

FINAL PERFORMANCE REPORT

As Required by

THE ENDANGERED SPECIES PROGRAM

TEXAS

Grant No. TX E-142-HP

Endangered and Threatened Species Conservation

**Developing a General Conservation Plan for the Golden-cheeked Warbler and Black-capped Vireo in
Central Texas**

Prepared by:

Julie Groce



Carter Smith
Executive Director

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Director, Wildlife

26 August 2014

FINAL REPORT

STATE: Texas **GRANT NUMBER:** TX E-142-HP

GRANT TITLE: Developing a General Conservation Plan for the Golden-cheeked Warbler and Black-capped Vireo in Central Texas

REPORTING PERIOD: 24 Aug 2011 to 23 Aug 14

OBJECTIVE(S):

Create a draft General Conservation Plan (GCP) to authorize the incidental take of golden-cheeked warblers and black-capped vireos within their overlapping breeding ranges in central Texas in accordance with section 10(a)(1)(B) of the Endangered Species Act.

Segment Objectives:

- Organize, coordinate, and support a series of workgroups composed of a full-range of potential stakeholders. These workgroups will be chartered to build the framework for addressing the science, economics, policy, and outreach needs for developing the GCP. We will support the workgroups with GIS, remote-sensing, scientific input, and other analytical products as required.
- Collect and synthesize all current information relevant to developing a specific conservation strategy for both target species within the 38-county area. This will include a summary of the threats and needs of both target species to serve as the biological basis for the GCP (USFWS 2007).
- Define and quantify activities anticipated to result in incidental take of the target species.
- Define and quantify activities anticipated to result in conservation benefit to recovery for the target species.
- Validate existing models for use in determining specific metrics of incidental take and conservation/recovery benefit.
- Organize and facilitate public scoping meetings as per NEPA requirements.
- Develop a draft GCP.

Significant Deviations:

None.

Summary Of Progress:


Please see Attachment A, along with draft GCP and Appendices in electronic format submitted electronically with this report.

Location: Bandera, Bell, Bexar, Blanco, Bosque, Burnet, Comal, Coryell, Dallas, Eastland, Edwards, Erath, Gillespie, Hamilton, Hays, Hill, Hood, Jack, Johnson, Kendall, Kerr, Kimble, Kinney, Lampasas, Llano, Mason, McLennan, Medina, Menard, Palo Pinto, Real, San Saba, Somervell, Stephens, Travis, Uvalde, Williamson, and Young Counties, Texas.

Cost: Costs were not available at time of this report, they will be available upon completion of the Final Report and conclusion of the project.

Prepared by: Craig Farquhar

Date: 26 August 2014

Approved by:  **Date:** 26 August 2014
C. Craig Farquhar

ATTACHMENT A

Final Report

Developing a general conservation plan for the golden-cheeked
warbler and black-capped vireo in central Texas

Contract No. 418597, Amendment 01

Funding source:

Cooperative Endangered Species Conservation Fund, Nontraditional Section 6 Grant

August 2014

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Abstract

The intention of the project, Developing a general conservation plan for the golden-cheeked warbler and black-capped vireo in central Texas, was to create a draft general conservation plan (GCP) to authorize the incidental take of golden-cheeked warblers and black-capped vireos in accordance with section 10(a)(1)(B) of the Endangered Species Act. The GCP plan area includes a 38-county area of central Texas in which the two species' breeding ranges overlap. Funding was to support development of the draft GCP document (with no associated EIS), including workgroup meetings and analyses, and provide assistance with public scoping meetings.

Objective

Create a draft General Conservation Plan (GCP) to authorize the incidental take of golden-cheeked warblers and black-capped vireos within their overlapping breeding ranges in central Texas in accordance with section 10(a)(1)(B) of the Endangered Species Act.

Tasks involved in reaching Objective

The tasks discussed below are based on the revised scope of Amendment 01.

December 2011: Policy and Science Committees were established

December 2011 to March 2013: Nine Policy Committee meetings and 10 Science Committee meetings were held to discuss various plan components such as plan area and duration, covered species, potential covered activities, estimates of incidental take, steps to minimize and mitigate incidental take and concepts for a conservation program. See Appendix A for meeting minutes.

May 2012 to August 2013: Revisions were made to the initial project scope and budget, resulting in Amendment 01, signed in August 2013.

October 2012: Initial draft provided to the Committees and USFWS representative

October 2012 to November 2012: Outreach activities were initiated through meetings and discussions with county extension agents about the potential components of the GCP.

February 2013: Revised draft provided to the Committees and USFWS representatives based on comments and suggestions made in the initial draft.

Summer–Fall 2013: Internal discussions at USFWS about moving forward with the public scoping process.

February 2014: Meeting between IRNR and USFWS representative regarding progress and future intentions with the GCP. It is unlikely that public scoping for the GCP will be initiated within the timeframe of this contract.

March 2014: Meeting between IRNR, USFWS representative, and TPWD representative regarding progress and future intentions with the GCP. We discussed considering the GCP draft as a “scoping draft” and including sufficient information within it to facilitate public scoping meetings, if/when that process begins.

April 2014: Updated draft sent to USFWS representative, comments not yet received. Some sections that are not relevant to public scoping remain incomplete.

Supporting materials

Minutes from all Policy and Science Committee meetings are included in Appendix A.

Hard and digital copies of the GCP draft and appendices have been sent to Craig Farquhar.

Significant deviations

As of this report, Texas A&M IRNR awaits feedback from USFWS regarding the GCP draft (given to the USFWS representative in April 2014) and final decisions about public scoping for the GCP. Thus, significant deviations from the Objective and Approach include our inability to provide a “final” draft GCP and assist USFWS with organizing and facilitating public scoping meetings by the contract deadline.

Appendix A

Minutes from all Policy and Science Committee meetings, December 2011 through March 2013, in chronological order.

Meeting participants

Policy Committee members:

David Bezanson, TNC
Wendy Connally, TPWD
Mel Davis, SWCB
Gene Richardson (on phone), TFB

Plan Development Team:

Cary Dupuy, Texas Comptroller's Office
Julie Groce, IRNR
Brian Hays, IRNR
Justin Tatum, TWMF

FWS Lead:

Kevin Connally (attended first half of meeting)
Tanya Sommer (attended first half of meeting)

Support staff:

Andy Campomizzi, IRNR
Shannon Farrell, IRNR
Meghan Hope, Texas Comptroller's office
Michael Morrison, TAMU
Katy Smith, TAMU

Policy Committee members unable to attend: Kirby Brown (TWA), Hughes Simpson (TFS)

Introduction and Goals of GCWA/BCVI conservation plan

Julie Groce described the purpose of this first meeting as an opportunity to introduce and discuss some basic ideas for the general conservation plan (GCP) – review committee structure and purpose, introduce various concepts, topics, and potential hurdles, plant seeds for future discussion, discuss public outreach ideas including what this plan will mean for landowners.

Julie – Habitat conservation plans (HCPs) are typically focused on determining the amount of take that results from a particular activity (e.g., housing development) and how to mitigate for that take. Our overall idea behind the GCP is to first determine what is actually needed by the species throughout its breeding range to maintain long-term viable populations and then work backwards from there. It's possible this plan may not exactly fit the traditional GCP structure. Several HCPs have been developed for other counties or regions, but they focus primarily within the particular county boundaries. With the GCP covering the entire golden-cheeked warbler's breeding range and a large portion of the black-capped vireo range, we are aiming for a more holistic, broad-scale approach to conservation and management. Another option for the GCP is to create a mechanism that will allow for the coordination between those who need permits/credits and those who can provide credits. As for the timeline, our goal is to produce a draft plan by late summer.

Julie noted that the plan is intended to cover both the golden-cheeked warbler (GCW) and black-capped vireo (BCV). However, in the GCP proposal, we left the option open to include other species in the plan, such as species that are already of state or federal concern and that occur within the 38-county plan area. We will leave that decision up to the science committee.

Committee structure, function, objectives

Julie – we established two committees for GCP development, Policy and Science. The first Science meeting is Dec 8. These committees will provide information and recommendations on respective parts of the plan to the GCP plan development team (PDT) through consensus building. The PDT will be responsible for creating a cohesive plan based on those recommendations. We originally thought of having a separate Outreach committee, but decided to merge that with Policy because of the amount of overlap between the two. We also discussed having a separate Economics committee, but are thinking of hosting a 1-2 day economics/incentives workshop for the committees, bringing in experts from Texas or other parts of the country to discuss different options, scenarios, etc.

Current conservation plans (HCPs, RCS, etc)

Kevin Connally mentioned the US Fish and Wildlife Service (FWS) structure in Texas – 4 field offices, information about a species may be found in multiple FWS field offices. Kevin can help the committees gather information from the field offices as necessary.

Kevin and Julie provided an overview of HCPs and GCPs, and recovery credit systems (RCS). HCP/GCPs relate to Section 10 of the Endangered Species Act (ESA) while RCS is an option for meeting the requirements of Section 7. A GCP is an HCP but the main difference is that a GCP is developed by FWS (versus a participant developing an HCP) and there is no master permit holder for a GCP.

Committee members noted the need to figure out how to deal with the GCP in relation to existing HCPs and conservation agreements. Julie mentioned an interest by the PDT to create a GCP that facilitates both non-federal and federal activities that result in take. She noted an example of the Lower Colorado River Multi-Species Conservation Plan, which includes 4 states (CA, AZ, NV, UT) and dozens of species. Separate sections of the overall plan deal with federal and non-federal through a biological assessment and HCP, respectively. This is one possible model for the GCP.

Brian Hays and Justin Tatum gave an overview of RCS, detailing the proof-of-concept RCS for Fort Hood (see slide show). RCS is a possible starting point for the GCP.

Shannon Farrell is currently involved in developing a biological assessment (BA) for Fort Hood and provided an overview of the concept being used in that plan, which is different from previous biological assessments and may be a good strategy to follow for the GCP. They're trying to balance loss of habitat (due to Ft. Hood training, new infrastructure, or fire) with the needs of the GCW and BCV that occur on the base. Rather than determine an estimated amount of take before the take occurs, the idea is for the BA to determine what amount of habitat on the base is sufficient for recovery of the species in that region and maintain thresholds above that minimum amount. The amount of habitat available above those thresholds could provide "wiggle room" for Ft. Hood to deal with unforeseen habitat loss (e.g., from wildfires). If they lose more habitat than expected, it would be seen as a debit and Ft. Hood will have an opportunity to "repay" that debit by creating new habitat or maintaining habitat somewhere else. There will also be an adaptive management component with specific check points that trigger specific actions. This concept could apply on a range-wide scale.

Cary Dupuy – We are discussing these different tools to figure out if the structures used in any of these tools could apply to the GCP. We may be developing a mechanism for an incidental take program. Three possible options for the GCP structure could be: 1. Generate credits for people, using a market-based system, like RCS, 2. Traditional HCP structure, 3. Mix of those two approaches. We need to consider how these options may work given FWS requirements.

GCWA/BCVI plan components

Mandates of science committee – assess biological habitat needs of species across range.

Mike Morrison provided an overview of the Science committee's intentions and approach. IRNR has completed a statewide assessment for the warbler, including range-wide abundance estimates and an occupancy model that can be used to create scenarios of habitat loss, creation, and mitigation. IRNR recently completed an assessment for the BCV as well, although it's more difficult with BCV because of biological and behavioral differences in species. Both assessments were funded by TXDOT. The Science committee will present scientific guidelines based on information IRNR has available, similar to guidelines in RCS. Goal is to present several scenarios of things that might work. This should help guide policy.

There was general discussion about developing the plan similar to RCS or HCP or other structure. One of major items to consider is what activities we want to cover in the plan. HCPs specifically list the activities the plan intends to cover, such as residential development or infrastructure. Depending on the activities we want to cover, there may be different jurisdictional issues. Mike and Shannon referred back to the Fort Hood draft BA, noting that activities may not need to be specified under this structure. Any action that results in take (loss of habitat) would be covered as long as Fort Hood stays above the minimum threshold for habitat amount or population size, thus removing the needs for an action-by-action structure. Wendy Connally pointed out that we would still need to specify the activities for FWS as that information is required for incidental take permits.

Shannon – could build a framework through experience with Ft. Hood. They are still trying to figure out exactly what kinds of take to include. For permits, could have checklist for different mitigating actions, or general recommendations by activity.

There was general discussion about needing to consider this plan in relation to other existing or developing regional HCPs. Options could be to not overlap this plan with existing HCPs (i.e., exclude from this plan those counties that already have HCPs), provide coverage for activities that are different from the covered activities noted in those HCPs, or allow for participation in the GCP when the regional HCP plan term expires. It was also noted that if the GCP doesn't work for a particular entity, they could go to an existing HCP or create their own plan. This GCP may be developed as a kind of template for FWS, with FWS providing incidental take permits to people who chose to participate in the plan. Under a GCP, there is no master permit holder. We also need to consider the level of confidentiality that landowners will need.

Mike – this is a big plan that will be handled differently in different regions, and may be more like an overriding or umbrella plan that connects all separate regional plans, setting a framework for how all these separate plans will work together. Maybe not a new tool, but a way to make plans work to achieve recovery. Recovery is main goal, but it cannot be accomplished in a piecemeal fashion.

There was brief mention of the need for the Policy committee to eventually determine the funding structure for the plan. Need to have a fiscal system in place, possibly using HCP funding structure. It was suggested to get input from FWS on this topic.

One committee member requested copies of the recovery plans for each species. It was suggested that the Science committee provide a summary of targets to the Policy committee. We should figure out what existing efforts have accomplished for the species. Some of that information is included in the recent GCW scientific evaluation.

Public awareness, outreach

Cary - Need to get word out to county officials, landowners, and potential buyers about this plan. One option for outreach is to add information to www.KeepingTexasFirst.org. In an effort to maintain transparency, we could hold public meetings, distribute meeting agendas, documents, and summaries. We could host presentations or public education programs about the plan. We should have the presentations or programs in various locations within the plan area, not just Austin. There will also need to be a lot of personal communication with business leaders given sensitivity of the issue. We should develop a 1-pager and talking points for meetings.

Wendy noted that we need to be very clear about the plan and our message before we put any information out there for the public, need to know what we're doing first, have statement/mission/purpose figured out. In addition, the PDT should clarify the intended timeline and deliverables as soon as possible, and certainly before any press goes out. We need to communicate about the public outreach plan within the group before any actions are taken.

Information needs for future meetings

Cary mentioned the importance of getting feedback from the committee members on what information the members want from the PDT or support staff in order to make informed decisions and recommendations. Even if people don't think of information requests at the meetings, they can make requests to Cary or Julie at any time. For next meeting, Wendy suggested that the PDT develop a work plan, timeline and strawman project statement to discuss so that we can have some concrete ideas in place within a couple months.

We want to hit the ground running at the next meeting in mid-January. Exact date TBD. Julie will send out an email or doodle poll to determine everyone's availability and options for meeting locations; we'll aim to have all committee members in attendance at the next meeting. It was suggested to set a consistent day and time for future meetings (e.g., third Thurs of each month) – Julie will communicate with the committee members to see if that would be possible.

Meeting participants

Science Committee members:

Jim Giocomo, American Bird Conservancy
Joe Grzybowski, UCO (on phone in afternoon)
Cal Newnam, TXDOT
Nathan Rains, TPWD
Bill Rogers, TAMU (on phone in afternoon)

Plan Development Team:

Cary Dupuy, Texas Comptroller's Office
Julie Groce, IRNR
Brian Hays, IRNR
Justin Tatum, TWMF
Neal Wilkins, IRNR/TWRI
David Wolfe, EDF

FWS Lead:

Kevin Connally (attended first half of meeting)
Tanya Sommer (attended first half of meeting)

Support staff:

Andy Campomizzi, IRNR
Shannon Farrell, IRNR
Meghan Hope, Texas Comptroller's office
Michael Morrison, TAMU
Katy Smith, TAMU

Science Committee members unable to attend: Susan Baggett (NRCS)

Introductions and Goals of GCWA/BCVI conservation plan

Julie Groce presented the purpose of the first meeting as a way to gain a broad understanding of the overall objectives of the general conservation plan (GCP), an overview of the background information for golden-cheeked warblers (GCW) and black-capped vireos (BCV), and updates on current research and information available about the species.

Julie noted that the GCP concept is still general. We are trying to develop a plan to use across the breeding range; a holistic, coordinated approach that focuses on overall management and conservation of the species as the first goal. We are trying to flip around the HCP approach by starting with the species' need instead of starting with determining take. We aim to complete the first draft by late summer or early fall 2012.

Committee structure, function, objectives

Julie – we established two committees to help develop the GCP, Policy and Science. The first Policy meeting was Dec 7. These committees will provide information and recommendations on respective parts of the plan to the GCP plan development team (PDT) through consensus building. The PDT will be responsible for creating a cohesive plan based on those recommendations. We originally thought of having a separate Outreach committee, but decided to merge that with Policy because of the amount of overlap between the two. We also discussed having a separate Economics committee, but are thinking instead of hosting a 1-2 day economics/incentives workshop for the committees, bringing in experts from Texas or other parts of the country to discuss different options, scenarios, etc. The PDT will create over the next few weeks a structure for the decision-making process.

