United States Department of the Interior

FISH AND WILDLIFE SERVICE
10711 Burnet Road, Suite 200
Austin, Texas 78758
512 490-0057
FAX 490-0974

In Reply Refer To:
FWS/R2/AESO/061356

Memorandum

To: Assistant Regional Director, Ecological Services

From: Field Supervisor, Austin Ecological Services Field Office

Subject: Biological Opinion for the CEMEX Balcones Quarry Northeast Area Habitat Conservation Plan–Permit TE58612B (Consultation No. 02ETAU00-2015-F-0220)

Enclosed is the biological opinion for the proposed section 10(a)(1)(B) incidental take permit for the CEMEX Construction Materials South, LLC (Applicant) Balcones Quarry Northeast Area 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 Balcones Quarry Northeast Area 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 Services 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® IN AMERICA

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 CEMEX Construction Materials South, LLC (Applicant) for the Balcones Quarry Northeast Area 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 proposed activities are: the endangered 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*), San Marcos gambusia (*Gambusia georgei*), black-capped vireo (*Vireo atricapilla)*, and Whooping crane (*Grus americana*).

The Edwards Aquifer aquatic species (Texas wild-rice, Peck's cave amphipod, fountain darter, Comal Springs dryopid beetle, Comal Springs riffle beetle, Texas blind salamander, San Marcos gambusia, and San Marcos salamander) are dependent on the Edwards and/or Trinity (Hill Country segment) aquifers. These species are not provided incidental take coverage by the proposed Permit; however, CEMEX has received coverage for these species as part of the Edwards Aquifer Recovery Implementation Habitat Conservation Plan (EARIP HCP, TE63663A). Therefore, these species are not addressed in this biological opinion. No impacts are expected from the proposed project on black-capped vireos or Whooping cranes; therefore, these species are also not addressed further in this biological opinion.

Consultation History

The Applicant submitted their HCP along with their application for an incidental take permit in February 2015. 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 May 13, 2015 (80 FR 27349). The comment period closed on July 15, 2015.

I. Proposed Action

The proposed federal action associated with the accompanying HCP is to issue an ITP to the Applicant for otherwise lawful land uses conducted on the Balcones Quarry Northeast Area, which is located in Comal County (see Figure 1 of the HCP). The permit term will be 15 years. The Balcones Quarry Northeast Area 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 Balcones Quarry Northeast Area plus a 300-foot buffer where GCWA habitat extends offsite, which totals 252.45 acres (246 acres of woodland on-site and 6.45 acres off-site).

The activities covered by the HCP include extending the existing perimeter berm along the north, northeast, and east sides of the Balcones property boundaries; and remove woodland vegetation, soil, and other surface materials to prepare the area for quarry activities (Covered Activities). The Applicant's proposed conservation measures include: (1) avoiding directly taking GCWAs by conducting Covered Activities during periods when the species is not present in the area; (2) minimizing potential indirect habitat impacts by taking steps to prevent the spread of oak wilt; and (3) mitigating for the loss of GCWA habitat within the Balcones Quarry Northeast Area by purchasing 147.4 credits of GCWA habitat off-site.

II. Status of the Species and 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 illinoinensis*) (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 breeding in 27 counties: Bandera, Bell, Bexar, Blanco, Bosque, Burnet, Comal, Coryell, Edwards, Gillespie, Hays, Johnson, Kendall, Kerr, Kimble, Kinney, Lampasas, Llano, Medina, Palo Pinto, Real, San Saba, Somervell, Travis, Uvalde, Williamson, and Young (Pulich 1976, Oberholser 1974). Golden-cheeked warblers have been sighted in the following 10 counties: Dallas, Eastland, Erath, Hamilton, Hill, Hood, Jack, McLennan, Stephens, and Val Verde (Pulich 1976; Edwards and Lewis 2008, 2009; V. Collins, Pape Dawson Engineers, pers. comm. 2012). 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 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/or 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). Throughout the GCWA's range, human activities have contributed to habitat loss, 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 (Figure 1).

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 to protect existing viable populations, such as land acquisition and conservation easements, 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), 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 (Service1996, 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 estimate of the minimum number of breeding pairs increases in 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 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 (NWR) in Travis, Burnet, and Williamson counties; Camp Bullis Military Installation and TPWD's Government Canyon State Natural Area (GCSNA) 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 (acreages 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.

