

**BIOLOGICAL ADVISORY TEAM
OF THE
SOUTHERN EDWARDS PLATEAU
HABITAT CONSERVATION PLAN**

MEETING 9 MINUTES

DATE: September 10, 2010

**LOCATION: Fair Oaks Ranch City Council Chambers
7286 Dietz Elkhorn
Fair Oaks Ranch, TX 78015**

1. Call to order - Richard Heilbrun, Texas Parks and Wildlife Department (TPWD)

Richard Heilbrun called the meeting to order at 9:26am.

2. Review and approve minutes from August 25, 2010 BAT meeting.

Richard Heilbrun asked the BAT members for any comments on the revised draft minutes from the August 25 BAT meeting. MOTION (Jayne Neal): Approve the draft minutes from the August 25, 2010 BAT meeting, as revised. SECOND (Julie Groce). VOTE: Voice vote carried without opposition.

3. Public comments (3 minutes per speaker)

Richard Heilbrun called for comments from the public. Bebe Fenstermaker (CAC member) expressed concern about a proposal by the San Antonio Water System to provide sewer service to northwest Bexar County. Ms. Fenstermaker stated that a coalition of landowners, community organizations, and local government representatives were fighting the proposal over concerns that the project would result in damage to streams, threaten aquifer recharge, and affect habitat for the golden-cheeked warbler (sewer lines would be installed along streams to take advantage of gravity flow).

4. Mitigation Considerations Presentation by FWS: Allison Arnold

Allison Arnold (U.S. Fish and Wildlife Service) presented Service guidance regarding take and mitigation strategies for the golden-cheeked warbler (GCW). She stated that the Service wanted to relay ideas for long-range and landscape level planning, describe some of the issues the Service is dealing with in their office, and relay Service opinions for what habitat must to be preserved (and at what rates) so that the plan can assist in achieving recovery goals for the GCW and make it easier to meet mitigation obligations.

Ms. Arnold described the official definition of “take” and stated that the plan needs to identify a metric to measure take. She described direct take as those activities that cause harm to the GCW during the breeding season, either by directly killing individuals or by disrupting normal activities. She also stated that the loss of large areas of habitat outside of the species’ breeding

season would be considered direct take if the habitat loss would affect the bird's ability to reproduce (even if these effects were not seen until the following year). Ms. Arnold emphasized that affecting an individual's or population's ability to reproduce was a key component of direct take. Ms. Arnold stated that the Service will require that direct take be measured out to 300 feet from the edge of an impact area. With respect to mitigating for direct take, Ms. Arnold also stated that the Service will require the highest mitigation rate that is acceptable economically and sufficient for recovery purposes and mitigation purposes.

Ms. Arnold described indirect take as take that is reasonably certain to occur later in time and can include the adverse impacts from habitat fragmentation, predation, or growth inducement. She indicated that measuring indirect take could be difficult, and that the Service would generally allow lower mitigation ratios for indirect take as compared to direct take.

Regarding Service guidance for mitigation ratios, Ms. Arnold stated that mitigation must be commensurate with the impact and emphasized that the Service will not accept any mitigation that does not meet that standard. She encouraged the BAT to review the Service's conservation banking policy for guidance on mitigation standards. Ms. Arnold stated that the Service will require an analysis of take and impacts on a county or focal area level so that the Service and the committees have a better idea of where take is occurring and where solutions can occur. Ms. Arnold stated that the Service will require that mitigation ratios be related to the rate and severity of habitat loss in an area. She stated that since Bexar County does not have much GCW habitat left, the Service will probably require a higher mitigation ratio for take in this county to create a disincentive for losing more habitat in the county. She also stated that the Service considers Bexar County to be a very important part of the recovery strategy for the region. Ms. Arnold indicated that lower mitigation ratios might be acceptable to the Service for take occurring in rural areas, where habitat is generally more available. She also stated that the Service would expect higher mitigation ratios for impacts that occur in highly developed areas, where not much habitat for mitigation is available nearby.