There was some discussion about the Science committee objectives: develop broad-scale management plan for both species' breeding ranges, keeping in mind this plan is covering only about 1/3-1/2 of the BCV breeding range; develop structure and guidelines regarding species' needs for survival, e.g., thresholds for habitat across range; develop crediting metrics for conservation and restoration activities; develop guidelines, thresholds, and triggers for the adaptive management portion of the plan; provide recommendations to development team. David Wolfe noted that the Recovery Credit System (RCS) is a good example of a committee coming up with rules and guidelines.

Current conservation programs (HCPs, RCS, etc)

Kevin Connally – provided overview of habitat conservation plans (HCPs) and GCPs. There are about 150 HCPs currently issued in GCW range plus three more in development. We should look at these plans for guidance while developing the GCP. The Travis County multispecies plan (i.e., Balcones Canyonlands Conservation Plan) is a good example of successful effort. A GCP is an HCP but with a couple differences. For a GCP, the plan developer (typically the US Fish and Wildlife Service [FWS]) does the legwork (NEPA, etc.) upfront without an applicant. There is no master permit holder; an incidental take permit (ITP) is issued to individuals who apply under the GCP and agree to the GCP requirements. A committee member asked about the differences between “major” and “minor” plan amendments. Kevin explained major amendments may be needed if plan developers want to increase the amount of take requested and may require new NEPA review process, etc. FWS tries to build room in plan from the beginning to avoid having to do major amendments.

Kevin discussed FWS issuance of ITPs under a GCP. A landowner provides general summary of their take needs, checks that they meet the requirements established in the plan and agrees to those actions, agrees with actions required by plan, pays application fee. FWS needs to have analyses, assessments, NEPA requirements, etc., done in advance in order to issue ITPs.

There was general discussion about limiting overlap between this plan and existing regional HCPs. One option would be to make this plan available to all counties in the plan area that don't already have county-level HCPs. Another option may be to include actions in this plan that aren't already covered in existing HCPs.

Neal Wilkins suggested that we should not limit ourselves to considering only existing plan structures; rather, we could create an entirely new type of plan. For example, if we define and secure conservation measures that lead to recovery and sustainment of viable GCW and BCV populations, then perhaps we could loosely define take outside of those measures rather than specifying all covered activities up front. This may require policy changes or clarification at the national level.

It was noted that an important first step for the Science committee is to identify and describe the biological goals of the plan.

Shannon Farrell is currently involved in developing a biological assessment (BA) for Fort Hood and provided an overview of the concept being used in that plan, which is different from previous biological assessments and may be a good strategy to follow for the GCP. They're trying to balance loss of habitat (due to Ft. Hood training, new infrastructure, or fire) with GCW/BCV habitat needs. Rather than determine an estimated amount of take before the take occurs, the idea is to first determine what amount of habitat on the base is sufficient for recovery of the species in that region and then maintain thresholds above that minimum amount. The “excess” habitat available above those thresholds could provide “wiggle room” for Ft. Hood to deal with unforeseen habitat loss (e.g., from wildfires). If they lose more habitat than expected, it would be seen as a debit and Ft. Hood will have an opportunity to “repay” that debit by creating new habitat or maintaining habitat somewhere else. There will also be an adaptive management component with specific check points that trigger specific actions. This concept could apply on a range-wide scale. Instead of coming at the process from the perspective of “how much take do I need”, it's from the starting point of “how much habitat do we need to maintain for the species”.

Brian Hays and Justin Tatum gave an overview of RCS, detailing the proof-of-concept RCS for Fort Hood (see slide show). They stressed the importance of developing relationships with landowners; landowner attitudes regarding participation in the plan may change over time as they become more comfortable with the idea and as they see the benefit of it. David Wolfe described a “conservation unit” as it pertains to the RCS and the calculations and ranking system that were used to determine credit values. David noted that a credit system could be part of a unique model that fits on the mitigation side of a GCP and could be used by other people or entities seeking mitigation. With one range-wide GCP, everyone could use the same evaluation of credits and debits, which would make broad-scale coordination and management efforts easier to track.

Covered species

There was general discussion of possibly including other species besides GCW and BCV as covered species in the plan (i.e., species for which incidental take would be requested). Julie provided the committee members with a table of species, including state or federal threatened or endangered species, candidate species, or recently petitioned or proposed species, that occur within the 38-county plan area. She noted that habitat

preferences for the species are not included in the list and may need to be considered, with the idea that species that occur in similar habitat types as GCW or BCV may be more easily included as covered species than those that occur in different habitats. She also noted that several of the species are already included as covered species in other HCPs, such as karst invertebrates in Bexar County.

David – time is of the essence regarding the conservation of these birds, so limiting the plan's scope with covered species might allow us to move forward with this plan more quickly. However, it's worth asking Kevin Connolly if there is an option or possibility of including more species in the plan at a later time.

Jim Giocomo – recommends not including as covered species the birds listed in the T&E table because they occur in different habitats than either GCW or BCV. The Gulf Coast Prairie LCC includes 3 joint venture partnerships, one of which is focused on developing a conservation plan for BCV across its range. They reviewed a similar species list and did not find any species that overlapped with BCV. There is the opportunity to utilize some of work already completed by gulf coast LCC.

Mike Morrison – it's typical for HCPs to include a section on additional species that may benefit from the plan. These species aren't considered covered species, but it can be discussed in the plan that they may derive some benefit from the conservation actions for GCW and BCV. This could be included in the GCP, as a way to acknowledge these species without requesting incidental take for them.

Nathan Rains noted that the TPWD wildlife action plan, which includes a list of species of concern, is being updated and he'll share that information when it's complete. Cary Dupuy requested that the bracted twistflower be added to the species list. FWS recently found this species could be impacted by GCW habitat management.

There was general discussion about the need to consider whether activities resulting from the GCP could impact federally-listed species. FWS has to assess the impact of the plan on other listed species. David suggested inserting language in the plan that requires surveying a property for other listed species before GCP-directed actions take place on that property. Neal noted that HCPs usually list species that may be impacted by the plan, but only in NEPA document is there analysis. We would need to ensure actions under plan would not negatively impact other species. If it's determined that impact might occur, we can decide whether we can make minor changes to avoid take. Meeting participants agreed we need to get guidance from Kevin on this issue.

GCWA and BCVI background info and current research

Julie – there are FWS recovery plans for GCW and BCV, although both plans are from the early 90's. A GCW recovery team was established a couple years ago to update the GCW plan, but the process has been stalled for about a year. No one was aware of any movement towards updating the BCV recovery plan. In the FWS 5-year status review for BCV, they suggested downlisting the BCV to threatened. IRNR staff completed the GCW scientific evaluation in 2010, which will be used by FWS as they develop their 5-year status review for that species.

Mike described the Texas A&M statewide surveys and analyses for GCW, which includes breeding range occupancy models that may be of use to the Science committee as they work through biological details of the plan (see slide show). The occupancy models provide spatially explicit probabilities of occurrence, rather than simply showing habitat/non-habitat. It is also possible to derive abundance estimates for GCW. Julie will provide to the Science committee copies of the final reports and journal articles that resulted from this work. Shannon noted that, while we don't have a similar range-wide model for productivity, IRNR has focused on productivity research at different areas throughout the range and could use that data if particular analyses are requested by the committee.

Andy Campomizzi presented an overview of the Texas A&M statewide surveys and analyses for BCV (see slide show). Researchers developed an occupancy model for the breeding range, although it's a bit more difficult to define and work with than GCW because BCV don't occur in discrete patches of habitat like GCW typically do and it's more difficult to map out BCV habitat. IRNR has not developed abundance estimates for BCV. Andy also discussed preliminary work on brown-headed cowbird occupancy and abundance models, which could be an additional tool when developing BCV conservation strategies for the GCP. Katy Smith introduced preliminary work on BCV sensitivity analysis regarding cowbird parasitism (see slide show), which can provide insight on whether cowbird management is needed in some areas to maintain viable BCV populations.

Mike and others discussed how these various models can be used as decision-support tools for the Science committee, e.g., to test or examine different scenarios, which can then be used by the committee to develop guidelines for the GCP. He recommended that the committee come up with list of questions or scenarios for which the models can provide some insight (e.g., effects of urban expansion in certain areas). One option could be to list the top 3 impacts to the species or habitat by recovery regions, since impacts to the habitat are likely different depending on location, and we can then explore different scenarios based on those impacts. Overall, the committee needs to figure out the appropriate amount of habitat to maintain in each recovery region that is sufficient for species recovery, and develop guidelines to reach and maintain those levels. These models can assist with determining those levels. The models can also help determine focal areas for where it makes the most biological sense to concentrate recovery actions.

Cal Newnam suggested considering the impacts of changes in land use. Julie noted that IRNR's GCW scientific evaluation includes land trend information through ~2007. There is more recent land trend information on the IRNR website.

David briefly introduced the need for the Science committee to develop a crediting system as part of the plan, in which conservation actions are quantified in some manner, possibly similar to the RCS. It took the RCS Science committee 3 months to develop their metrics, but we may be able to learn from their experience and use other recent literature when developing metrics for the GCP. David provided several short documents that explained additional information about the RCS process, results, and lessons learned. He stressed that the committee should be as objective as possible. Focusing on the science and reliable information will ensure that the metrics are defensible.

Julie mentioned the issue of greenlining, in which particular areas or properties are delineated for conservation priorities (e.g., lands to acquire for mitigation). This was a big concern during development of the Southern Edwards Plateau HCP and is something the committee needs to avoid when figuring out conservation strategies for the GCP. This led to a brief discussion of the need for public outreach and education. Cary provided an overview of the Policy committee's intentions to develop a plan for public outreach.

Adaptive Management

Mike provided initial discussion of adaptive management, which will be a large component of the GCP. The committee will need to establish conservation goals for each species, most likely by recovery region, monitoring criteria, thresholds and a priori triggers with associated actions.

Jim noted that FWS is now calling adaptive management "strategic habitat conservation" and information for that can be found on the FWS website [<http://www.fws.gov/science/shc/>]. It was also noted that FWS tends to view research and monitoring as separate actions, so it's important to be clear with the language in the plan; need to have clear biological goals and correct terminology.

Information needs

Julie noted the importance of getting feedback from the committee on what information they need from either the PDT or science support staff in order to make informed decisions and recommendations. We can accept those requests at any time. Committee members requested the IRNR scientific evaluations for both species, FWS recovery plans, GCW occupancy and abundance articles, and the BCV report for TXDOT (once finalized). Julie will send those items by email.

Mike requested that the committee compile list of main impacts for each recovery region by the next meeting, which can be reviewed during the meeting. The main goal for the next meeting will be to define the biological goals of the plan. PDT and science staff can develop a strawman biological goals statement prior to the next meeting to initiate discussion.

Meeting participants

Science Committee members:

Susan Baggett, NRCS
Lenny Brennan, TAMU-Kingsville
Jim Giocomo, American Bird Conservancy
Joe Grzybowski, UCO
Cal Newnam, TXDOT
Nathan Rains, TPWD

Plan Development Team (PDT):

Cary Dupuy, TCPA
Julie Groce, IRNR
Michael Morrison, TAMU-College Station
Justin Tatum, TWMF
David Wolfe, EDF

FWS Lead:

Kevin Connally, FWS

Support staff:

Arijana Barun, FWS
Omar Bocanegra, FWS
Andy Campomizzi, IRNR
Shannon Farrell, IRNR
Meghan Hope, TCPA
Katy Smith, TAMU-College Station

Overview of tasks and timeline

Julie Groce distributed the draft timeline for the General Conservation Plan (GCP) and asked the committee to review it and provide feedback. Some of the tasks will require coordinated efforts among the committees.

Discussion and agreement on plan area, covered species, biological goals, plan duration

Michael Morrison noted the GCP proposal suggested a plan area of 38 counties in central Texas that comprise the known breeding range of the golden-cheeked warbler (GCW) and in which black-capped vireos (BCV) also are known to occur. Cal Newnam asked why the plan area doesn't include all the BCV range in Texas as well. Morrison and David Wolfe explained the GCP was originally intended to focus only on GCW – hence only the GCW range – but inclusion of BCV made sense because habitat for the two species are often adjacent or overlap, and management for one may sometimes be at the detriment of the other. Dealing with them both in a single plan may limit such conflict. Limiting the scope to just the GCW range would allow for a slightly faster plan development process because it's a smaller area to cover than the entire BCV range in Texas. Omar Bocanegra suggested excluding Dallas County from the plan area because there has been no evidence of breeding birds in that county for decades.

There was general discussion about whether to include additional covered species in the plan. Groce noted the support staff is gathering general information on species that occur in the 38 counties to determine which species may be positively or negatively impacted by GCW or BCV management activities. It was suggested that the PDT/support staff develop a method (e.g., dichotomous key), based on information such as a species' range and habitat, that could help answer questions such as "is species X on a given property" and "would GCW or BCV management impact species X". Rather than including additional species as covered species, the GCP may be structured in such a way that GCW/BCV management activities may be altered on a property if other rare or listed species occur there. Shannon Farrell suggested we look at other species that should receive the same level of recovery efforts in addition to species that may be negatively impacted. The PDT/support staff will formalize a list and/or map for discussion at the next Science meeting.

Kevin Connally noted that the inclusion of covered species also depends on the covered activities or conservation actions. In addition, the committee may decide not to consider species for which very little information exists. We'll need to gather GIS data for species. Groce reminded everyone that the support staff has already started that process, and the covered species excel file provided at the last meeting includes county-level distribution information. Creating a map from that list may help the process.

The committee discussed edits to the GCP mission statement and biological goal. Several suggestions were made, such as removing “range-wide” and “recovery” from the biological goal, removing mention of BCV but still discussing it in the document. In general, it was agreed that the biological goals should not include a regulatory component, rather it should simply focus on biology, e.g., “the aim of the plan is to sustain the species population within the plan area”; whereas the mission statement should say the overall goal is to promote species recovery. Groce will incorporate the edits and send updated statements to the committees via email.

There was brief discussion about the duration of the plan. Connally noted that HCPs often try to balance participants’ interest in long plan timelines (because of the inclusion of “no surprises” in the plan) with the lack of certainty of future conditions and scenarios. Connally suggested that the Service is typically comfortable with a plan duration of 20-30 years for regional HCPs, but that depends in part on the covered activities and how long it may take to get mitigation.

Initial discussion of GCP biological objectives; Review current species status; Review FWS recovery strategies; Identify modeling scenarios

The committee was provided with summaries of the GCW and BCV recovery plans (1992 and 1991, respectively), including known threats and recovery criteria, to assist in the discussion of biological objectives, current status, and recovery strategies. Morrison explained the biological objectives for the plan will mainly be an enumeration of specific items needed to meet the biological goal (i.e., maintain viable populations); for example, changes in population numbers, changes in cowbird numbers, acres of habitat protected or managed, patch size and distribution. Farrell suggested developing a tiered system in which the biological goal breaks down into various specific objectives, each of which has a defined set of methods or metrics for attaining success. This rolls into adaptive management, such that if we’re not meeting certain objectives, different actions would then be implemented. The PDT/support staff will develop a straw man proposal for biological objectives in time for the next Science meeting.

To help conceptualize and prioritize areas for conservation focus, committee members suggested mapping human population trends, urban growth patterns, changes in land use (e.g., loss of ag land), changes in livestock, and tree mortality (due to oak wilt, wildfire, etc). Future projections of these impacts, when viewed in relation to the A&M GCW occupancy/abundance model, can show what may happen to habitat over time; knowing the locations of projected habitat loss can inform us as to where conservation areas are most needed or most feasible. Morrison pointed out that, while we can work on the scenarios suggested by the committee, we need to remember that the A&M model links GCW presence and abundance with loss or creation of habitat in general (i.e., patches of woodland) but we don’t yet have the data to spatially link GCW with changes in habitat quality (e.g., changes in tree density or diversity within a patch caused by drought). We need to keep this in mind when thinking about modeling scenarios. Relative to the biological objectives, it was suggested that we could show the sensitivity of GCW to certain impacts, rather than developing thresholds. Leonard Brennan suggested we also look at cumulative impacts, i.e., start stacking impacts versus viewing them individually.

Connally suggested thinking about how often we’ll want to revisit the model and determine how this time step fits into the permit duration. If it’s a 25-year permit, we may want to update the model every 4-5 years. FWS does not have a preference on the time step, it just has to fit with the objectives and how the model and data are tied to the objectives. Farrell suggested a hierarchical-type option with different “tiers of intensity”, such as updating coarse-scale data every 1-2 years (e.g., satellite imagery), looking at trend data every 3 years, and then doing a full update to the model every 5-6 years; thus, develop rough estimates over the short-term and more accurate or precise estimates over the long-term. The PDT/support staff will develop some ideas for time steps for discussion at the next meeting.

