



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
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2-12-04-F-270

July 15, 2004

Colonel Randall J. Butler
Department of the Army
Headquarters, U.S. Army Garrison
ATTN: Directorate of Public Works
Building 1001, Room W321
Fort Hood, Texas 76544-5000

Dear Colonel Butler:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion based on our review of the U.S. Department of Army's proposed transfer of approximately 272 hectares (672 acres) of property at Fort Hood Military Installation in Bell County, Texas, and its effects on the federally listed black-capped vireo (*Vireo atricapilla*) (BCV) and golden-cheeked warbler (*Dendroica chrysoparia*) (GCW). The property would be transferred to the Texas A&M University System for the construction of a central Texas campus.

This biological opinion has been prepared in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.) The biological opinion is based on the Biological Assessment included with your letter initiating consultation, information provided by Fort Hood Environmental staff, and other sources of information. A complete administrative record of this consultation is on file at the Service's Arlington, Texas, Ecological Services Field Office.

Consultation History

December 1, 2003: Initial meeting hosted by Fort Hood with representatives of Texas A&M University to discuss proposed transfer of property and future construction of central Texas campus. Fort Hood environmental personnel provided information on habitat occurring on the property and presence of listed species. Service representatives discussed the consultation process, including timelines and biological assessment content, and provided guidelines on minimization measures.

- February 15, 2004: Received draft sections of the Biological Assessment from Linda Ashe (Environmental Research Group, LLC) via electronic mail for preliminary review. Sections received included an effects analysis and maps of the project area with habitat delineated.
- February 18, 2004: Meeting hosted by Service's Arlington Field Office with Linda Ashe and Michael Schultz (Neel-Schaffer, Inc., via telephone) to discuss the effects analysis of the draft Biological Assessment. The Service advised the consultants on assessing potential take, effects determinations, minimization measures, and inclusion of habitat and species data collected by Fort Hood.
- March 12, 2004: Arlington Field Office received written request from Fort Hood initiating formal consultation on the proposed action. Written acknowledgement of the initiation package was sent to Fort Hood on March 23, 2004.

BIOLOGICAL OPINION

I. Description of Proposed Action

The Department of the Army's (Army) Fort Hood Military Reservation (Fort Hood) proposes to transfer land to the Texas A&M University System (TAMUS) for the development of a 20,000-student university campus. The property proposed for transfer is approximately 272 hectares (672 acres) within Training Area (TA) 27 in South Fort Hood (Figure 1). The property is essentially undeveloped and bounded on the east by State Highway 195, Airport Road on the north, and the Texas State Veterans Cemetery to the south (Figure 2). The west side of the property borders the remainder of TA 27 and Fort Hood property.

Following the transfer of the property, a chain link fence will be constructed around the perimeter of the property. The campus will be constructed on an incremental basis and is expected to take several years; therefore, specific design of the associated facilities is not available. However, current conceptual designs for the campus include approximately 40 buildings (academic, office, and resident) and three to four large parking lots with smaller parking areas scattered throughout the campus. Also included in the current design is the construction of several athletic facilities to include a football stadium/track and field complex, baseball stadium, baseball/softball complex, and two additional intramural fields. Numerous paved roadways and sidewalks will connect the campus facilities and exterior lighting will be installed for safety purposes. It is anticipated that access to the university would be through Airport Road to the north and State Highway 195 to the east. Associated with the construction, operation, and maintenance of the university would be the extension of gas, electric, sewer, water, and communication utilities as necessary. The campus conceptual design is anticipated to utilize approximately 91 hectares (225 acres) of the property.

The proposed action also includes a minimization measure in the form of preservation of existing GCW and BCV habitat on the property. The proposed university would be designed to utilize

the property closest to the existing roadways and 'No-build Zones' would be established to preserve the BCV habitat and portions of the GCW habitat that is contiguous with the habitat on Fort Hood. The 'No-build Zones' would encompass approximately 57.62 hectares (142.39 acres) plus a 50 meter (164 ft) buffer area. Construction would only be permitted outside of the established 'No-build Zones.'

The action area for the proposed project includes the anticipated extent of the direct and indirect effects. The Service has determined the action area to include the proposed 272 hectare (672 acre) property and an approximately 20.16 hectare (49.82 acre) area immediately adjacent to the property for reasons that are discussed in the 'Effects of the Action' section of this opinion.

II. Status of the Species

The current list of federally threatened (T), endangered (E), and candidate (C) species that are known to occur, or have been documented in Bell County consists of the following:

- black-capped vireo (*Vireo atricapilla*) – E
- golden-cheeked warbler (*Dendroica chrysoparia*) – E
- whooping crane (*Grus americana*) – E
- bald eagle (*Haliaeetus leucocephalus*) – T
- Salado salamander (*Eurycea chisholmensis*) – C
- smalleye shiner (*Notropis buccula*) - C

Candidate species are not afforded federal protection under the Endangered Species Act; however, the Service recommends that potential impacts to these species be considered during project planning. Currently, there are no known populations of the Salado salamander or smalleye shiner on Fort Hood. Additionally, habitat for these species does not occur within the action area.

