Camp Bullis has added requirements, their "effective" or "overall" mitigation ratio exceeds 3:1, and in some cases, exceeds 4:1.

Bexar County continued to express concern over recommended mitigation ratios in section B of their document. The BAT carefully deliberated over these mitigation ratios and did not arrive at them lightly. Our mitigation recommendations were based on our knowledge of current threats to the species. While we used historic data to arrive at these predictions, we also used our knowledge of our community to identify the level to which local habitat was threatened. Our recommendations are not intended to compensate for

prior habitat loss, but rather to mitigate the current and expected threats to the habitat (which include more than development pressures) as well as estimates of future loss.

When evaluating threats to habitat in Bexar County versus other counties, it is not appropriate to compare growth rates of smaller communities with growth rates of San Antonio and Bexar County. Many other communities that have negotiated HCPs have a smaller human population, more available land for development, and less GCWA habitat. In other words, 5% growth in Bexar County means more sensitive acreage lost than would be lost with 5% growth in Williamson County.

The County asked the BAT to propose a new mitigation strategy that would meet minimum issuance standards. The CAC is reminded that the USFWS is statutorily bound to ensure that there is a contribution to recovery with the issuance of their permits. The BAT feels that the structure of our recommendations allows the CAC to adjust its goals, whether the CAC intends to meet minimum standards or to contribute to recovery. The CAC can adjust the acres of Take Requested and thus the resulting acres of Mitigation required.

There may be some flexibility to the mitigation strategy that the CAC considers. Habitat within Loop 1604 is highly fragmented and provides less conservation value than other habitat patches. It may be possible for participants within these areas to demonstrate absence with fewer requirements, which would decrease costs of participation.

The CAC is reminded that participants do not need to mitigate habitat if they have demonstrated absence. Many participants will want to assume occupancy to save time, but if they are encouraged or choose to perform surveys and document absence on their property, their mitigation bill is substantially reduced.

Other Concerns

The County included some concerns by a CAC committee member. We addressed several of those concerns elsewhere in this BAT response document, but offer the following additional response to a few specific questions.

#10: There are variances made to city ordinances all the time, and loopholes are readily exploited. We can't assume that these areas are in fact GCWA habitat, or that the steep slopes won't be developed. In fact, we recommend that only lands with legal protections be considered as protected habitat. Additionally, these "steep slope" lands are still subject to fragmentation, higher rates of depredation, human incursion, and other habitat stressors. That said, we recognize the importance of private land stewardship in GCWA and BCVI conservation. However, when addressing the threats to a species in a highly developed area like Bexar County, formal legal protection should be the standard for estimating available habitat.

#11: the BAT feels that buffers are important when calculating preserve standards. However, this biological need may be outweighed by other non-biological considerations. This may be an area where the CAC can find some flexibility and cost-savings.

Summary

It is vitally important to note that the BAT recommendations were based on species requirements, scientific knowledge, and biological issues. We also substantially considered the practicability of both implementing recommendations and accomplishing objectives. If the CAC has logistical, economic, or political concerns about our recommendations, we strongly recommend they consider those issues and make an appropriate decision based on the totality of their charge. Our charge, both adopted by the BAT members and statutorily imposed, required that we limit our discussions to primarily biological concerns. However, we did not make biological recommendations without also considering the feasibility and practicability of those decisions. We repeat our offer to be available for joint meetings and workshops and our willingness to comment on CAC decisions.

Citations

Barr, K.R., D.L. Lindsay, G. Athrey, R.F. Lance T.J. Hayden, S.A. Tweddale, and P.L. Leberg. 2008. Population structure in an endangered songbird: maintenance of genetic differentiation despite high vagility and significant population recovery. *Molecular Ecology* 17: 1-12.

Diamond, D. D. 2007. Range-wide modeling of golden-cheeked warbler habitat. University of Missouri. Columbia, Missouri, USA.

Harding, E.K., E.E. Crone, B.D. Eldred, J.M. Hoekstra, A.J. McKerrow, J.D. Perrine, J. Regetz, L.J. Rissler, A.G. Stanley, E.L. Walters, and NCEAS HCP Working Group. 2001. The scientific foundations of habitat conservation plans; a quantitative assessment. Conservation Biology 15(2): 488-500.