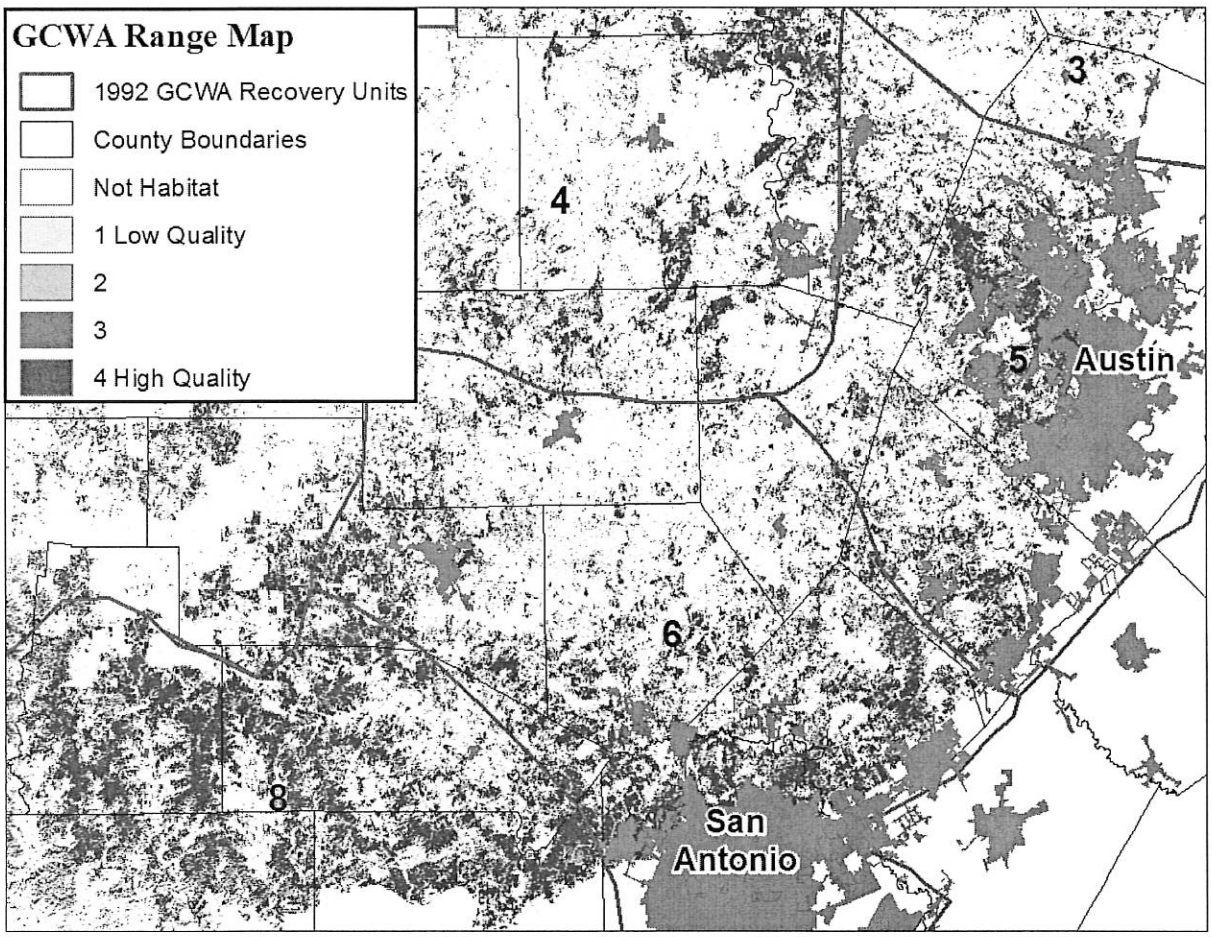

Figure 1: GCWA Recovery Regions (Service 1992) and potential GCWA habitat (Diamond 2007).

Environmental Baseline

The GCWA Recovery Plan (Service 1992) places the Balcones Quarry Northeast Area in Recovery Region 6 which includes Comal, Bexar, Kendall, and portions of Bandera, Blanco, Gillespie, and Kerr counties. No recent county-wide or recovery region-wide surveys have been conducted.