The whooping crane and bald eagle are known to occur in Bell County, but are not expected to occur in the action area due to the lack of habitat. For this reason, the Army has determined that the proposed action would have no effect on the whooping crane or bald eagle. Therefore, these species will not be discussed further in this biological opinion, and no take of these species is authorized.

Two federally listed endangered species that do occur in the action area and that may be affected by the proposed action are the BCV and GCW. The BCV was listed by the Service in 1987 (52 FR 37423). The Service emergency listed the GCW on May 4, 1990 (55 FR 18844) and published a final rule on December 27, 1990 (55 FR 53160). Critical habitat has not been designated for either of these species. The recovery plans for the BCV and for the GCW were finalized on September 30, 1991, and September 30, 1992, respectively.

Black-capped Vireo - The BCV is an 11.4 centimeter (4.5 inch) long, insect-eating songbird. Mature males are olive green above and white below with faint greenish-yellow flanks. The crown and upper half of the head is black with a partial white eye-ring. The iris is brownish-red

and the bill black. The plumage of the female is duller than the male. Females have a dark slate gray head (USFWS 1991).

BCVs arrive in Texas from mid-March to mid-April, while BCVs in Oklahoma arrive there approximately 10 days later. They nest from Oklahoma south through central Texas to the Edwards Plateau, then south and west to central Coahuila, Mexico. In Texas, BCVs have been reported in at least 40 counties (USFWS 1996). A pair will most often be monogamous for the breeding season, selecting a nest site together, while the female completes nest construction in two to three days. BCVs suspend their nests in the forks of shrubs in dense underbrush, from 0.3 to 0.9 meters (1 to 6 feet) above the ground; most nests are found around one meter (3.3 feet) above ground. Three to four eggs are usually laid in the first nesting attempt, but later clutches may only contain two to three eggs. The first egg is usually laid one day after nest completion, with one egg being laid each subsequent day. Incubation takes 14 to 17 days, and is shared by both the male and female. BCV chicks are fed by both adults as well, and leave the nest 10 to 12 days after hatching (Campbell 1995).

Although BCV habitat throughout Texas is quite variable with respect to plant species, soils, and rainfall, all habitat types have a similar overall appearance. BCVs typically inhabit shrublands and open woodlands with a distinctive patchy structure. The shrub vegetation generally extends from the ground to about 1.8 meters (6 feet) above ground and covers about 30% to 60% of the total area. Open grassland separates the clumps of shrubs. In the eastern portion of the BCV's range, the shrub layer is often combined with an open, sparse to moderate tree canopy. In the Edwards Plateau and Cross Timbers regions, common plants in BCV habitat include Texas red oak (*Quercus buckleyi*), Lacey oak (*Quercus glaucoides*), white shin oak (*Quercus sinuata* var. *breviloba*), Durand oak (*Quercus durandii*), Plateau live oak (*Quercus fusiformis*), Texas mountain laurel (*Sophora secundiflora*), evergreen sumac (*Rhus virens*), skunkbush sumac (*Rhus trilobata*), flameleaf sumac (*Rhus lanceolata*), Texas redbud (*Cercis canadensis* var. *texensis*), Texas persimmon (*Diospyros texana*), honey mesquite (*Prosopis glandulosa*), and agarita (*Berberis trifoliolata*). Densities of Ashe junipers (*Juniperus ashei*) are usually low. In the western Edwards Plateau and Trans-Pecos regions, BCVs are often found in canyon bottoms and slopes containing plants such as sandpaper oak (*Quercus pungens*), white shin oak, Texas kidneywood (*Eysenhardtia texana*), Mexican walnut (*Juglans microcarpa*), fragrant ash (*Fraxinus cuspidata*), mountain laurel, and guajillo (*Acacia berlandieri*). BCV habitat is related to disturbance, and thought to have been created by natural disturbances (e.g., fires) in areas with rocky substrates and shallow soils, which generates successional habitat (Kolozsar et al. 2000).

Threats to the BCV include habitat loss and degradation due to development, habitat succession, poor grazing practices, brown-headed cowbird (*Molothrus ater*) parasitism, and low reproductive success. Throughout the Hill Country, much of the BCV's habitat has been destroyed or degraded by residential and commercial development, grazing practices, and fire suppression.

BCVs may live for more than five years, and usually return year after year to the same territory. The birds begin to migrate to wintering grounds on Mexico's western coast in July, and are gone from Texas by mid-September (Campbell 1995).

Golden-cheeked Warbler - The GCW is a small, insectivorous songbird, 11.4 to 12.7 centimeters (4.5 to 5 inches) long, with a wingspan of about 20 centimeters (7.9 inches). The male has a black back, throat, and cap, and yellow cheeks with a black stripe through the eye. Females are similar, but less colorful. The lower breast and belly of both sexes are white with black streaks on the flanks (USFWS 1992).

