REF: Formal Consultation Log # FY00-001(F) August 18, 2000

Mr. Vincent A. Scarano, Manager
Airports Division
U.S. Department of Transportation
Federal Aviation Administration
12 New England Executive Park
Burlington, Massachusetts 01803-5299

Dear Mr. Scarano:

This biological opinion is provided in response to your April 5, 2000 request to initiate formal consultation in accordance with Section 7 of the Endangered Species Act of l973 (ESA), as amended (16 U.S.C. 1531 et seq.), for actions proposed at the Concord Municipal Airport, Merrimack County, New Hampshire. By reply on April 20, 2000, the U.S. Fish and Wildlife Service acknowledged receipt of your request and confirmed that sufficient information was provided by your agency, the City of Concord, and the New Hampshire Army National Guard (Guard) to conduct the consultation.

The FAA has oversight authority and grant programs for aviation-related activities at the Concord Municipal Airport (CMA) and assumes lead federal agency responsibility for this consultation. In particular, the FAA proposes to authorize the Guard to construct an Army Aviation Support Facility (AASF) on approximately 27 acres at the CMA. In addition, the City of Concord has proposed airport-related development such as T-hangar facilities, and non-airport-related development such as the extension of Regional Drive, on and near the CMA. The locations where these and additional future development will occur at the CMA are identified in a (draft) CMA Development and Conservation Management Agreement among the Service, the City, and other parties. This document represents the Service's biological opinion on the effects of these actions, including the finalization of the Development and Conservation Management Agreement, on the endangered Karner blue butterfly (*Lycaeides melissa samuelis*) (KBB).

This biological opinion is based on information provided by your agency, by the City of Concord and importantly, by the Guard in its March 2000 Biological Assessment, which was incorporated into a Draft Environmental Assessment for Replacement of the New Hampshire Army National Guard Army Aviation Support Facility. Effects of the proposed actions on the endangered KBB were evaluated and discussed with the FAA, the Guard, and the City in numerous meetings, telephone conversations, field investigations,

and through exchange of correspondence. A complete administrative record of this consultation is on file in our Concord, New Hampshire office.

### Consultation History

The Service began informal consultation on activities at the CMA concurrent with the listing of the KBB in December 1992. The Service was an active participant in the scoping process and discussion of issues leading to the 1996 update of the CMA Master Plan. Similarly, the Service has been informally consulting with the Guard since 1997 regarding the fielding of new aircraft and the proposed relocation of their AASF from the current location at the State Military Reservation (SMR) onto undeveloped lands at the CMA.

No significant federal activity directly affecting the habitat of the KBB has occurred at the CMA since the listing of the species in 1992. Therefore, this consultation is the first formal consultation for proposed (federal) actions at the CMA and effects on the KBB. A complete summary of the consultation history is provided in Appendix A.

## BIOLOGICAL OPINION

### Description of Proposed Actions

The proposed actions pertinent to this consultation include specific development projects identified by the Guard and the City of Concord, and importantly, an agreement to designate certain areas at the CMA where these and additional developments will occur. The Development and Conservation Management Agreement (final draft[1] dated November 1999) establishes development zones at the CMA where future runway expansion, facilities, T-hangars, and other airport and non-airport-related development and infrastructure will be located. Similarly, the Development and Conservation Management Agreement designates certain other areas at the CMA as conservation zones, wherein habitat and species restoration activities will be carried out. In addition to the Agreement, the Draft Environmental Assessment for Replacement of the New Hampshire Army National Guard Army Aviation Support Facility, the 1996 Concord Airport Master Plan Update, and the revised CMA layout plan discuss the range of projects, including the extension of Regional Drive through to Airport Road, and provide further information on location and other details of future development.

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[1]While the text of the Agreement is still in final **draft** stage, the Service considers Exhibit A, also referred to as Figure 4-8 on page 4-45 in the Guard's Environmental Assessment, to be a **final** depiction of the Development and Conservation Zones at the Concord Municipal Airport.

**Status of the Species**

Federally-listed species known from Merrimack County include the threatened bald eagle (*Haliaeetus leucocephalus*), the threatened small whorled pogonia (*Isotria medeoloides*), and the endangered KBB. The bald eagle and small whorled pogonia are not known to occur in the project area. Therefore, they will not be considered further in this consultation.

The only federally-listed species that will be affected by the proposed action is the KBB. The KBB was federally-listed as endangered on December 14, 1992 (U.S. Department of the Interior, 1992). Critical habitat has not been designated for this species.

Several state-listed threatened and endangered species occur in the project area and may be affected by the proposed actions. These species include the frosted elfin butterfly (*Incisalia irus*), Persius dusky wing skipper (*Erynnis persius persius*), pine barrens zanclognatha moth (*Zanclognatha martha*), wild lupine (*Lupinus perennis*), golden heather (*Hudsonia ericoides*), and blunt-leaved milkweed (*Asclepias amplexicanlis*). Moreover, the CMA occurs within the Concord Pine Barrens, a natural community considered globally rare by The Nature Conservancy. Considered to have covered about 4,500 acres historically, the Concord Pine Barrens was reduced by nearly 90% (to some 563 acres) by 1994 (VanLuven 1994). Since 1994, retail and industrial park development has destroyed additional pine barren habitat in Concord, and now less than 450 acres remain (VanLuven 1999).

The KBB is a member of the order Lepidoptera, family Lycaenidae. Adult butterflies have a wingspan of between 2.2 and 3.2 centimeters (about .75-1.25 inches). KBBs are sexually dimorphic. The dorsal surface of the wing of males is silvery blue, with a narrow black border and a white fringe. The dorsal surface of the female is similar, but more brown in color, with a row of dark spots with orange crescents. The ventral surface of the wings of both sexes is slate gray with several marginal rows of orange and black spots.

The KBB has two broods, or adult flight periods, each year. Eggs that have overwintered from the previous year hatch in April. The larvae feed (solely) on wild lupine leaves and mature rapidly. Larvae of Lycaenid butterflies, including the KBB, are frequently attended by ants. Ants attending Lycaenid larvae receive nutritional rewards, which the larvae secrete. In turn, the ants protect the larvae from parasitism and predation by insects and spiders. Savignano (1989) investigated attendance of KBB larvae in Concord by ants and found that 87% of the larvae were associated with attendant ants. Although Savignano identified 7-8 species of ants at the KBB study site in Concord, she found that only 1-2 species attended KBB larvae.

