



Appendix A.

Draft Management Agreements & Biological Opinions

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DRAFT MANAGEMENT AGREEMENTS

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Rev: 10/15/01

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MANAGEMENT AGREEMENT

Between
Department of Environmental Conservation
Division of Fish, Wildlife, and Marine Resources
and
Saratoga County
in Relation to Endangered Species Management at
Saratoga County Airport

Witnesseth

This agreement, made _____ Day of _____, 2001 by the New York State Department of Environmental Conservation Division of Fish, Wildlife and Marine Resources, acting by and through its Commissioner, hereafter referred to as DEC, and Saratoga County, 40 McMaster Street, Ballston Spa, New York 12020, hereinafter referred to as the County.

Whereas, DEC recognizes that the Karner Blue butterfly (*Lycæides melissa samuelis*) is considered an endangered species by the State of New York and the US Department of the Interior, with the largest known population located on the Saratoga County Airport property in the Town of Milton, and

Whereas, the DEC recognizes that the airport property also supports the Frosted Elfin butterfly (*Callophrys irus*), a state threatened species, and the mottled duskywing (*Erynnis martialis*), a state species of special concern, together with many other specialized grassland invertebrates and nesting birds and

Whereas DEC, under its legal mandate and responsibilities under Sections 11-0303 and 11-0535 of the New York State Fish and Wildlife Law and the Endangered Species Cooperative Agreement with the United States Fish and Wildlife Service, hereafter referred to as the Service, is responsible for the welfare and protection of resident threatened and endangered species and

Whereas, activities adversely affecting an endangered or threatened species or its occupied habitat may be construed as taking under Section 11-0535 of the New York State Fish and Wildlife Law

Whereas, the County has previously been a party to a non-binding management agreement to protect the Karner Blue and perpetuate and manage its habitat on the airport property and

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Whereas, since the 1991 effective date of the original management agreement, the Frosted Elfin has been listed as a state threatened species which is also protected under 11-0-535 and

Whereas since the 1991 effective date of the original management agreement the Karner Blue has been listed as a federal endangered species under Section 4 of the Endangered Species Act and is under the jurisdiction of the Service, and since aspects of the activities covered under the original agreement may be construed as take under Sections 3 and 9 of the Endangered Species Act and

Whereas the County has completed a new draft Master Plan for the Airport property which must be approved by the Federal Aviation Administration, hereafter referred to as FAA, and that such approval may be subject to a Section 7 consultation with the Service regarding impacts to the Karner Blue butterfly and

Whereas this new management agreement shall be considered a part of the Master Plan.

Now, therefore, the DEC and the County do hereby respectfully agree to the following including new or altered conditions to the original 1991 agreement designed to reduce habitat "take" as much as possible

1. The County will not begin its annual mowing of the airport property until after October 15 of each year and will complete such mowing before December 31 to allow the Karner Blue and Frosted Elfin to fully carry out their life functions and to allow for completion of the life cycles of essential habitat plants including but not limited to wild blue lupine (*Lupinus perennis*). Mowing blades will be set to between six (6) and eight (8) inches. Areas which must be mowed earlier to allow for safe use of the runways and taxiways by aircraft, as specifically identified in Exhibit 1 are exempt from this clause. These areas are described as follows and designated on the attached map, which will be considered part of this agreement.
 - A. Generally, the area between Geyser Road (County Rd. 43) and the terminal areas and the aircraft tie-down areas along taxiways A and C. The width of the area is irregular and roughly extends on the west side along the airport fence at the parking lot to the extent of the 2001 development of the North American facility and along the tree line back to Geyser Road. On the east side, it extends as far as the proposed glider hangar location at the turn of taxiway C toward Runway 32 (See the attached map).
 - B. The itinerant apron between taxiways A and C and the grassy area between the aircraft tie downs along taxiway C and the hangar area (both of which are proposed to be paved under the 2001 Master Plan).

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- C. A swath along taxiways and the taxiway into the North American facility to clear vegetation around lights and directional signs. Mowers will be reminded each year to mow only the minimum area needed to clear the lights and signs. Previously, a large mower was used to cut a swath along the edge of the pavement and around the lights, then another swath behind the lights, and a smaller riding mower cut away the remainder of the grass from the lights themselves. Under this new agreement, a large mower will only cut a swath between the lights and the pavement and a small mower will follow up cutting one circular pass around the lights. There will be no swath cut behind the lights and the area between the lights will also remain unmowed (See detail A on the attached map).