Harris R.J., and J.M. Reed 2002. Behavioral barriers to non-migratory movements of birds. Annales Zoologici Fennici 39: 275–290.

Jetté L, T. Hayden, and J. Cornelius. 1998. Demographics of the golden-cheeked warbler (*Dendroica chrysoparia*) on Fort Hood, Texas. Tech Rep USACERL 98/52. US Army Corps of Engineers, Champaign, IL

Ladd, C, and L. Gass L 1999. Golden-cheeked warbler: *Dendroica chrysoparia*. In: *The Birds of North America*, (eds A. Poole and F. Gill), pp. 1–23. Cornell Laboratory of Ornithology and the Academy of Natural Sciences, Ithaca, New York.

Lindsey, D.L., K.R. Barr, R.F. Lance, S.A. Tweddale, T.J. Hayden, and P.L. Leberg. 2008. Habitat fragmentation and genetic diversity of an endangered, migratory songbird, the golden-cheeked warbler (*Dendroica chrysoparia*). Molecular Ecology 17:2122-2133.

Morrison, M. L., R. N. Wilkins, B. A. Collier, J. E. Groce, H. A. Mathewson, T. M. McFarland, A. G. Snelgrove, R. T. Snelgrove, and K. L. Skow. 2010. Golden-cheeked warbler population distribution and abundance. Texas A&M Institute of Renewable Natural Resources, College Station, Texas, USA.

Reidy, J.L., F.R. Thompson, III, and R.G. Peak. 2009. Factors affecting golden-cheeked warbler nest survival in urban and rural landscapes. The Journal of Wildlife Management 73(3): 407-413.

Russell, F.L. and N.L. Fowler. 1999. Rarity of oak saplings in savannas and woodlands of the eastern Edwards Plateau, Texas. The Southwestern Naturalist 44(1): 31-41.

BAT Recommendations for the SEP-HCP Conservation Program

Nov 18, 2010

Some items are presented as (required) and some as (recommended). In the final document, Plan Applicants have an option to specify items as either Requirements or Goals. The BAT makes a distinction thusly.

GCW Conservation Program

Summary:

The BAT recommends that GCW take occurring in Bexar County be mitigated at a ratio of 3:1 (acres of mitigation : acres of take), with at least 60% of the mitigation located within Bexar County or a 5-mile buffer around Bexar County. The remaining 40% of the mitigation may occur elsewhere within the Plan Area.

The BAT recommends that GCW take occurring outside of Bexar county be mitigated at a ratio of 2:1 (acres of mitigation : acres of take). Mitigation for take occurring outside of Bexar County may be located anywhere within the Plan Area.

The BAT recommends that no more than 10% of the GCW conservation credits be generated from public lands that were protected as of November 4, 2010.

Rationale:

Mitigation Ratios – The HCP requires that mitigation must be commensurate with the take, both in size and location. The GCW is experiencing a severe amount of habitat loss in Bexar County and, therefore, the degree of threat to the species is greater in Bexar County than in more rural counties. This higher degree of threat to the species warrants a higher mitigation ratio for take. Habitat outside of Bexar County is less threatened by habitat loss and may not require as much mitigation to offset the impacts of take.

Bexar County Mitigation – To help address the severe threat of habitat loss in Bexar County, it is appropriate to require a substantial portion of the mitigation for Bexar County take to be located in or just outside of the county boundary. This requirement also addresses the community's desire to help protect the mission at Camp Bullis and protect the biological integrity of previous public conservation investments (i.e., Government Canyon and other City of San Antonio preserves). Conserving additional lands that expand and/or connect these currently protected properties is necessary to ensure the long-term conservation value of these properties for the GCW.