KBB larvae pupate and adult butterflies emerge in late May in most years. The adults are typically in flight for the first 10 to 15 days of June when wild lupine is in bloom. Female KBBs lay eggs on or near wild lupine plants. Eggs hatch in about one week and the larvae feed for about three weeks and then pupate. The second brood of adults appears about the second or third week of July. Adult females from this flight

lay their eggs among leaf litter or on grass blades at the base of lupine plants or on lupine pods or stems. Eggs laid by second brood females do not hatch until the following spring (Schweitzer 1989, Dirig 1979). Generally by late August, all adult butterflies have died. Cold and/or rainy weather are believed to delay the two flight periods for the KBB.

In addition to wild lupine, the KBB requires tall grass for late afternoon basking and overnight roosting, some shading vegetation to prevent overheating, a source of water, and nectar sources for the adults (Dirig 1979). A variety of flowering understory plants serve as nectar sources for the adults (Haack 1992).

Since the only known food plant for KBB larvae is wild lupine, the distribution of the KBB is closely tied to the occurrence of habitat that supports wild lupine. In eastern New York and in New Hampshire, this habitat typically occupies sandplain communities and grassy openings within very dry, pitch pine/scrub oak barrens. In the Midwestern states, the habitat is also dry, sandy openings, including openings in oak savannahs, jack pine (*Pinus banksiana*) stands, and dune or sandplain communities.

Historically, the KBB occurred in eight major population clusters, in a narrow geographic area that extended from eastern Minnesota, across portions of Wisconsin, Illinois, Indiana, Massachusetts, Michigan, Ohio, Ontario (Canada), Pennsylvania, New York, New Hampshire and Maine. Over the past 100 years, the overall number of individuals present in all populations declined by 99% throughout the species' range. More than 90% of that decline occurred in the last 10 to 15 years. It is now thought to be extirpated from Ontario, Massachusetts, Pennsylvania, Ohio, Maine and possibly Illinois. Recently, the KBB was reintroduced to Ohio.

The decline of the KBB in New York resulted largely from commercial and residential development of its habitat, fire suppression (resulting in vegetational succession), and habitat fragmentation. These activities have reduced the native vegetation of the Albany Pine Bush in New York State from 25,000 acres to about 2,500 acres. As a result, KBBs in the Albany Pine Bush, which once supported the largest population of this species in New York, have declined 85 to 98% over the past decade (Givnish et al. 1988). Similar levels of habitat loss have reduced KBB populations in New Hampshire by 95 to 99% (Table 1).

Literature on the historic distribution of the KBB suggests that this species occurred as shifting clusters of populations distributed across a vast, fire-swept landscape covering thousands of acres. While the fires resulted in localized extirpations, vegetative succession following these fires maintained suitable habitat and allowed rapid population expansion (Schweitzer 1989). The habitat of the KBB is maintained by periodic disturbance, which serves to create or maintain openings in forest canopies that are necessary for wild lupine to thrive.

The KBB is an example of a species for which suitable habitat occurs in relatively small areas (or patches) distributed over larger areas (Zaremba 1991). Like other species whose habitat occurs in patches rather than large continuous tracts of land, populations of the KBB exist as dynamic collections of subpopulations (metapopulations) that are interconnected genetically by dispersal. Metapopulations have been described

further as dynamic clusters of subpopulations (or demes) continually shifting in distribution across a changing landscape of habitat patches in varying stages

Table 1 goes here.

of disturbance and succession (Givnish et al. l988, Schweitzer l989). The long-term survival of this species is therefore dependent upon the protection of these patches within the remaining scrub oak savannah and pine barren ecosystems and restoration of fire-suppressed scrub oak/pitch pine barren areas.

To preserve species with patchy distributions, it is necessary to maintain (1) existing patches of suitable habitat, (2) the processes that create new habitat patches, and (3) the corridors that allow a species to migrate between habitat patches (Harrison et al. 1988). Various research has shown dispersal of individual KBBs to range from about 1,000 feet to about 2 miles. KBBs fly along open corridors, such as powerlines, railroad right-of-ways, airport runway buffers, abandoned agricultural fields, and forest roads and trails to recolonize or colonize new wild lupine patches (Fried 1987). However, in a 1983 mark/recapture study, KBBs in Concord, New Hampshire demonstrated very little dispersal capability (D. Schweitzer pers. comm.). In a decade of monitoring KBBs at the powerline or Main Site (1990-1999), no KBBs have been confirmed dispersing across Pembroke Road or Regional Drive (A. Bidwell, D. VanLuven, A. Peteroy, pers. comm., M. Amaral, pers. observation). The Main Site is located on private property about 1,300 feet northeast of the Airport along a powerline corridor.

## Environmental Baseline

### Status of the Species in the Action Area

Surveys of the KBB in the Concord Pine Barrens by The Nature Conservancy in the early 1980s noted thousands of KBBs both north and south of Regional Drive, including the CMA (Schweitzer 1983). However, restricted access to the Airport deterred surveys prior to the 1990s, therefore no (historical) population estimates for KBBs on the Airport are available.

In the early 1990s, the New Hampshire office of The Nature Conservancy visited the CMA to determine the presence of KBBs. KBBs were documented at the Airport during both 1990 and 1991 (1990 specimen collected by A. Bidwell was identified by D. Schweitzer). In the summer of 1992, five transect survey walks were conducted at the Airport and only a single female KBB was observed late in the season (VanLuven 1993).

Since 1992 relatively little butterfly survey effort has occurred at the Airport. Peteroy (1997, 1998), Mello (1998), and Boyajian (pers. comm. July 2000) did not observe KBBs at the CMA during recent surveys there. However, detection of KBBs is difficult when they occur at low densities.

As early as 1991 biologists recognized the importance of the extensive runway safety areas at the CMA to the long-term survival of the KBB in New Hampshire: “The long term persistence of the Karner blue butterfly in New Hampshire is dependent upon successful maintenance of the Main Site population and establishment of a viable population at the Concord Airport” (Schweitzer 1991).

The March 1999 Technical/Agency Draft Karner Blue Butterfly Recovery Plan identifies the goal of establishing viable metapopulations of KBBs in 13 recovery units across the species' range. The Merrimack/Nashua River system in New Hampshire and northern Massachusetts is among the 13 recovery units listed in the Recovery Plan. The Concord (NH) Pine Barrens is the only remnant of this once extensive system that still contains KBBs and a significant occurrence of wild lupine.