Ms. Arnold described the Service's recovery criteria for the GCW as requiring the protection of 3,000 breeding pairs in each recovery region, configured in large source populations with adequate buffers. She stated that the BAT can expect, based on preliminary information, that there will be significant changes to the recovery region boundaries for the Southern Edwards Plateau area with the revised GCW recovery plan.

Ms. Arnold described recent findings that show the rapid loss of GCW habitat in the region and indicate that the remaining habitat varies in suitability. She stated that Bexar County is most susceptible to complete habitat loss, for which the Service will expect higher mitigation ratios. Ms. Arnold suggested that the BAT consider what protected habitats would count towards recovery as compared to counting towards mitigation for the plan. She stated that GCW habitat on Camp Bullis would not count towards recovery purposes since habitat on the installation could be lost at any time, and that the plan could not use Camp Bullis habitat as bankable mitigation credits. She also cautioned habitat on other public lands may not be permanently protected, but that Government Canyon State Natural Area may have some additional layers of protection for GCW habitat. Ms. Arnold stated that there are many parties going after the same limited mitigation lands, and that the plan should try to leverage resources.

Ms. Arnold indicated that certain parts of the plan area have more available habitat than others and explained that maps demonstrate there is not much habitat left in some areas (particularly in

Bexar County). She stated that the Service would appreciate a harder look at the most current data (such as 2010 aerial imagery) and that the Service will not accept data that is out of date.

Regarding acquisition strategies, Ms. Arnold stated that the Service considers conservation banking an option and noted that the Service is currently evaluating several banking proposals. She stated that the Service will require that preserves include a minimum of 500 acres of habitat, unless the property is adjacent to another protected property. Ms. Arnold stated that the Service will require that habitat within preserves be occupied by the GCW, and that occupancy should be determined with a scientifically sound and statistically solid method (although, a Service-protocol presence/absence survey may not be required). She stated that the Service will require that the conservation value of preserve lands be maintained and that public access would only be allowed on a case-by-case basis where it could be demonstrated that the conservation value of the preserve would be maintained. Ms. Arnold stated that the Service will require all mitigation to be in place before the disturbance happens, and that up-front preserve acquisitions in Bexar County might be a good strategy for the plan to consider.

In order for the Service to make a determination on issuing a permit for this plan, Ms. Arnold stated that the Service needs to know the average territory size for GCWs in the plan area and how much habitat would be needed to support a breeding population of 3,000 pairs. She suggested that determining the amount of habitat needed to protect a 3,000-pair breeding population could be extrapolated from the average GCW territory size. She also stated that the Service needs to know how much GCW habitat is still available in each county (or by focal areas), and how that habitat is configured in patches and whether or not it is occupied. She emphasized that the Service will not accept outdated information and that GCW habitat must be evaluated with multiple habitat models. Ms. Arnold stated that the Service needs the answers to these questions as soon as possible because, without this information, the BAT will not be able to provide any real information to CAC to understand what the plan means to the community financially and for natural resources.

5. Discussion: Mitigation Considerations

BAT members discussed the mitigation considerations presented by the Service. Jayne Neal (BAT member) asked how black-capped vireos (BCV) might be addressed. Ms. Arnold stated that the Service's guidance for BCVs will be very similar to what has been presented for the GCW (i.e., the mitigation standards will be the same). Jayne Neal asked how the plan should deal with the lack of strong habitat and population information for the BCV. Ms. Arnold responded that the Endangered Species Act has a "best available data" standard and that the Service wants as much current data as possible, but best estimates are acceptable if that is all that is available.

Ms. Neal emphasized that the Service's conservation banking policy is critical to understand. Tom Hayes (BAT member) suggested that mitigation ratios should be based on habitat patch size and distance metrics and asked the Service to clarify how the timing of an impact affects take as compared to landscape considerations. Allison Arnold responded that she believed the ability to reproduce is a key consideration for direct impacts and if the configuration of habitat patches causes abandonment (even if the effect occurred a few years later) then that effect would probably be considered a serious direct impact, subject to case-by-case considerations. Ms. Arnold stated that the Service will want to see any impact to reproductive ability have a higher mitigation rate because the Service cannot afford to lose populations in this area.