Since the lights of the runways are on pavement, there will be no mowing along the runways themselves.

- D. The area surrounding the airport beacon. There is considerable Lupine habitat readily used by Karner Blues and Frosted Elfin on and above the slope near the beacon and between the beacon and the hangars. While part of the exempt area, this Lupine should not be disturbed until the October 15 annual mowing date unless there is a compelling safety or operational reason. If the habitat will be affected by excavation for cable placement or repair, every effort should be made to minimize the extent of the damage to the habitat and it should be reseeded with habitat mix as specified by DEC. The County, with DEC's assistance in designating the edge, will mark the limits of this area to aid its mowers in avoiding it.
- E. The access road built and used during runway 05-23 reconstruction in 2001 from the airport entry road to the southeast corner of taxiway A. As the County has expressed the desire to keep this road for future access, the County will maintain the road at its present width with gravel to keep lupine from growing into the road.
- F. **The two (2) permanent access roads which are west and north of the runway intersection. These roads will be constructed during the course of on-site obstruction removal project. The county will maintain these roads with gravel to keep Lupine from growing into the roads.**
- G. **Service access roads and aprons to the automated weather observation station, electrical vault and beacon. The location of these roads and aprons will be coordinated with DEC and will be constructed during the course of on-site obstruction removal project. The county will maintain these roads and aprons with gravel to keep Lupine from growing in these areas.**

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2. The County will avoid use of machinery on all habitat areas at any time of the year with the exception of those areas and times specifically identified in this agreement. The County will annually instruct its employees of the mowing schedule and the restrictions of driving or parking any vehicles outside of designated areas and will emphasize the importance of adhering to the terms of this agreement. Early mowing may kill Karner Blues or Frosted Elfins and impair long-term integrity of the habitat.
3. DEC and The County will annually **inform** airport tenants about restrictions on operation of aircraft or vehicles off-pavement in undesignated areas and will be encouraged to inform pilots they are in radio contact with of these restrictions. The County will erect signs at the entrance road advising visitors and pilots that vehicles may be parked only in designated areas and may not be parked off-pavement. **The County will request that a pilot notification be placed in the FAA Airport Facility Directory regarding restrictions and unauthorized off pavement operations at the Saratoga County Airport.**
4. Snow may be blown off runways and taxiways into the habitat areas via snowblowers to clear pavement and the lights. Snow plowed from the aircraft parking areas in front of the Richmor Offices may be pushed off the pavement into the area immediately adjacent to the west side of the aircraft parking but must not be pushed any further than the corner of the fence line (see attached map). **A reasonable effort will be made to raise the blade of the plow so as to minimize scraping up the ground and vegetation in this area.** This condition must be part of the annual instruction county workers receive.
5. The County agrees to consult with DEC concerning and prior to any alterations of or use of Karner blue and Frosted Elfin habitats except in emergencies or as specifically identified in this agreement. The County will notify DEC Endangered Species Unit immediately after any accident or emergency on the airfield. Emergencies would include but not be limited to spills; fires, emergency repairs to lights, aircraft crashes or aircraft emergency landings off pavement.
6. The DEC will conduct periodic surveys of the Karner blue and Frosted Elfin populations and make the results of such surveys available to the County. The County agrees to grant reasonable access to department officials or their designees for purposes of research and management of Karner Blue and Frosted Elfin butterflies and their habitat.