Habitat loss is responsible for the decline and isolation of the remaining population in New Hampshire to a single urban site, a powerline right-of-way in Concord (Helmboldt and Amaral 1994, Peteroy in litt. 1999). The site is owned by three private corporations and encumbered by a powerline utility easement. As recently as the early 1980s, pine barren habitat at the Concord Airport and the Main Site was relatively contiguous.

The KBB population in Concord, New Hampshire has declined severely over the past 15 years. From an estimated 3,700 adults in the second brood in 1983 (Schweitzer 1983), the population declined to 600-700 individuals by 1988. By 1991, the population was estimated at 200 (see Table 1). As previously stated, KBBs were last seen at the CMA in 1992. Despite federal and state listing, the KBB population in New Hampshire has continued to decline in recent years.

The vast majority of the remaining, contiguous pine barren habitat in the Merrimack/Nashua River system occurs at the Concord Municipal Airport. The CMA supports the largest assemblage of wild lupine (>10,000 stems; NH Army National Guard 2000) and the largest frosted elfin population in the state. It is also the only pine barren remnant of significant size that recently supported the KBB. While adequate lupine is present at the CMA, it is patchily distributed and second brood nectar sources are widely dispersed. Second brood nectar plants currently present at the CMA include spreading dogbane, New Jersey tea, meadow sweet, common yarrow, and grass-leaved goldenrod.

**Effects of the Proposed Actions**

1. Army Aviation Support Facility

The most immediate federal action at the CMA affecting the KBB is the proposed construction of an AASF. The facility will provide office and training space for Guard personnel of the 1159$^{th}$ Medical Company (and others) and importantly, hangar space for nine UH-60 (Blackhawk) helicopters and one C-12 fixed wing aircraft. The existing aircraft support facility at the Guard's SMR was designed for smaller aircraft and is outdated and inadequate to house the new UH-60 helicopters, which the Guard received in 1998 and 1999.

The replacement of the older UH-1 (Huey) helicopters with the new, larger Blackhawks was evaluated in New Hampshire Army National Guard Helicopter Conversion, Concord Army Aviation Support Facility

Final Environmental Assessment (New Hampshire Army National Guard 1998). No direct or indirect effects to the KBB were identified in New Hampshire Army National Guard (1998) from the "fielding" of these new aircraft at the SMR. Since no KBBs currently occur at the CMA, the Service concurred with this assessment. However, when current plans to restore KBBs to the Airport are implemented, the localized effects of prop wash from the new, larger aircraft will require monitoring. The high winds generated by rotary aircraft could affect foraging behavior of KBBs, could dislodge eggs deposited on lupine plants, thereby reducing survival, and may affect habitat by creating blow outs in vegetation, particularly at touch-down and toe-in training locations.

The NH Army National Guard has addressed these concerns by committing to conducting routine operations and training only on runways, taxiways, and within designated development zones at the Airport (NH Army National Guard, *in litt*., July 28, 2000). By avoiding the direct use of habitat within the conservation zones, the likelihood that operation of the UH-60 helicopters will cause adverse effects to the KBB is greatly reduced.

The direct and indirect effects to the KBB from the Guard's proposal to construct a new AASF on a 27-acre site (primarily maintained grasslands and fire-suppressed pine barren) at the CMA are discussed in detail in the Guard's Biological Assessment (NH Army National Guard 2000). In summary, no direct effects to the KBB are anticipated because the species is not known to be present on the habitat affected by this project. The site contains very limited second brood nectar species; thus this loss will not be significant. Similarly, the project has been designed to avoid loss of lupine plants located immediately adjacent to the site (NH Army National Guard 2000). Therefore, potential future larval habitat for KBBs will be retained.

Indirect effects to the KBB from the Guard's proposed AASF are expected, however. About 25 acres of the 27-acre site (15.2 acres is considered pine barren) will be developed for the Guard's facility. This will further reduce the remaining extent of pine barren habitat at the CMA and permanently prevent these areas from being restored to a condition that would contribute to KBB recovery in the foreseeable future. To offset the loss of the 15.2 acres of pine barren habitat, the Guard will restore and permanently protect an area of equal size at the nearby SMR (NH Army National Guard 2000). Conversion of the forested and scrub portions of the CMA site to development will further reduce the overall habitat heterogeneity of the pine barren community in and around the CMA and will eliminate or reduce the area's ability to provide shade and a wind break for lepidoptera, potentially including the KBB, that utilize the Airport.

An additional indirect effect of the Guard's proposal to build the AASF at the CMA site rather than at the existing SMR is that the extension of Regional Drive across the northwest corner of the Airport through to Airport Road is significantly more likely to occur. Regional Drive extension will ultimately alter additional low-quality pine barren habitat at and adjacent to the Airport and facilitate further private and airport-related development both on and near the CMA (see also Cumulative Effects).

2. Implementation of the Concord Municipal Airport Development and Conservation Management Agreement

The basis of the Guard's plan to mitigate for the adverse environmental effects of their project is to rehabilitate (restore and enhance) degraded pine barren habitat elsewhere on the Concord Municipal Airport. In order for the Guard to move forward with restoration activities, and to provide state and federal resource management agencies assurance that habitats subject to enhancement efforts would not subsequently be proposed for development by the City or FAA, an over arching agreement with the City of Concord and other involved parties regarding the future disposition of lands at the CMA was needed[2]. This Agreement was successfully negotiated and resulted in a November 1999 consensus document which clearly articulates where future development and conservation activities would occur at the CMA for the foreseeable future. These areas are depicted in Exhibit A of the draft November 1999 Agreement, and as Figure 4-8 in NH Army National Guard (2000) (see Appendix B herein).

The finalization of the Concord Municipal Airport Development and Conservation Management Agreement is anticipated to occur concurrent with (or soon after) the issuance of this biological opinion. The completion of these parallel documents will bring certainty to both development and conservation interests at the CMA. The Agreement establishes eight development zones, totaling approximately 191 acres, wherein the City and FAA may authorize and build additional facilities, navigational aids, T-hangars, runway extensions and other Airport improvements as needed to maintain a safe, efficient, and economically-viable air transportation facility.