The GCW nests in the juniper-oak woodlands of the Texas Hill Country and winters in the pine-oak woodlands of southern Mexico, Guatemala, Honduras, and Nicaragua. Its entire nesting range is confined to 33 counties in central Texas. Typical nesting habitat is found in tall, dense, mature stands of Ashe juniper mixed with deciduous trees such as Texas oak, Lacey oak, white shin oak, live oak, post oak (*Quercus stellata*), Texas ash (*Fraxinus texensis*), cedar elm (*Ulmus crassifolia*), hackberry (*Celtis occidentalis*), bigtooth maple (*Acer grandidentatum*), sycamore (*Platanus occidentalis*), Arizona walnut (*Juglans major*), escarpment cherry (*Prunus serotina*), and pecan (*Carya illinoensis*). This type of woodland is often found in relatively moist areas such as steep-sided canyons and slopes. GCWs are also occasionally found in drier, upland juniper-oak, i.e., live oak, post oak, blackjack oak (*Quercus marilandica*) woodlands over flat topography. Although the composition of woody vegetation may vary from place to place, Ashe juniper, which is necessary for nest construction, is always present.

The males arrive in central Texas in early March and begin to establish breeding territories, which they defend against other males by singing from visible perches within their territories. The females arrive a few days later but are more difficult to detect in the dense woodland habitat. Usually three or four eggs are laid. The average nest height is five meters (16.4 feet) above ground. Eggs are generally incubated in April and, unless there is a second nesting attempt, nestlings fledge in May to early June. By early August, GCWs begin their migration south.

The primary threats to the GCW are habitat loss and urban encroachment. Other factors include the loss of deciduous oaks (used for foraging) to oak wilt, nest parasitism by brown-headed cowbirds, and predation and competition by blue jays (*Cyanocitta cristata*) and other urban-tolerant birds (USFWS 1992).

III. Environmental Baseline

a. Status of the species within the action area.

Fort Hood encompasses approximately 87,890 hectares (217,180 acres) and is located in Bell and Coryell Counties in central Texas. This area lies within the Lampasas Cut Plains subregion of Texas. This subregion is typically vegetated with oaks such as Texas oak, live oak, and white shin oak on the rocky Edwards limestone summits of small divides (Diggs et al. 1999). On large divides, areas of deeper soil typically support the westward extension of the Washita Prairie (Hayward et al. 1992). On the chalky thin soiled slopes derived from the underlying Comanche Peak limestone, white shin oak, sumac species, and Ashe juniper may be seen; these dry rocky areas have a distinctly desert-like microclimate (Hayward et al. 1992) and thus support plants with xerophytic adaptations. Below these slopes, on benches in valleys or on the summits of uplands lacking caprock, extensive areas of prairie can be found on the clay soils derived from

the Walnut formation where it is exposed (Diggs et al. 1999). The basal Trinity Group sands (Paluxy, Antlers, Twin Mountains-Travis Peak) underlying the Walnut formation developed typical Cross Timbers vegetation such as post oak and blackjack oak (Hill 1901).

The topographic diversity and deeply cut streams found in various parts of the Lampasas Cut Plain provide important microhabitat variation. In particular, the diverse microhabitats allow the northward extension of many species otherwise found primarily on the Edwards Plateau. Some plants that were traditionally considered Edwards Plateau endemics can be found in the Lampasas Cut Plain. These include big-tooth maple, plateau gerardia (*Agalinis edwardsiana*), wild mercury (*Argythamnia aphoroides*), Wright's milk-vetch (*Astragalus wrightii*), plateau false nightshade (*Chamaesaracha edwardsiana*), scarlet clematis (*Clematis texensis*), Lindheimer's silktassel (*Garrya ovata* var. *lindheimeri*), plateau milkvine (*Matelea edwardsensis*), Lindheimer's muhly (*Muhlenbergia lindheimeri*), devil's-shoestring (*Nolina lindheimeriana*), Heller's marbleseed (*Onosmodium helleri*), Lindheimer's rock daisy (*Perityle lindheimeri*), escarpment cherry, turnip-root scurfpea (*Pediomelum cyphocalyx*), plateau spiderwort (*Tradescantia edwardsiana*), Colorado Venus'-looking-glass (*Triodanis coloradoensis*), Lindheimer's crownbeard (*Verbesina lindheimeri*), and twisted-leaf yucca (*Yucca rupicola*). When considering vegetation, soils, geologic layers, and general aspects of the landscape, some parts of the Lampasas Cut Plain are remarkably similar to the Edwards Plateau (Diggs et al. 1999).

Data obtained from the Army's Land Condition Trend Analysis (LCTA) Program at Fort Hood indicate that the installation is divided mainly into perennial grassland (65 percent) and woodland (31 percent) community types (Tazik et al. 1992), with relatively little shrubland. Most of the grasslands exhibit a dense or closed vegetative cover (83 percent). As a result of a history of grazing and military activity, the installation's grasslands are dominated by Texas wintergrass (*Stipa leucotricha*) (29 percent) and prairie dropseed (*Sporobolus heterolepis*) (18 percent), with little bluestem (*Schizachyrium scoparium*) grasslands comprising only nine percent of the grassland area (Tazik et al. 1993). Broadleaf woodlands comprise about 39 percent of LCTA woodland sites and typically are dominated by oaks. Coniferous and mixed woodlands comprise 61 percent and are dominated by Ashe juniper or a mixture of juniper and various oaks.