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7. **The extent of the present "Known Habitat Area" is depicted on the attached map. It includes the area outside the Exempt Area and is primarily considered to be bound by the existing airport fence. The exception being that portion of the existing airport fence that is northeast, north and southwest of Runway 14 at which location the habitat extends beyond the fence line for a distance of ten (10) feet. After the completion of the on-site obstruction clearing and grubbing project proposed by the County, portions of the existing perimeter airport fence will be relocated outward. The relocated fence, for its entire perimeter around the airport property, will delineate the extent of the "Known Habitat Area", with no buffers beyond the fence line at any location. The newly cleared areas will be managed on the same mowing schedule as the present Habitat Area. The County agrees to plant these areas with Karner Blue butterfly habitat plants. However, DEC and the County agree to discuss where there may be areas that could be allowed to remain non-lupine habitat. Beyond what the County will plant in the newly cleared areas, the County agrees to allow DEC to improve and expand habitat on the airport property to the extent that it will not impinge on the exempt areas or the other areas agreed to remain non-lupine habitat.**
8. **The DEC will prepare a recovery plan for the Karner Blue which will include consultation with the County in developing specific recommendations and tasks which involve the airport property or other County property.**
9. **Together the County and DEC will develop the format and language for an interpretive sign for the airport that will educate the public on the Karner Blue and the other values of the sand prairie habitat at the airport.**
10. **The County and DEC will develop agreements with all aircraft users who request operations off-pavement that will detail approved locations for their activities and the procedure to report and document any emergency landings off pavement in the habitat areas. These agreements shall be designed to minimize and control occasional and temporary take from off pavement activities. Activities which would permanently remove habitat or which would involve substantial and/or frequent take or disturbance will not be authorized in any such agreement.**
11. **In eventualities where DEC and US Fish and Wildlife approve that projects, repairs or other activities may occur within the habitat areas, the County will keep such projects to a minimum extent and reseed with DEC approved mixes of native habitat seeds or seedlings. Projects, repairs or activities occurring within the exempt areas will be reseeded using species approved by DEC that will not encroach or invade native habitat.**
12. **While the Department generally approves of the Airport Master Plan, it reserves the right to review and comment on the preliminary design strategies of any new construction,**

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techniques and timing of projects or expansions that may be proposed under that Master Plan. This will ensure that working habits and procedures will not have a detrimental effect on the protected butterflies or their habitat.

13. This agreement shall be effective beginning midnight December 31, 2001 until modification or termination by either party as described below.
14. **While it is understood that Saratoga County is the owner and manager of the Saratoga County Airport and that Saratoga County will make every effort to administer and enforce this plan in accordance with its terms, Saratoga County will not be held responsible for violations, or any resulting monetary fines, of its terms by persons or parties not in the employ or under the direction of Saratoga County.**
15. This agreement is to be considered legally binding in that it constitutes a feature of major significance to the protection and management of the Karner Blue butterfly in the Master Plan as reviewed by the US Fish and Wildlife Service in its Biological Opinion to FAA for its approval of the Master Plan. At any point during its effective period, it may be amended upon approval of both parties and the concurrence of the Service.

In witness whereof we have hereunto set our hand and seals the day and year first written above.

