



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

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#### Memorandum

To: Assistant Regional Director, Ecological Services, Region 2, Albuquerque,  
New Mexico

From: Field Supervisor, Austin Ecological Services Field Office, Austin, Texas

Subject: Biological Opinion for the Anderson Tract Habitat Conservation Plan – Permit  
TE-29216B (Consultation No. 02ETAU-2013-F-0181)

Enclosed is the biological opinion for the proposed section 10(a)(1)(B) incidental take permit for the Anaqua Springs Ranch, Inc. (Applicant) Anderson Tract Habitat Conservation Plan (HCP) to avoid, minimize, and mitigate adverse effects to the golden-cheeked warbler (*Setophaga [=Dendroica] chrysoparia*).

The biological opinion is based on the Anderson Tract HCP and the accompanying Environmental Assessment pursuant to the National Environmental Policy Act of 1969, Service files, discussions with species experts, published and un-published literature available on the species and related impacts, and other sources of information available to the Service. A complete administrative record of this consultation is available at the Austin Ecological Service Field Office.

We appreciate your staff's assistance with this consultation. If you have any questions regarding this biological opinion, please contact Christina Williams at 512-490-0057, extension 235.

Attachment

**TAKE PRIDE  
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## Biological Opinion

This transmits our biological opinion for the issuance of a U.S. Fish and Wildlife Service (Service) section 10(a)(1)(B) incidental take permit (Permit or ITP) to Anaqua Springs Ranch, Ltd. (Applicant) for the Anderson Tract Habitat Conservation Plan (HCP), which will minimize and mitigate, to the maximum extent practicable, adverse effects from activities affecting the federally endangered golden-cheeked warbler (*Setophaga [=Dendroica] chrysoparia*, GCWA, Covered Species) pursuant to the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq., Act). The issuance of a Service permit to authorize incidental take associated with the HCP is the action for this intra-Service consultation pursuant to section 7 of the Act.

Other species listed as threatened or endangered pursuant to the Act or candidate species that occur or may be impacted by activities in the action area are: the endangered black-capped vireo (*Vireo atricapilla*), whooping crane (*Grus americana*), Rhadine *exilis* (no common name), *R. infernalis* (no common name), Helotes mold beetle (*Batrisodes venyivi*), Government Canyon Bat Cave spider (*Neoleptoneta microps*), Madla cave meshweaver (*Cicurinia madla*), Government Canyon Bat Cave meshweaver (*C. vespera*), Robber Baron Cave meshweaver (*C. baronia*), Cokendolpher cave harvestman (*Texella cokendolpheri*), Braken Bat Cave meshweaver (*C. venii*), Texas wild-rice (*Zizania texana*), Peck's cave amphipod (*Stygobromus pecki*), fountain darter (*Etheostoma fonticola*), Comal Springs dryopid beetle (*Stygoparnus comalensis*), Comal Springs riffle beetle (*Heterelimis comalensis*), Texas blind salamander (*Eurycea rathbuni*), and San Marcos gambusia (*Gambusia georgei*); the threatened San Marcos salamander (*Eurycea nana*); and the candidate bracted twistflower (*Streptanthus bracteatus*), golden orb (*Quadrula aurea*), false spike (*Q. mitchelli*), smooth pimpleback (*Q. houstonensis*), Texas pimpleback (*Q. petrina*), Texas fatmucket (*Lampsilis bracteata*), and Texas fawnsfoot (*Truncilla macrodon*). However, the GCWA is the only species expected to be impacted by the proposed action.

### Consultation History

The Applicant submitted their HCP along with their application for an incidental take permit in May 2013. After Service review and comment followed by multiple revisions to the draft HCP (dHCP), a notice of receipt of the application and availability of the dHCP and a draft Environmental Assessment (dEA) was published in the *Federal Register* on December 18, 2014 (79 FR 75584).

### I. Proposed Action

The proposed federal action associated with the accompanying HCP and permit application is to issue an ITP to the Applicant for otherwise lawful land uses conducted on the Anderson Tract, which is located in northwestern Bexar County (see Figure 1 of the HCP). The permit term will be 10 years. The Anderson Tract HCP establishes a conservation program that minimizes and mitigates, to the maximum extent practicable, the adverse effects of authorized take of the GCWA.

Section 7(a)(2) of the Act's implementing regulations defines an action area to be all areas affected directly or indirectly by the federal action and not merely the immediate area affected by the proposed project (50 CFR § 402.02). For the purposes of this biological opinion, the action area is Bexar County, Texas.