SWCA Environmental Consultants (SWCA) conducted surveys on the Balcones Northeast Area tract in the spring seasons of 2013 and 2014. These surveys were of the larger woodland patch (246 acres) on-site to determine the status of the GCWA in preparation for clearing and quarrying this area. The results of the survey indicated one, or possibly two, GCWAs using the property. Based on these survey results, it was apparent that not all of the woodland on the property were providing habitat for the species. At the same time, the limits of GCWA habitat on the property were not clearly discernible on digital aerial photography. Therefore, SWCA conducted a tree species analysis to better define potential GCWA habitat on-site (SWCA 2014). SWCA found the distribution of GCWA observations did not correlate to the distribution of

plateau live oak trees, but did correlate rather neatly with the distribution of the other broad-leafed hardwoods. The contour of the lowest density of other broad-leafed hardwood trees that encompassed all GCWA observations in the surveyed area and the woodland between the two GCWA observations made in 2013 was then used by SWCA to define the limits of GCWA habitat on the property. This delineation was then expanded to include all woodland that occurred within 300 feet of all GCWA observations, which resulted in approximately 143.9 acres on-site. The 6.45 acres of off-site potential GCWA habitat is expected to be indirectly affected by the Proposed Alternative, since completely clearing the Balcones Quarry property would likely render this woodland too small and isolated to be capable of supporting a GCWA territory (Magness et al. 2006).

According to our consultations tracking database, there have been a total of 64 formal section 7 consultations on the GCWA. Over 67,800 acres of GCWA habitat were authorized to be impacted by these consultations. Several large consultations make up the majority of this acreage: 1) over 7,200 acres were associated with Department of Defense's (DOD) Fort Hood activities; 2) over 52,400 acres were associated with brush control projects throughout the GCWA's 35 county range; and 3) 5,000 acres were for activities on DOD's Camp Bullis. The conservation resulting from these consultations is over 54,300 acres of GCWA habitat managed or permanently preserved for the benefit of the GCWA.

Additionally, we have issued a total of 134 individual 10(a)(1)(B) incidental take permits, which have their own formal intra-Service section 7 consultations. Over 48,000 acres of GCWA habitat were authorized to be impacted by these consultations. Of this total over 21,000 acres is authorized as part of Travis County's and the City of Austin's HCP, 6,000 is authorized as part of Williamson County's Regional HCP, 3,000 is authorized as part of Oncor's programmatic HCP, 9,000 is authorized as part of Hays County's Regional HCP, 1,100 is authorized as part of LCRA's CREZ HCP, and 5,200 is authorized as part of Comal County's Regional HCP. The conservation benefit resulting from all HCPs, if fully implemented, would be over 59,000 acres and almost $1.3 million for the preservation and maintenance of land for the benefit of the GCWAs.

Effects of the Action

The Service is authorizing impact to a total of 147.44[1] acres of GCWA habitat from Covered Activities. The effects of the action include both the direct and indirect effects of implementing the Balcones Quarry Northeast Area 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 reduction in patch quality and overall habitat suitability.

An estimated 3.6 million acres of potential GCWA habitat exists throughout the range (Diamond et al. 2010). Estimates of GCWA habitat within Recovery Region 6 range from 389,438 to 769,581 acres (Morrison et al. 2010 and Diamond 2007, respectively). Within Comal County there is approximately 58,700 acres of potential GCWA habitat (Diamond et al. 2010). The amount of habitat proposed to be impacted is .004 percent of all GCWA habitat range-wide, .03 to .06 within Recovery Region 6, and 0.43 percent within the Comal County. To minimize and

[1] See Section 5.1.2 of the CEMEX HCP for how this number was derived.

mitigate for the impacts on the GCWA, the Applicant will: (1) avoid directly taking GCWAs by conducting vegetation clearing activities during periods when the species is not present; (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 147.44 GCWA acres or conservation credits composed of high quality GCWA habitat. Mitigation will occur by one of the following:

1. Purchase 147.44 conservation credits from a Service-approved GCWA conservation bank with Comal County in their service area, or
2. Acquire and preserve a minimum of 147.44 acres of GCWA habitat through fee simple title or establishment of a conservation easement[2], or
3. Purchase credits from the Comal County Regional Habitat Conservation Plan.

While issuance of this permit would result in an overall net loss of GCWA habitat, the high quality habitat that will be permanently preserved by CEMEX is expected to benefit the GCWA in the long-term. Additionally, it is expected that the permanent protection of 147.44 acres of high quality habitat will result in the preservation of at least 5 territories (average of 25 acres per territory), when the Balcones Northeast Area tract supports at most two birds with no documentation of a successful territory (i.e., the presence of a female, nest, or young).