The natural value of the 191 acres in providing habitat for pine barren plant and animal species, including the KBB, will be lost[3] as portions of these areas are developed over time. Because only a portion of the 81.6 acres in development zone 6 (the south runway expansion zone) is likely to be needed for runway expansion, the actual extent of habitat that will be developed is likely to be less than 150 acres. The vast majority of the habitat within the eight development zones is currently maintained in a mowed, grassy structure and has relatively few known occurrences of state-listed plant and animal species. Nectar species are present and will be lost when development occurs. No KBBs are known to occur within the development zones and restoration potential there is considered lower than in other areas at the CMA because of the paucity of wild lupine. VanLuven (1994) and Boyajian, pers. comm., mapped wild lupine at the CMA. Of the estimated 12,700 flowering lupine plants at the CMA (NH Army National Guard 2000), less than one percent is located within development zones (Z. Boyajian, pers. comm.).

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[2] A 1995 Agreement attempted to address development and conservation zones at the Airport but was vaguely worded and subject to interpretation.

[3] It is unlikely that all the habitat within development zones will be lost because runway safety areas and other protective surfaces around runways and taxiways will likely remain in natural vegetation (FAA *in litt*. July 31, 2000).

It is the intent of the Agreement that no additional consultation under Section 7 of the ESA relative to the KBB and its habitat will be required in the future when development is proposed within the designated development zones at the CMA. Therefore, for purposes of this biological opinion, we are assuming that all potential KBB habitat within the development zones will be destroyed.

**Proposed Conservation Measures**

The following actions will have a positive effect on the KBB and the pine barren habitat at the CMA. These actions are included as part of the proposed project descriptions and therefore will be implemented.

1. Army Aviation Support Facility

In recognition of the effects that development of the AASF at the CMA will have on remaining pine barrens and associated rare species in Concord, the Guard has formulated a "mitigation" plan [pages 5-60 to 5-67 in NH Army National Guard (2000), incorporated herein by reference]. The intent of the mitigation plan is to offset many of the negative effects of building the facility at the CMA site by rehabilitating the remaining pine barren habitat at and near the Airport. The Service views the proposed mitigation plan as part of the proposed project and anticipates that it will be both funded and implemented.

The measures put forth by the Guard in the mitigation plan will enhance the suitability of the Airport for restoration of the KBB, by increasing the number, distribution and juxtaposition of lupine and nectar plant species there. A 10-year program of habitat restoration and monitoring is proposed and funds on the order of approximately $50,000 per year (Z. Boyajian, pers. comm.) will be requested from the National Guard Bureau Environmental Programs Directorate (NH Army National Guard 2000).

The enhancement of butterfly habitat at the CMA, along with the protection and cooperative long-term management of the conservation zones at the Airport, greatly increases the chances for the survival and recovery of a KBB population in the Concord Pine Barrens. Restoring a large viable metapopulation in the Merrimack/Nashua River system is one of the goals identified in the Draft Recovery Plan (USFWS 1999).

2. Implementation of the Concord Municipal Airport Development and Conservation Management Agreement

As noted above, approximately 191 acres are designated for future development in the CMA Agreement. The acreage is approximate because much of the 81-acre south runway extension zone (zone 6) is available for habitat and species restoration, provided conservation efforts do not interfere with the possible future extension of runway 17-35, an associated taxiway and routine safeway maintenance (Concord Airport Master Plan Update 1996 and Airport Layout Plan 1997, as revised 1999).

In addition to the partial availability of development zone 6 for habitat and species restoration purposes, four conservation zones are established in the Agreement. Within the conservation zones, the Guard, the

Service, and other cooperating agencies are authorized to conduct a wide range of habitat enhancement and species restoration activities, including the reintroduction of KBBs and other rare species native to the Concord Pine Barrens. The four conservation zones comprise 341.8 acres at the CMA and contain the vast majority of lupine plants (99%) and other rare species presently known to occur at the CMA. When development zone 6 is added to the conservation zones, area available for habitat enhancement and species restoration exceeds 400 acres.

The Agreement provides that routine management of vegetation in safeways, runway approach zones and other areas at the CMA within conservation zones will be done according to a Conservation Management Plan. Prior to conducting ground disturbance activities in conservation zones, such as drainage maintenance and paving, the City (and the FAA as appropriate) will consult with the Service to minimize the deleterious effects of these activities on the natural features present. The Agreement further specifies that the City and the FAA retain the right to construct an access road in conservation zones 1 and 3 and a parallel taxiway in conservation zone 4, but will do so in a manner that minimizes the disturbance of habitat, to the maximum extent practicable, to the actual footprint of the access road and taxiway.

**Cumulative Effects of the Proposed Action**

Cumulative effects include the effects of future state, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. As the FAA will retain oversight authority for capital improvements at the CMA, there are no private, state or City actions likely to occur at the CMA that will be outside federal jurisdiction. Future federal actions within conservation zones that are not addressed in this opinion or the CMA Agreement will require separate consultation pursuant to Section 7 of the ESA.

An indirect and cumulative effect of the Guard moving its AASF onto the CMA is that the City of Concord will be able to extend Regional Drive through to Airport Road without the conflict of Guard aircraft needing to cross the road right-of-way. Regional Drive extension is considered essential to relieve traffic congestion on nearby Loudon Road and will "...not only benefit the airport, but the [value and development potential] of the existing industrial park north and east of airport property as well" (Concord Municipal Airport Master Plan Update, March 1996). Similarly, in relation to Regional Drive extension, the Guard's EA notes, "This improved access would potentially increase the rate of development in the Concord Heights and increase the loss of habitat for T&E species."

As additional private land is developed around the CMA, habitat for lupine and other pine barren species will decline further. Although no direct effects to the KBB are anticipated, habitat supporting scattered lupine patches and nectar species will be lost, along with the potential to restore these areas for pine barren species such as the KBB. Once developed, these areas will no longer be able to serve as sources of seeds for lupine and nectar that could be used to enhance habitat at the CMA. Finally, as more private and City-owned land is developed on and around the CMA, it will become more difficult to utilize prescribed fire

as a management tool to maintain pine barren areas in an open, grassy aspect favorable for lupine and the KBB.

**Conclusion**

The proposed actions will adversely affect the Karner blue butterfly (or its habitat) in the following manner:

1. the direct loss of <191 acres, including a relatively small number of lupine and nectar plant species, within development zones 1-8. Except for within runway safety areas and other protective surfaces around runways, the potential within these areas to be restored to support the KBB and associated species will be lost;

2. the indirect and cumulative loss of habitat on adjacent private land that could contribute to KBB recovery by providing lupine seeds and nectar plants;

3. the reduction of the heterogeneity of habitat types at the CMA and on adjacent nearby lands. For example, pitch pine/scrub oak habitat, such as that found at the location of the Guard's proposed AASF, will be lost. These areas act as wind breaks and provide shade to lepidoptera and other insects. Furthermore, these areas may contribute to KBB recovery in ways not currently understood, such as by providing refugia for beneficial ant species or for pollinators essential for lupine and nectar species propagation;

4. increased development at both the CMA and on adjacent lands will make it more difficult to utilize prescribed fire as a management tool to maintain pine barren habitat in a condition favorable for lupine and KBBs;

5. direct effects on foraging KBBs, on KBB eggs and habitat resulting from helicopter rotor wash, and touch-down and toe-in training exercises, if current plans to translocate KBBs to the CMA are implemented. However, this concern is largely extinguished by the Guard's agreement to conduct all future UH-60 operations and training on runways, taxiways and within development zones.