The activities covered by the HCP involve the otherwise lawful construction of a residential subdivision within the Anderson Tract. The Covered Activities include the removal or modification of vegetation in preparation for construction and the construction of approximately 60, one-acre residential lots and associated infrastructure. The Applicant has not yet established the final layout or design of the proposed development, but construction activities will likely affect the entire property.

The Applicant's proposed conservation measures include: (1) to avoid directly taking GCWAs by conducting Covered Activities during periods when the species is not present in the area; (2) to minimize potential indirect habitat impacts by taking steps to prevent the spread of oak wilt; and (3) to mitigate for the loss of GCWA habitat within the Anderson Tract by purchasing 60.7 credits of GCWA habitat off-site at a Service-approved conservation bank.

## **II. Status of the species/critical habitat - Golden-cheeked warbler**

### *Species Description and Life History*

The GCWA was emergency listed as endangered on May 4, 1990 (55 FR 18844). The final rule listing the species was published on December 27, 1990 (55 FR 53160). No critical habitat is designated for this species.

The GCWA is a small, insectivorous songbird, 4.5 to 5 inches long with a wingspan of approximately 8 inches (Pulich 1965 and 1976, Oberholser 1974). Golden-cheeked warblers breed exclusively in the mixed Ashe juniper/deciduous woodlands of the central Texas Hill Country west and north of the Balcones Fault (Pulich 1976). Golden-cheeked warblers require the shredding bark produced by mature Ashe junipers for nest material. Typical deciduous woody species include Texas oak (*Quercus buckleyi*), Lacey oak (*Q. glaucoides*), live oak (*Q. fusiformis*), Texas ash (*Frazinus texensis*), cedar elm (*Ulmus crassifolia*), hackberry (*Celtis occidentalis*), bigtooth maple (*Acer grandidentatum*), sycamore (*Platanus occidentalis*), Arizona walnut (*Juglans major*), and pecan (*Carya illinoensis*) (Pulich 1976, Ladd 1985, Wahl *et al.* 1990). Breeding and nesting GCWAs feed primarily on insects, spiders, and other arthropods found in Ashe junipers and associated deciduous tree species (Pulich 1976).

Male GCWAs arrive in central Texas around March 1st and begin to establish breeding territories, which they defend against other males by singing from visible perches within their territories. Females arrive a few days later, but are more difficult to detect in the dense woodland habitat (Pulich 1976). Three to five eggs are generally incubated in April, and unless there is a second nesting attempt, nestlings fledge in May to early June (Pulich 1976). If there is a second nesting attempt, it is typically in mid-May with nestlings fledging in late June to early July (Pulich 1976). By late July, GCWAs begin their migration south (Chapman 1907, Simmons 1924). Golden-cheeked warblers winter in the highland pine-oak woodlands of southern Mexico and northern Central America (Kroll 1980).

### *Historic and Current Distribution*

The GCWA's entire breeding range occurs on the Edwards Plateau and Lampasas Cut Plain of central Texas. Golden-cheeked warblers have been confirmed in 39 counties: 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, Tom Green, Travis, Uvalde, Williamson, and Young. However, many of the counties where it is known to occur, now or in the past, have only small amounts of suitable habitat (Pulich 1976, Service 1996, Lasley et al. 1997). Diamond (2007) estimated that the amount of suitable GCWA habitat across the species' range was approximately 4.2 million acres, much of this habitat occurring on private lands. As a result, the population status for the GCWA on private lands remains undocumented throughout major portions of the breeding range.

### *Reasons for Decline and Threats to Survival*

Before 1990, the primary reason for GCWA habitat loss was juniper clearing to improve conditions for livestock grazing. Since then, habitat loss has occurred as suburban developments spread into prime GCWA habitat. Groce *et al.* (2010) summarized the rates of expected human population growth within the range of the GCWA and found by 2030 the growth rate ranges from 17 percent around the Dallas-Fort Worth area to over 164 percent around San Antonio. As the human population continues to increase, so do associated roads, single and multi-family residences, and infrastructure, resulting in continued habitat destruction, fragmentation, and increased edge effects (Groce *et al.* 2010).