Black-capped Vireo

Monitoring and research activities for the BCV on Fort Hood were initiated in 1987 and continue to the present. Research and conservation efforts include an inventory and monitoring program, remote camera studies of nest depredation and assessment of training activities in habitat, a habitat restoration program, and a cowbird control program.

Estimates of available BCV habitat on Fort Hood range from 5,319 hectares (13,143 acres) (Hayden et al. 2001) to 6,971 hectares (17,225 acres) (Cimprich 2003). BCVs are typically found in isolated territories within GCW habitat. Initial reports of territorial male BCVs numbered 85 in 1987 (Tazik 1991) and increased to 357 in 1997 (TNC 1998). During the 2002 and 2003 breeding season, Cimprich (2003) detected 2,047 adult BCVs at Fort Hood. Current studies indicate 90% of suitable BCV habitat to be occupied, resulting in approximately 6,275

hectares (15,505 acres) of occupied habitat on Fort Hood (Cimprich 2003). The current population of the BCV on Fort Hood has not been estimated, but recent surveys suggest a population of several thousand may be present.

There are approximately 4.1 hectares (10.1 acres) of suitable BCV habitat on the property proposed for transfer (Figure 3). Surveys of the property in 2002 resulted in the detection of two BCV pairs utilizing the property.

Golden-cheeked Warbler

Monitoring and research activities for the GCW on Fort Hood were initiated in 1991 and continue to the present. Research and conservation efforts include assessment of population trends, demographic and reproductive monitoring, habitat selection studies, habitat fragmentation and wildfire studies, and population viability analyses.

Currently, it is estimated that approximately 21,496 hectares (53,117 acres) of GCW habitat occur on Fort Hood (Hayden et al. 2001). GCW occurrence has been documented in all training areas that have suitable habitat. In 1996, 915 singing males were documented on Fort Hood. An analysis of point count survey data show the abundance of GCWs on Fort Hood has increased from 1992 to 2003 (Peak 2003). Using GCW densities from intensively studied areas, the population on Fort Hood is estimated to range from 2,901 to 6,040 singing males.

There are approximately 70.44 hectares (174.05 acres) of suitable GCW habitat occurring on the property proposed for transfer to TAMUS (Figure 3). TA 27 is not intensively surveyed by Fort Hood; however, six GCWs have been reported at TA 27 within the last five years, and one recorded on the property in 1996 (John Cornelius, pers. comm.).

b. Factors affecting species environment within the action area

Fort Hood was established in 1942 (as Camp Hood) for military training during World War II. Currently, Fort Hood provides resources and training facilities for active and reserve units in support of the Army's mission. Mission-related training activities conducted include maneuver exercises for units up to the brigade level, firing of live weapons, and aviation training (Hayden et al. 2001). Military activities occurring at TA 27 consist of dismounted and land navigation training. TA 27 is also used for recreation and is designated as a hunting area.

Fort Hood is currently operating under a biological opinion signed in July 2000, which established 'core' habitat areas for both the GCW and the BCV. No core habitat areas exist within TA 27. The opinion authorizes the incidental take of 230 hectares (568.3 acres) of BCV habitat and 519 hectares (1282.4 acres) of GCW habitat resulting from military activities under the current Endangered Species Management Plan.

In 2002, the Army transferred approximately 79 hectares (195 acres) of property within TA 27 for the establishment of the Texas State Veterans Cemetery. The cemetery is adjacent to the southern boundary of the proposed transfer property. The transfer of the cemetery property did

not adversely affect the BCV or GCW due to a lack of suitable habitat within its boundaries (John Cornelius, pers. comm.).

IV. Effects of the Action

The proposed action consists of the transfer of property from the Army to TAMUS for the future development of a university campus. It is anticipated that direct and indirect effects to the BCV and GCW would result from the action as discussed below.

The direct effects consist of the subsequent construction, operation, and maintenance of a 20,000-student university campus. The construction of the university is expected to directly remove approximately 16.82 hectares (41.57 acres) of GCW habitat and 0.09 hectares (0.23 acres) of BCV habitat (Figure 4). The conversion of GCW habitat to a college campus makes it no longer suitable for GCWs, thus harming the birds that may utilize the habitat during the breeding season. Additional GCW habitat would be removed for perimeter fence right-of-way; but, it is anticipated that this right-of-way would not harm GCWs if it is narrow and constructed outside of the breeding season (Campbell 1995, Horne 2000). However, the regular maintenance of the fence and its right-of-way would contribute to the disturbance effects discussed further in this section. The removal of BCV habitat is related to the construction of the fence and right-of-way around the perimeter of the property. The linear nature and small size of the BCV habitat that would be removed is not anticipated to result in harm to the birds.