Critical habitat has not been designated for the GCWA; therefore, no impacts to critical habitat are expected.

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.

According the Comal County Region Habitat Conservation Plan, an estimated 10,476 acres of GCWA habitat will be lost as a result of growth and development across the areas of GCWA habitat in the County. An additional undetermined number of future land use conversions and routine agricultural practices that are not subject to federal authorization or funding may alter the habitat or increase incidental take of GCWAs. These impacts are cumulative to the proposed project and 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: residential development, including associated infrastructure; roads, including more roads and widening of existing roads; and conversion of woodland to agriculture, quarries, or impervious cover.

Conclusion

[2] If preserving habitat, the 147.44 acres would be contiguous with a minimum of 352.56 additional acres of preserved habitat so that the total area preserved was at least 500 acres.

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 Balcones Quarry Northeast Area HCP will provide a recovery benefit to the GCWA through permanently preserved GCWA habitat that is part of a larger, contiguous patch of GCWA habitat. Preservation of larger blocks will have greater success in long-term conservation of GCWAs.

III. 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 non-discretionary, and must be undertaken by the Service so that they become binding conditions of any permit issued to CEMEX, as appropriate, 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 assume and implement the terms and conditions, or (2) fails to require the (applicant) to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, CEMEX must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement and their incidental take permit (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. The following amount of incidental take will be authorized by the proposed Permit:

1. No more than 145 acres of GCWA habitat that occurs within Comal County may be adversely affected;

An estimate can be made of the number of GCWAs expected to be taken based on previous surveys on the property. Through authorization of this Permit it is expected that not more than 2 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 GCWAs; 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. The Service shall:

1. require that the Applicant fully implement the Balcones Quarry Northeast Area HCP and complies with all terms and conditions of the issued section 10(a)(1)(B) incidental take permit; and

2. notify CEMEX immediately if new information becomes available that demonstrates direct or indirect take of non-covered, listed species. The Service will notify CEMEX Construction Materials South, LLC that actions associated with implementation of the HCP that are shown to result in incidental take of listed species not covered by the permit must immediately cease. This situation will require an amendment of the permit and HCP and shall be processed as a major amendment in accordance with 50 CFR 13.23 (a) and (b), an updated analysis under NEPA, and reinitiation of the BO. Alternatively, CEMEX may apply for a new permit to cover take of those other listedspecies.

Terms and Conditions

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

1. Ensure that CEMEX Construction Materials South, LLC fully complies with avoiding and minimizing incidental take, in the form of harassment and harm, of GCWAs

through full implementation of the *Balcones Quarry Northeast Area Habitat Conservation Plan*;

2. ensure that CEMEX Construction Materials South, LLC fully mitigates the effects of the incidental take of GCWAs, as described in the *Balcones Quarry Northeast Area Habitat Conservation Plan*; and
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 conditions, 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 should encourage the Applicant to reclaim quarries for future habitat for GCWA and other migratory bird species.
2. The Applicant should be encouraged to preserve additional habitat or purchase additional conservation bank credits.

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 Balcones Quarry Northeast Area 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 Balcones Quarry Northeast Area Habitat Conservation Plan to minimize and mitigate, to the maximum extent practicable, adverse effects to the GCWA for covered activities described in the Balcones Quarry Northeast Area HCP over a period of 15 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:

Adam Zerrenner, Field Supervisor
Austin Ecological Services Field Office

Nov. 16, 2015
Date

Concurrence:

Michelle Shumyhesky
Assistant Regional Director, Southwest Region

11/16/15
Date

Non-Concurrence:

Assistant Regional Director, Southwest Region

Date

Literature Cited

Alldredge, M.W., J.S. Hatfield, D.D. Diamond, and C.D. True. 2002. Population viability analysis of the Golden-cheeked warbler. Final report submitted to the U.S. Fish and Wildlife Service.

Arnold, K.A., C.L. Coldren, and M.L. Fink. 1996. The interactions between avian predators and golden-cheeked warblers in Travis County, Texas. Research report 1983-2 for Texas Department of Transportation.

Beardmore, C. J. 1994. Habitat use of the golden-cheeked warbler in Travis County, Texas. Thesis, Texas A&M University, College Station, Texas, USA.