Scenarios:

The BAT presents two examples for the amount of authorized take and the corresponding mitigation under the recommended approach described above (see attached Table). The amount of mitigation needed for the plan must correspond to the amount of authorized take. Scenario 1 illustrates the amount of incidental take that might be authorized via the mitigation formula recommended above, if the goal is to achieve a preserve size that represents the BAT's previous recommendation of 85,000 acres. Scenario 2 illustrates the amount of mitigation that would be required by the recommended mitigation formula for a more modest level of incidental take authorization.

1. Mitigation Ratio

- 1.1 Incidental Take of GCW Habitat in Bexar County should be mitigated at a ratio of 3:1 (acres of mitigation : acres of take), with at least 60% of the mitigation located within Bexar County plus a buffer around Bexar County. The remaining 40% of the mitigation may occur elsewhere within the Plan Area.
- 1.2 The BAT recommends that GCW take occurring outside of Bexar county be mitigated at a ratio of 2:1 (acres of mitigation : acres of take). Mitigation for take occurring outside of Bexar County may be located anywhere within the Plan Area.

2. **Preserve Configuration -Definitions of adjacency and contiguity will be provided in a separate document**

- 2.1. *Create preserves composed of individual parcels or clusters of adjacent parcels that include at least 500 acres of GCW habitat. Smaller parcels may be obtained to contribute to the preserve, but no credit is awarded unless the parcel contributes to a block of habitat that is 500 acres or greater (See Figure 1)*
- 2.2. *Prioritize the creation of a preserve system composed of conservation areas for the GCW that each contains approximately 5,000 to 10,000 acres of protected lands, which includes GCW habitat. These conservation areas will likely include currently protected parcels.*

Rationale: Patch size of 500 acres is an important predictor of habitat occupancy (Magness et al. 2006, Groce et al. 2010). Large contiguous patches of GCW habitat are distributed throughout several subregions of the Plan Area, in varying sizes, watersheds, and geologic types. Preserve units on the order of 5,000 to 10,000 acres are achievable and would be sufficiently large to reduce habitat threats, given appropriate management.

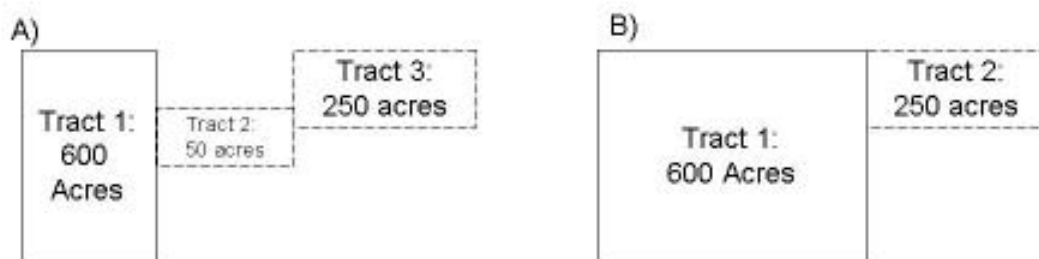


Figure 1. Solid border depicts protected lands with a legally binding conservation easement. Dashed lines represent properties being considered for enrollment in the Preserve. A) Tract 2 and 3 may be purchased at any time for the Preserve, but will not contribute to mitigation credits until the block meets or exceeds 500 acres. Tract 2 is eligible at any time for credit. Tract 3 will not contribute to credit until it is connected to an additional 250 acre block. (In this scenario, when Tract 2 is obtained. B) Tract 2 is immediately eligible for credit because it is adjacent to a block with at least 500 acres under protection.

3. **Preserve Distribution**

- 3.1. Lands mitigated for Take occurring in Bexar County must be mitigated 60% within Bexar County or a buffer around Bexar County (Required)
- 3.2. The buffer for Bexar County mitigation extends 5 miles from the County line. (recommended)
- 3.3 *Prioritize the protection of focal areas for the GCW in each of the Plan Area counties, except for Blanco County. (recommended)*
- 3.4 Prioritize the acquisition of preserve parcels that expand upon or help connect existing conserved lands and parks within the Plan Area (recommended)

Rationale: Protection of additional habitat in and adjacent to Bexar County is needed to conserve the species in that part of the species' range, prevent range contraction, and alleviate the threat of habitat loss to the species. Protection of several focal areas throughout the Plan Area is important for maintaining multiple subpopulations, connected through a preserve system that protects major blocks of habitat., prevents susceptibility to disease, and limits habitat degradation from encroachment, predators, and human disturbance. Planning future land conservation around currently existing protected lands would help ensure the most effective use of financial resources to achieve biologically significant, regional conservation of endangered species and complement other conservation efforts in the region, such as aquifer protection.