The effects of human disturbance related to the construction, operation, and maintenance of the university include, but are not limited to, elevated noise levels, human and machinery presence, lighting, and increased predator presence. The adverse effects of urban development and human activities on avian communities have been well studied (e.g., Blair 1996, Friesen, et al. 1995, Gutzwiller et al. 1998, Riffell et al. 1996, Wilcove 1988). GCWs are especially sensitive to the effects of urbanization and are not usually found in close proximity to human developments (e.g., Benson 1990, Engels and Sexton, 1994, Sexton 1987). Arnold et al. (1996) suggest that GCWs prefer habitat adjacent to agricultural development rather than commercial and urban areas. Although GCWs prefer nesting in the interior forest (Coldren 1998), they are often observed at forest edges (Sexton 1991). Avian predators (e.g., crow, blue jay, grackle) are more abundant in GCW habitat within 100 meters (328 feet) from edges (Arnold et al. 1996) which may affect GCW use and/or reproductive success (Coldren 1998, Fink 1996). Urban development adjacent to GCW habitat also tends to attract blue jays, which have been shown to be incompatible with GCWs (Engels 1995, Engels and Sexton 1994). Coldren (1998) determined territory selection from habitat edges by GCWs as related to reproductive success and suggested 150 meters (492 feet) as the point at which GCW territories are affected by edge habitat. Additional effects include the potential import and spread of noxious vegetation within the action area. Noxious plants have the ability to displace native vegetation, thereby reducing habitat quality.

The remaining habitat on the property would be subject to the edge effects resulting from the university. The design of the university would incorporate 'No-build Zones' to preserve the remaining BCV habitat and the GCW habitat on the property (Figure 5). However, this habitat,

4.01 hectares (9.91 acres) of BCV habitat and 53.61 hectares (132.48 acres) of GCW habitat, will likely be rendered unsuitable, constituting harassment of the birds.

Effects related to harassment are expected to extend outside the boundaries of the parcel to the point at which they deter BCVs and/or GCWs from utilizing adjacent habitat or affect the reproductive success of birds using the adjacent habitat. Because the property is bound by roadways on the north and east, and there is no suitable habitat for the BCV or GCW beyond the road boundaries due to development, the disturbance effects would only be expected to extend to the adjacent Fort Hood property.

The BCV habitat in TA 27 occurs within the property boundary; there is no adjacent BCV habitat on Fort Hood that would be affected by the proposed action. For these reasons, the extent of the direct and indirect effects of the action on Fort Hood property will be evaluated using the best available information for the GCW. Currently, there are no specific guidelines on the distance from commercial/urban land use that would not be expected to affect GCWs; however, it is believed that large habitat patch size and/or connectivity to larger blocks of habitat reduce the effects (Arnold et al. 1996, Coldren 1998, Sexton 1991). Based on Coldren's (1998) work, it is anticipated that the effects regarding the construction, operation, and maintenance of the university would extend from the boundary of the property proposed for transfer to a maximum distance of 150 meters (492 feet) onto Fort Hood. Therefore, the action area includes the approximately 272 hectare (672 acre) parcel and up to 150 meters (492 feet) immediately adjacent to the property bounded by Fort Hood. It is expected that harassment of GCWs related to the effects of the development of the property would potentially reduce suitability of the adjacent habitat (approximately 20.16 hectares [49.82 acres]) on Fort Hood.

IV. 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.

At this time, no future state, tribal, local or private actions are known to be planned within the action area. Because the action area encompasses the project site and Fort Hood property, any future actions concerning the area would occur at Fort Hood and thus require a separate consultation.

V. Conclusion

After reviewing the current status of the BCV and GCW, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the transfer of approximately 272 hectares (672 acres) within Training Area (TA) 27 in South Fort Hood to TAMUS, as proposed, is not likely to jeopardize the

continued existence of the BCV or GCW. No critical habitat has been designated for these species, therefore, none will be affected.

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 as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined 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 the terms and conditions of this incidental take statement.

The measures described below are non-discretionary, and must be undertaken by the Army so that they become binding conditions of any grant or permit issued to TAMUS, as appropriate, for the exemption in section 7(o)(2) to apply. The Army has a continuing duty to regulate the activity covered by this incidental take statement. If the Army (1) fails to assume and implement the terms and conditions or (2) fails to require TAMUS to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Army must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement. [50 CFR §402.14(i)(3)].

Amount or Extent of Take Anticipated

The Service anticipates that the proposed action could result in the incidental take of GCWs and BCVs. Take would be in the form of harm and harassment. Harm to the GCW would occur from the direct conversion of approximately 16.82 hectares (41.57 acres) of GCW habitat on the property proposed for transfer. Take in the form of harassment would occur on approximately 4.01 hectares (9.91 acres) of BCV habitat and approximately 73.77 hectares (182.30 acres) of GCW habitat. Assuming a maximum density of 0.11 GCW pairs per hectare and 0.42 BCV singing males per hectare (Hayden et al. 2001), it is anticipated that 10 GCW pairs (20 individuals) and 2 BCV pairs (4 individuals) could be taken.