Fragmentation is the reduction of large blocks of habitat into several smaller patches. While GCWAs have been found to be reproductively successful in small patches of habitat (<50 acres), there is an increased likelihood of occupancy and abundance as patch size increases (Coldren 1998, Butcher *et al.* 2010, DeBoer and Diamond 2006). Increases in pairing and territory success are also correlated with increasing patch size (Arnold *et al.* 1996, Coldren 1998, Butcher *et al.* 2010). In addition, while some studies have suggested that small patches that occur close to larger patches are likely to be occupied by GCWAs, the long-term survival and recovery of the GCWA is dependent on maintaining the larger patches (Coldren 1998, Peterson 2001, The Nature Conservancy [TNC] 2002).

As GCWA habitat fragmentation increases the amount of GCWA habitat edge, where two or more different vegetation types meet, also increases. For the GCWA edge is where woodland becomes shrubland, grassland, a subdivision, etc., and depending on the type of edge, it can act as a barrier for dispersal; act as a territory boundary; favor certain predators; increase nest predation; and reduce reproductive output (Johnston 2006, Arnold *et al.* 1996). Canopy breaks (the distance from the top of one tree to another) as little as 36 feet have been shown to be barriers to GCWA movement (Coldren 1998). Territory boundaries have not only been shown to stop at edges, but GCWAs are more often farther from habitat edges (Beardmore 1994, DeBoer and Diamond 2006, Sperry 2007).

Other threats to GCWAs include the clearing of deciduous oaks upon which the GCWA forage, oak wilt infection in trees, nest parasitism by brown headed cowbirds (Engels and Sexton 1994), drought, fire, stress associated with migration, competition with other avian species, and

particularly, loss of habitat from urbanization (Ladd and Gass 1999). Human activities have eliminated GCWA habitat throughout their range, particularly areas associated with the I-35 corridor between the Austin and San Antonio metropolitan areas.

#### *Range-wide Survival and Recovery Needs*

The recovery strategy outlined in the Golden-cheeked Warbler Recovery Plan (Service 1992), which is currently being revised, divides the breeding range of the GCWA into eight regions, or units, and calls for the protection of sufficient habitat to support at least one self-sustaining population in each unit. These recovery units were delineated based primarily on watershed, vegetation, and geologic boundaries (Service 1992).

Based on the Golden-cheeked Warbler Recovery Plan (Service 1992), protection and management of occupied habitat and minimization of degradation, development, or environmental modification of unoccupied habitat necessary for buffering nesting habitat are necessary to provide for the survival of the species. Habitat protection must include elements of both breeding and non-breeding habitat (i.e., associated uplands and migration corridors). Current and future efforts to create new and protect existing habitat will enhance the GCWA's ability to expand in distribution and numbers. Efforts, such as land acquisition and conservation easements, to protect existing viable populations is critical to the survival and recovery of this species, particularly when rapidly expanding urbanization continues to result in the loss of prime breeding habitat.

According to the Golden-cheeked Warbler Population and Habitat Viability Assessment Report (Service 1996) (Golden-cheeked warbler PHVA) a viable population needs to consist of at least 3,000 breeding pairs. This and other population viability assessments on GCWAs have indicated the most sensitive factors affecting their continued existence are population size per patch, fecundity (productivity or number of young per adult), and fledgling survival (Service 1996, Alldredge *et al.* 2002). These assessments estimated one viable population will need a minimum of 32,500 acres of prime unfragmented habitat to reduce the possibility of extinction of that population to less than five percent over 100 years (Service 1996). Further, this minimum carrying capacity threshold estimate increases with poorer quality habitat (e.g., patchy habitat resulting from fragmentation).

Several State and federally owned lands occur within the breeding range of the GCWA, but the overriding majority of the species' breeding range occurs on private lands that have been either occasionally or never surveyed. Currently there are five large GCWA populations receiving some degree of protection: those at the Balcones Canyonlands Preserve in Travis County; the nearby Balcones Canyonlands National Wildlife Refuge in Travis, Burnet, and Williamson counties; Camp Bullis Military Installation and TPWD's Government Canyon State Natural Area in Bexar County; and the Fort Hood Military Reservation in Coryell and Bell counties. There are also several conservation banks (CB) whose goal is to protect GCWA habitat (acres represent the total if the entire bank of credits are sold): Hickory Pass CB (3,003 acres) in Burnet County, Bandera Corridor CB (6,946 acres) in Bandera and Real counties, Clearwater CB (21,305 acres) in Burnet County, and Festina Lente CB (1,147 acres) in Bandera County.