Jayne Neal asked the Service if there was any to put development activities that affect GCWs in this area on hold. Allison Arnold responded that the Service did not have a legal basis for stopping activities unless the activity causes jeopardy for the species, but that the Service can require mitigation for impacts.

In reference to the GCW habitat loss estimates provided by the consultant team, Ms. Arnold cautioned that the estimates need to be qualified because it is not known how much of that habitat is occupied. She added that her opinion was that much less than the approximately 52,000 acres of estimated available habitat in Bexar County can really be occupied by the species. Ms. Arnold suggested that the plan needs to use a mitigation ratio at least higher than 1:1 and probably a 2:1 mitigation ratio, or higher. She cautioned that the plan needs to determine whether the total amount of authorized take and required mitigation in a particular area is less than the total amount of available habitat, since the Service is looking at steep mitigation rates for areas of high development.

Richard Heilbrun asked the Service if the plan might need to limit the amount of take it authorizes in a particular area if it would be too difficult to achieve mitigation in that area. Allison Arnold responded that this was a possibility, but that setting high mitigation ratios for take in Bexar County could steer development away from those areas, thereby avoiding take. Mr. Heilbrun also asked the Service if setting different mitigation ratios in different areas would result in a “property takings” problem related to land valuations. Ms. Arnold responded that this was a possibility, but that the Service does not feel like this is an issue based on experiences elsewhere across the country. She suggested that the committees discuss this matter further as a group and Mr. Heilbrun suggested that the legal team review this issue.

Jayne Neal asked the Service if enforcement actions could be applied more evenly across the community. Allison Arnold responded that endangered species cases are hard to prosecute, but that the Service does go after violators and is currently working some enforcement cases in the area.

Tom Hayes stated that he would prefer to base the GCW analysis on more detailed mapping information of the type prepared by the Greater Edwards Aquifer Alliance for Bexar County. He also noted concerns with basing the analysis on the Loomis GCW habitat model (i.e., “Model L”) and asked how to develop habitat patch information for all the counties in the plan area. Allison Arnold responded that the plan needs to use the best available data, such as current aeriels, for the analysis and noted that the data provided by GEAA produced different results than the information provided by the consultant team because it was based on current aerial imagery. Julie Groce (BAT member) added that Texas A&M University recently released a new GCW habitat model that could be used.

6. Presentation: Human Dimensions Analysis: Wendell Davis

Wendell Davis (Wendell Davis and Associates) presented an analysis of human population demographics, economics, and land uses for the plan area. He stated that the objective of his work was to develop a reasonable scenario for population, housing, and land use changes over the plan duration.

Mr. Davis described that the data for his analysis came from several sources, including the U.S. Census Bureau, Texas State Data Center, ESRI Business Solutions, county appraisal districts, topographic and floodplain maps, and other regional planning documents. Valerie Collins asked if Mr. Davis considered the City of San Antonio sector plans or the land use restrictions of the city's Unified Development Code in the analysis. Mr. Davis responded that he took a more qualitative approach to this regional analysis, particularly with respect to setting single family residential use densities. He explained that his analysis was prepared in 10-year increments at the "sector" level, with sector boundaries based on census tracts or groups of census tracts. He noted that he had hypothesized that certain sectors would experience substantial growth over the plan duration, but that the analysis resulted in fewer growth sectors as anticipated.

Mr. Davis explained that information for land uses was based on county appraisal district data and that this information revealed that single family residential use was the dominant developed use in the plan area. As such, he explained that a major assumption of his analysis was that single family residential use was the primary driver of development in this area. He modeled changes in other types of land uses, including multi-family residential, commercial/industrial, exempt, rights-of-way, and other miscellaneous land uses as factors tied to the amount of projected single family development. A major component in the land development model was the density of single family residential units for each sector. Mr. Davis stated that the initial values for single family residential density were established from the appraisal district data, but that these densities were modified over time (particularly for growth sectors) to anticipate future development conditions.