Butcher, J. A., M. L. Morrison, D. Ransom, Jr., R. D. Slack, and R. N. Wilkins. 2010. Evidence of a minimum patch size threshold of reproductive success in an endangered songbird. Journal of Wildlife Management 74:133–139.

Chapman, F.M. 1907. The warblers of North America. D. Appleton and Co., New York.

Coldren, C.L., 1998. The effect of habitat fragmentation on the golden-cheeked warbler. Ph.D. Dissertation. Texas A&M University, College Station, Texas.

DeBoer, T. S., and D. D. Diamond. 2006. Predicting presence-absence of the endangered golden-cheeked warbler (*Dendroica chrysoparia*). Southwestern Naturalist 51:181–190.

Diamond, D. 2007. Range-wide modeling of golden-cheeked warbler habitat. Project Final Report to Texas Parks and Wildlife Department. Missouri Resource Assessment Partnership, University of Missouri. 22pp + figures.

Diamond, D., L. Elliott, and R. Lea. 2010. Golden-cheeked Warbler Habitat Up-date. Final Report for the Southern Edwards Plateau Habitat Conservation Plan. 8 pp.

Engels, T.M., and C.W. Sexton. 1994. Negative correlation of blue jays and golden-cheeked warblers near an urbanizing area. Conservation Biology 8:286-290.

Groce, J. E., H. A. Mathewson, M. L. Morrison and N. Wilkins. 2010. Scientific Evaluation for the 5-year Status Review of the Golden-cheeked Warbler. Albuquerque, New Mexico. 194 pp.

Johnston, M. M. 2006. A survey for potential predators of the golden-cheeked warbler (*Dendroica chrysoparia*) in relation to different edges at the Balcones Canyonlands Preserve. Thesis, Texas State University, San Marcos, Texas, USA.

Kroll, J.C. 1980. Habitat requirements of the Golden cheeked Warbler: management implications. J.·Range Manage. 33:60-65.

Ladd, C. G. 1985. Nesting habitat requirements of the golden-cheeked warbler. M.S. thesis. Southwest Texas St. Univ., San Marcos, Texas. 65 pp.

Ladd, C., and L. Gass. 1999. Golden-cheeked warbler (*Dendroica chrysoparia*). The Birds of North America, No. 420, Cornell Laboratory of Ornithology and the Academy of Natural Sciences, Philadelphia, Pennsylvania.

Magness, D.R., R.N. Wilkins, and S.J. Hejl. 2006. Quantitative relationships among golden-cheeked warbler occurrence and landscape size, composition, and structure. Wildlife Bulletin 34:473–479.

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

Oberholser, H.C. 1974. The bird life of Texas. U.T. Press, Austin. 1069pp.

Peterson, C. E. 2001. Golden-cheeked warbler (*Dendroica chrysoparia*: Parulidae) territory and non-territory habitat choice in fragmented ashe-juniper patches on the Kerr Wildlife Management Area. Thesis, Southwest Texas State University, San Marcos, Texas, USA.

Pulich, W.M. 1965. The Golden-cheeked Warbler of Texas. Audubon Field-Notes 19:545-548.

Pulich, W.M. 1976. The Golden-cheeked Warbler. A Bioecological Study. Texas Parks and Wildlife Department, Austin, Texas.

Service (U.S. Fish and Wildlife Service). 1992. Golden-cheeked warbler (*Dendroica chrysoparia*) recovery plan. Austin, Texas.

Service (U.S. Fish and Wildlife Service). 1996. Golden-cheeked warbler population and habitat viability assessment report. Austin, Texas.

Simmons, G.F. 1924. Birds of the Austin region. U.T. Press, Austin.

Sperry, C. 2007. Influences of borders on golden-cheeked warbler habitat in the Balcones Canyonlands Perserve, Travis County, Texas. Texas state university, San Marcos, Texas, USA.

SWCA (SWCA Environmental Consultants). 2014. Delineation of golden-cheeked warbler habitat in the CEMEX Balcones Quarry Northeast Area/modified in response to Service comments. August 18, 2014. 9pp.

TNC (The Nature Conservancy). 2002. A range-wide assessment of potential breeding habitat for the golden-cheeked warbler. Final Report submitted to Natural Resources Management Branch, Fort Hood, Texas.

Wahl, R., D. D. Diamond, and D. Shaw. 1990. The golden-cheeked warbler: a status review. Final report submitted to: Office of Endangered Species, Fish and Wildlife Service, Albuquerque, New Mexico.