### III. Environmental Baseline

The GCWA Recovery Plan (Service 1992) places the Anderson Tract in Recovery Region 6. No recent county-wide or region-wide surveys have been conducted. GCWA surveys were conducted on the Anderson Tract in 2011 and 2012 (Pape-Dawson Engineers, Inc. 2011, 2012). In 2011 the survey area included all 60.7 acres of the Anderson Tract, but only 37 acres in 2012 (see Figure 2 of the HCP). The surveys indicated at least two to three male GCWAs used all or a portion of the Anderson Tract. The surveys described the woodland vegetation as generally having the following characteristics (Pape-Dawson Engineers, Inc. 2011, 2012):

- Tree canopy with approximately 85 to 90 percent closure;
- Tree canopy height ranging from approximately 15 to 40 feet above the ground; and
- Tree canopy composed of approximately 70 to 80 percent Ashe juniper (*Juniperus ashei*), with the remaining canopy composed of primarily netleaf hackberry (*Celtis reticulata*), Texas oak (*Quercus texana*), and cedar elm (*Ulmus crassifolia*).

The vegetation descriptions for the Anderson Tract are consistent with the definition of suitable GCWA habitat provided by Campbell (2003). However, aerial imagery indicates that 8.2 acres of the Anderson Tract has become more open in recent years (see Figure 3 of the HCP), with an apparent die-off of trees, likely due to the severe drought conditions in 2011. This 8-acre area went from at least 70 percent canopy cover in 2009 to 35 percent canopy cover in 2012 (see Figure 4 in the HCP). However, overall woodland canopy closure across the Anderson Tract was 73 percent at the time of the 2012 aerial imagery, which is still within the range known to be used by the GCWA, but lower than the estimates provided by Pape-Dawson Engineers (2011, 2012).

According to our consultations tracking database, there have been 60 formal section 7 consultations on the GCWA (not including those processed as part of a 10(a)(1)(B) permit which are discussed below). The action area these consultations covered was over 61 million acres with over 97,000 acres authorized for take. Multiple consultations were done on Fort Hood, Camp Bullis and Camp Stanley; however, we have only counted the action areas once for the total area covered by formal consultations. The action areas for one brush control consultation covered almost half of Texas at 60 million acres, with another covering 773,000, and a prescribed fire consultation covered 4.2 million acres. However, only 52,000 acres of GCWA habitat were actually authorized to be impacted by these 3 consultations. Of the remaining acreage, almost 41,000 acres of impacts were authorized on DOD lands. The result of all of these consultations is over 89,000 acres of GCWA habitat maintained on DOD or private land preserved and/or maintained for the benefit of the GCWA.

Additionally, we have issued 133 individual 10(a)(1)(B) incidental take permits covering more than 70.1 million acres (note: this is the permit area, not the actual acres of impacted habitat). Since 2006, we've authorized impacts to over 24,700 acres of GCWA habitat, 6,000 of which was authorized under Williamson County's RHCP, 3,000 of which were authorized as part of Oncor's programmatic HCP, 9,000 of which were authorized as part of Hays County's RHCP, 1,100 of which were part of LCRA's CREZ HCP, and 9,000 of which were authorized as part of

Comal County's RHCP. The result of all HCPs if fully implemented is over 59,000 acres of land for the benefit of the GCWAs will be preserved.

According to our consultations database, there has been one 10(a)(1)(B) incidental take permit issued in the action area for the GCWA. This HCP authorized impacts to over 840 acres and resulted in 760 acres of GCWA habitat preservation. The project was expected to impact 8 GCWA territories and the mitigation was documented to support at least 12 GCWA territories. Excluding the multi-county consultations that include Bexar County (since take was quantified by county) and the 10(a)(1)(B), there have been 12 formal section 7 consultations on GCWAs in the action area, 6 of which were on Camp Bullis or Camp Stanley. These consultations authorized impacts to over 2,961 acres of GCWA habitat and resulted in the preservation/protection of at least 6,000 acres of GCWA habitat.

#### **IV. Effects of the Action**

The Service is authorizing impact to a total of 60.7 acres of GCWA habitat from Covered Activities. However, 24.7 acres is already considered to be indirectly impacted (8.2 acres of dead trees and 16.5 acres from adjacent roads and houses) (see Figure 5 of the HCP). The effects of the action include both the direct and indirect effects of implementing the Anderson Tract HCP. Direct impacts from implementation of the HCP include habitat removal, degradation, and/or fragmentation. Indirect impacts from implementation of the HCP could occur from increased edge, which can increase the presence of nest predators and parasites, and reduction in patch quality and overall habitat suitability.