4. **Use of already protected public lands**

- 4.1 No more than 10% of the preserve system should consist of land publicly owned as of November 4, 2010. To qualify as a preserve component, a new conservation easement must be developed for GCW conservation and management. (required) This requirement should not be perceived to influence the spatial arrangement of the preserve system.

Rationale: Preserve size was calculated based on the harm to the species by new incidental take activities, so the bulk of the mitigation lands should consist of new lands not already protected in the public trust.

5. **Mitigation**

- 5.1 *Mitigate for impacts of GCW take resulting from participating projects by permanently protecting GCW habitat in the Plan Area at a rate proportional to the relative severity of the impact or degree of harm to the species.*

5.2 *Secure the mitigation to offset the impact to the GCW of take from participating projects before such take occurs.*

6. **Management and Biological Monitoring**

6.1 *Manage protected GCW habitat within preserves for the benefit of the GCW by minimizing threats and maintaining, restoring, or enhancing high quality habitat for the GCW.*

6.2 *Monitor GCW populations and habitats to track the status of the species within the preserve system and to inform the adaptive management process.*

7. **Research:** *Contribute to the body of scientific knowledge to benefit the recovery of the GCW*

Karst Conservation Program

The BAT recommends approaching the karst conservation program using an “Upfront Conservation with In-Lieu Fee Approach”, whereby:

- Karst participation is applicable for participating projects that occur within Karst Zones 1 – 4 (i.e., the “karst region”, mostly occurring in Bexar and Medina counties). The karst region is divided into 6 distinct “Karst Faunal Regions.”
- The Plan will offer incidental take authorization for the covered karst species only in KFRs where at least 3 caves (or “Karst Faunal Areas”) have been permanently protected for these species. At least one of these protected KFAs must meet the standards for a “high quality” preserve and the remaining 2 must meet the standards for a “medium quality” preserve. The Plan will not be able to provide take authorization for covered karst species within a KFR until this upfront mitigation has occurred.
- The Plan will then contribute to the creation of at least 2 high quality Karst Faunal Areas and 4 medium quality KFAs for each of the covered karst species in each of the KFRs (Total of 6 KFAs per KFR per species)
- In KFRs where take authorization is allowed, plan participants will provide mitigation fees to the Plan to offset the impacts of the project on karst species. The Plan will collect and use karst mitigation fees to protect caves in other KFRs to expand opportunities for take coverage.
- Based on current information, the BAT believes this approach assures that regional recovery of the covered species is possible in a KFR (thereby avoiding a jeopardy situation) prior to authorizing take in that KFR.

Rationale:

This approach addresses aspects of karst preserve size, configuration, and location. The recommendation for the establishment of 6 KFAs per KFR per species is based on substantial uncertainties regarding the taxonomic status of these poorly known species, persistence of the species within preserves under changed circumstances, and the paucity of basic biological and habitat/range information for these species.

Taxonomic uncertainty associated with cave organisms: Cave species are exceptionally difficult to differentiate because of convergent evolution. Similar ancestors invade caves and experience the same selection pressures (lack of light, near constant temps, high humidity, paucity of food, periodicity of nutrients), and this tends to make them morphologically indistinguishable. For this reason it is common for cave species to become "split" as more detailed research is performed. If the species are split, then their range is also reduced and they may be limited to fewer KFR's, in which case recovery can no longer be reached and therefore participation permits will be halted.