The proposed actions also include a long-term "mitigation plan" by the NH Army National Guard (2000) and the designation of conservation zones at the CMA, as noted in the Conservation Measures section above. Therefore, while various proposed developments on and near the CMA will result in less pine barren habitat being available for KBB recovery, proposed habitat and species restoration efforts and designation of long term conservation zones at the CMA will increase the value and suitability of remaining habitat for KBB recovery. The remaining area at the CMA will be approximately 400 acres in extent. This is sufficient to allow attainment of the stated goal in the Service's March 1999 (draft) Karner Blue Butterfly Recovery Plan, to establish a viable metapopulation of KBBs in the Merrimack/Nashua River system in New Hampshire and northern Massachusetts.

Based on our review of the information concerning the proposed action and considering the information available to us on the biology, ecology, distribution, and abundance of the KBB, we have concluded that

the proposed action(s) considered in this opinion is not likely to jeopardize the continued existence of the KBB. As no critical habitat has been designated for the KBB pursuant to Section 4 of the ESA, no critical habitat will be adversely modified or destroyed.

Importantly, the Service's finding above is based on the following: 1) the finalization of the Concord Municipal Airport Development and Conservation Management Agreement within 90 days of the date of this opinion; 2) adoption of Exhibit A of the Agreement in its current form [also referred to as figure 4-8 in NH Army National Guard (2000)] which delimits the conservation and development zones at the CMA; 3) implementation of the Guard's mitigation plan as generally described in NH Army National Guard (2000) and 4) the Guard will not intentionally operate UH-60 aircraft within conservation zones (NH Army National Guard *in litt*., July 28, 2000) .

Since the Service has reached a finding of "is not likely to jeopardize...," the identification and implementation of "reasonable and prudent alternatives" to avoid the likelihood of jeopardy are not relevant to this opinion. However, the Service has identified discretionary actions that the FAA, (the City), and the Guard can implement with respect to the proposed action in partial fulfillment of each federal agency's Section 7(a)(1) responsibility to utilize their authorities to further the purposes of the ESA. These are listed in the section under Conservation Recommendations.

## INCIDENTAL TAKE STATEMENT

Sections 4(d) and 9 of the ESA, as amended, prohibit taking (defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. Harm is further defined as an act that actually kills or injures wildlife and may include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding or sheltering. Harass is defined as 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 any take of listed animal species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the federal agency or the applicant. 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 a prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

### Amount or Extent of Take

The Service anticipates that there will be no incidental take of KBBs from the various proposed actions addressed in this opinion. This is due to the fact that KBBs are not currently known to occur at the CMA,

but also because the habitat quality (lupine and nectar species abundance) within designated development zones is low. Therefore, even after the KBB restoration plans at the CMA are implemented, it is unlikely that the subsequent loss of habitat within development zones will result in the death or injury of KBBs. However, the Service recognizes that a portion of the 191 acres of habitat in designated development zones will likely be developed at the CMA and removed from availability for KBB restoration in the future. The effect of this loss of habitat on the survival and recovery of the KBB is expected to be minimal, and more than offset by the benefits derived from the conservation and management activities planned within the conservation zones at the CMA.

## CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the ESA directs federal agencies to utilize their authorities to further the purposes of the ESA 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. Following are conservation recommendations for your consideration:

Federal Aviation Administration

Utilize grants and other sources of funding to assist the City of Concord to remove unneeded pavement at the CMA, such as the portion of abandoned runway 21 that will not be needed for T-hangars and taxiways, and restore these areas to natural vegetation.

New Hampshire Army National Guard

1. Insofar as in accordance with federal fiscal law, provide logistical assistance with habitat and species restoration efforts at the CMA and nearby (by providing equipment such as water tanks, hand tools, heavy equipment for site work, and water hose).

2. Provide space at the SMR to assist in plant and animal species propagation efforts.

3. Develop and implement a method (agreeable to the City and FAA) to permanently delimit the boundaries of the development and conservation zones at the CMA so that future development and conservation actions are appropriately located.

City of Concord

1. Alter the frequency and/or the height of mowing at the CMA to allow late blooming plant species to set seed. Currently, most of the area within conservation zones is mowed once annually at a height of five inches (M. Amaral, S. Fuller, New Hampshire Department of Fish and Game (NHDFG), pers.

observation). Where possible, increase mowing height to nine inches, and delay the annual mowing to no earlier than October 1. In areas where slightly taller vegetation can be tolerated, such as closer to the Airport perimeter fence, switch to an every-other-year mowing regime and allow the vegetation to reach shrub size.[4] Further specific recommendations for routine vegetation management at the CMA will be provided to the City and the FAA in the Conservation Management Plan, as referenced in the Agreement.

2. Require new development on land owned by the City - on or adjacent to the CMA (such as in the east development zone) to minimize the negative impact to native plant species and to utilize native plant species in required landscaping. The City will encourage development on private land near the CMA to also follow the City standard.

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.

**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 when 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; or (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.

Specific to the Concord Municipal Airport Development and Conservation Management Agreement, and the Guard's AASF project, reinitiation of consultation will be required if any of the following occur:

1. the Agreement is not finalized (signed by all parties) within 90 days of completion of this biological opinion;

2. changes are made to Exhibit A, also referred to as figure 4-8 in NH Army National Guard (2000) delimiting the development and conservation zones;

[4]We understand that there are fiscal and logistical constraints that must be considered by the City to determine if these recommendations can be implemented.

3. the Guard is unable to implement the mitigation plan described in section 5-6 of NH Army National Guard (2000);

4. any activity is proposed within the conservation zones that will adversely affect KBB habitat that is not currently addressed in the November 1999 draft Agreement.