Diamond et al. (2010) estimates almost 3.6 million acres of potential GCWA habitat throughout the range with estimates within the action area of approximately 59,018 acres. The amount of habitat proposed to be impacted by the Anderson HCP is 0.002 percent of all GCWA habitat range-wide and 0.1 percent within the action area. To minimize and mitigate for the impacts on the GCWA, the Applicant will: (1) avoid directly taking GCWAs by conducting initial clearing activities during periods when the species is not present in the area; (2) minimize potential indirect habitat effects by taking steps to prevent the spread of oak wilt; and (3) mitigate for destruction or modification of GCWA habitat by purchasing 60.7 GCWA conservation credits composed of high quality GCWA habitat from a Service-approved conservation bank with a service area that includes the Anderson Tract.

The known and potential GCWA habitat within the Anderson Tract is adjacent to existing residential development and roads. These adjacent land uses indirectly affect the GCWA habitat on the Anderson Tract, based on an assumption of such impacts extending 300 feet beyond the boundary of the disturbance. Additionally, no GCWAs were observed during surveys in the habitat immediately adjacent to Toutant Beauregard Road and the Sundance Ranch subdivision. Additionally, extreme drought is the likely cause for a reduction in live trees within 8.2 acres within the Anderson Tract. These climatic and external disturbances have likely decreased the quality of the habitat within the Anderson Tract. The ratio of mitigation to habitat impact exceeds 1:1 when considering the effects of existing off-site impacts (estimated to extend 300 feet from the edge of existing disturbance), or where recent canopy loss has substantially degraded the habitat. A total of 24.5 acres is affected by these pre-existing conditions and is

considered already partially impacted; therefore, a mitigation ratio of 0.5:1 is applied (half an acre of mitigation for every acre impacted). For the remaining 36.2 acres a ratio of 1:1 is applied. The effective mitigation ratio is 60.7:48.5 or 1.25:1, meaning for every acre impacted 1.25 acres of high quality GCWA habitat will be preserved, within a Service approved conservation bank.

Critical habitat has not been designated for the GCWA; therefore impacts to critical habitat will occur.

## **V. Cumulative Effects**

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this Biological Opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Bexar County has undergone rapid and sustained development and continues to be a fast growing urban area, including the land in the vicinity of the project. It can be assumed that, with or without the proposed action, urban development will continue to encroach upon the important areas for listed species in the action area.

An undetermined number of future land use conversions and routine agricultural practices are not subject to Federal authorization or funding and may alter the habitat or increase incidental take of GCWAs and are, therefore, cumulative to the proposed project. These additional cumulative effects include: (1) loss of GCWA habitat due to urbanization; (2) increase in impervious cover due to urbanization (i.e., roads); (3) nest parasitism; and, (4) predation by feral animals and pets. Specific project types that can be expected within the action area and could have an effect on the GCWA include, but are not limited to: urban development, including associated infrastructure; roads, including more roads and widening of existing roads; and conversion of woodland to agriculture or impervious cover.

## **VI. Conclusion**

After reviewing the current status of the GCWA, the environmental baseline for the action area, the effects of the proposed project, and the cumulative effects, it is the Service's biological opinion that the action, as proposed, is not likely to jeopardize the continued existence of this species. No critical habitat has been designated for the GCWA; therefore, none will be affected. Implementation of the Anderson Tract HCP will provide a recovery benefit to the GCWA through permanently preserved GCWA habitat that is a large, contiguous patch of GCWA habitat. Preservation of larger blocks will have greater success in long-term conservation of GCWAs.

## **Incidental Take Statement**

Section 9 of the Act and Federal regulations pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined by the Service as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is further defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns, which include, but are not limited to, breeding, feeding and sheltering (50 CFR §17.3). Harm is also further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns, including breeding, feeding, and sheltering. Incidental take is defined by the Service as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act, provided that such taking is in compliance with this Incidental Take Statement.

The measures described below are nondiscretionary and must be implemented by the Service so that they become binding conditions of any authorization issued to implement a project covered by this biological opinion, as appropriate, in order for the exemption in section 7(o)(2) to apply. The Service has a continuing duty to regulate the activity covered by this incidental take statement. If the Service (1) fails to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the authorizations, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Service must report the progress of the action and its effect on the species. [50 CFR 402.14(i)(3)].