It was noted that we can look at the same impacts for BCV (i.e., human population, urban development) but that BCV habitat can regenerate fairly quickly depending on the impact (e.g., fire). Joe Grzybowski asked if the system for dealing with BCV should be different than that for GCW. He suggested one option of looking at places with potential BCV habitat (according to A&M model) then overlay options for cowbird trapping. In addition, it was noted that because suitable BCV habitat is not easily assessed with available satellite imagery and GIS layers, we might consider including questions in landowner surveys that will help us determine whether

the birds are likely to live on a given property; for example, whether the landowner has livestock. We could then conduct site visits to those priority areas that are most likely to contain birds to confirm their presence.

Katy Smith and Andy Campomizzi provided an update on their cowbird analyses. Using field data collected by A&M, they are estimating what frequency of cowbird parasitism BCV can tolerate (i.e., can still maintain populations over time). Keeping predation levels constant, they found that parasitism rates of 30% or less can be tolerated by BCV. Based on this information, they intend to develop some guidelines on the effectiveness of cowbird trapping in certain areas, the needed frequency of trapping, and how that trapping reduces parasitism. For example, if cowbird trapping is a recommended option for management, what is the minimum amount of trapping effort needed to maintain BCV populations in a given area.

Initial discussion of conservation strategy; Discussion of valuating conservation actions

Wolfe led the discussion of the conservation strategy and associated actions. He listed conservation actions that were part of the Recovery Credit System (RCS), actions that would likely be included in the GCP as well: deer management (to protect future habitat, oak regeneration), cowbird control, livestock management, brush manipulation (e.g., thinning in GCW habitat), reforestation (link GCW habitat patches), prescribed fire. Groce noted additional actions that were included in the FWS recovery plans for the species: predator control, limit human access, public outreach/education, research and monitoring. Each conservation action needs to be quantified or prioritized in some way. We also need to allow new information to be included in the plan, i.e., the list of actions may change over time as new information becomes available (part of adaptive management strategy). Wolfe suggested that the management actions be treated as hypotheses. A committee member asked whether it would help to cluster conservation and management efforts across the landscape, e.g., coordinate efforts with neighbors.

Wolfe suggested that we'll need to develop criteria to prioritize sites for conservation. Some factors to consider include the distribution of the sites, impacts to the sites, and level of protection (e.g., permanent or temporary). For prioritizing sites on which conservation/management activities would occur, Farrell suggested we develop a type of decision tree in which we start with the best case scenario (e.g., get landowners involved that have minimum of X acres of habitat on their property), and if we can't get that then we branch down to the 2nd or 3rd best options. We could develop a similar style prioritization of conservation actions, possibly based on recovery regions. The PDT/support staff will develop a straw man proposal of how we might quantify or prioritize conservation actions and sites, for review at the next meeting.

Wolfe then discussed how to market a credit, i.e., how to assign a commodity value to it so we can determine its conservation benefit. For example, how do we get a net benefit to recovery for GCW if the primary conservation option is simply leave habitat alone? Possibly through examining how it increases conservation status, or increases the baseline for the species; i.e., look at the value of protected GCW habitat relative to what would have happened if the habitat were lost. Wolfe suggested that the unit used for measuring gains/losses in habitat is transferable to credits. He suggested we use the RCS as a basis, with improvements based on the Robertson Consulting Group, Inc., review. We could develop a strategic approach, using the GCW and BCV models to figure out what you need and where

Connally suggested we keep in mind that the existing RCS only applies to Section 7. If we want to combine federal and non-federal entities in the plan, the Lower Colorado Multi-Species Conservation Program (MSCP) is a good example of how to do this. We could consider using an RCS process for federal entities and an HCP process for non-federal – two parallel components but with different options or requirements. Connally also noted that we will need to decide which actions the plan will cover (i.e., actions that result in take). We need to quantify the information so that we can assess the amount of take. Groce said that this will be discussed in the Policy committee meeting. The Policy committee will draft the initial list of activities and the Science committee will be asked to review and determine the amount of take for each of the activities.

Groce will email a copy of the Robertson review to the committees, along with A&M reports and articles related to the GCW and BCV models and links to the Lower Colorado MSCP. She noted that A&M will create a website for the GCP by the end of the month. She'll contact committee members for scheduling the next 5-6 meetings in advance.

Meeting participants

Policy Committee members:

Clay Bales, TFS
David Bezanson, TNC
Kirby Brown, TWA
Wendy Connally, TPWD
Mel Davis, SWCB
Gene Richardson, TFB

Plan Development Team (PDT):

Cary Dupuy, TCPA
Julie Groce, IRNR
Brian Hays, IRNR
Michael Morrison, TAMU
Justin Tatum, TWMF

Support staff:

Andy Campomizzi, IRNR
Shannon Farrell, IRNR
Meghan Hope, TCPA
Katy Smith, TAMU

Cary Dupuy lead the Policy meeting and started off by suggesting that the committee focus, for now, on first developing a range-wide conservation strategy for the species, then later determine what regulatory mechanism could fit the strategy. The committee should gather information and discuss existing regulatory mechanisms, but should not force the strategy into an existing mechanism. If an existing mechanism doesn't fit, we can request additional tools and resources from the U.S. Fish and Wildlife Services (FWS). There is precedent for developing new policy if we find it is needed for this conservation strategy.

Overview of Tasks and Timeline

Dupuy distributed the draft timeline for the General Conservation Plan (GCP) and asked the committee to review it and inform her if we're missing any tasks or if any tasks should be allocated more time. We'll need the final draft GCP by September/October to meet the Section 6 grant deadline.

Wendy Connally suggested it may be beneficial for the science and policy committees to hold joint meetings during these early stages as we figure out basic concepts, and especially if some agenda items are the same for both committees. This will help to ensure everyone is on the same page as we move forward. One option could be to overlap the end of one committee meeting with the start of the other committee meeting.

Discuss Decision-making Process

Dupuy noted the Edwards Aquifer Regional Implementation Plan (EARIP) is an effort similar to the GCP and we could use the EARIP's operational rules as a starting point to develop GCP procedures for decision-making. The EARIP adhered to open meeting requirements and attempted to reach consensus when making decisions.

There was general discussion about establishing a process for member voting and have a secondary process in place for when there are disagreements. Other similar groups have used Roberts Rules of Order for voting. GCP meetings should be in line with open meeting requirements to ensure an open and transparent process, even though we're not legally required to adhere to the Open Meetings Act. We should allow stakeholders not serving on the committees to provide input during this process. We could allow the public to sign up ahead of time to attend meetings, possibly allow 3-minutes speaking time for public comments, and post meetings notifications, agendas, minutes and other relevant documents on the GCP website. We should be as open and inclusive as possible. We could also host public information sessions separate from committee meeting to update the public and invite additional public input.

Julie Groce will email a copy of the EARIP operational rules to the committee. Kirby Brown and Connally offered to serve on a subcommittee to review the EARIP operational rules and develop a draft decision-making process for the GCP. Dupuy will act as the lead staff person for this effort. The subcommittee will present the draft to the Policy committee at the next meeting.

Discuss GCP Mission Statement and Goals

The group reviewed and discussed potential edits to the draft mission statement and biological goal. Connally suggested removing "GCP" from the mission statement since we don't yet know if that's how this plan will ultimately be constructed. She also suggested adding the word "resilient" to the biological goal. Shannon Farrell and Michael Morrison noted the term "resilient" has different meanings for different people/organizations and should be used with caution. It may be possible to address resiliency later in the plan document rather than in the biological goal. Morrison said our goal should be to set up a framework that could lead to population viability and further recovery efforts. There was brief discussion of edits suggested by the Science committee during their 1/19/12 meeting – members advised removing "range-wide" with regards to the black-capped vireo (BCV), but keep mention of the BCV in the mission statement and biological goal. Dupuy and Groce will distribute to the Policy and Science committees the revised mission statement and biological goals based on the suggestions from the committees. Committee members should review and decide upon the final language at the next meeting.

Clay Bales asked about the likelihood of reaching or maintaining viable populations for GCW or BCV and whether either species may ever be delisted. Morrison explained that FWS bases a species' delisting or downlisting on a 5-factor analysis of threats, they don't just look at population numbers. Dupuy noted that a conservation strategy would need to show how the threats to the species are minimized or dealt with.

Discussion and Agreement on Plan Area, Covered Species, Biological Goals, Plan Duration

Kirby Brown asked why we haven't included the entire BCV Texas breeding range in the plan area. It was noted that the Oaks and Prairies Joint Venture is putting together general conservation strategies for the BCV throughout its breeding range and we could coordinate with this group on efforts relating to the BCV. Morrison said the project was originally intended to focus on GCW, and BCV was included as an afterthought because it overlaps extensively with the GCW range. Farrell pointed out that GCW management is often in conflict with BCV, so it seems best to deal with that species up front.

Dupuy noted that support staff is reviewing the species federally listed and proposed within the range of the GCW and will share findings with the Policy committee. There's significant overlap in the range with karst species which are already covered by other HCPs. Groce said the intention with pulling together this information is to get a sense of which species may be positively or negatively impacted by the plan; they may not be included in the plan as covered species, but understanding which species may be impacted may help us structure the plan in an appropriate way to avoid or minimize those impacts. It will be important also to consider species that may be listed in the future. The group discussed including references to existing plans that cover other species occurring within the GCP area in appendices rather than incorporating this information within the main document. Brown suggested we try to offer as much coverage in the plan as possible for landowners.

Dupuy let the committee know that during the 1/19/12 Science meeting, Kevin Connally (FWS) suggested a plan duration of 20-30 years. Brown suggested 30 years, as you typically see that duration for large scale HCPs. Bales asked what would happen if the species was delisted prior to the end of the plan's duration. Connally explained that delisting is based, in part, on conservation plans and agreements that have been implemented, so agreements in and durations of HCPs would still apply even after the species is delisted. Those plans contribute to the recovery of the species and are part of the delisting process.

Agreement on involvement of Counties with Existing HCP's

This topic was not discussed during the meeting, rather Dupuy suggested we discuss it at a later time when we know more about the plan itself.

Identify Covered Activities (Broad or Specific)

Dupuy began this discussion by asking what activities we expect will occur in the plan area, such as transmission lines, subdivisions, any oil and gas development. It will likely be similar to what activities are mentioned in other regional HCPs. Dupuy suggested establishing categories for activities and their level of impact. Farrell suggested creating a broad approach for assessing or quantifying impacts in a standardized way. It should be as inclusive as possible across the range. Morrison stated the Science committee will use the GCW occupancy model to examine the distribution and intensity of some potential impacts, like urban

development. The group discussed having a two tiered approach – first determine the biological needs for the bird that will feed into the conservation strategy, and then assess potential impacts that will feed into the regulatory mechanism. The PDT and support staff will develop a draft list of covered activities for discussion at the next Policy meeting.

Discuss Outreach Plan and Landowner Survey

Bales suggested looking into education, cost share, and other alternatives to regulation. One option could be to focus on education and cost share to meet the science goals and only use a regulatory approach when it's deemed the only way to meet the goals. Brown suggested that education, incentives, and permitting program efforts could be molded together in a way that works well for landowners. David Bezanson noted that education and cost share are tools available under a regulatory approach. He also pointed out that allowing take in certain areas would be good as it provides revenue for conservation or education in appropriate areas.

Katy Smith presented an overview of questions and approaches used in previous landowner surveys that may be applicable to a survey conducted for the GCP. Survey approaches will likely vary depending on the recovery region. The committee will need to decide whether it wants to conduct surveys, and figure out what information will help the committee to make decisions. Connally suggested that we cluster answers to some questions (e.g., size of property) in a biologically meaningful way. Brian Hays discussed an approach used in North Carolina where they worked with the NC Farm Bureau in developing a good set of questions, and then the science and policy committees based their plan on those responses. That is, they were able to tailor the plan to meet some of those landowner needs. Gene Richardson said it will be important to make sure people understand why the questions are being asked. The questions will be considered personal. We will need one-on-one meetings and conversations, otherwise people will not respond to the surveys.

Richardson noted we should keep in mind that landowners want to be good land stewards, but they do need to make a living off the land. It will be important to provide and explain the incentives to landowners. We should determine the level of landowner awareness and familiarity with government programs. Landowners tend to be familiar with the programs that have high participation rates. We do not need to reinvent the wheel – plan/surveys should include familiar language used in existing conservation plans.

The outreach effort should start with landowners and interest groups. It may also be valuable to hold information sessions for the public. A common question that may arise when talking with landowners is “how will this make my life easier?” A suggested answer was “it makes a liability an asset”. Connally suggested we have one consistent “umbrella” outreach message based on the mission statement and also have additional messages targeted to certain groups (e.g., private landowners, rancher, farmers, developers, environmental groups) that further explains how this plan will benefit them and the species.

Dupuy and Groce will distribute to the group an overview of all action items discussed and also follow up to schedule future committee meetings.

Time: Science = 9:00a-12:30p, Policy = 11:00a-2:00p
Location: TxDOT Austin District Office, 7901 N. IH 35, Austin, TX 78753

Meeting participants

Science Committee members:

Lenny Brennan, TAMU-Kingsville
Jim Giocomo, American Bird Conservancy
Joe Grzybowski, UCO
Cal Newnam, TxDOT
Nathan Rains, TPWD

Policy Committee members:

Clay Bales, Hughes Simpson, TFS
David Bezanson, TNC
Kirby Brown, TWA
Wendy Connally, TPWD
Mel Davis, TSSWCB
Gene Richardson, TFB

Plan Development Team (PDT):

Cary Dupuy, TCPA
Julie Groce, IRNR
Michael Morrison, TAMU-College Station
Justin Tatum, TWMF
Neal Wilkins, IRNR

FWS Lead:

Kevin Connally, FWS

Support staff:

Andy Campomizzi, IRNR
Shannon Farrell, IRNR
Meghan Hope, TCPA
Katy Smith, TAMU-College Station

Committee members unable to attend: Susan Baggett, NRCS

Science

U.S. Fish and Wildlife Services (FWS) updates on golden-cheeked warbler (GCWA) and black-capped vireo (BCVI)

Kevin Connally provided an update on recent FWS activities related to GCWA and BCVI. The BCVI 5-year status review was completed in July 2007 and recommended downlisting the species to threatened. A formal rule is required to downlist a species and there is no current timeline for the proposed downlisting. This is not a high priority for FWS at this time as they are preoccupied with work on species included in the agency's 2011 Multi-District Litigation settlement with the Center for Biological Diversity and WildEarth Guardians. However, downlisting the species wouldn't affect how the species is managed or dealt with in the GCP. In addition, although the 5-year review acknowledged that the BCVI recovery plan needs to be revised, there is no intention to update the plan until FWS makes a decision on the potential downlisting. In the meantime, the existing recovery plan is still in effect.

The recovery team for the GCWA has no plans to meet in the foreseeable future, but the members are still engaged with FWS in developing an updated recovery plan. FWS estimates publishing the draft recovery plan in the Federal Register in about 4-5 months. In the meantime, the original recovery plan is still in effect. The GCWA 5-year status review has been initiated and will likely be completed also in 4-5 months.

Overview of existing GCWA and BCVI maps/models

Julie Groce provided an overview of existing GCWA habitat maps and models so that the Science Committee is aware of what exists and determine which one(s) may be appropriate to use for the GCP. There are four range-wide maps/models, all of which are based on the same or similar underlying satellite imagery (see "GCWA maps & models" PPT for details). The Diamond and Loomis Partners habitat maps include rankings for habitat

quality (e.g., high, medium, low) and occupancy (e.g., highly likely to be occupied by GCWA), respectively, whereas the SWCA map delineated what they considered to be high quality habitat. SWCA's delineation of only high quality habitat results in lower estimates of habitat acreage than the other maps. The TAMU model is based on patch-level presence-absence survey data resulting in occupancy probabilities for all habitat patches.

K.Connally said Loomis Partners updated their map recently and now includes patch size characteristics; he suggested having Loomis present the information at a future meeting. Michael Morrison noted that the Diamond, Loomis, and SWCA options are static maps whereas the TAMU option is a dynamic model with predictive capabilities. The TAMU model is useful for planning purposes because it can show how occupancy and abundance is impacted in an area when you remove patches of habitat. Lenny Brennan noted that the TAMU model provides a direct link back to the bird.

There was general discussion on which of the four available maps/models might be best suited for the GCP. Wendy Connally suggested that the tool chosen by the committee should be usable over time to assess the condition of the birds and habitat and able to be updated and improved with new data. Morrison suggested the TAMU model could be used for a sensitivity analysis when prioritizing areas for conservation in which we show the magnitude of change (in occupancy, abundance) given different scenarios. Cal Newnam said all the maps are similar except for the SWCA map, and overlapping the maps could help determine high priority habitat areas. In addition, he suggested using the TAMU model for looking at changes in habitat, occupancy, and abundance over time (e.g., loss of habitat due to placement of transmission lines). Neal Wilkins said we can run future scenarios with the TAMU model and predict population-level responses; the model was developed for this purpose and can be updated over time. Wilkins advised people to review the article written by T.M. McFarland (IRNR) that was emailed to the committee members after the last meeting.