Effect of the take

In the accompanying biological opinion, the Service determined that the level of anticipated habitat take is not likely to result in jeopardy to the BCV or GCW.

Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize impacts of incidental take of the GCW and BCV:

- 1) Clearing of GCW habitat on the property outside of the No-build Zones will be scheduled outside of the major portion of the GCW breeding and nesting season (July through February). All vegetation clearing will be consistent with the current practices recommended by the Texas Forest Service to prevent the spread of oak wilt.
- 2) The buffer area within the No-build Zones will be planted and/or maintained as native vegetation to create a transitional area between the proposed university and remaining habitat. These areas will have restricted access limited to education activities and scientific research. The No-build Zone will be clearly marked prior to construction, vegetation removal, or other earth-disturbing activities to prevent accidental clearing by work crews.
- 3) The right-of-way for perimeter fence construction will be a maximum of 6.5 meters (21 feet) where it crosses GCW habitat.
- 4) Impacts related to lighting generated by the university will be minimized by the use of directional lighting and buffers around GCW and BCV habitat. Available lighting designs and methods will be investigated and used as appropriate to reduce impacts to birds.
- 5) Trails developed within the No-build Zone will be designed as 'nature trails' with no hard surface and minimal vegetation removal. The No-Build Zones will be managed as GCW and BCV habitat as appropriate.

Terms and conditions

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

- 1) The Army will develop and implement an appropriate monitoring plan for reporting progress in development of the property and implementation of the reasonable and prudent measures. The content, schedule, and format of the monitoring plan will be at the discretion of the Army.

The Service anticipates that no more than 20 GCWs and 4 BCVs would be taken as a result of the proposed action. The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact 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 reinitiation of consultation and review of the reasonable and prudent measures provided. The Army must immediately

provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

The Service will not refer the incidental take of any migratory bird for prosecution under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §§ 703-712), if such take is in compliance with the terms and conditions (including amount and/or number) specified herein.

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 and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The following recommendation is provided for consideration by the Army:

The Army is encouraged to partner with TAMUS in the development and implementation of an education program regarding threatened and endangered species in Texas, especially the GCW and BCV. The program should contain curricula for all education levels, from elementary school level to college level.

Reinitiation Notice

This concludes formal consultation on the actions outlined in the request. As provided in 50 CFR § 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 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 opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this 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.

The Service appreciates the cooperation extended by the Army staff and participating parties during this consultation. If further assistance or information is required, please contact Mr. Omar Bocanegra or myself at the above address or telephone (817) 277-1100.

Sincerely,



Thomas J. Cloud, Jr.
Field Supervisor

cc: State Administrator, Ecological Services, Austin, TX
Regional Director, FWS, Albuquerque, NM (Attn: ARD-ES)