When modeling where new land development will occur, Mr. Davis explained that the capacity of a sector to accommodate projected population growth was based on the amount of platted and unplatted vacant land available in the sector. He assumed that single family residential development would first use up the currently platted vacant lands in a sector before absorbing vacant unplatted lands. The targeted density of single family residential housing units placed in unplatted vacant lands varied based on anticipated future conditions, such as the degree of difficulty to develop in a certain area (i.e., sectors with large areas of steep slopes or floodplains were assumed to be able to support only lower density developments) or the possible availability of sewer service (a key determinant of residential lot size).

Mr. Davis presented summaries of human population size and demographic characteristics, housing characteristics, and employment/economic characteristics of the plan area. He noted recent trends in these metrics between 2000 and 2009. He explained that the population projections used in his models indicated a 2.9% average annual population increase over the duration of the plan. He explained that his model indicated that this population increase would be associated with the addition of approximately 79,000 new housing units and will consume approximately 827,000 acres of currently vacant land over the duration of the plan. He noted that most of this development would occur in Bexar County and adjacent growth sectors.

Allison Arnold and Richard Heilbrun asked Mr. Davis to clarify how steep slopes and floodplains were treated in the model, since these areas may still be affected by development even if they are not buildable. Mr. Davis explained that these areas were not completely excluded from being classified as developed, and were primarily used to help determine the targeted single family residential housing densities. Amanda Aurora (Loomis Partners) added that many larger residential lots may include unbuildable areas and, in more dense developments, unbuildable tracts are commonly classified as miscellaneous developed land uses by the

appraisal districts so that the projections of developed land uses are inclusive of these unbuildable areas.

Richard Heilbrun questioned why human population growth in the plan area was modeled linearly, instead of exponentially as is typical with wildlife populations. Mr. Davis explained that exponential population growth would not be realistic at the scale or timeframe of this analysis. Mr. Heilbrun also asked Mr. Davis to review the land development projections for the mid-decade time period, since the differences in development projections across decades seemed inaccurate. Mr. Davis suggested that the target single family residential housing densities for some areas may need to be refined.

Tom Hayes requested a more complete report describing the land development projections. Jayne Neal asked what kinds of policy changes would affect future growth. Mr. Davis suggested as an example that policies for the extension of sewer service could affect where and how development happens.

Richard Heilbrun commented that he expected to see more development around Kerrville. Mr. Davis responded that Kerrville is not expected to receive excess growth from Bexar County and Amanda Aurora added that development would be expected to occur in the vicinity of Kerrville, but that the sectors surrounding Kerrville are large and may mask the intensity of some of the growth outside of the city.

Tom Hayes indicated that the BAT needs a clear map of where habitat is by sector to relate habitat to the land development projections. Richard Heilbrun suggested that the GEAA habitat analysis would be very useful for this purpose and that similar information is needed for all counties in the plan area. He also stated that the BAT needs to see the results of other models, including patch size and occupancy information for habitat. Tom Hayes suggested that the BAT base its work on the "Model C" GCW habitat model, since that model is more empirical and verifiable than Model L. Amanda Aurora indicated that the consultant team would provide an analysis of Model C to the BAT by the October meeting.

Jayne Neal asked Wendell Davis how he determined where to shift excess growth. Mr. Davis responded that development tends to follow an intuitive path, whereby development induces more growth nearby. He also added that some excess growth was shifted into southern Bexar County (outside of the scope of his analysis) or out of the plan area into Gillespie County.