State of New York
Department of Environmental Conservation

Saratoga County

Gerald A. Barnhart

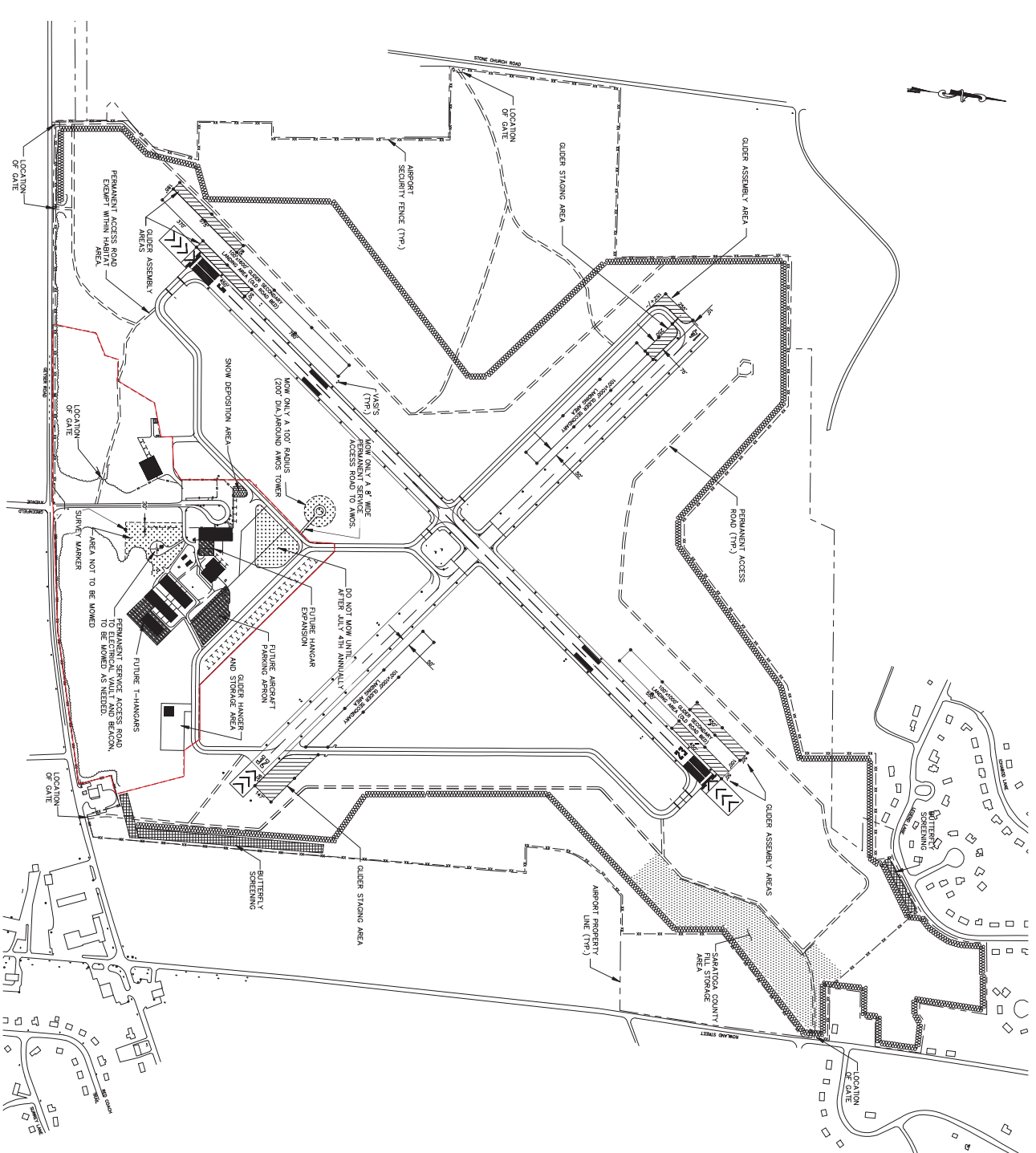
Joseph C. Ritchey, P.E.

Director, Division of Fish, Wildlife,
and Marine Resources

Saratoga County
Commissioner of Public Works

Date

Date

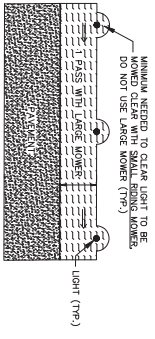
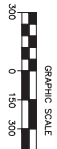


LEGEND

- AIRPORT BOUNDARY
- AIRPORT SECURITY FENCE
- ACCESS HAUL ROAD
- EXHAUST ZONE
- UNITS OF BEACON HABITAT AREA (WITHIN EXHAUST ZONE)
- BUTTERFLY SCREENING
- FUTURE BUILDING CONSTRUCTION
- FUTURE AIRPORT CONSTRUCTION
- SNOW STORAGE AREA - LATER DATE PERIOD SHOWN WITHIN THE CORNER OF THE FUTURE LINE
- GLIDER ASSEMBLY/STAGING AREA
- SARATOGA COUNTY FILL STORAGE AREA
- ● ● LOCATION OF FLAGS FOR LANDING, ASSEMBLY, AND STAGING AREAS (ALL FLAGS TO BE PLACED BY GLIDER CLUBS)

NOTES:

- 1) REFER TO BOTH THE WRITTEN MANAGEMENT AGREEMENT AND THE WRITTEN OPERATIONS AGREEMENT FOR GLIDER ACTIVITY FOR MORE DETAILED HABITAT MANAGEMENT INFORMATION.
- 2) ALL GLIDER SECONDARY LANDING AREAS TO ADD VASIS AS WORK LOAD PERMITS.
- 3) MOWING IS TO ONLY BE PERFORMED BY SARATOGA COUNTY.
- 4) GRASS IN LANDING, STAGING AND ASSEMBLY AREAS WILL BE MOWED TO A HEIGHT NO LOWER THAN 6-8 INCHES AND NO EARLIER THAN AUGUST 15 ANNUALLY. THE LOCATION OF FLAGS FOR MOWING AS SHOWN ON THIS PLAN ARE TO BE PLACED BY GLIDER CLUBS.
- 5) FLAGS FOR STAGING AND ASSEMBLY AREAS ARE TO BE PLACED BY THE GLIDER CLUBS PRIOR TO THE BEGINNING OF EACH GLIDER SEASON. THE LOCATION OF THESE FLAGS TO BE MAINTAINED FOR THE DURATION OF THE SEASON.
- 6) NON-EXHAUST AREAS OTHER THAN ITEM 4 ABOVE CANNOT BE MOWED UNTIL AFTER SEPTEMBER 15TH ANNUALLY.