LITERATURE CITED

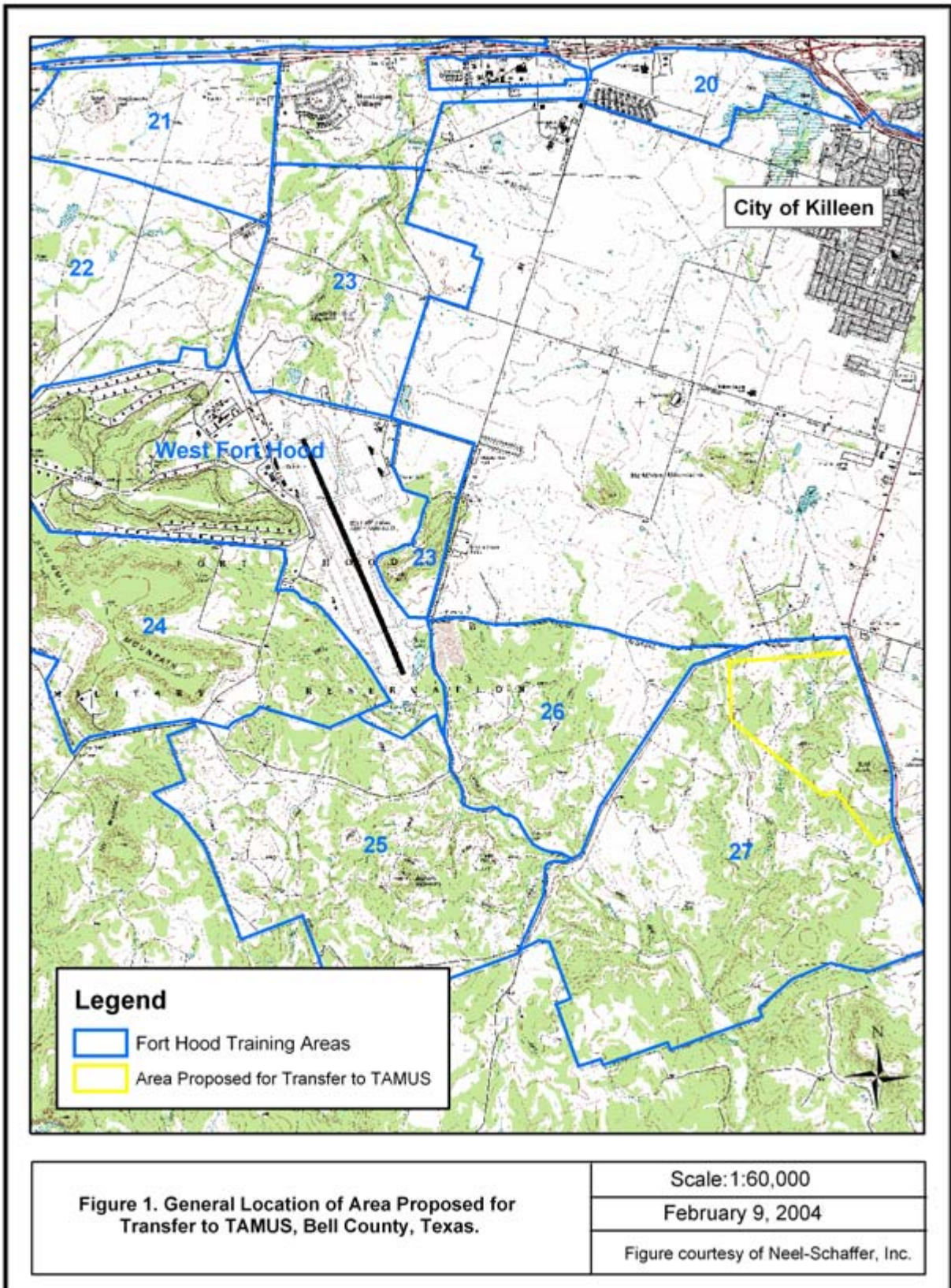
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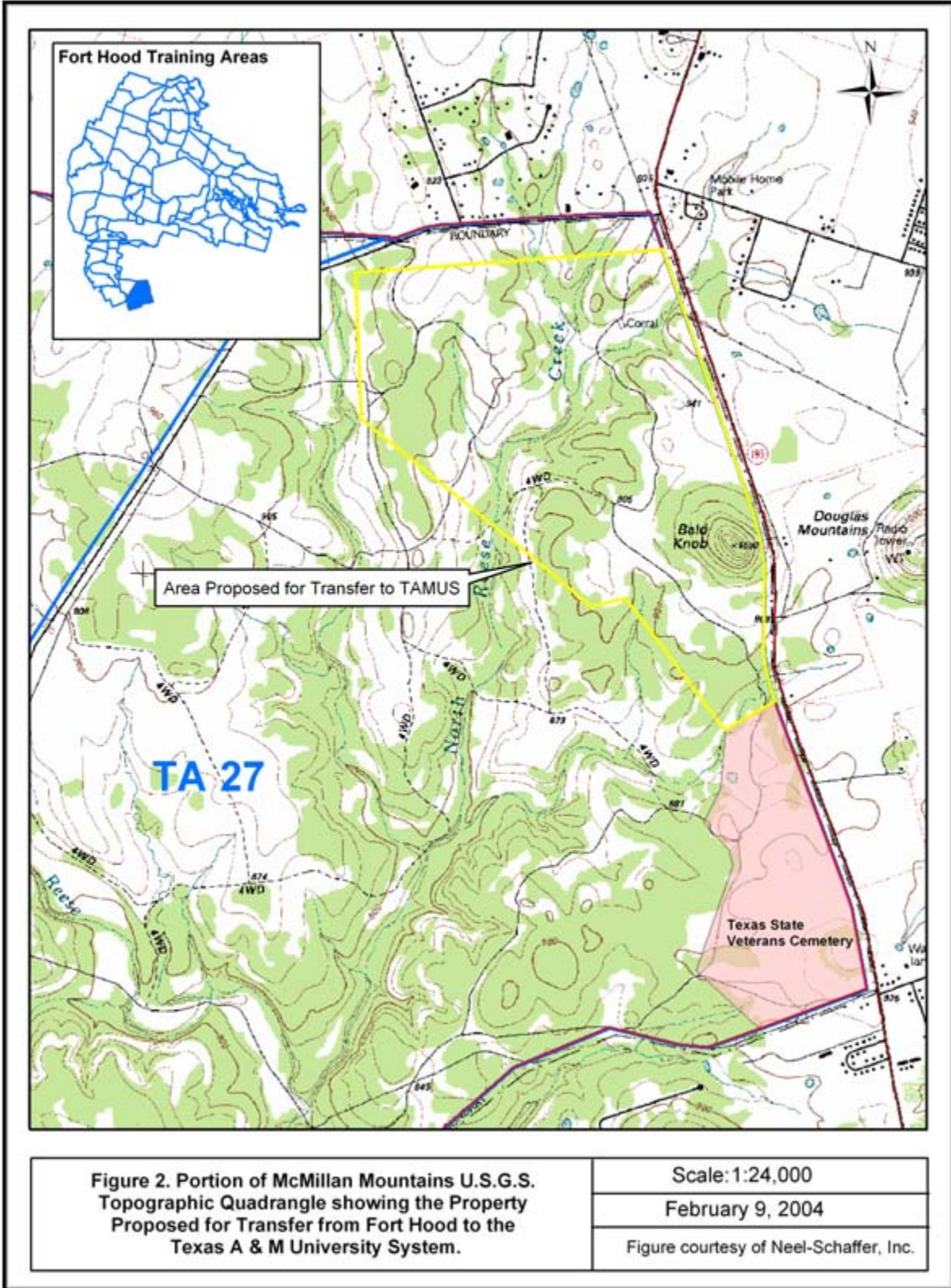
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