We appreciate the efforts of the FAA, the City of Concord, and the New Hampshire Army National Guard to bring this process to a mutually acceptable conclusion, and we look forward to future cooperation with your agency to conserve our nation's threatened and endangered species. Should there be questions regarding this opinion, please contact Michael Amaral at (603)255-1411.

Sincerely yours,

Michael J. Bartlett
Supervisor
New England Field Office

cc: Duncan Ballantyne, City of Concord
Wayne Vetter, NH Department of Fish and Game
David VanLuven, NH Natural Heritage Inventory
John Silva, FAA
Lt. Col. Stephen C. Burritt, NH ARNG
Major General John E. Blair, NH ARNG
Ken Lurvey, City of Concord
FWS, Green Bay, Wisconsin F.O.
Reading File

ES: MAmaral:8-18-00:603-225-1411

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**Appendix A**
**Consultation History**

August 9, 1993 – Letter from Gordon E. Beckett, USFWS, to Edward Hummel, U.S. Department of Commerce, and Ralph N. Russin, FAA, in response to USDC's July 14, 1993 letter requesting listed-species information for environmental scoping of "infrastructure improvements" at the Concord Airport Business Park.

February 23, 1995 – Letter from David VanLuven, The Nature Conservancy (TNC), to William Rollins, Caron Engineering Inc., regarding suggestions on revegetation methods for the road through the conservation easement at Concord Airport Business Park.

February 27, 1995 – Letter from James Halpin, USFWS, to William Cannon, Concord Community Development Corporation, regarding proposed Chenell Drive Extension in Concord, stating the USFWS's disapproval of the storm water drainage design on the easement.

February 27, 1995 – Signing of Conservation Management Agreement between City of Concord, USFWS and the NHDFG.

March 3, 1995 – Letter from William Rollins, Caron Engineering, to James Halpin, Great Bay NWR, USFWS, providing an updated plan for the proposed Water Quality Detention Basin and requesting review of the design.

March 7, 1995 – Letter from Jim Halpin, USFWS, to Michael Amaral, USFWS, asking for other USFWS staff to review the plans and the potential effects on the easement.

August 10, 1995 – Letter from Michael J. Bartlett, USFWS, to John Dickey, Rist-Frost Shumway Engineering, providing comments on the July 27, 1995 revised draft Airport Master Plan update, noting in particular that the environmental costs have not been considered adequately.

August 31, 1995 – Letter from James DiStefano, NHDFG, to John Dickey, Rist-Frost-Shumway Engineering, pointing out that the cooperative management agreement was intended to, among other things, work cooperatively in meeting operation needs of the airport and future airport expansion, as well as the protection of natural resources.

January 7, 1997 – Letter from Zachary Boyajian, Guard, to David VanLuven, New Hampshire Natural Heritage Inventory (NHNHI), requesting information on rare species and exemplary natural communities.*

January 9, 1997 – Response letter from David VanLuven, NHNHI, to Zachary Boyajian, Guard, indicating that the state-threatened wildflowers wild lupine and golden heather occur in the path of the proposed taxiway.*

February 12, 1997 – Letter from Zachary Boyajian, Guard, to David VanLuven, NHNHI, including an updated site plan for the proposed location of the AASF and requesting information on rare species.*

March 3, 1997 – Response letter from David VanLuven, NHNHI, to Zachary Boyajian, Guard, including detailed maps and summary records of rare species within project boundaries.*

March 13, 1997 – Follow-up letter from David VanLuven, NHNHI, to Zachary Boyajian, Guard, with information on which state-listed species would most likely be affected by the proposed taxiway: frosted elfin butterfly, wild lupine, and golden heather.

March 24, 1997 -- Telephone conversation between Michael J. Amaral, USFWS, and Zachary Boyajian, Guard, regarding proposed new hangar, taxiway, and other developments at Concord Airport.

April 4, 1997 -- Letter from Zachary Boyajian, Guard, to Michael J. Amaral, USFWS, requesting additional information on the KBB and which issues should be addressed in an EA of the proposed project.*

May 9, 1997 – Letter from Michael J. Bartlett, USFWS, to Zachary Boyajian, Guard, indicating that the proposed project will require further consultation under Section 7 of the ESA. Project impacts to the following species should be consulted on: KBB and wild lupine. Other plants that the KBB forages on, i.e., golden heather, New Jersey tea and spreading dogbane, should be considered as well. For the preparation of a Biological Assessment (BA), the project's direct effects and indirect effects, such as the development associated with the extension of Regional Drive, need to be evaluated.*

June 2, 1997 -- Site visit to project location with Zachary Boyajian and LTC Stephen Burritt, Guard; Joe Andrews, an engineer with City of Concord; John Kanter, NHDFG; David VanLuven, NHNHI; and Michael Amaral, USFWS, to look at the areas where the preferred alternative would result in habitat loss for the KBB, to discuss alternatives and mitigation. Joe Andrews, City of Concord, indicated that there is an RFP out for T-hangar development.

June 4, 1997 – Facsimile from Ralph N. Rusin, FAA, to Michael Amaral, USFWS, providing a copy of a December 16, 1996 memo regarding a finding of no significant impact by the Economic Development Administration for the funding of the Concord Business Park Infrastructure.

June 4, 1997 – Letter from Michael Amaral, USFWS, to John Silva, FAA, pointing out that every action at Concord Airport, for which there is federal oversight, is subject to review under Section 7 of the ESA, including the T-hangar.

June 6, 1997 -- Telephone conversation between Zachary Boyajian, Guard, and Michael Amaral, USFWS, to discuss time frame and environmental issues for the BA, as well as conservation requirements for the KBB.

June 17, 1997 -- Information on methods to transplant lupine forwarded from USFWS to Zachary Boyajian, Guard.

August 11, 1997 -- Telephone conversation between Zachary Boyajian, Guard, and Michael Amaral, USFWS, regarding use of the KBB draft recovery plan and other pertinent literature for preparation of a biological assessment. Since the new aircraft will arrive in advance, the replacement of helicopters was discussed, viewed potentially as a separate action, which by itself would not currently have an adverse effect on KBBs.

November 20, 1997 -- Telephone conversation between Zachary Boyajian, Guard, and Michael Amaral, USFWS, to verify that the Guard still has the most current documentation available for the preparation of a BA. The Guard confirmed that preparation of an EA for fielding the new helicopters is on schedule for December 1997, and the EA for hangaring for January/February 1998.