TAXIWAY LIGHT MOWING DETAIL
DO NOT MOW ALONG RUNWAY EDGES

ACCEPTED BY _____ DATE _____
 NEW YORK STATE DEC _____ DATE _____
 SARATOGA COUNTY _____ DATE _____
 Patrick Airport/Vernier Blue Butterfly/Mowing Plan.pdf

REVISIONS			SARATOGA COUNTY AIRPORT COUNTY OF SARATOGA, NEW YORK		SCALE:	SARATOGA COUNTY DEPARTMENT OF PUBLIC WORKS 3654 GALWAY ROAD BALLSTON SPA, NY 12020 JOSEPH C. RITCHEY, P.E. COMMISSIONER OF PUBLIC WORKS
REV. NO.	DATE	DESCRIPTION	BY		DATE: 5/17/2005	
1	9/13/02	DIMENSIONED GLIDER SECONDARY LANDING AREAS AND STAGING AREAS	WAB	L.F.	DESIGNED BY:	
2	9/26/03	ADDED ACCESS ROADWAYS AND UPDATED CLEARED & GRUBBED AREAS	WAB	WAB	DRAWN BY:	
3	7/15/04	MISSCELLANEOUS ADDITIONS	WAB	WAB	CHECKED BY:	
4	8/18/04	MISSCELLANEOUS ADDITIONS	WAB	WAB	APPROVED:	
5	9/12/06	NOTE NUMBER 4 REVISED	WAB	WAB		
6	5/29/07	MOWING AREA REVISIONS	WAB	WAB		

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OPERATIONS AGREEMENT FOR GLIDER ACTIVITY AT THE SARATOGA COUNTY AIRPORT

REVISED DECEMBER 1995

REVISED 11/01/01

INTRODUCTION

The Karner blue butterfly (*Lycaeides melissa samuelis*), a federal and New York State endangered species, and the frosted elfin butterfly (*Callophrys irus*), a state threatened species, and their essential host plant, wild blue lupine (*Lupinus perennis*), occur at the Saratoga County Airport (the airport) in the Town of Milton, New York. In fact, the airport contains the largest remaining Karner blue population within the entire species range, and is nearly ten times the size of the next largest known population. Maintenance and perpetuation of the airport Karner blue and frosted elfin populations are critical to their long-term survival throughout their ranges.

The airport is managed by Saratoga County Department of Public Works (DPW). Regular airport maintenance (mowing), also maintains suitable habitat for the butterflies and, as per a management agreement with the Department of Environmental Conservation (DEC), this mowing is timed to minimize adverse effects to the butterflies.

A variety of general and specific factors can and do influence the growth and survival of both butterflies and their habitat at the airport. It has been determined that operation of gliders (and the activities attendant thereto, such as set up and take down) at the airport could have a detrimental effect on these animals and their habitat. The magnitude of this effect is not known, but it is believed to be minor by itself. However, cumulatively with the impact of other factors, it could be significant. As part of the effort to minimize all deleterious effects, the following procedures relating to the operation of gliders at the airport are necessary. While it is recognized that the Saratoga Soaring Association (SSA) is the primary glider operator at this airport, these procedures shall apply to all glider use at the airport.

1. Tie-down Zones

A. The presently used glider tie down area consists of a strip 100 feet wide and 300 feet long parallel and adjacent to taxiway A beginning approximately 20 feet northeast of the directional sign for runways 05/23 (see attached map). As per the 2001 Master Plan for the

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Saratoga County Airport, the SSA proposes to construct a hangar for its gliders along taxiway C which runs to Runway 32. When and if this hangar is built, the original tie-down area along taxiway A will be eliminated. No gliders may be kept off-pavement outside of the approved tie-down zone. Non-SSA glider owners wishing to leave their gliders at the airport will have to make arrangements with SSA or the DPW regarding storage or parking of their crafts within the hangar or the tie-down area. If the glider hangar is not built, the glider tie down area will remain as described.