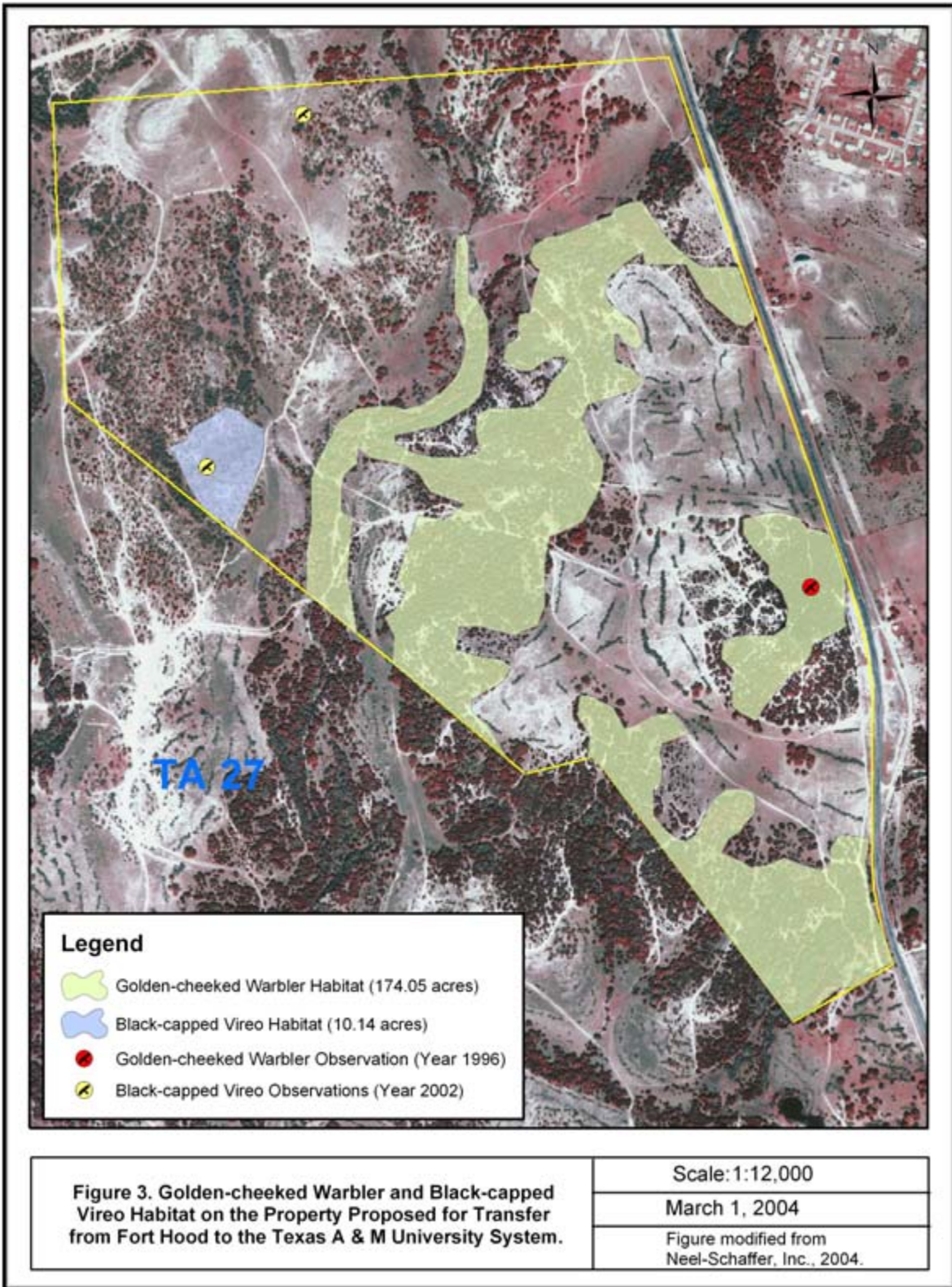


Figure 3. Golden-cheeked Warbler and Black-capped Vireo Habitat on the Property Proposed for Transfer from Fort Hood to the Texas A & M University System.