W.Connally suggested that the committee discuss the pros and cons of each platform and base their decision on that. K.Connally stated that for administrative records for Habitat Conservation Plans (HCP), the committee will need to document that it considered other platforms and justify why it chose one platform over another. Newnam said the TAMU report on the habitat model includes comparisons of the different maps/models. W.Connally reiterated that we simply need to be able to justify why a particular model is the right tool for the GCP. Brennan asked if any of the models besides TAMU's had been peer reviewed and Morrison responded that Diamond did publish an article related somewhat to his model. Shannon Farrell pointed out that the TAMU model is a defensible data-driven model for valuating habitat, whereas the other maps/models assign categories of habitat quality based on expert opinion. There was consensus among the Science committee members to use the TAMU model for the GCP. Groce will email the committee a draft paragraph justifying use of the TAMU model. W.Connally suggested circulating the information via email and having the committee members conduct an official vote at the next meeting. Cary Dupuy also suggested voting officially at the next meeting so that the decision is clear in the administrative record.

Discuss straw man proposals

There was general discussion about determining biological objectives for the plan, related to the goal of maintaining viable populations throughout the range. Groce suggested making the objectives specific and measurable so as to assess whether the goal is being met and she provided options for defining those metrics. Regarding habitat, objectives could include maintaining a certain amount and distribution of habitat within a recovery region or within a county and providing specifications on patch size, configuration, and juxtaposition. Regarding populations, objectives could include maintaining certain levels of occupancy and/or abundance or establish minimum thresholds, and specify desired trends in reproductive success. Joe Grzybowski asked if there was anything in the literature about minimum population levels for the species. The GCWA recovery plan recommends maintaining a viable population in each recovery region, and subsequent population viability analyses suggested a viable population = 3,000 pairs.

Morrison suggested conducting a sensitivity analysis looking at best-case and worst-case scenarios relative to future impacts and habitat loss. Rather than trying to define minimum population levels, we can estimate the magnitude of change (habitat loss) over time and then decide whether that change is enough to cause concern. Wilkins suggested another approach could be to use the TAMU model to determine optimal focal areas to meet certain targets; i.e., create scenarios for conservation priorities. We could develop a tool to guide decision-

making for conservation, e.g., based on location, cost-effectiveness. K.Connally questioned how time-intensive it would be to develop and assess these different scenarios and Morrison replied it could take a few weeks.

Committee overlap

Maps of potential threats

Todd Snelgrove (IRNR) presented, via conference call, a series of map illustrating potential habitat threats within the GCWA range (see "GCP_Potential Habitat Threats_28Feb2012" PPT). The maps included population change between 1990-2010 and projected population change for 2010-2030; urban growth; change in rural working lands, population density; business permit activity; road density; nighttime illumination in 1992 versus 2009; and trends in land ownership size. Snelgrove identified conservation opportunities within the range, e.g., areas with larger landownership, low transportation infrastructure. Wind development is primarily north and west of the GCWA range and not currently within conservation opportunity areas. Clay Bales said TFS has data showing development projections several decades into the future that they use to guide where to spend their effort. We could use this dataset for the GCP and Snelgrove offered to contact Brad Barber (TFS project lead) about it. David Bezanson asked if there are datasets showing land prices and that this could be another layer to look at for prioritizing conservation areas. Wilkins mentioned the txlandtrends.org website, which includes spatially explicit market values. All this information can be overlaid on the TAMU GCWA habitat model and used to quantify threats and guide conservation actions.

Decision-making process

W.Connally and Kirby Brown presented the draft GCP Development Teams' Charter and Meeting Conduct document for discussion and review by the Science and Policy committees. Some of the document's content was based the Edwards Aquifer Regional Implementation Plan (EARIP) Operational Rules. The EARIP document is much longer and more detailed than we need, but we can add detail to the draft GCP document if necessary. This document will be important for the administrative record. W.Connally noted that if a topic is on the agenda, committee members should be prepared to discuss it, and when a vote is included on an agenda, committee members should attend the meeting and be prepared to vote. It may be helpful to allow committee members an alternate to ensure attendance. The goal is to reach consensus for all decisions, and if consensus can't be reach we'll move to a 2/3 majority vote. There was general discussion about what to add or revise in the draft document, though everyone agreed on the overall approach specified in the document. Dupuy and Groce will make the suggested revisions, send an updated version to the committees within a week for additional revisions, and send out a final version prior to the next meeting.

Structure of GCP, conservation strategy, etc

This agenda item was not discussed.

Policy

Timeline

Dupuy provided some updates on the overall project timeline, noting that the timeline given to everyone at the last meeting does not include the NEPA process and most of that process will occur in the second year. K.Connally said the public scoping component has to be done before a draft GCP is given to FWS. For public scoping, we would need to provide an overview of the project but not the details. This process makes the public aware of proposed federal actions and gives them an opportunity to provide input. Details on the date/time/location/topic for public scoping meetings need to be posted in the Federal Register at least 30 days in advance of the meeting. Wilkins noted that, when developing the GCP proposal, they were advised by the FWS office in Albuquerque, NM, to break the project into two phases and deal with the NEPA process in the second phase. K.Connally reiterated that developing EIS/NEPA in year 2 is fine, but the public scoping, by definition, has to be done before the draft HCP is completed.

Covered activities

Dupuy suggested dealing with covered activities in a subsequent meeting. Brown suggested it would be helpful for the committee to review the activities included in other HCPs. IRNR staff have already compiled that information.

Outreach

Dupuy reminded the committee that we discussed landowner surveys at the last meeting, but we may want to consider more of a grassroots effort with face-to-face discussions with landowners before distributing survey questions. We need to identify opportunities to start discussions with landowners. Because of the high number of counties in the GCWA range, Gene Richardson said one option would be to present information at a TFB field staff meeting and the field staff could then carry the message to their respective counties. The next field staff meeting is in May. Dupuy suggested identifying priority counties. Richardson and Mel Davis will draft an outreach message to be reviewed and approved by the Policy committee.

Dupuy reiterated the need to maintain transparency throughout the process of developing the GCP. The open meetings section in the draft charter may need to be revised and reviewed by lawyers. Brown suggested getting information up on a website will help and Groce reminded the committee that TAMU is working on the website for the GCP which will be ready soon.

Groce will send doodle polls to the committees to set meeting date for the next 3-4 months.

Meeting participants

Science Committee members:

Leonard Brennan, TAMU-Kingsville
Jim Giocomo, American Bird Conservancy
Joe Grzybowski, UCO
Cal Newnam, TXDOT
Nathan Rains, TPWD

Plan Development Team:

Cary Dupuy, CPA
Julie Groce, IRNR
Michael Morrison, TAMU
Justin Tatum, TWMMF
David Wolfe, EDF

FWS Lead:

Kevin Connally

Support staff:

Andy Campomizzi, IRNR
Shannon Farrell, IRNR
Meghan Hope, CPA
Katy Smith, TAMU
Todd Snelgrove, IRNR

Science Committee members unable to attend: Susan Baggett (NRCS)

GCP framework and goals

Julie Groce updated the committee on the current plan to create two separate but parallel documents – a General Conservation Plan and a separate crediting system. The GCP and crediting system will focus on the golden-cheeked warbler and the black-capped vireo. The crediting system will be modeled after the Recovery Crediting System (RCS), and will function as separate and independent crediting market. The crediting system will also be available to other interested Habitat Conservation Plans and entities. The goals and objectives for the GCP and crediting system will be slightly different.

Covered Species and Plan Area

Groce distributed the updated list of petitioned, proposed and listed species occurring within the GCP area. There are approximately 100 species of concern that occur within the plan area, and about half of them are federally listed or candidate species. About half the species have a limited range within plan area. The plan may need to consider beneficial actions for species occurring within plan area such as implementing best management practices, minimizing impact, etc. Kevin Connally suggested that the committee look at the species list on a county by county basis. He mentioned that the karst species (Table 2 of species table handout) all occur in counties likely to have HCP's in the near future and may not need to be covered in the GCP.

Groce stated that there are several species of concern occurring in woodland and shrubland areas (i.e., GCW and BCV habitat) but they are only in the southern part of GCW range. Groce explained that even if a species occurs in a county within the GCP area, the species' exact range within that county may not overlap with the distribution of GCW or BCV habitat. However, we may need to consider the bracted twistflower because there is concern that GCW management is detrimental to the twistflower.

Connally explained that plants are treated differently than other species under the Endangered Species Act (ESA). Plants are addressed under Section 7 of the ESA, and any federally funded programs or actions, such as HCPs and GCPs, would require a Section 7 consultation process. The GCP should be as inclusive as possible regarding plants, as well as other types of species, to assure that actions under the GCP will not affect plants and to avoid future delays in this process. The committee was in general agreement about not including species other than GCW or BCV as covered species in the plan, although we may need to revisit the topic once covered activities are finalized (covered activities may impact species other than GCW or BCV, e.g., development of roads over waterways).

Groce explained that 35 counties in Central Texas are considered the main breeding areas for the GCW. Jack, Young, and Dallas counties appear to contain a small amount of GCW breeding habitat, and USFWS recently included Tom Green County in the warbler's potential range. In a previous meeting the committee discussed which counties to include in the GCP's plan area. Omar Bocanegra (FWS) had previously recommended not including Dallas County because the GCW is not currently known to breed there. Michael Morrison suggested the plan should be more inclusive rather than exclusive, i.e., be able to cover take anywhere there's habitat rather than excluding areas based on limited occurrence records. There was no disagreement among the committee that being inclusive early on would be the best option.

The committee had previously decided to include counties with existing HCP's, but not necessarily offer take coverage for those counties. This will likely be simplest way to handle these counties. The HCP's for Comal and Bexar counties are not finalized, but we should know about one of those plans within next six months to year. Connally recommended making a distinction between "permit area" and "plan area" in the GCP, with a permit area being the area in which take would be permitted and the plan area being the area in which conservation activities could occur. In the case of the GCP, the plan area could include all 38 counties with potential GCW habitat while the permit area could be the 33 counties in the plan area that do not have existing or developing HCPs.

Review maps, overlay of threats and TAMU habitat model

Todd Snelgrove discussed TAMU's estimate of GCW habitat loss through 2050 using the TAMU warbler habitat and the EPA land use model. The EPA developed a model of land use scenarios through 2100 under different population growth projections, including future housing density and impermeable surface cover associated with development. The "A2" storyline represents the highest projections of population growth (high fertility, high immigration); the "BC", or base case, storyline represents standard projections made by the U.S. Census Bureau. Spatial resolution for housing density is approximately 100m² while impervious surface resolution is about 1km². The overlay of TAMU's habitat model on the EPA's development projections suggests a loss of about 300,000–360,000 acres of GCW habitat, with the majority of loss occurring along the I-35 corridor where HCP's are in place or being developed; very little development is projected in rural areas now through 2050.

There was general discussion about the projected loss of habitat and questions about the EPA model. Jim Giocomo pointed out that the map does not show impervious areas on military lands. A national model developed by University of Wisconsin is being used by numerous joint ventures and may be one for us to consider for future development projections. EPA estimates include housing/commercial development and related impervious surfaces, but does not include possible future transmission lines, pipelines, oil wells, or large highways. David Wolfe noted that we need to consider those other impacts in some way, even if we can't quantify where and how much the impact may be. Wolfe asked Connally if we need to specify impact and associated acreage in the GCP, pointing out the need for some amount of flexibility in the plan to cover future unknown impacts. Connally said we'll need to quantify the amount of take but may not need to specify in the plan exactly where the take will occur. Groce said one criterion for an HCP is demonstrating that the requested take would not reduce the likelihood of species recovery; we'll need to show the baseline of habitat loss projected over time, along with how much habitat may be protected, with and without the GCP being implemented. Connally noted the state parks and conservation areas delineated in Snelgrove's presentation may not always be protected and that we hadn't included in the map areas that were purchased through existing HCPs and that will be conserve in perpetuity (e.g., BCP properties). We may want to adjust map to show these issues.

Biological information needed for range-wide credit market

David Wolfe presented a strawman document for the committee to discuss, titled "Possible Approach for Quantification of Credits for Central Texas Habitat Credit Trading Market – Golden-cheeked Warbler and Black-capped Vireo". A crediting system is a means by which one can mitigate impacts and can be an option within the GCP to meet the plan's goals. The document is intended to help stimulate discussion and is just a starting point. It is likely that the credit system will have a different set of goals and objectives separate (and possibly broader) than those of the GCP, although there will be some relationship between

the two. Connally stressed the goal for the GCP should be tied to what is achievable over the term of the permit and based on the amount of take requested. Wolfe explained that the credit system could be used by participants in the GCP or by other entities with their own HCPs

Wolfe suggested that defining focal areas is one possible way to identify priorities for conservation action, places where credits may be generated. Conservation priorities and minimal thresholds (e.g., number of birds) may be different by recovery region. He explained that typical way to calculate credits in conservation banking is to equate 1 acre of a species' habitat (e.g., GCW) to 1 credit. However, maybe we can develop a credit value that is more adequate or biologically appropriate for this credit system, in which the credit has some relationship to the quality of the land rather than just acreage; i.e., 10 acres of one type of habitat may be better than 20 acres of another type. For example, Mike Marshall, a recent master's student at TAMU, found ecosite helped explain variability in GCW productivity on Fort Hood, and that may be an attribute we could use to evaluate objectively the quality of GCW habitat. Leonard Brennan noted we'll need a defensible definition for habitat quality. Shannon Farrell suggested we use TAMU survey data to look at trends in occurrence or reproductive success relative to habitat characteristics and develop defensible credit values. We need a relatively simple calculation for credits so it can be understood by everyone involved, including landowners, but still reflect the species' biology.

Another option for credit calculation could be to include the protection status of neighboring properties in a patch (for GCW); i.e., a landowner that wants to use his land for mitigation may receive more credit value if his property is adjacent to land that is already protected or managed for the species. However, Giocomo we don't want to inadvertently discourage landowners who are the first to sign up their property in a large habitat patch. We could also allow for landowners to increase their credit value through implementation of certain management activities.

For the RCS, credit amounts were rounded up for take and rounded down for mitigation in 20-acre increments: if Fort Hood needed to take 52 acres, it was rounded up to 60; if a landowner had 30 acres of habitat to be used for mitigation, it was rounded down to 20 acres. This bothered landowners and Wolfe suggested using 5-acre increments for the GCP. Farrell asked about delineating habitat and whether supporting habitat can be considered. Wolfe explained that one reason behind rounding up/down was to be conservative when estimating habitat because we can never delineate habitat exactly. He noted the committees will need to establish a protocol for delineating habitat for the GCP and credit system; the protocol will need to be reasonable with regards to cost and time invested. If we invest too much in determining the credit value, it negatively impacts the system.

The conflict between managing for GCW and BCV at the same time could be an issue when it comes to credit value. Joe Grzybowski noted that a debit for GCW may be a credit for BCV. Katy Smith asked about restoration opportunities, or maintaining areas that could become habitat in the future. It's difficult to find the right kind of incentives for people who have "not-quite-habitat" habitat. Wolfe said you do not want to get into a situation where you are crediting take on existing habitat with habitat that is not equivalent to the take. Connally said we can give recommendations for landowners to manage land so that they can qualify at a later time.

Wolfe will rework the document to incorporate the committee's discussion and using IRNR tools and data to develop credit valuation. Groce asked what else he will need from committee to move forward with credit system. Wolfe said they will need to dig into the details regarding patch size, distribution, etc., as a committee; committee members should call or email him with questions and points to add to strawman.

Groce commented briefly that the Policy Committee did not meet March 26 as originally scheduled and they will try to reschedule the meeting for some time within the next 1-2 weeks. The next meeting for both the Science and Policy Committees will be on April 24.

Location: CPA Office, 1711 San Jacinto Blvd, Austin, TX 78701

Meeting participants

Policy Committee members:

David Bezanson, TNC
Kirby Brown, TWA
Mel Davis, TSSWCB
Gene Richardson, TFB
John Davis, TPWD (Alternate, attended by phone)

Plan Development Team (PDT):

Cary Dupuy, TCPA
Julie Groce, IRNR
Michael Morrison, TAMU-College Station
Justin Tatum, TWMPF
David Wolfe, EDF

FWS Lead:

Kevin Connally, FWS

Support Staff:

Andy Campomizzi, IRNR
Shannon Farrell, IRNR
Robert Gulley, IRNR (attended by phone)
Meghan Hope, TCPA
Katy Smith, TAMU-College Station

Committee members unable to attend:

Wendy Connally, TPWD

Agenda items were discussed slightly out of order due to lack of quorum at the start of the meeting. Items requiring decision-making action were discussed after a quorum was present.

GCP Framework and Goals

Cary Dupuy updated the committee on the current plan to create two separate but parallel documents – a General Conservation Plan (GCP) and separate crediting system. The crediting system will be referred to in the GCP but will be a stand-alone document so that entities not involved with the GCP can still participate in the crediting system. The crediting system may have utility and benefit beyond that available under the GCP. For example, if an entity has federal funding and is not able to participate in the GCP, it would still have the option of fulfilling its mitigation requirements through the crediting system. Kirby Brown pointed out that we do not want to come to the end of the GCP and not have the crediting system ready. David Wolfe said that is one reason why we are separating it from the GCP. The crediting system can be developed at a faster pace than the GCP, which will take at least a couple of years to complete.