Uncertainty regarding the persistence of cave preserves based on the potential for natural or man-made catastrophic events: To actually reach recovery, the recovery plan calls for substantial additional research to demonstrate the adequacy of the recovery criteria. Since very little is known about the biology and needs of cave organisms, many of these research objectives include

gathering basic information on efficacy of different preserve sizes, vegetation components, and connectedness with other preserve areas. Because of this inherent uncertainty about these species, the plan also calls for monitoring to demonstrate population viability for at least thirty years. Since all of those additional actions will not necessarily be done in the timeframe of this plan, this plan proposes three additional preserves in each KFR as a 'buffer' to make up for that lack of information.

Lack of recent information about species boundaries: Most of the species boundaries given in the recovery plan are based on a single paper that was authored decades ago, and these papers may have been based on as few as one specimen. In general there is an extreme lack of verification of this information, partially based on a paucity of specimens available and a lack of taxonomists qualified to do the work. In some cases there is evidence for potential habitat barriers within the range of a species, and these barriers may in fact turn out to divide populations that are considered species (given an evolutionary species concept). In these cases, the recovery criteria would jump from 3 caves per KFR to 6, and the preserve goal would be met by this plan.

The BAT recommends the following criteria or standards for a Karst Preserve (i.e., a KFA):

- Protected caves may qualify as a KFA suitable for meeting the upfront conservation commitment if:
 - KFAs must be permanently protected for the benefit of the species through an appropriate legal mechanism. Appropriate management of protected habitats must also be assured.
 - High quality KFAs be sufficient to maintain the following habitat elements, as described in the Bexar County Karst Invertebrates Draft Recovery Plan (date March 2008):
 - High humidity
 - Stable temperatures
 - High water quality of surface drainage basin
 - High water quality of subsurface drainage basin
 - Low red-imported fire ant (RIFA) predation
 - Healthy cave cricket population
 - Natural quantities of native vertebrate matter input
 - Natural quantities of native plant matter input
 - Healthy native surface arthropod community
 - Healthy native surface plant community
 - Adjacent karst features for cave cricket metapopulations
 - Good connectivity with mesocaverns for population dynamics of troglobites
 - *Acreage is $\geq XXX$ (to be determined)*
 - Medium quality KFAs must maintain most of the following elements identified for a high quality KFA. *The acreage needed for a medium quality KFA is $\geq XX$ (to be determined).*
- Previously protected caves may count towards the upfront conservation commitment if they meet the standards for high or medium quality KFAs.

The BAT recommends the following process for assessing karst impacts and mitigation requirements. However, this process does not substitute for any other local, state, or federal rules or regulations.

- For participating projects in Karst Zones 1 – 4, conduct karst surveys in accordance with the process described in USFWS (2006), as summarized below.

- Step 1: Conduct an Initial Karst Feature Survey. It is preferred that geologists performing these surveys have experience conducting karst invertebrate habitat surveys with a permitted biologist.
 - NOT CONFIRMED PRESENT: If no features are identified from the surface assessment, then the assessment process is complete and mitigation fees are assessed on a per-acre basis (see mitigation fee structure below). The per-acre assessment addresses potential impacts to undetected sub-surface karst features that may be occupied by the covered karst species and encountered during construction. The per-acre assessment also addresses general, indirect impacts to karst habitat (including features outside of the project area).
 - Per-Acre Karst Mitigation Fees (no known occupied caves):
 - Karst Zones 1 and 2 = \$xx per-acre within the project area
 - Karst Zones 3 and 4 = \$x per-acre within the project area
 - CONFIRMED PRESENT: If karst features are identified, then additional work is needed to determine if the features may provide habitat for karst invertebrates.
- Step 2: Conduct a suitable habitat determination. It is preferred that geologists performing these surveys have experience conducting karst invertebrate habitat surveys with a permitted biologist.
 - NOT CONFIRMED PRESENT: If identified karst features do not represent suitable habitat for karst invertebrates, then the assessment process is complete and mitigation fees are assessed on a per-acre basis, as described above in Step 1.
 - CONFIRMED PRESENT: If identified karst features do represent suitable habitat for karst invertebrates, then additional work is needed to determine if endangered karst invertebrates are present.
- Step 3: Conduct a Karst Invertebrate Study.
 - NOT CONFIRMED PRESENT: If suitable habitat is not found to be occupied by endangered karst invertebrates (including the covered karst species and the Category 2 karst species), then the assessment process is complete and mitigation fees are assessed on a per-acre basis as described above.
 - CONFIRMED PRESENT: If endangered karst invertebrates are present, then the participant begins informal consultations with the Service to identify which avoidance or mitigation options are available.
 - Avoid Impacts: To avoid impacts you must avoid actions within one or more of the following areas, with case-by-case Service approval:
 - Surface drainage basin
 - Subsurface drainage basin
 - Cricket foraging range (105m)
 - Cave footprint
 - Mitigation Credit: Establish a high or medium quality KFA around the cave suitable for use as mitigation for impacts to karst species. Mitigation may be used by the plan participant to offset other karst impacts within the same KFR or may be acquired by the Plan to help achieve the goals and objectives of the Plan. Per-acre mitigation fees for karst species on other areas outside of the KFA will be waived for the project. If creating a high or medium quality KFA is not possible given the available acreage, the Service can evaluate the on-site mitigation on a case-by-case basis.
 - Karst Impact Mitigation Fees: Only applicable for projects that occur in KFRs where the upfront conservation commitments have been achieved. Is not applicable for any caves that contain Category 2 karst