7. Discussion: Impacts Analysis

Amanda Aurora presented estimates for GCW and BCV habitat loss, based on the land development projections provided by Wendell Davis. Ms. Aurora explained that land development in a sector was assumed to impact GCW habitat in proportion to its availability within the sector (i.e., acres of land development in a sector * % GCW habitat in the sector = estimated GCW habitat loss). Ms. Aurora highlighted a mid-range estimate of GCW habitat loss, based on Model L, as approximately 61,000 acres over the duration of the plan. She explained that most of this habitat loss was projected to occur in Bexar, Comal, and Kendall counties, but that the plan would not cover take in Comal County since this area is seeking its own plan

Ms. Aurora cautioned that the habitat loss estimates were coarse approximations, since it is not possible to know exactly where new development will occur on a project-by-project scale, but that this approach was reasonable for planning purposes.

Allison Arnold cautioned that the BAT needs to know what these estimates mean and stated that the Service would prefer to use rely on the mid-range estimates of available habitat (particularly with respect to mitigation). Richard Heilbrun added that the BAT will have a better picture of where habitat is available and where to focus mitigation efforts when more up-to-date information is presented.

Tom Hayes indicated that Model C reports more prime habitat in Bexar County (typically with 80 to 100% canopy cover) than does Model L and asked why the consultant team has not done a trend analysis to describe recent habitat losses. Ms. Aurora stated that his interpretation of Model C might be incorrect, and stated that past trends in habitat loss might not be relevant for describing future conditions. She added that Model C and Model L are very similar in terms of the amount of GCW habitat identified for the plan area and will provide this data to the BAT.

Allison Arnold stated that both Model C and Model L are based on data from approximately 2000, which was a problem for the Service. She suggested that the models be rerun using 2010 aerial imagery. Amanda Aurora responded that none of the habitat models currently available are based on aerial imagery, rather they rely on Landsat data or canopy cover data from the National Land Cover Dataset. Richard Heilbrun stated that the GEAA proposal for assessing current habitat conditions directly measures habitat loss between 2000 and 2009 and Dr. Hayes added that this approach has identified high rates of habitat loss in Bexar and other counties. Amanda Aurora cautioned that the habitat losses identified by GEAA may not represent true habitat losses on the ground, based on differences between how Model C was initially developed and the aerial photo interpretation method used by GEAA. Richard Heilbrun requested that the consultant team work closely with GEAA to duplicate what they have done for other counties.

Richard Heilbrun questioned whether the remaining GCW habitat in Bexar County was able to substantially contribute to the recovery of the species and, if that were the case, what was the benefit of spending resources on protecting the most expensive habitat in the plan area. Allison Arnold stated that she was not convinced that this is the case, since large tracts of land with GCWs still occur in Bexar County. Tom Hayes added that mitigation in Bexar County should contribute to increasing connectivity and restoring degraded habitats.

Jayne Neal asked if the plan should try to improve the quality of protected habitats and Allison Arnold responded that the Service would require that the plan maintain equal or better conditions.

Ms. Arnold added that if all the remaining habitat in Bexar County were to be taken, then the current GCW populations at Government Canyon and Camp Bullis would be at risk of extirpation. She emphasized that the Service would require mitigation to occur as close to the impact as possible. Ms. Neal asked if the plan could get credit for connecting habitats or for growing new habitats and Ms. Arnold responded that this might be possible if it could be demonstrated that the conservation value was increased.

8. Discussion and Possible Action: Preserve Size and Configuration

Richard Heilbrun suggested that the BAT proceed on a preliminary basis with the information that it has. Jayne Neal asked if the BAT should consider participation rates for the plan. Mr. Heilbrun responded that the BAT should focus on biological considerations. Valerie Collins suggested that the BAT determine what would be needed to achieve regional recovery as one benchmark and then look at what part of that might be reasonable to achieve. Mr. Heilbrun suggested that the BAT form a subcommittee to consider recommendations for incidental take and mitigation in more detail. Tom Hayes added that the BAT needed to know where the existing conservation lands were located and Amanda Aurora responded that this information would be available shortly.

9. Future agenda items and next meeting - Richard Heilbrun, TPWD

The Service stated that they would be making a presentation on the minimum preserve standards for karst species at the next meeting. Amanda Aurora added that the consultant team would have an estimate of karst impacts available for the next meeting.

10. Adjourn

Richard Heilbrun adjourned the meeting at 1pm.