Presentation Regarding Habitat Conservation Plans

Dr. Robert Gulley provided an overview of the various requirements for an HCP. A GCP is an HCP and must meet the issuance criteria for HCPs, with the primary difference being that a GCP is prepared by the U.S. Fish and Wildlife Service (FWS). Under a GCP, additional work is triggered by FWS obligations under Section 7, which applies to all endangered species and not just those specifically covered by the GCP. He recommended that we focus on impacts of incidental take that will remain after the plan is implemented; FWS will need to determine that the plan, when implemented, does not appreciably reduce the likelihood of survival of any species, whether or not they're listed as covered species in the plan. The Biological Opinion (BO) will have to consider all listed species occurring in the plan area and evaluate the impacts of covered activities on those species. Although Section 9 of the Endangered Species Act does not apply to plants, and thus plants are not subject to traditional take analyses, the BO will still need to show that the GCP is not jeopardizing the survival of listed plant species. The BO will need to consider all covered species, "evaluation species" (e.g., species that may be included in the GCP as covered species if they become listed in the future), and all listed species affected by covered activities.

The National Environmental Policy Act (NEPA) process will take into consideration all potential environmental impacts. Given the scale of this project (i.e., number of counties included in plan area), this could be a long and complex evaluation, which reemphasizes the benefit of moving forward with the crediting system separately.

Public Scoping Timeline

Gully said the public scoping (which is different than the NEPA document itself) needs to be completed early in the process before decisions are made. Public scoping involves having several public meetings throughout the plan area to explain what a GCP is, providing a general idea of what this GCP may encompass, and soliciting the public's comments. The public scoping process does not require having a contractor on board or starting the NEPA process. Kevin Connally noted that once the public scoping is announced in the Federal Register, there will be a 45 day comment period during which the public meetings will occur; people can provide comments either at the meetings or through regulations.gov. Public scoping meetings for the Edwards Aquifer Recovery Implementation Program (EARIP) were held in several locations across the region. The EARIP Implementing Committee also hired a company to create a website, separate from the regulations.gov site, to allow the public another way to submit comments. This website became part of the public record. Gully said we will need a court recorder to attend and transcribe the public scoping meetings and will also need to print notices in local newspapers.

Julie Groce said we'll aim to set up the scoping meetings over the next few months and to start holding them in the summer. Connally suggested sharing with the committee some examples of previous Federal Register notices announcing public scoping meetings. FWS will also post the Federal Register notice on its website. Connally estimated it will take about 6 weeks to get the announcement published in the Federal Register once he has the document on hand.

Gully said the biggest task will be to determine locations for the meetings and the number of meetings. We will not need specific locations right away; just selecting the cities would be sufficient at this point. Connally said the EARIP held seven meetings in the largest areas for stakeholders. Connally explained there is no standard requirement regarding the number of meetings, but there should be enough to give the public enough opportunity to participate. The policy committee should focus on outreach work as soon as the meetings are set.

Groce said she will put together a list of possible towns for the scoping meetings and share it with the committee for feedback. TAMU has funding through its Section 6 grant that can be used to cover costs relating to the public scoping process. Based on EARIP costs for public scoping, Gully estimated the cost be \$1,000 per meeting, including newspaper ads and court reporters. Most venues for the EARIP were donated. Brown suggested we hold meetings in San Antonio, Austin and Waco to reach the hill country. Dupuy asked the committee to begin thinking about appropriate outreach messaging. Gene Richardson suggested we develop a timeline for the public scoping process. Connally said the committee should draft the general language for the Federal Register notices and then he will review and help translate into appropriate FWS language. Groce will work on both an estimated timeline and draft language for the notice.

Review and approval of minutes from previous meetings

Meeting minutes from the previous 3 meetings (7 Dec 2012, 20 Jan 2012, and 28 Feb 2012) were reviewed and approved by the committee, now that a quorum was present. Brown motioned to approve the minutes and Mel Davis seconded the motion. The minutes were approved with no changes.

Review and Finalize Committee Decision Making Process

The committee reviewed the current drafts of the Conduct of Meetings and Decision Making Process and GCP Participation Charter documents. The charter is a framework that discusses the roles of the committees as well as other stakeholders and participants. The meeting conduct document explains how the committee will run meetings, including the establishment of alternate members. Brown suggested that alternates attend meetings on a regular basis to ensure they are up to date. He also suggested rewording the purpose statement to stress the opportunity for voluntary conservation on private land. Brown will distribute some ideas on revised language to the committee for feedback. The language on the GCP website will need to be updated accordingly. Groce will have the committee review the website before it goes live.

Brown suggested establishing special task committees to achieve consensus when the full committee is unable to do so. If the special task committee is not able to come to consensus, then the issue should be put to a vote. We should remove the word “require” from the Approval of Decision Making Action section. Voting should be conducted by members only. The committee suggested distributing background information for action items at least 10 days before a meeting but at least 3 days for special items. Once we have stakeholders, the committee may need to regroup to discuss how to handle stakeholder participation. The document should be updated to say we are “generally” following the open meetings act. A separate line should be added for the NEPA process. Dupuy said we will revise the documents and take action on them at the next meeting.

Species Covered under the GCP

Groce distributed the current spreadsheet of listed species and species under review. She removed from the spreadsheet the species that occur in counties that already have or are developing HCPs, leaving about 60 species to consider. Brown pointed out that it may be premature to ignore counties that are still developing their HCPs (e.g., Bexar County) in case the final HCPs change drastically from their current drafts. There are listed species that no longer exist in Texas, or for which FWS does not have county level data, that we may be able to remove from the spreadsheet; in addition, there is an existing process to address whooping cranes and transmission lines, so we may not need to deal with this species under the GCP. David Bezanson asked whether we need to consider state-listed species that do not have a federal status. Connally said many state species of concern will not rise to a federal level. Connally also noted that determining covered species depends on the covered activities; covered activities dictate what habitats (and therefore species) may be impacted. Both Science and Policies committees will be able to provide recommendations about covered activities.

Connally suggested we consider the usability of the GCP. We want the plan to accommodate as many groups as possible but at what point does a person/entity need to go to another tool that more closely matches their needs? If a project occurs across several different habitats, then the owner may have to deal with several different species. We need to decide if we want to offer coverage for all those species and thus make it easier on the owner. If we don't provide a pathway for covering more than just the warbler and vireo, the GCP may not be a useful tool for many. Brown suggested we focus on what may be needed by rural communities and counties rather than individual landowners.

Overview of Range-wide Credit Market

Wolfe provided an overview of the potential credit market, proposing to create a Central Texas Habitat Credit Trading Market Agreement. This concept is borrowed from conservation bank agreements with FWS, only on a larger scale. Brown and Richardson pointed out that conducting reverse actions to purchase credits from qualified landowners is helpful. M. Davis asked what models exist for good credit systems, and Wolfe said the RCS is a good example with the most transactions. Wolfe said he will bring a more sophisticated model, including showing how credits are verified and tracked, for the committee to review at the next meeting.

Connally pointed out that credits will be needed before we have any debits as we need to maintain a positive balance. FWS will always have a role in the process and will ensure take is adequately mitigated through the credit system. Wolfe noted that there is a lot of expertise within the Plan Development Team to write the credit system agreement with some legal help.

One key step is putting together a budget to cover expenses. Wolfe presented an estimated baseline budget that he and Justin Tatum put together. The draft estimates for transactions and income are based on what was done for the RCS, and can give a sense of the starting and ongoing costs. Growth of the system will depend on demand. We need to look at different models on how to keep down the costs of program administration.

Brown said we should keep an open market with regards to cost per acre, but will need to set a minimum; i.e., a minimum value to cover administrative costs and then competitively bid on top of that. Richardson noted the credit system could offer opportunities to people who might be interested in banking but don't have the acreage or money to do so on their own. Bezanson noted the demand will be driven by big clients, and may be feast or

famine. Katy Smith asked if there is concern that smaller counties or towns or local communities won't be able to outbid larger companies. Richardson said it's likely that supply will continue to meet demand.

Wolfe said term agreements (e.g., 20 or 30 year contracts) could be similar to those under the RCS and will need to be contemporary with take. Connally asked if we know how many years it takes to regenerate GCWA habitat. Connally said we will need to figure out the concept of temporary take with the FWS because FWS currently has no definition for temporary take and there is no mention of temporary take in statutes or regulations. Wolfe said the only example is the RCS, in which there was temporary take for thinning on Fort Hood. This is a new issue and could slow down the development of a credit system agreement since it may require a policy decision from FWS.

Location: TPWD, 4200 Smith School Road, Austin, TX 78744

Meeting participants:

Policy Committee members:

David Bezanson, TNC
Kirby Brown, TWA
Wendy Connally, TPWD
Mel Davis, TSSWCB
Gene Richardson, TFB

Plan Development Team (PDT):

Cary Dupuy, TCPA
Julie Groce, IRNR
Michael Morrison, TAMU-College Station
Justin Tatum, TWMPF
David Wolfe, EDF

FWS Lead:

Kevin Connally, FWS

Support Staff:

Andy Campomizzi, IRNR
Shannon Farrell, IRNR
Meghan Hope, TCPA
Katy Smith, TAMU-College Station

Other Participants:

Dr. Robert Gulley, IRNR

1. Final review and approval of GCP meeting charter and conduct

Cary Dupuy said the PDT will distribute the GCP meeting charter and conduct before the next policy meeting for the committee's final review and approval. Although the overall content of the documents is fine, Dupuy, Julie Groce and Kirby Brown are currently fine-tuning some of the language. Groce said she distributed a doodle poll to schedule the next policy meetings in June and July/Aug.

2. Public scoping process: Discussion of locations, estimated timeline, news outlets

Regarding the public scoping process for the GCP, Groce explained the current plan is to hold about 6-7 meetings throughout central Texas in mid-July and/or August. Groce is working on the Federal Register notice, which she will submit to Kevin Connally in a few weeks to finalize. The plan is to finalize the notice and ideally have it submitted to the Federal Register by late May. It will take 6 weeks from the time of submission for the notice to be published, followed by a 45-day public comment period. We will hold the public scoping meetings during the comment period. Groce requested the committee's feedback on the potential locations for these meetings. She suggested not having scoping meetings in Austin, San Antonio, so as to distinguish between the GCP and existing or developing HCPs in those counties. Wendy Connally pointed out that even if an HCP exists in a county, the GCP will still be an available option. David Wolfe said the crediting system will also be an available mitigation tool for those counties. As to whether or how we include counties with existing or developing HCPs in the GCP, Dupuy suggested asking for public feedback on this issue during the scoping process.

There was general discussion on potential locations for scoping meetings across the range and the creation of a one-pager for landowners and organizations. It was suggested that we hold scoping meetings in areas that will have the most need for the plan, and include areas that primarily need take coverage along with areas that may primarily offer mitigation opportunities. Gene Richardson said we need to ensure landowners and county commissioners support the GCP. Shannon Farrell suggested we consider areas in northern Texas as there are signs of growth from oil and gas beyond the I-35 corridor. Committee members also discussed providing additional outreach information and posting information in about the scoping meetings in monthly publications, if possible given publishing deadlines.

Groce noted that the PDT will work with K. Connally on the Federal Register notice and will work with the committee on any GCP 1-pagers or other outreach material. She distributed a draft 1-pager that includes a general description of the GCP and will email a copy for the committee's review and feedback.

Groce said some of the PDT members will attend the public scoping meetings and may request volunteers from the Policy or Science committees who have experience in a particular geographic location. However, the public scoping process is primarily a PDT responsibility. W. Connally suggested setting up information stations around the meeting room with staffers at every other table or poster. Staff should provide unbiased information (i.e., not promote the plan) and instructions on how the public can best provide feedback. The public will have choice of submitting written comments or providing oral comments at the meeting. K. Connally stressed that public scoping meetings are not hearings with presentations or time limits on comments; rather, they are similar to an open house. K. Connally will provide samples from other public scoping meetings. Groce said the meetings will take place in the evenings. K. Connally said the meetings can be held any time throughout the 45-day comment period; in addition, FWS will still fully consider comments received after the official deadline.

3. Activities covered under GCP

Dupuy reminded the committee of information provided at previous meetings regarding activities that will likely result in loss of habitat and where those activities may occur in the warbler breeding range. In addition, we recently compiled information from the Comptroller's Office, based on the latest available Economic Modeling Specialists, Inc. (EMSI) data, on current economic activities and industries located within the potential plan area, with the likely next step of showing future trends of these activities and industries. Dupuy distributed handouts that presented this information by county to help the committee think about the possible impacts of the activities. The group asked for definitions for the activities listed in the handout, along with some explanation of how a given activity would actually result in take. W. Connally suggested considering wind development especially in the north and northwest; she noted that the TPWD environmental review group gets monthly information about CREZ and areas with increased potential need for conservation, which may give some insight regarding future potential for wind development. Groce will contact Julie Wicker with TPWD for information. It was noted among meeting participants that there are still many unknowns regarding possible wind or oil and gas development in central Texas over the next few decades. K. Connally suggested we may not want to include a particular activity in the plan if there are too many unknowns about it.

There was general discussion about what activities to include and how they may be worded in the plan. W. Connally suggested we include "power generation and transmission" as covered activities rather than specifying oil, gas, and wind. While the handout is helpful in understanding what industries are prevalent in a county, committee members pointed out that what's more important for the GCP is the on-the-ground action(s) that go along with a particular industry, such as building roads. Maps of land use may help with this [such maps were provided by Todd Snelgrove at a previous meeting]. K. Connally noted that, with regards to the associated impact analysis, we'll need to also look at the context in which take is occurring (e.g., size of impact, location in the breeding range). Farrell suggested considering what activities should be excluded rather than which ones should be included. We'll also need to consider rural activities under the GCP. Dupuy said we'll develop a list of core activities and definitions of those activities and send to the group for review before the next meeting. Dupuy asked K. Connally if we need a list of activities for the public scoping meetings; he said we can have a general list of what activities we anticipate covering in the plan, but stress with the public that we want feedback from them about what they think the GCP should cover.

4. Range-wide credit market

David Wolfe presented a draft concept for a regional habitat credit trade agreement based on the conservation banking agreement (CBA) template. We should get a trade agreement in place with FWS so landowners can generate and sell credits to offset impacts. The main idea with this template is to bring it to a broader spatial scale and make it easier for landowners to participate in conservation banking. Under a CBA, landowners would have to determine the baseline conditions on their property (e.g., amount or quality of habitat) and establish agreed-upon terms before selling credits. While there would be an overarching agreement with basic or general information, specifics associated with individual properties would probably be included in separate documents. The agreement should provide a consistent, streamlined process for landowners and credit sellers with centralized management and monitoring. We should keep in mind that the agreement could be used as a model

for other species. The agreement will include some sections found in the standard CBA template such as processes for verifying credits, program administrator responsibilities and financial assurances. W. Connally pointed out that there is a difference between preservation and creation of habitat. Wolfe said the science committee will need to determine how to handle preservation versus creation of habitat. We need to look at the system from a long-term perspective and develop incentives for landowner participation. K. Connally suggested making the conservation banking material available on the GCP website. Wolfe said the appeal of this broad-scale approach is essentially economy of scale; that is, working at a large scale with a large number of transactions with a centralized administer could help decrease the costs associated with management and monitoring properties once they're under easements. Wolfe will continue working on the draft along with an ESA lawyer and input from the committee. W. Connally suggested we talk with Charlotte Kucera who is the FWS banking lead for the state. Wolfe will share a revised summary of the agreement with the committee for feedback in about one month so the committee has a few weeks to review before the next meeting.

Meeting participants

Science Committee members:

Leonard Brennan, TAMU-Kingsville
Jim Giocomo, American Bird Conservancy
Cal Newnam, TXDOT
Nathan Rains, TPWD

Plan Development Team:

Julie Groce, IRNR
Michael Morrison, TAMU
Justin Tatum, TWMF
Matt Wagner, TPWD
David Wolfe, EDF

FWS Lead:

Kevin Connally

Support staff:

Andy Campomizzi, IRNR
Shannon Farrell, IRNR
Meghan Hope, CPA
Katy Smith, TAMU

Science Committee members unable to attend: Susan Baggett (NRCS), Joe Grzybowski (UCO)

Update on GCP charter and conduct, Review and approval of minutes from previous meetings, Review and approval of TAMU model use and justification

Julie Groce provided a brief update on the GCP charter and conduct. Although the original intention was to have the charter and conduct documents finalized during the morning's Policy meeting, Groce and Cary Dupuy were still anticipating additional revisions from a couple Policy members. Kevin Connally recommended the committee hold off on final approval of the meeting minutes and A&M model until the conduct document is complete. Leonard Brennan expressed concern over the delay of conduct document, resulting in continued delay of the Science committee moving forward with decisions, and questioned whether we could include a provision in the conduct document to allow for voting by email or conference call. Groce said she would discuss that option with Dupuy and others and finalize the documents as soon as possible. Once approved, committee minutes may be posted on the GCP website. Julie expects to have the draft website ready for the committee's review within the next few weeks.