species (these species are not covered for incidental take). Mitigation fees within Karst Impact Areas will be assessed based on the acreage of surface disturbance within the karst area of impact. Per-acre mitigation fees, as described above) for areas outside of the karst area of impact will also be assessed.

- Impact Area 1 (0 – 150 feet from the cave entrance) - \$xxxx per acre of surface disturbance within the zone
- Impact Area 2 (150 – 345 feet from the cave entrance) - \$xxx per acre of surface disturbance within the zone. **NOTE: The BAT is still reviewing the 345 ft designation and will clarify soon.**
- Alternate Survey Zones: Delineate the cave footprint, surface drainage basin, and subsurface drainage basin of the cave.
 - Cave Footprint = \$xxxx per acre of surface disturbance within the area
 - Surface Drainage Basin = \$xxx per acre of surface disturbance within the area
 - Cave cricket foraging area = \$xxx per acre of surface disturbance within the area
 - Subsurface Drainage Basin = \$xxx per acre of surface disturbance within the area



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December 30, 2010

Southern Edwards Plateau Habitat Conservation Plan (SEP-HCP)
Biological Assessment Team (BAT)

RE: Comments, Questions and Concerns regarding the BAT Recommendations

Bexar County, as the applicant, requests the BAT address the following questions and concerns regarding the committee's recommendations presented to the Citizens Advisory Committee on the SEP-HCP conservation measures.

- A. The County requests that the BAT more fully explain the biological rationale for the recommended Golden Cheek Warbler (GCW) mitigation ratios and the requirement for a substantial portion of the GCW mitigation to be located in Bexar County, particularly in light of the following considerations:**
1. Mitigation ratios. The 2009 Camp Bullis Biological Opinion prepared by the U.S. Fish and Wildlife Service (USFWS) describes the Department of Army's voluntary 3:1 to 0.5:1 graded mitigation ratios as "extraordinary efforts on the part of Camp Bullis to not only off-set the anticipated adverse effects, but to add to the recovery potential for the (GCW) due to their proposed voluntary mitigation strategy." This rationale would suggest that the 3:1 and 2:1 mitigation ratios proposed by the BAT also include an "extraordinary" contribution to recovery, beyond what might be needed to adequately compensate for the adverse impacts of the authorized take.
 2. Bexar County mitigation. The BAT recommended a substantial portion of the mitigation for covered habitat loss in Bexar County to be located within or within five miles of the Bexar County boundary. The BAT has stated that the rationale for this provision is to ensure that the mitigation is close to the take, as required by the USFWS. However, the standards for a HCP and an incidental take permit included in the Endangered Species Act do not include such a requirement (the only regulatory standard is that the mitigation must be to the maximum extent practicable). The USFWS 1996 HCP Handbook, which represents the USFWS' official published policy for the development of HCPs, states (page 3-21):

Generally, the location of replacement habitats should be as close as possible to the area of impact; it must also include similar habitat types and support the same species affected by the HCP. However, there may be good reason to accept mitigation lands that are distant from the impact area – e.g., if a large habitat block as opposed to fragmented blocks can be protected or if the mitigation lands are obtained through a mitigation fund. Ultimately, the location of mitigation habitat must be based on individual circumstances and good judgment.