January 6, 1998 – Letter from Eileen Chabot, Guard, to Michael J. Bartlett, USFWS, requesting comments on DEA "NH ARNG Helicopter Conversion - Concord Army Aviation Support Facility."*

February 4, 1998 – Letter from Wayne Vetter, NHDFG, to Eileen Chabot, Guard, identifying additional state-listed species, which may be affected by the project: persius dusky wing skipper, frosted elfin butterfly and pine barren Zanclognatha moth.*

February 9, 1998 – Letter from William J. Neidermyer, USFWS, to Eileen Chabot, Guard, with comments on the preliminary DEA, in which concerns were raised about the lack of discussion on alternative locations and how a finding of no significant impact for "fielding" the aircraft could be reached, when "hangaring and taxi development" will likely adversely affect KBB habitat.*

February 23, 1998 – Letter from David VanLuven, NHNHI, to Eileen Chabot, Guard, relating to review of the DEA for fielding new aircraft, indicating that it fails to 1) address impacts from construction of new hangar facility and taxiway; 2) evaluate alternative sites in Grenier Field Reserve Center, Londonderry and Pease International Tradeport, Newington; and 3) discuss impacts resulting from housing and maintenance of helicopters.*

March 10, 1998 – Meeting at the Guard, Concord, New Hampshire, between LTC Burritt, Major F. Leith, Eileen Chabot, Zachary Boyajian, Guard; William Neidermyer, Michael Amaral, USFWS; John Kanter, NHDFG; and David VanLuven, NHNHI, to discuss comments on the DEA, in particular the project's direct and indirect effects on the KBB, and mitigation. All parties agreed to separate the fielding of helicopters and construction of an AASF and to review an EA for each action, provided that the Guard can commit in writing that fielding of helicopters does not irrevocably lead to construction of a hangar at the CMA.

May 26, 1998 – Telephone conversation between Zachary Boyajian, Guard, and Michael Amaral, USFWS, to notify USFWS that the Guard will hire a consultant to help, but will retain responsibility for the BA.

June 5, 1998 – Letter from Eileen Chabot, Guard, to Michael Amaral, USFWS, requesting comments on the June 1998 DEA on the replacement of helicopters at the AASF in Concord, NH.*

June 17, 1998 – Telephone conversation between Zachary Boyajian, Guard, and Michael Amaral, USFWS, to discuss survey plans: Mark Mello, Lloyd Center for Environmental Studies, South Dartmouth, Massachusetts, to survey state-listed *Lepidoptera*; Alaine Peteroy, TNC, to survey for the KBB; and consultant to evaluate alternative sites more thoroughly.

July 5, 1998 – Letter from Lloyd Center for Environmental Studies to Zachary Boyajian, Guard, summarizing the May/June 1998 survey results of *Lepidoptera* at the Concord Airport.

July 16, 1998 – Letter from Kenneth C. Carr, USFWS, to Eileen Chabot, Guard, in response to the updated DEA, dated June 1998, on the helicopter conversion at the Concord Airport.*

July 16, 1998 – Meeting at USFWS between Zachary Boyajian, Eileen Chabot, Guard, and Michael Amaral, USFWS, to discuss the KBB and other *Lepidoptera* identified so far during the 1998 field season, as well as to suggest ways to minimize project impacts to the KBB.

September 16, 1998 – Letter from Joseph Andrews, City of Concord, to Graham Taylor, USFWS, disapproving of controlled burns at the Concord Airport until issues related to development in the north development zone are resolved.

September 17, 1998 – Meeting at the Guard, Concord, New Hampshire, between Fred Enderle, Kenneth Lurvey, City of Concord; LTC Stephen Burritt, Zachary Boyajian, Eileen Chabot, Guard; John Kanter, NHDFG; and Michael Amaral, USFWS, to discuss revised project design (AASF) and mitigation proposals.

October 5, 1998 – Letter from Kenneth Lurvey, City of Concord, to Wayne Vetter, NHDFG, requesting concurrence on the T-hangar proposal for an October 14, 1998 meeting with the Planning Board. The City provides their interpretation of the Conservation Management Agreement and why they believe that the proposed project does not conflict with the Agreement.

October 14, 1998 – Letter from Wayne Vetter, NHDFG, to Kenneth Lurvey, City of Concord, noting that construction of the T-hangar as proposed would result in taking of the state-endangered frosted elfin butterfly.

October 14, 1998 – Letter from Michael Amaral, USFWS, to Kenneth Lurvey, City of Concord, with respect to the proposed T-hangar and informing the City that USFWS has sent a letter to the FAA expressing concerns that the current proposal would adversely affect the KBB, and asking the City to consider other sites within the North Safeways Zone.

October 15, 1998 – Public Notice by the Department of the Army on the Guard's Replacement of the AASF at the SMR site, Concord, NH.

October 15, 1998 – Letter from Michael Amaral, USFWS, to Eileen Chabot, Guard, on suggested changes to meeting notes, with respect to the proposed development of the North Safeways Zone and its impact on the KBB, as well as pointing out the disagreement over the interpretation of the 1995 Conservation Management Agreement.

October 21, 1998 – Letter from David VanLuven, NHNHI, to Kenneth Lurvey, City of Concord, in response to a letter received October 16, 1998 regarding the proposed T-hangar development in the North Safeways Zone. NHNHI raised concerns that the proposed project site will affect the state's largest population of wild lupine, and that alternative areas should be found for Airport expansion.

October 23, 1998 – Letter from Henry Tepper, TNC, to Kenneth Lurvey, City of Concord, providing comments on the February 27, 1995 Conservation Management Agreement and the draft Concord Airport Master Plan, which had been reviewed in August 1995. TNC is hopeful that all parties involved will continue to work together for an economically-viable airport as well as healthy populations of rare species and their habitats, including the North Safeways Zone.

October 29, 1998 – Telephone conversation between Zachary Boyajian, Guard, and Michael Amaral, USFWS, to inform USFWS that the Guard has hired a consultant to assist with the DEA.

January 28, 1999 – Telephone conversation between Zachary Boyajian, Guard, and Michael Amaral, USFWS, to discuss ways to avoid delaying the project despite contractor issues and completion of the final EA being behind schedule.

February 19, 1999 – Letter from Major General John Blair, Guard, to Michael J. Bartlett, USFWS, requesting comments on the DEA for replacement of the Guard AASF in Concord, New Hampshire.*

March 18, 1999 – Letter from David VanLuven, NHNHI, to Major General John Blair, Guard, upon review of the Preliminary DEA for Replacement of the NH ARNG Army Aviation Support Facility, indicating agreement with most of the conclusions.