GCW and BCV conservation strategy by recovery region

Shannon Farrell and Andy Campomizzi briefly reviewed maps of potential threats to golden-cheeked warbler (GCW) breeding habitat, including current oil and gas activities, potential locations for future oil/gas and wind energy development, oak wilt, cattle, and fire risk (see "Presentation_2012_04_24" PPT). These threats are in addition to the EPA development projections [discussed during March 27 meeting], which only include changes in housing density and impervious surfaces. Oil/gas impacts may encroach in the northern part of the GCW range whereas wind impacts may occur in the north or west part of the range. Mike Morrison suggested assessing wind duration in addition to speed to get a better sense of where wind development may occur. Information may be available through the American Wind Energy Association, National Renewable Energy Laboratory, and National Wind Coordinating Committee. Subsequent slides showed plots of projected habitat loss and warbler abundance estimates to initiate discussions of where and how best to allocate resources for mitigation. Range-wide abundance estimates were derived using 0.23 males/ha, as per Mathewson et al. 2012. Recovery goals (i.e., 24,000 pairs range-wide) were based on the FWS recovery plan and 1996 population viability analysis [see USFWS 1996]. The slides also indicated number of birds on currently "protected" lands, including federal, state, and city properties that have some type of wildlife management goals [see Groce et al. 2010]. Connally explained that there's no guarantee that state parks will always manage for wildlife (e.g., properties may be sold in the future), so we may want to show different categories of protected lands versus lumping them all together.

There was general discussion about the slides and implications of the data. Farrell noted that the recovery goals, as defined for the slides, may not be attainable given current estimates of take and may not be appropriate as GCP goals. Region 1 is unlike most other regions in having relatively low warbler numbers and few “protected” areas. Regions 7 and 8 are not impacted in the urban growth scenarios, although oak wilt is a concern in Region 7. One option for mitigation could be to mitigate as close to the take as possible; another option could be to focus instead on recovery goals, i.e., if recovery goal is met in Region 5, perhaps direct mitigation elsewhere so as to avoid possible contraction in the species’ distribution. We could have a goal of maintaining protection across the range rather than focusing only in rural areas. Campomizzi noted that there is a lot of habitat and relatively low risk in Regions 7 and 8 and questioned whether it’s worth putting resources towards protecting habitat there in the near future.

The next group of slides that Farrell and Campomizzi presented showed graphs of probability of warbler occupancy by patch size and canopy cover along with fledgling success. Data for the graphs were derived from recent Texas A&M research. This information can help establish mitigation standards or priorities. There was general discussion and questions raised following the presentation of this data. Due to there being fewer large patches and lower overall occupancy probability in Regions 1 and 2, we may want to develop different standards for mitigation in those regions versus the other regions. It was suggested we look at the data categorized by urban versus rural patches to see if the patterns in the graph would still hold true. While in general it appears that patch size is more important for GCW occupancy than canopy cover, it was also suggested to separate canopy cover by patch size as that might show other patterns (vs the current graphs that show no relationship between canopy cover and occupancy probability).

Farrell then listed 5 broad options of potentially appropriate GCW conservation strategies based on past conversations (see “Draft strategies” word doc). Connally reminded the committee members that the FWS recovery plan endorses maintaining enough habitat for self-sustaining populations per recovery region, so it might be better to focus more on that rather than the 3,000 pairs estimated in the PVA. We could make an ecological argument for mitigation occurring away from the take depending on the circumstances. Groce suggested that, given the acreage of habitat and potential impacts, maybe we start protecting habitat in Regions 1 and 2 in the near future regardless of where take occurs in the range. Cal Newnam and Brennan questioned whether it would be worth conducting a PVA or genetic analysis for the GCP to help establish effective population sizes and other parameters. Connally said that Jeff Hatfield, with the USGS Patuxent Wildlife Research Center, is currently working on a range-wide PVA for GCW; Hatfield’s data excludes the wildlife refuge and BCP properties as PVAs are being conducted for those properties under a separate contract with FWS. Groce offered to follow up with others at IRNR to find out where Hatfield is in the PVA process. Connally suggested that, in the context of the GCP, we identify data gaps and build some of that into the adaptive management process; i.e., make the research and analyses a component of the program. It was questioned whether we could use mitigation fees towards research and monitoring rather than land acquisition; e.g., Regions 3 and 5 have relatively good protection of habitat, so could we shift mitigation to other actions besides acquiring more habitat. Connally replied that we do need some of the funds to go towards monitoring (e.g., compliance) but can’t have mitigation funds used for hiring of research assistants. It was also noted that an updated PVA may show that the problem for the GCW is actually on the winter range rather than in Texas. Farrell will work on a hierarchical strawman proposal for GCW conservation.

Range-wide credit market

David Wolfe briefly presented a few slides developed by the Willamette Partnership describing how to build reliable and meaningful metrics (see “WP_USDAconference_April2012” PPT). We’ll want to consider rapid visual assessments, both on site and landscape level; matching the credits and debits (e.g., can’t destroy a highly productive site and mitigate with a low productive site); create incentives for debits to occur on low-quality sites. Wolfe will work on additional ideas for the credit calculations and share that with the committee at the next meeting, which is May 29.

Meeting participants

Science Committee members:

Susan Baggett, NRCS
Russel Castro, NRCS (alternate for Susan Baggett)
Jim Giocomo, American Bird Conservancy
Joe Grzybowski, UCO
Cal Newnam, TXDOT

Plan Development Team:

Cary Dupuy, CPA
Julie Groce, IRNR
Michael Morrison, TAMU
Justin Tatum, TWMF
David Wolfe, EDF

FWS Lead:

Kevin Connally

Support staff:

Andy Campomizzi, IRNR
Shannon Farrell, IRNR
Meghan Hope, CPA
Katy Smith, TAMU

Science Committee members unable to attend: Leonard Brennan (TAMU), Nathan Rains (TPWD)

Review and approval of minutes from previous meetings – 8 Dec 2011, 19 Jan 2012, 28 Feb 2012, 27 March, and 24 April 2012

Minutes from all previous meetings passed with no disagreement by Science Committee members.

Review and approval of TAMU model use and justification

Use of the TAMU golden-cheeked warbler model in GCP-related analyses passed with no disagreement by Science Committee members.

GCP structure, components, and functionality

Kevin Connally presented additional background information regarding HCPs and decision-points that need to be addressed during GCP development (see “GCP for GCWA” slide show for details). He discussed how the process might work for an applicant seeking an incidental take permit through the GCP and what types of questions would need to be answered by the applicant to determine whether the GCP is the right tool for them.

GCP impact analysis (Kevin Connally)

Connally provided some general information about the impact analysis that is needed in the GCP. He explained that not all projects have the same direct or indirect impacts (e.g., 100-ac of single homes versus 100-ac subdivision versus 100-ac commercial area), and that we will need to consider the long-term use of the property and the impacts of that use over time. Understanding these impacts will help determine the appropriate mitigation (e.g., activity A with impacts of B and C will have to do X to mitigate those impacts). We may need to use information in the literature for similar species if data specific to GCWA and BCVI is insufficient. Creating a rigorous adaptive management strategy will help inform what is currently unknown about impacts and lead to more accurate and effective assessments of take, mitigation, and management. An assessment of cumulative impacts will need to be built into the GCP.

GCW conservation strategy

Shannon Farrell presented an option for a conceptual framework of how to prioritize mitigation or conservation efforts across the plan area based on the threats and opportunities in each recovery region (see “GCWA strategy_052912”). This option suggests prioritizing regions with low abundance, low amount of protected areas, and moderate-to-high threats as areas in which we focus conservation efforts. Jim Giocomo questioned why we would prioritize areas with low abundance and whether it’s more

appropriate to first determine why those areas have low abundance before trying to protect or manage the areas. Farrell said prioritizing those areas may help avoid range contraction and it may be more beneficial to the species to shift conservation focus away from high-abundance areas that are not under immediate threat. The prioritization of recovery regions would change over time as information about protected lands and threats is reviewed and revised. In addition, the priorities would only help guide where conservation activities should occur; actual on-ground conservation efforts will ultimately depend on where the potential for conservation and management exists (e.g., willing landowners).

There was brief discussion about possible mitigation options for specific projects, such as using conservation banks, a credit system, or paying into a fund. This will be discussed in more detail in future meetings.

BCV conservation strategy (Katy Smith, Andy Campomizzi, IRNR)

Andy Campomizzi reviewed threats to BCVI and its habitat and current status of the species (see “BCVI_052912”, slides 1–20). He also briefly explained the TAMU BCVI occupancy model and how potential future loss of habitat was determined using the EPA land use scenarios [these scenarios were first discussed at the Science meeting on 3-27-12]. He discussed an approach to prioritizing conservation by recovery region similar to that for GCWA, based on known population estimates and threats.

Katy Smith then presented ideas for what BCVI mitigation might consist of in the GCP, which may not be as simple as protecting BCVI habitat as mitigation for incidental take (see “BCVI_052912”, slides 22–30). With regards to gaining credit for enhancing habitat on existing protected lands, Connally noted that there may be regulatory challenges if land that is already set aside for one conservation purpose is used for another conservation purpose. There was general discussion about whether we could focus more on a project- or activity-driven approach to BCVI conservation and mitigation rather than, or in addition to, land acquisition; i.e., provide credit for management activities that maintain or increase BCVI abundance.

Updates and next steps (David Wolfe, Julie Groce)

David Wolfe provided a brief update of the ongoing development of the credit market agreement, the effort for which is being led by EDF. Julie Groce will work on a summary of several GCP components discussed to-date to facilitate decision-making at the next Science meeting, which is June 26 in Austin.

Location: TSSWCB State Headquarters, 4311 South 31st Street, Temple TX 76502

Meeting participants:

Policy Committee members:

Kirby Brown, TWA
Wendy Connally, TPWD
Mel Davis, TSSWCB
Gene Richardson, TFB

Plan Development Team (PDT):

Cary Dupuy, TCPA
Julie Groce, IRNR
Justin Tatum, TWMF

FWS Lead:

Tanya Sommer, FWS (alt. for Kevin Connally)

Support Staff:

Andy Campomizzi, IRNR
Shannon Farrell, IRNR
Meghan Hope, TCPA
Katy Smith, TAMU-College Station

1. Review and approval of minutes from previous meetings – 9 April 2012 and 24 April 2012

Minutes from 9 April 2012 and 24 April 2012 meetings passed with no disagreement by Policy Committee members.

2. GCP structure, components and functionality

Julie Groce gave a presentation that Kevin Connally (FWS) originally presented to the Science Committee on 29 May 2012, which included additional background information regarding HCPs and decision-points that need to be addressed during GCP development (see “GCP for GCWA” slide show for details). The presentation included an overview of the GCP from the applicant perspective, step-by-step application process, differences between an HCP and a GCP, and elements of a GCP that must be completed in advance for the applicant. The GCP will need to specify the entity responsible for monitoring and outline the potential take, impacts and mitigation options. To mitigate for their take of habitat, the applicant would select from a menu of mitigation options specified in the GCP and would need to ensure they have funding for the mitigation.

3. Strawman proposal of GCP goal, plan area, permit area, plan duration, covered species, and covered activities

Groce distributed a strawman proposal of the GCP goal, plan area, permit area, plan duration, covered species, and covered activities for the committee to review and discuss (see “GCP_components_060412.docx”).

Goal

The committee had no suggested revisions for the proposed GCP goal.

Plan Area and Permit Area

The proposed plan area includes counties in which mitigation and conservation activities can occur. Groce clarified that only areas of GCWA or BCVI habitat in a county would be included in the plan area, rather than the entire county. The proposed permit area includes counties in which take would be permitted. The committee suggested that we limit the permit area to only those counties that do not have existing or developing HCPs, and that we should talk with those HCP representatives about whether those counties would consider being integrated into the GCP at a later time (e.g., when their permits expire). The committee suggested deleting the last sentence of the Plan Area section as that pertains more to the credit market than the GCP. The committee agreed about the 38-county plan area and the 33-county permit area, noting that more discussion is needed regarding the counties with existing or developing HCPs. They suggested we provide maps that show the extent of warbler and vireo habitat in the plan area.

Plan and Permit Duration

The proposed plan duration is 30 years, which fits within available projections of human population growth and development. Wendy Connally noted that the plan duration should depend on the time needed for all the take and mitigation to occur, along with available data and analyses. The duration for each permit issued under the

GCP may be specific to a given project, rather than being the same as the plan duration. There was no disagreement of the committee about the plan duration, but continued conversation may be needed with FWS to determine appropriate permit durations.

Covered Activities

Proposed covered activities include those listed in the strawman proposal. The committee noted that there are management guidelines for agricultural activities occurring in or near GCWA or BCVI habitat, so we should clarify in the GCP that covered agricultural activities would be those not already included in other guidelines or programs. Committee members made several suggestions regarding edits to the table of activity categories and descriptions, including: put roads and bridges in a separate category than the land development & construction category; possibly include other activities such as fuel breaks, vineyards or olive groves, biofuels, or moderate removal of juniper for water infiltration; include a category for land clearing that isn't intended for development of permanent structures (thus, no indirect effects from noise, etc); find more information on whether various extraction projects impact the species. Groce noted that IRNR is also thinking of ways to discuss covered activities by actual impacts to the species or habitat rather than, or in addition to, simply listing specific activities. Projects would then be categorized by their impacts (e.g., acreage of habitat loss, increased noise), regardless of the project activity. It may be a kind of matrix with several activities listed as examples. W. Connally suggested that the spatial location of the activity (e.g., proximity to a preserve or conservation bank) may result in a greater or lesser impact to the species and should be considered.

Covered Species

The committee reviewed the proposed covered species and a list of threatened, endangered and candidate species occurring within the plan area. The committee suggested including as many species as appropriate as covered species, noting that if a covered activity could impact a species, either directly or indirectly, then that species should be covered by the plan. Another option besides including all these species would be to not cover take through the GCP in areas that contain these species, and/or use best management practices to avoid impacts (e.g., TCEQ guidelines). Knowledge about some species is limited, especially mussel and aquatic species, which prevents our ability to adequately assess impacts.

4. Updates and next steps

Groce will revise the strawman and present it to the Science Committee meeting on June 26.

The GCP scoping meetings are still planned to begin in late summer with the exact locations and dates to be determined. Kevin Connally is reviewing the draft federal register announcement.

Meeting participants

Science Committee members:

Leonard Brennan, TAMU-Kingsville
Cal Newnam, TXDOT
Nathan Rains, TPWD

Plan Development Team:

Cary Dupuy, CPA
Julie Groce, IRNR
Brian Hays, IRNR
Justin Tatum, TWMMF
David Wolfe, EDF

FWS Lead:

Kevin Connally

Support staff:

Andy Campomizzi, IRNR
Shannon Farrell, IRNR
Meghan Hope, CPA
Katy Smith, TAMU
Marty Tuegel, USFWS

Science Committee members unable to attend: Susan Baggett (NRCS), Jim Giocomo (ABC), Joe Grzybowski (UCO)

Review and approval of minutes from 29 May 2012 Science Committee meeting

May 29 meeting minutes were not approved due to a lack of a quorum at today's meeting. However, the members who were present did not have suggested changes to the minutes. Julie Groce will email the other members and get feedback from them regarding any needed edits to the minutes.

Strawman proposal of GCP goal, plan area, permit area, plan duration, covered species, and covered activities

Groce reviewed several components of the GCP with the committee (see "GCP components_061412"), updated slightly from what was presented to the Policy Committee on June 14.

Goal

The committee had no suggested revisions for the proposed GCP goal.

Plan Area and Permit Area

The committee had no suggested revisions for the proposed Plan or Permit area.

Plan and Permit Duration

The committee had no suggested revisions for the proposed Plan duration. As noted at the June 14 Policy meeting, the permit duration will require additional conversations within USFWS. Permit durations might be assessed on an individual basis or might be the same for all applicants; regardless, the permits themselves can't extend beyond the length of the plan.

Covered Activities

The committee had no suggested revisions for the proposed covered activities.

Covered Species

Groce provided maps of current known distributions of federal T&E and candidate species occurring in the permit area (p. 10-13 in "GCP components_061412"). The maps reiterated past discussions of how there is relatively limited overlap between GCWA or BCVI habitat and that of other species of concern, although it was noted that the plants and freshwater mussels may need additional consideration within the GCP. Marty Tuegel suggested that if streams could be impacted by covered activities, then we could include options in the GCP for avoiding such impacts, such as working with applicants to maintain riparian corridors. Kevin Connally noted that there are a few HCPs that include freshwater mussels (e.g., in Tennessee) that we should review to get some ideas for how other entities deal with mussel mitigation. Maps and species descriptions for federally listed or candidate species will be included in the GCP (likely in an appendix) even if they aren't included as covered species.