The policy described in the HCP Handbook indicates that it may be acceptable to have mitigation located distant from the habitat loss, if the conservation value of that mitigation is greater (such as being able to protect a larger block of habitat).

3. Currently protected lands in Bexar County. As part of the justification for requiring a large amount of mitigation to be located in Bexar County, the BAT has indicated that the GCW populations on currently protected lands (such as Government Canyon and other San Antonio parks and preserves) are at risk of extirpation if additional lands are not protected to expand and/or connect these currently protected properties. However, the recent TAMU study by Morrison et al. (2010), suggests that patches of habitat that are at least 500 acres have a probability of occupancy that approaches 100%. Bexar County currently has at least 3 clusters of adjacent parks or preserves that include more than 500 acres of GCW habitat, not including Camp Bullis. The Government Canyon complex of protected lands includes approximately 11,500 acres. The cluster of existing parks and natural areas that includes Friedrich Park, Crownridge Canyon, and Rancho Diana includes approximately 2,200 acres. The private GCW conservation lands for Indian Springs and Cibolo Canyon also include approximately 2,000 acres. All the current GCW habitat models indicate that nearly all of these acres may be suitable GCW habitat. Given the size of these clusters of protected lands and the presence of approximately 2,000 acres of additional protected lands containing GCW habitat within the county, it seems unlikely that Bexar County would lose its GCW population, even if these large clusters of protected lands were to be completely surrounded by development.

B. The County would like the BAT to explain why the BAT finds that their recommended level and distribution of mitigation is biologically necessary to adequately balance the amount of harm to the species from the corresponding amount of incidental take requested and meet the issuance criteria for an incidental take permit. The County also asks the BAT to recommend an appropriate level of mitigation that would meet the permit issuance criteria, without making a substantial contribution to recovery of the species.

1. Potential severity of threat. The BAT has discussed that higher mitigation ratios for Bexar County take are warranted due to the potential greater risk and severity of threats to the species in this area, compared to other parts of the plan area. Mitigation ratios that are based on potential severity of threats to the species could require plan participants to mitigate at a level that is intended to compensate for impacts caused before the plan was in place or for future impacts caused by non-

plan participants, not just the impacts of the take covered by the plan. The Endangered Species Act requires that “the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking.”

C. The County would like the BAT to explain what types of impacts these mitigation ratios are intended to address. If the BAT recommends mitigation at a level that includes a substantial contribution to recovery, would this mitigation be understood to cover both the direct and indirect impacts of authorized take, and simplify the assessment of impacts (direct, indirect, and cumulative) in the participation process?

1. Recent population estimates. Texas A&M University (TAMU) recently reported estimates of the GCW population size, based on patch-specific GCW densities and occupancy rates derived from field data collected across the range of the species (Morrison et al. 2010). The TAMU estimates suggest that a range-wide population of approximately 370,000 adult GCWs occur over approximately 4.1 million acres of potential habitat. GCW population estimates at the time of listing ranged from approximately 9,600 to 32,000 individuals (Groce et al. 2010). Therefore, the current GCW population may be at least an order of magnitude larger than previously thought. The USFWS status review for the BCV also found that the overall breeding population of the vireo is substantially larger than was known at the time of listing (by a similar order of magnitude) and concluded that the magnitude of the threats to the species were sufficiently reduced to justify a recommendation for downlisting to threatened. Similar biological arguments could be made for the GCW that the magnitude of the threats to the species may not be as severe as previously thought.

The County looks forward to your answers. In addition attached are specific questions submitted by a member of the CAC. Thank you for your time and attention to this matter.