March 24, 1999 – Letter from Michael J. Bartlett, USFWS, to Major General John Blair, Guard, commenting on the DEA, noting that the 1995 Concord Airport Management Agreement appears to be in jeopardy, and as a result, the USFWS cannot concur with the finding that the Concord Municipal Airport alternative for the AASF "is not expected to appreciably reduce the likelihood of survival or recovery of the species."*

March 25, 1999 – Letter via facsimile from Zachary Boyajian, Guard, to Michael Amaral, USFWS, with a copy of Duncan Ballantyne's (City of Concord) March 18, 1999 letter to Major General John Blair, Guard, providing comments on the DEA. The City of Concord disagrees with the DEA's interpretation of the 1995 Airport Conservation Management Agreement, indicating that future Airport expansion and development is planned, which, according to the City, is exempt from future Airport conservation management.

April 2, 1999 – Letter from Wayne Vetter, NHDFG, to Major General John Blair, Guard, providing comments on the Preliminary DEA for the Replacement of the NH ARNG Aviation Support Facility in Concord, New Hampshire.*

April 5, 1999 – Letter from Kenneth Lurvey, City of Concord, to Wayne Vetter, NHDFG, seeking approval for the revised T-hanger proposal and that the project's new location will avoid impacts to rare or endangered species.

April 8, 1999 – Letter from Henry G. Tepper and Michael S. Stevens, TNC, to Major General John Blair, Guard, supporting comments made by the USFWS and the NHDFG on the DEA.

April 12, 1999 – Letter from David VanLuven, NHNHI, to Kenneth Lurvey, City of Concord, requesting a copy of the revised T-hangar proposal and reminding the City that NHNHI has jurisdiction over state-listed plants, not NHDFG.

May 3, 1999 – Letter from Wayne Vetter, NHDFG, to Kenneth Lurvey, City of Concord, indicating that the revised T-hangar plans are not likely to adversely affect the state-listed frosted elfin butterfly.

May 17, 1999 – Letter from John Kanter, NHDFG, to Frederick Enderle, City of Concord, asking for confirmation of access to the Airport's grassy, runway safety areas in accordance with the Conservation Management Agreement.

May 25, 1999 – Letter from LTC Stephen Burritt, Guard, to Michael Amaral, USFWS, identifying that after reviewing comments on the DEA from 12 agencies, the new preferred alternative is the SMR site.

May 28, 1999 – Letter from Frederick Enderle, City of Concord, to John Kanter, NHDFG, stating that the City would like to have a meeting to clarify all aspects of the Agreement.

June 1, 1999 – Letter from Frederick Enderle, City of Concord, to LTC Stephen Burritt, Guard, stating that the City would prefer that the Concord Airport remain the site for the preferred alternative, and that the disputes over the 1995 Airport Conservation Management Agreement are in the process of being clarified.

September 2, 1999 – Meeting at the Department of Resources and Economic Development between Duncan Ballantyne, Fred Enderle, Tom Aspell, Ken Lurvey, City of Concord; Col. John Weeden, Col. Ted Kehr, LTC Stephen Burritt, LTC Dennis O'Connell, Zachary Boyajian, Eileen Chabot, Guard; David VanLuven, NHNHI; Wayne Vetter, Steve Weber, John Kanter, NHDFG; Michael Bartlett, Michael Amaral, USFWS; Donna Witte, Ralph Nicosia-Rusin, John Silva, FAA; George Bald, DRED; and Jack Ferns, Wally Trolan, David Rolla, Fixed Base Operator, to discuss the Airport Conservation Management Agreement, the proposed AASF, extension of Regional Drive, and mitigation proposals from the Guard and the City of Concord.

September 2, 1999 – Summary of Mitigation Proposal presented in February 1999 Preliminary DEA.

December 16, 1999 – Letter from LTC Stephen Burritt, Guard, to Michael Bartlett, USFWS, requesting a review of the revised DEA for replacement of the AASF in Concord, NH, as well as USFWS's determination on whether the Guard needs to initiate formal consultation or if additional information is still required.

January 4, 2000 – Facsimile from Zachary Boyajian, Guard, to Michael Amaral, USFWS, transmitting fielding of new aircraft section of the DEA.

January 11, 2000 – Letter from Michael J. Bartlett, USFWS, to LTC Stephen Burritt, Guard, on the revised DEA. USFWS agrees that offsetting lost habitat (from the project) by restoring and managing existing habitat elsewhere would be appropriate mitigation. Before formal consultation can be initiated, long-term protection of offset habitat needs to be ensured, ideally by finalizing the Concord Municipal Airport Development and Conservation Management Agreement with the City, developing a draft Habitat Management Plan for Concord Municipal Airport lands, as well as the Guard making a commitment to fund the mitigation plan.

February 10, 2000 – Letter from Wayne Vetter, NHDFG, to LTC Stephen Burritt, Guard, stating that, upon reviewing the DEA, the NHDFG concurs with the DEA's finding that "a mixture of minor adverse and minor beneficial effects would be expected with respect to T&E species."

February 14, 2000 – Letter from Ralph Nicosia-Rusin, FAA, to Eileen Chabot, Guard, commenting on the DEA and the need to submit a revised Airport Layout Plan to the FAA. Furthermore, the FAA thinks it would be appropriate for the FAA to request the USFWS to write a biological opinion with respect to endangered species for the entire airport in order to support the terms of the recently-negotiated Concord Municipal Airport Development and Conservation Agreement.

February 22, 2000 -- Letter from Major General John Blair, Guard, to Duncan Ballantyne, City of Concord, requesting that within two weeks, the City of Concord ask the FAA to request initiation of formal consultation for Concord Municipal Airport Developments, including replacement of the AASF.

February 28, 2000 – Letter from Michael J. Bartlett, USFWS, to LTC Stephen Burritt, Guard, amending comments in the January 11, 2000 letter regarding the Guard's responsibility relative to the project and the endangered KBB. The FAA will assume the lead federal agency responsibility for completing formal Section 7 consultation for activities at the Airport, including the Guard's proposed project and implementation of the Development and Conservation Management Agreement.

April 5, 2000 - Letter from Vincent A. Scarano, FAA, to Michael J. Bartlett, USFWS, requesting formal consultation pursuant to Section 7 of the Endangered Species Act.

April 6, 2000 - Letter from LTC Stephen Burritt, Guard, to Michael J. Bartlett, USFWS, conveying a revised "ultimate Airport Layout Plan" and formalizing the Guard's involvement in the formal consultation.