GCP impact analysis for GCWA and BCVI

Shannon Farrell presented background information and ideas regarding assessing impacts to GCWA or BCVI habitat resulting from individual projects, with a primary focus on the warbler. Farrell reviewed numerous GCWA or BCVI-related HCPs and explained that the impact analysis in most of those documents were neither transparent nor consistent in how they assessed or quantified impacts, and most of the discussions about impacts were based on broader theories or hypotheses rather than anything specifically known about the species (see "Summary of regional HCP approaches"). For the GCP we need to develop methods for quantifying both direct and indirect impacts to the covered species even in the face of limited or no information regarding indirect impacts. Farrell and others at IRNR reviewed peer-reviewed literature and other reports that studied or discussed impacts to GCWA from habitat fragmentation, noise, other human disturbance, etc, and found that there is surprisingly little information for GCWA and no information for BCVI (see "GCWA_Impacts_062112"). Most researchers did not study the impact explicitly, but rather made hypotheses or conclusions about it based on other data or correlations. Farrell requested that the committee review the information she compiled regarding impacts to GCWA and have them send her any other reports/articles/information she may have overlooked. Connally suggested looking at recent biological opinions.

Quantifying direct impacts in the GCP could be as simple as "number of acres of habitat cleared due to project activity". Indirect impacts could be added to direct impacts (e.g., see "Impacts_strawman"), but quantifying indirect impacts will have to encompass more uncertainty. Lenny Brennan suggested focusing on the A&M model for estimating indirect impacts, since it links occupancy with patch size and seems to be the most relevant and quantifiable information with respect to indirect impacts. With regards to uncertainty (e.g., long-term effects of the permitted activity), Tuegel suggested we maintain a list of assumptions and unknowns and try to work on that over time. Since mitigation can't consist of research or adaptive management, we may want to consider funding an adaptive management process (which would be separate from the mitigation funds) that deals specifically with the unknowns of impacts on covered species. This may depend, in part, on who administers the plan and whether they can accept money; i.e., FWS cannot accept money, so we may need to develop a separate entity to deal with that.

Updates and next steps

Groce noted that it was unlikely there would be a Science meeting in August due to the limited availability of committee members, but she will send an email to the committee soon to solidify the August and September meetings. The IRNR group is also currently writing some sections of the GCP and will send that to the committees as soon as possible so they can start reviewing it. David Wolfe talked briefly about an upcoming meeting on July 18 with Kevin Halsey of Parametrix to develop metrics for the credit market. Science committee members are welcome to attend if they can.

Location: TCPA, 1711 San Jacinto Blvd., Austin TX 78701

Meeting participants:

Policy Committee members:

Kirby Brown, TWA
Mel Davis, TSSWCB
Gene Richardson, TFB

Plan Development Team (PDT):

David Wolfe, EDF
Julie Groce, IRNR
Roel Lopez, IRNR
Justin Tatum, TWMF

FWS Lead:

Kevin Connally

Support Staff:

Andy Campomizzi, IRNR
Shannon Farrell, IRNR
Meghan Hope, TCPA
Katy Smith, TAMU-College Station

Committee members unable to attend: Wendy Connally (TPWD) and David Bezanson (TNC)

1. Review and approval of minutes from 14 June 2012

Since a quorum of the Policy Committee was not present, the minutes from the 14 June 2012 meeting were not approved. The committee members present at this meeting reviewed the minutes and had no disagreement.

2. Mitigation options under the GCP

Julie Groce explained that the Plan Development Team (PDT) discussed the recommendations on covered species submitted to them by the policy and science committees and decided it was most appropriate to move forward with the proposal to cover only the golden-cheeked warbler (GCW) and black-capped vireo (BCV) under the GCP. However, there will still be information in the plan about other species and actions to take to avoid impacts to those species. The discussion of mitigation options, therefore, need only pertain to the GCW and BCV.

David Wolfe provided an overview of some existing mitigation options in general, including conservation banks, one-off deals, in-lieu fee programs, and market-based credit systems. Kevin Connally suggested that landowners setting aside land they own containing suitable habitat could be another mitigation option, provided it meets certain standards by the FWS. Developers in Travis County have done this in the past.

Wolfe distributed a draft list of principles for mitigation systems that the Environmental Defense Fund (EDF) has developed (see "Principles for Advanced Mitigation", draft document). EDF created this list in response to the introduction of California (CA) state legislation that would prioritize conservation banks over other mitigation options. EDF is recommending that the CA legislation be revised to prioritize good mitigation options, not just conservation banking. Although Texas does not have to deal with the same level of endangered species issues as CA (e.g., CA state laws are significantly different; CA has to comply with CEQA Guidelines), Wolfe noted that the list of principles is broad and intended to be applicable to other states. With these principles in mind, EDF is working with FWS on a regional agreement template for credit systems, including systems for candidate species, with the goal of making it easier for landowners to participate.

Regarding how specific the mitigation options need to be defined in the GCP, K. Connally said we need to comply with statutory and regulatory requirements. We do have some flexibility but it's better to be as specific as possible in providing the menu of options. It will not matter to FWS which option participants select as long as the offsets are appropriate and the benefits of the mitigation contribute to species recovery.

There was general agreement among the committee that the mitigation options under the GCP might include approved conservation banks (existing and future), the credit market being developed by EDF (if approved by

FWS), and individual set-asides (e.g., landowner work with third party to establish conservation easement), and other FWS-approved options. The option of in-lieu fee was discouraged by K. Connally since FWS is moving away from that concept. There was also discussion of whether land management could be one of the mitigation options, especially for BCVI because certain management activities are essential for long-term maintenance of its habitat. For example, could there be an option for paying into a fund to manage already-protected land for the species? Kirby Brown said that some TPWD lands may be unable or unwilling to make long-term commitments to managing for BCVI habitat, but there may be opportunities on city or county properties that don't already have an existing layer of management. K. Connally noted this is similar to an in-lieu fee. We need to show there is an increased benefit to the species through the mitigation options, which is difficult to assess if just paying into a fund.

3. GCP administration and management

This topic came up during discussion of the previous agenda item. K. Connally explained that FWS will issue permits under the GCP and be responsible for ensuring the species' status and compliance. Reports will be submitted to FWS by the entities responsible for providing mitigation (e.g., conservation banks), the details of which (e.g., timing, content) is determined in the bank or market agreements with FWS. Ideally, everyone would use the same standards for monitoring and reporting. The same standards would need to be established and specified in the GCP for those landowners who set aside part of their land.

K. Connally said monitoring responsibilities transfer to the mitigation banker unless a landowner decides to do their own mitigation, in which case the landowner would be responsible for monitoring. Regarding a question of fees, K. Connally said the permit application fee is the only fee that would go to FWS. Participation fees, if any, associated with the mitigation would not go to FWS but rather to the entity providing mitigation.

4. Updates and next steps

Groce will distribute a poll with possible dates for the next committee meeting. The PDT is in the process of writing the draft GCP. Groce will distribute draft chapters for review as they are completed.

Meeting participants

Science Committee members:

Susan Baggett, NRCS
Jim Giocomo, ABC
Joe Grzybowski, UCO
Cal Newnam, TXDOT
Nathan Rains, TPWD (on phone first half of meeting)

Plan Development Team:

Julie Groce, IRNR
Justin Tatum, TWMF
David Wolfe, EDF

FWS Lead:

Kevin Connally

Support staff:

Andy Campomizzi, IRNR
Shannon Farrell, IRNR
Curtis Hodges, TWMF
Meghan Hope, CPA
Todd Snelgrove, IRNR

Science Committee members unable to attend: Leonard Brennan (TAMU-Kingsville)

Review and approval of minutes from 29 May and 26 June 2012 Science Committee meetings

Minutes from previous meetings passed with no disagreement or suggested revisions by Science Committee members.

Overall estimates of habitat loss for GCWA and BCVI

Julie Groce provided an overview of estimated GCWA and BCVI habitat loss over the next 20-40 years. For GCWA, estimates range from a low of ~25,000 ac to a high of ~288,000 ac within the permit area depending on the data and model used (see "Estimated habitat loss" PPT). (Permit area excludes counties with existing or developing HCPs: Williamson, Travis, Hays, Comal, Bexar). This is out of approximately 4.1 million ac of potential GCWA habitat in throughout the entire plan area, as per the Texas A&M habitat model [approx. 3.5 million ac in permit area]. For BCVI, estimates of habitat loss are more difficult to quantify because of limited spatially explicit habitat information. Groce described two different methods for estimating BCVI habitat loss – one using the recently developed A&M BCVI occupancy model and the other using Maresh & Rowell (2000) county-level estimates; estimates range from ~1,500 ac to ~3,900 ac (see "Estimated habitat loss" PPT). This is out of approximately 676,000 ac of potential BCVI habitat throughout the entire plan area, as per Maresh & Rowell (2000) [approx. 584,000 ac in permit area]. Based on these estimates for both species, Groce provided suggestions for the amount of take to cover under the GCP as a starting point for discussion: e.g., 100,000 ac of GCWA habitat and 3,000 ac of BCVI habitat.

There was general discussion regarding estimates of habitat loss and take covered under the GCP. Joe Grzybowski noted that BCVI habitat is dynamic and always growing or regrowing in certain places; growth of new BCVI habitat throughout the GCP's duration is not captured in these estimates of habitat loss. David Wolfe asked if there are pros or cons to establishing higher versus lower numbers for take coverage. Kevin Connally said that take assessments for the GCP can be amended through the typical HCP amendment process; permits issued after the GCP is amended would be based on that new understanding, whereas permits issued prior to the amendments would not be affected. Connally also noted that the species recovery leads are responsible for keeping track of species take and habitat loss over time and suggested we run the BCVI estimates by Omar Bocanegra and see if he has any other information regarding habitat loss. Susan Baggett emphasized a point made earlier by Groce of needing to divvy up the take numbers by recovery regions; e.g., while the GCP could cover up to 3,000 ac of BCVI habitat loss throughout the permit area, a maximum of X ac can be taken in region 1, Y ac in region 2, and Z ac in region 3. This is to limit the possibility of most or all of the take occurring in certain areas, which could result in possible range contraction of the species.

Impact analysis for GCWA and BCVI

Shannon Farrell gave a presentation on assessing take for GCWA and BCVI, expanding on past discussions for GCWA (see “GCWA impact assessment” PPT) and presenting first ideas for BCVI. For GCWA, direct impacts could simply equal the acres of habitat lost under the project’s footprint; indirect impacts could be quantified using the A&M abundance model, such that the estimated change in GCWA density in the patch from pre- to post-project could be calculated and then converted to acreage (based on average density of 0.23 bird/ha). However, if the habitat loss from the project footprint results in a remaining patch of <20 ha (where 20 ha is the approximate reproductive threshold for GCWA), then we might consider the entire patch lost and the applicant would have to mitigate for the entire patch (indirect take would not be calculated). Connally suggested using some type of “correction factor” for GCWA, since the option presented by Farrell could encourage loss in large patches because it’s penalized less than loss in smaller patches. The GCWA recovery plan stresses maintaining large patches of habitat, therefore we want to incentivize maintaining and not chipping away at those patches. Groce also noted that the current option doesn’t yet include how to deal with patches that are less than 20 ha pre-project.

Delineating BCVI habitat remotely is more difficult than for GCWA, therefore assessing impacts to BCVI may require coarser calculations and/or on-ground surveys. There was general discussion of developing a relatively simple way to map areas in which BCVI habitat may or may not occur (e.g., based on soil type, ecosite), and if an applicant’s project occurs in this zone they would need to conduct surveys or assume they have occupied BCVI habitat. It was also suggested that, if BCVIs were detected during on-ground surveys, we estimate acreage of occupied habitat based on extent of similar habitat in which the BCVIs were found, versus simply putting a buffer around individual sightings and concluding that only those buffers are habitat; i.e., the entirety of potential habitat in which the project occurs would be considered take rather than only where the BCVIs were located during surveys. It was agreed that, especially for the BCVI, the process we develop for mapping habitat and assessing take will need to be tweaked during the GCPs duration as new information and new data become available.

Mitigation options under the GCP

Groce briefly reviewed the mitigation options discussed at the July 31 Policy meeting. For people wanting to acquire ITPs under the GCP, they can mitigate for GCWA or BCVI take through purchasing credits from approved conservation banks (existing or future approved banks), range-wide credit market (currently in development, and when approved) or individual set-asides (e.g., landowner work with third party to establish conservation easement). For individual set-asides, there was some discussion regarding whether the GCP would need to establish some biological parameters about what would be appropriate for mitigation, such as minimum patch size or management actions. For example, if an applicant wanted to take 5 acres of habitat and the impact analysis calculated a mitigation requirement of 10 ac, would setting aside and managing 10 ac on someone’s property really provide a conservation benefit to the species. Rather, it would be more appropriate to establish a minimum size or make sure the acreage is part of a larger patch that has some level of protection. Connally explained that there should be standard management, monitoring, and reporting requirements regardless of the mitigation option used; these standards aren’t yet established but are being developed by FWS. However, we need to make a clear distinction between the reporting/monitoring requirements for impacts (which would be the responsibility of FWS) from the reporting/monitoring/management requirements on mitigation properties (which would be the responsibility of the entity in charge of the property). There was some concern among the group that the reporting/monitoring requirements on mitigation properties be sufficient such that FWS can assess the effectiveness of the GCP, e.g., ensure that the mitigation properties continue to provide conservation benefit to the species over time.

Adaptive management as it pertains to the GCP

Groce explained that parts of the plan may need some form of adaptive management over time to make sure the plan is meeting its goals and objectives, dealing with changed and unforeseen circumstances, and reassessing other areas of uncertainty. The FWS is administering the GCP and will not be creating and managing their own preserves under this plan, thus monitoring and adaptive management with regard to preserves or mitigation properties do not need to be addressed since that is the responsibility of

the entities providing mitigation. Connally clarified that the GPC is a mechanism to allow participants to get ITPs; anything beyond that is really the role of each species' recovery lead and recovery team. There was some discussion about how to assess the plan's goals without having a structure within the GCP to compile and review relevant information from mitigation reports and monitoring results. Jim Giocomo pointed out that we need to disentangle the testing of assumptions made in the plan (which could be done through other entities, like Joint Ventures, separate and apart from the GCP) from FWS's need to track what's going on and determine whether the program established under the GCP is working. Components of the GCP could be tweaked over time if needed based on new information, but the fact that preserves are not being developed or managed under the GCP limits the relevance of adaptive management. Connally suggested that if the committee thinks certain questions or monitoring objectives need to be met under the GCP, they can forward their questions to him and he'll discuss with the appropriate Species Recovery Leads or Recovery Teams to determine how they can best be addressed.

Updates and next steps

Groce reminded the committee of the Texas Conservation Market metrics meeting on Sept 11 at the EDF office in Austin and that they are welcome to attend if available. She will send a doodle poll to the committee with possible dates for the next Science meeting. IRNR is in the process of writing the draft GCP which will be sent to both the Policy and Science committees in a few weeks.

Location: TCPA, 1711 San Jacinto Blvd., Austin, TX 78701

Meeting participants:

Policy Committee members:

David Bezanson, TNC (arrived at 9:45am)
Wendy Connally, TPWD
Gene Richardson, TFB

Plan Development Team (PDT):

Cary Dupuy, TCPA
Julie Groce, IRNR
Justin Tatum, TWMF

FWS Lead:

Kevin Connally

Support Staff:

Andy Campomizzi, IRNR
Meghan Hope, TCPA
Katy Smith, TAMU-College Station

Committee members unable to attend: Mel Davis (TSSWCB)

Key discussion items:

- Expand definitions and details about covered activities.
- Consider ways to incentivize mitigation in high priority areas.
- Request Science committee feedback about areas of high importance to covered species and minimum patch sizes
- Suggested GCP duration of 15 years and individual permit duration of 10 years.

Actions needed:

Julie Groce	<ul style="list-style-type: none">▪ Revise previous policy committee meeting minutes and email to members for approval▪ Distribute minutes from previous Planning Development Team meeting▪ Update science committee on policy committee's discussion▪ Distribute poll on potential dates for next meeting▪ Continue revising draft GCP based on committee comments
Committee members	<ul style="list-style-type: none">▪ Send comments to Julie on the previous meeting minutes and the draft GCP
Kevin Connally	<ul style="list-style-type: none">▪ Send comments to Julie on the previous meeting minutes and the draft GCP

Review and approval of minutes from 14 June and 31 July 2012 meetings (Julie Groce, IRNR)

Committee members suggested some revisions to the minutes from 14 June 2012 and 31 July 2012 meetings. Julie Groce will revise the minutes and email them to the committee for review and approval. Kirby Brown, previously with TWA, accepted a different position in September and will no longer be able to serve on the Policy committee. However, Groce is talking with people at TWA to determine whether a different staff member could take Kirby's place on the committee.

Discussion of strawman GCP (Julie Groce)

Decisions made by the PDT should be documented and communicated to policy and science committees.

The description of mitigation options in the GCP should be general because the available options may change over time. The mitigation section should explain that mitigation options are those approved by the U.S. Fish and Wildlife Service (FWS).