### **Amount or Extent of Take**

The Service anticipates incidental take of GCWAs will occur as a result of the proposed action. Individuals of these species are difficult to detect unless they are observed undisturbed in their environment. Most close-range observations of this species represent chance encounters that are difficult to predict. Because quantifying take of individuals is difficult, this biological opinion instead evaluates acres of habitat removed as a surrogate for the level of incidental take. The incidental take from the proposed action is expected to occur in the form of harm through direct loss of habitat and indirect adverse effects resulting from the issuance of an incidental take permit pursuant to 10(a)(1)(B) of the Act. The following amount of incidental take will be authorized by the proposed Permit:

1. No more than 60.7 acres of GCWA habitat that occur within Bexar County may be adversely affected.

An estimate can be made for the number of GCWAs expected to be taken based on previous surveys on the property. Through authorization of this Permit it is expected that 2-3 territories will be impacted. It is important to note that the amount of habitat represents less than one percent of GCWA in the action area.

## **Effect of the Take**

In the accompanying biological opinion, the Service has determined that this level of anticipated take is not likely to result in jeopardy of the GCWA due to the small amount of impact and the long-term beneficial effects associated with the proposed mitigation. No critical habitat has been designated for the GCWA; therefore, none will be affected.

## **Reasonable and Prudent Measures**

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize incidental take of GCWAs in the action area.

1. The Service shall require that the Applicant fully implements the Anderson Tract HCP and comply with all terms and conditions of the issued section 10(a)(1)(B) incidental take permit; and
2. suspend or revoke the Applicant's Permit if new information becomes available that demonstrates direct or indirect take of non-covered species. The Service will notify Anaqua Springs Ranch, Ltd. that their Permit is suspended as soon as we become aware of such take.

## **Terms and Conditions**

In order to be exempt from the prohibitions of section 9 of the Act, the Service must comply with the following terms and conditions that implement all of the reasonable and prudent measures described above and outlined reporting/monitoring requirements. These terms and conditions are non-discretionary.

1. Ensure that Anaqua Springs Ranch, Ltd. fully complies with avoiding and minimizing incidental take, in the form of harassment and harm, of GCWAs through full implementation of the *Anderson Tract Habitat Conservation Plan*.
2. Ensure that Anaqua Springs Ranch, Ltd. fully mitigates the effects of the incidental take of GCWAs, as described in the *Anderson Tract Habitat Conservation Plan*.
3. The authorization granted by the Permit is subject to compliance with all terms and conditions contained in the Permit.

The reasonable and prudent measures, with their implementing term and condition, are designed to minimize the effects of incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring re-initiation of consultation and review of the reasonable and prudent measures.

## **Conservation Recommendations**

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered or threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or designated critical habitat, to help implement recovery plans, or to develop information.

1. The Service with the Applicant should work to encourage residents to use xeriscape and native vegetation landscaping within residential lots and along access roads.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

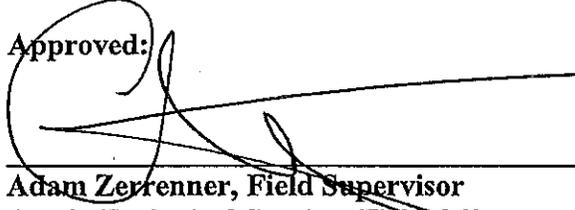
## **Review Requirements**

The reasonable and prudent measures, with their implementing terms and conditions, are designed to avoid, minimize, and mitigate effects of incidental take that might otherwise result from the proposed action. If, during the course of the authorized activities, this level of incidental take is exceeded prior to the annual review, such incidental take represents new information requiring review of the reasonable and prudent measures provided. The Service must immediately provide an explanation of the causes of the taking and review the need for possible modification of the reasonable and prudent measures. This biological opinion will expire at the expiration of the incidental take permit issued to implement the Anderson Tract HCP. Issuance of a new biological opinion will be subject to evaluation of the recovery of the species.

## **Reinitiation Notice**

This concludes formal consultation on the issuance of a Service 10(a)(1)(B) permit for the Anderson Tract Habitat Conservation Plan to minimize and mitigate, to the maximum extent practicable, adverse effects to the GCWA for covered activities described in the Anderson Tract HCP over a period of 10 years. As provided in 50 CFR Sec. 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of authorized incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this consultation; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species not considered in this biological opinion; or, (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

Approved:

  
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Adam Zerrenner, Field Supervisor  
Austin Ecological Services Field Office

Feb. 19, 2015  
Date

**Concur:**

*Michelle Shacyhusay*  
\_\_\_\_\_  
**Assistant Regional Director  
Ecological Services, Region 2**

*2/20/15*  
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**Date**

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