Sincerely,

Renee D. Green, P.E.
County Engineer

Morrison, M. L., R. N. Wilkins, B. A. Collier, J. E. Groce, H. A. Mathewson, T. M. McFarland, A. G. Snelgrove, R. T. Snelgrove, and K. L. Skow. 2010. Golden-cheeked warbler population distribution and abundance. Texas A&M Institute of Renewable Natural Resources, College Station, Texas, USA.

Groce, J. E., H. A. Mathewson, M. L. Morrison, and N. Wilkins. 2010. Scientific evaluation for the 5-year status review of the Golden-cheeked Warbler. Prepared for the U.S. Fish and Wildlife Service. Texas A&M Institute of Renewable Natural Resources, College Station, Texas, USA.

Attached are additional questions from a member of the CAC:

I have numerous questions regarding some of the proposed requirements of this plan, and I have listed below several of those for further consideration.

1. Are the currently proposed mitigation ratios for GCW and BCV based primarily on population projections originally produced by Wendell Davis? If they are based on other issues, what are some of the other considerations?
2. If the population projections change, will the proposed ratios change accordingly?
3. Bexar County had a growth rate of 18.6% from 2000 to 2009. During that same period, Hays County grew at 59%, Williamson County grew at 64%, and Comal County grew at 47%. None of their associated HCPs have REQUIRED mitigation at a ratio of 3:1. What different biology in Bexar County indicates that the SEPHCP should be treated differently?
4. Guidance on Mitigation from HCP Handbook stated clearly that contribution to recovery is often part of an HCP but not a statutory requirement. If the HCP is written with the proposed mitigation ratios, then it will become a statutory requirement making recovery mandatory for anyone that participates. Why would this be allowed to occur, if it is not otherwise required?
5. Guidance on Mitigation from HCP Handbook indicates that there might be valid reasons to accept mitigation lands that are distant from the impact area. Since this is considered an acceptable practice, why is it being excluded from the SEPHCP?
6. GCW HCPs appear to have per acre costs to the user of \$6,500 or less, with less than 10% participation. If the SEPHCP is going to cost the user \$9,000+ per acre, as indicated in earlier cost projections, wouldn't that likely indicate much lower usage rates? If usage rates are lower, doesn't that diminish the probability that the HCP will be successful?
7. The Camp Bullis plan allows for mitigation anywhere in Recovery Unit 5. What is the biological reason that the SEPHCP will be required to have at least 60% of its mitigation in Bexar County?
8. The Camp Bullis Plan calls for mitigation of occupied habitat at a 3:1 ratio, buffer at a ratio of 2:1, and unoccupied habitat at a ratio of 1:1. What is the biological justification for the difference in those requirements versus those proposed in the SEPHCP?
9. The Camp Bullis plan allows for effective on-site mitigation ratios of 1:1 for tracts of 500+ contiguous acres. What is the biological reason that these same ratios are not allowed in the SEPHCP?
10. The City of San Antonio adopted its Steep Slope Ordinance prohibiting development on land with slopes greater than 20%, an area of approximately 26,866 acres. In addition, approximately 15,244 acres of additional land having slopes greater than 25% exists in Bexar County, bringing the total number of acres that will most likely not be developable to over 42,000 acres. Neither the BAT nor the USFWS have recognized this or shown any indication that this land could be considered as areas for undisturbed habitat. What is the biological reason for this?
11. Imbedded in the cost calculations is a 25% increase in mitigation tract size to account for "non-habitat" occurring within the acquired reserves. This is assumed for ALL acquired reserves. Upon what fact is that assumption based? Does that mean that even the best available acquired habitat will have at least 25% non-habitat? Will marginal acquired habitat have no more than 25% non-habitat? Is there no way to judge that for each piece of habitat to be acquired?

In general, it appears that the proposed rules for the SEPHCP are being written as unnecessarily stringent, without much thought to flexibility or how this plan compares to other plans in Texas. As a representative of the members of the real estate industry, it is my duty to comment on their behalf as to whether or not I think this plan will be beneficial to them. Thank you for asking for the additional input and for being open to additional discussion on these matters.

Michael D. Moore