The covered activities reflect committee discussions; however, the descriptions of activities need to be more in depth and specific. The activities that impact habitat and lead to take must be defined and quantified. We need to think ahead and consider future regulatory requirements such as Section 7 and NEPA.

The policy and science committees should work together to develop an activity category table or check list that describes in detail each type of activity and sub-activity. Existing HCPs for the covered species should be used as a resource when building this table. FWS must know about all steps of a project that may have a disturbance so that it can prescribe steps for the applicants to avoid or minimize impact. We should reach out to stakeholders for input on the activity table to ensure we build a tool that matches their needs.

We also need input from stakeholders regarding their anticipated needs and impacts. Stakeholder input should be used to estimate take in the plan and must match with the actual plan impacts. We are required to use the best available data to estimate take in the GCP. Estimated take should be based on available data, including approximations from stakeholders and trend data. Under the Endangered Species Act, take must be specified in the permit and estimated by activity. We need to specify the impacts of activities by recovery region. We cannot anticipate all future activities, but can use the best available data including information from other region-wide plans in the U.S. The GCP can be adjusted based on new scientific information.

The GCP will provide the newest standard for mitigation ratios. However, we should be consistent with existing ratios or be able to defend why we're using a different approach in the GCP. The impact analysis and possible inclusion of mitigation ratio needs to be discussed further by the science committee.

The GCP should not include the option of applicants conducting surveys to determine the extent of occupied habitat. It will keep the GCP more streamlined if we assume all potential habitat is occupied. If someone would rather do surveys, they will need to go through a different process than the GCP.

The draft GCP suggests prioritizing mitigation in recovery regions with high potential threats and low amounts of protected habitat to contribute to the recovery goals of maintaining a certain number of pairs per region. Committee members also discussed incentivizing the mitigation to occur in the same region as take, or incentivizing mitigation in areas with larger, more contiguous patches of habitat. In general we should encourage range-wide protection of large blocks of habitat in line with the goals of the recovery plan. The biological value of large patches is a factor in the impact analysis as discussed in the draft GCP.

We need to ensure FWS gets sufficient information through monitoring and reporting. The entity responsible for mitigation under the permit is responsible for reporting to FWS. A new committee should not be created in place of the recovery team. An informal adaptive management committee that advises the recovery team about modifications that should be made to the GCP could be established, similar to the adaptive management committee used in the EARIP. Instead of creating a new committee, we could request that the existing recovery team communicate information better and advise FWS on necessary changes and updates to the GCP. Committee members are concerned about the recovery team having the time and resources to address changes to the GCP.

Kevin Connally suggested a GCP duration of 15 years and permit duration 10 years, with permits able to extend beyond the GCP's duration; e.g., a permit issued in the 15th year of the GCP is still valid for 10 years. Therefore we would still need to assess impacts 25 years into the future, keeping the timeframe in line with the available data used to build the GCP.

We need the science committee to provide a specific measurement/size for a preferred habitat block.

The GCP needs to be edited so that reads as if it is a final document.

Updates and next steps (Julie Groce)

The next phase of draft development will be assessed after the Oct 25 Science meeting, including what can be accomplished via email versus future in-person meetings. Julie Groce will distribute a poll with possible dates for the next committee meeting if one is needed in November or December.

Meeting participants

Science Committee members:

Joe Grzybowski, UCO

Nathan Rains, TPWD

Plan Development Team:

Julie Groce, IRNR

Justin Tatum, TWMMF

David Wolfe, EDF

FWS Lead:

Kevin Connally

Tanya Sommers, FWS alternate

Support staff:

Andy Campomizzi, IRNR

Meghan Hope, CPA

Katy Smith, TAMU-College Station

Science Committee members unable to attend: Susan Baggett (NRCS), Leonard Brennan (TAMU-Kingsville), Jim Giocomo (ABC), Cal Newnam (TXDOT)

Key discussion items:

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| <ul style="list-style-type: none">▪ Generalized impact analysis for BCVI is sufficient for now given current knowledge of the species.▪ Reporting and mitigation standards established for conservation banks should be incorporated into the GCP.▪ Species Recovery Teams may be the most appropriate groups to assess species status throughout the GCP's duration and inform FWS whether changes are needed to the GCP.▪ Suggested GCP duration of 15 years and individual permit duration of 10 years. |
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Actions needed:

Julie Groce/ IRNR staff	<ul style="list-style-type: none">▪ Email Sept 5 science committee meeting minutes to members for approval▪ Continue developing map of BCVI habitat for use in GCP▪ Continue revising draft GCP based on committee comments
Committee members	<ul style="list-style-type: none">▪ Send comments to Julie on the Sept 5 meeting minutes and draft GCP

Review and approval of minutes from 5 September 2012 meeting

Since a quorum of the Science Committee was not present, the 5 September 2012 minutes were not approved. Julie Groce will contact the committee by email to review and approve the September 5 minutes.

Discussion of strawman GCP

The impact analysis approach for BCVI in the draft GCP is more basic and generalized than that for GCWA because less is known about impacts and accurately delineating habitat. The approach for BCVI is more similar to other HCPs than is the approach for GCWA. Science committee members agreed a generalized process for BCVI might be the best we can do for now, with the added suggestion of possibly using the occupancy probability values from the A&M model as a multiplying factor when determining mitigation requirements. IRNR continues to assess options for developing a map of BCVI potential habitat that can be used for the GCP and will communicate these options to the Science committee via email.

Mitigation options available under the GCP will include those approved by FWS. It is the responsibility of the entities managing mitigation properties (e.g., conservation banks) to ensure covered species habitat is occupied and managed appropriately for the species. FWS is in the process of making reporting requirements consistent for conservation banks. Standards that are in place for conservation banks should be incorporated into the GCP; some existing standards can be found in recent conservation bank agreements.

The species Recovery Teams and Recovery Leads will likely be the best option (as opposed to organizing another group or committee) for periodically assessing range-wide status of the species throughout the GCP's duration and using that data to inform FWS whether changes are needed to the GCP.

In traditional HCPs, the plan and permit duration are usually the same. The GCP, however, is a tool that issues take permits, therefore the plan and permit lengths will be different. Kevin Connally repeated a suggestion he made at the Oct 23 Policy meeting of a plan length of 15 years and permit length of 10 years, such that a permit issued at the end of the GCP's duration would still be valid for a full 10 years rather than having to end when the plan ends. This would still require analysis of impacts up to 25-30 years into the future; i.e., analysis needs to encompass entirety of GCP (15 years) plus additional 10 years for permits issued near the end of the GCP duration (15 + 10 yrs = 25 yrs).

The term "evaluation species" in the draft GCP refers to listed species occurring in the plan area that are not covered under the GCP. The term itself has no regulatory definition and may be interpreted differently by other parties. A different term should be used and clearly defined in the GCP.

There may be situations where the GCP is used to cover only indirect impacts of an applicant's activities (e.g., if project footprint is outside of but adjacent to GCWA or BCVI habitat), so it may be helpful if the GCP was designed to accommodate those situations.

Regarding covered activities, we need to build flexibility and specificity into the plan such that it can accommodate most possibilities. Specifics will help when dealing with Section 7 and NEPA requirements.

Updates and next steps

Revisions and additions will be made to the draft GCP based on discussions at this meeting, the Oct 23 Policy meeting, and other discussions with FWS. Groce may need to contact individual committee members in upcoming weeks with specific questions and requests for different sections of the plan. There may be 1-2 more committee meetings for final review of the full draft. Groce will send today's minutes to the committee soon, along with more details for next steps.

Meeting participants

Science Committee members:

Susan Baggett, NRCS
Lenny Brennan, TAMU-Kingsville
Joe Grzybowski, UCO
Cal Newnam, TXDOT

Plan Development Team:

Cary Dupuy, TCPA
Julie Groce, IRNR

Support staff:

Shannon Farrell, IRNR
Meghan Hope, CPA
Katy Smith, TAMU-College Station

Science Committee members unable to attend: Jim Giocomo (ABC), Nathan Rains (TPWD)

Key discussion items:

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| ▪ Revisions and/or additions to covered activities, impacts of activities, and mitigation requirements. |
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Actions needed:

Julie Groce/ IRNR staff	<ul style="list-style-type: none">▪ Continue revising draft GCP based on committee comments▪ Provide Science committee options for thresholds of permitted take by recovery region▪ Send Appendix H pictures to Science committee▪ Solicit feedback from USFWS about covered activities and mitigation strategy
Committee members	<ul style="list-style-type: none">▪ Send additional comments to Julie Groce about draft GCP▪ Review regional take thresholds and Appendix H when provided by IRNR
USFWS	<ul style="list-style-type: none">▪ Initiate process for public scoping meetings

Review and approval of minutes from 25 October 2012 meeting

Minutes were approved prior to today's meeting by Grzybowski and Rains (the only Science members present at the Oct 25 meeting).

Discussion of chapters 4 and 5 of draft GCP

- Suggested revisions for covered activities

Committee members recommended reviewing other types of energy development, such as wind and solar (e.g., wind farms are being developed in Jack and Erath counties), along with cedar harvesting (e.g., Bandera, Kendall, Kerr, Real) as possible additional covered activities. Although it may be difficult to quantify, members would like to continue including surface mining as a covered activity if possible. They also recommended including a brief rationale for why certain activities are suggested for coverage under the GCP while others are not. This mainly involves consideration of whether the activity is likely to occur in GCWA or BCVI habitat within the permit area and whether it would require Section 7 consultation.

- Impacts of covered activities on covered species

Committee members provided suggestions for calculating impacts from covered activities, such as: determining acreage of past or recent wind farm development and projecting it into the future, assuming similar rates of growth; try to determine increase in quarries from satellite imagery or TCEQ data; correlate potential increase in transmission lines with EPA estimates of urban growth. They also questioned whether dust from road/building construction and mining, along with helicopter use during oil/gas surveys or laying pipeline, may need to be considered in some way. There was agreement among the committee that the "other management" category estimates seemed high. Julie Groce clarified that the category may encompass everything *except* residential/urban development and therefore needs to be revised. In addition, IRNR will review the thresholds used in the EPA model (e.g., 5% vs 25% impervious

surface) and BCVI model (e.g., areas with $>$ or $<$ 0.2 probability of occupancy) for estimating future impacts from covered activities to ensure we are justifiably encompassing potential impacts.

The breakdown of permitted take by recovery region will require additional discussion regarding whether it's more appropriate or realistic to allow take in proportion to the development need or in proportion to the amount of habitat available. IRNR staff will develop a few scenarios to run by the committee in upcoming weeks, likely to be discussed via email or phone.

- Cumulative impacts and estimates

Committee members pointed out that the draft section does not yet include Section 7 activities, which is important for assessing cumulative impacts. That information should be available through USFWS.

- Options to minimize impacts

Discussion mainly focused on the 100-m-buffer concept. There is limited research on buffers relative to construction/development activities, but existing research (e.g., A&M highway projects, Fort Hood) suggest no impact with distance from construction or training activities. Minimization measures currently implemented by some industries include simply not going into GCWA or BCVI habitat beyond the project footprint, and ensuring all equipment is operating at appropriate manufacturer's standards. Regardless of whether buffers are used in the GCP, we can include a caveat that additional minimization measures may be added if new information becomes available suggesting those actions are of benefit to the covered species.

The committee recommended merging the GCWA and BCVI non-breeding dates for simplicity and to encompass other migratory species; thus, initial clearing in either GCWA or BCVI habitat would occur only Sept 1 through Feb 29.

- Mitigation requirements

Committee members agreed with the overall quantification approach as reasonable and best application of the data as currently available, and the biological standard likewise seem appropriate. Feedback from USFWS is needed before the committee considers additional revisions.

The steps to quantify impacts for BCVI are essentially similar to what is done by consultants. Committee members agreed that whoever is assessing BCVI habitat for the GCP needs to be a qualified individual familiar with BCVI habitat. Current standards are that assessment of take will be determined by someone who holds a 10(a)(1)(A) scientific permit for surveying and assessing habitat. It would help to get feedback from USFWS about who will be assessing take for the GCP. Appendix H, which provides guidance on and pictures for identifying BCVI habitat, will be sent to the science committee in upcoming weeks for feedback and to request additional images.

- Incentives and mitigation ratios

Committee members agreed with the mitigation ratio concept and rationale and discussed whether factoring in the cost of land would be possible (versus focusing solely on acreage) without over-complicating things.

- Options to avoid take of other species

This agenda item was not discussed.

- Adaptive framework for CTGCP

No revisions were suggested at this time.

Additional questions or comments about other sections in the draft

Science committee is pleased overall with the draft. Besides a few revisions and cleaning up some sections, they agreed that they have taken the draft as far as they can go short of getting feedback from FWS or the public scoping process.

Next steps

Policy committee meets on March 26 to discuss the draft. IRNR will solicit feedback from FWS on sections of the draft and keep the Science committee updated on those comments. Most importantly, FWS needs to initiate public scoping meetings to get feedback from the public and potential users of the plan.

Location: TCPA, 1711 San Jacinto Blvd., Austin, TX 78701

Meeting participants:

Policy Committee members:

Wendy Connally, TPWD
Mel Davis, TSSWCB
Justin Dreibelbis, TWA
Gene Richardson, TFB

Plan Development Team (PDT):

Julie Groce, IRNR
Matt Wagner, TPWD
David Wolfe, EDF

FWS Lead:

Kevin Connally
Tanya Sommer, FWS alternate

Support Staff:

Andy Campomizzi, IRNR
Shannon Farrell, IRNR
Meghan Hope, TCPA

Committee members unable to attend:

David Bezanson, TNC

Key discussion items:

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| ▪ Revisions to covered activities, mitigation requirements, and ratios |
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Actions needed:

Julie Groce/ IRNR staff	<ul style="list-style-type: none">▪ Continue revising draft GCP based on committee comments▪ Email committee to develop stakeholder list to provide to FWS▪ Continue to work with FWS on scoping meetings
Committee members	<ul style="list-style-type: none">▪ Send any additional comments about draft GCP to Julie Groce▪ Provide suggestions for potential stakeholders list
Kevin Connally/FWS staff	<ul style="list-style-type: none">▪ Provide Julie Groce/IRNR staff with sections of the draft American burying beetle GCP that may apply to this GCP▪ Move forward with public scoping process

Review and approval of minutes from 23 October 2012 meeting (Julie Groce)

Minutes from 23 October 2012 meeting were approved with no disagreement or suggested revisions by attending committee members. Julie Groce will email David Bezanson for final passage of the minutes.

Update on 8 March 2013 science committee meeting (Julie Groce)

At the 8 March 2013 meeting, the science committee suggested examining wind and solar development in the GCP area. The committee also provided suggestions for revising the Other Management section and calculating impacts from covered activities. The committee agreed with the approach for quantification of take and the mitigation ratio. IRNR will continue to work with the science committee on estimating potential take by recovery region.

Discussion of and possible decisions on chapters 4 and 5 of draft CTGCP

Covered activities (draft section 4.1):

The Policy Committee discussed the possibility of quantifying expected take amounts to the sub-activity level that includes details regarding industry-specific activities. This information would help FWS to quantify direct, indirect and cumulative impacts.

In order to provide this level of detail and determine expected needs, the committee and FWS will need to engage stakeholders at this point through the public scoping process and targeted one-one-one outreach

meetings. FWS will manage the scoping process, including publishing the Federal Register announcement, and expects to hold several meetings across the GCP area. FWS will work with the committee to determine appropriate locations for the scoping meetings and potential stakeholders. The committee recommends discussing the GCP at county commissioners' annual meetings.

Mitigation requirements and ratios (draft sections 5.3–5.4):

Committee members expressed some concern about the possibility of range contraction. The purpose of the mitigation ratio is to avoid range contraction by incentivizing the protection of habitat in regions where habitat is most limited or threatened. The ratio does not consider the shape of the patch; this could be considered but we do not currently have information necessary to correctly quantify it. It will be possible to adjust the mitigation ratio based on future stakeholder input. The committee also asked if the mitigation requirements incorporate habitat composition. The A&M model does not currently include habitat composition, but it is possible that could be incorporated into mitigation ratios if needed.

Reviewing mitigation ratios used in habitat conservation plans may be helpful, including their performance and adaptive management and monitoring approaches. The standards in the GCP should be similar to other plans.

Additional questions or comments for or by committee members about other sections in the draft CTGCP

The committee suggested working with TPWD and others to complete the Texas State Law section of the GCP. In addition, some place-holders should be filled in if possible to provide FWS a starting point for revisions. Relevant language could be pulled from other plans to provide basic concepts and information for FWS to review and revise.

Next steps (Julie Groce)

The grant proposal has been revised and TPWD has submitted the amendment to the regional FWS office. The revised proposal updates the timeline, separates the credit market from the GCP, and clarifies that the deliverable is a draft GCP by the end of April 2013. The scoping process, environmental impact and further revisions of the draft GCP are not included in the revised proposal.

Groce will email the committee to develop a stakeholder list to provide to FWS. Groce/IRNR staff will continue to work with FWS to move forward with the scoping meetings and other targeted stakeholder outreach.