II. Take Off, Landing and Assembly Zones

B. The primary landing zones will always be the paved runways. When air traffic conflicts with safe landing on a runway or in the few instances where a new member is being trained in grass landings, landing within secondary zones off-pavement are permitted as described below. Gliders will be moved into and out of the hangar and to and from launch zones only via hard-surfaced runways, taxiways and permitted assembly, landing or glider parking zones. Vehicles will not use the old roadbeds to get to the assembly areas except when a glider lands more than half way down a secondary landing area. To retrieve it a vehicle is allowed to travel to the glider and back on the old roadbed tracks where those exist. For Runway 14, where no old roadbed exists in the secondary landing zone), the glider should be pushed to Taxiway E and picked up by a vehicle on the hard pavement.

All tie-down, landing, glider staging and assembly zone boundaries shall be clearly and permanently marked by SSA to prevent accidental encroachment into the habitat. These markings shall be clearly visible, safe to aircraft, and acceptable to the DPW and DEC. Grass in landing zones may be mowed to a height no lower than 6-8 inches and no earlier than August 15 annually for safety reasons. SSA will mark the landing zone boundaries to be *extremely* obvious to the mower with flags, poles, or other visible markers safe for aircraft. If there are patches of important nectar plants within the landing zones for which August mowing may eliminate their setting and releasing seeds, DEC may designate that they be excluded from the mowing and will mark them. Because mowing at this time may prevent the little bluestem grass from setting its seed, undesirable vegetation such as spotted knapweed may invade the landing zones and become a problem. If DEC feels such a problem is developing, SSA agrees to seed the landing zones and the assembly zones with native little bluestem every three years.

A. Runway 05 (Area 1 on the map)

The assembly zone for this runway will be in the area to the northwest of Runway 05 starting 500 feet behind and extending for 600 feet parallel to the runway. The width of the assembly zone extends from the secondary landing area back to the fence line. If and when this fence is moved back after the obstruction removal project conducted by the DPW, the back limits of the assembly zone will remain the same and must be marked clearly to avoid incursions

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beyond the authorized area.. The runway will be the primary landing zone. The secondary landing zone will be the old dirt road closest to and parallel to the runway's northwest side (along the left side as aircraft approach). The dimensions of the landing zone are 100 feet wide and 1600 feet long beginning from the southwest end of the assembly zone. The strip between the runway and the secondary landing zone from the end of the runway to the second set of runway lights may be used to access the assembly zone and as a glider staging zone for gliders waiting to be launched.

B. Runway 14 (See Area 2 on the map)

The assembly zone for this runway will be on the northwest side of Taxiway E as it enters the runway, extending from the RMP sign to the curve in the taxiway. The assembly zone will extend no further than 100 feet back from the taxiway. If field inspections in spring 2002 show a large amount of lupine is within that line, the back line may be moved closer to the taxiway or specific lupine concentrations may be marked to be avoided. This determination will be at DEC's discretion. The runway will be the primary landing zone. The secondary landing zone for this runway will be an area 100 feet wide in the center of the grassy area between the runway and taxiway E and will run for 1000 feet beginning from the end of the glider staging zone. This staging zone will be 200 feet long and 100 feet wide adjacent to the runway starting at the edge of the runway/taxiway junction and will be used to park gliders waiting to be launched. No vehicles are allowed within this staging zone. This zone will not be mowed early with the secondary landing zone. There is a great deal of habitat in this part of the airport, and off-pavement uses must be limited to those absolutely necessary for operation and safety.

C. Runway 23 (See Area 3 on the map)

The assembly zone for this runway will be the area adjacent to and northwest of runway 23. This zone will start at the end of Runway 23 and will parallel the runway for 500 feet and will extend back to the fence. As with the assembly zone for Runway 05, if and when this fence is moved back after the obstruction removal project conducted by the DPW, the back limits of the assembly zone will remain the same and must be marked clearly to avoid incursions beyond the authorized area. The runway will be the primary landing zone. The secondary landing zone will be 100 feet wide centered on the old road bed running parallel to Runway 23 and will extend for 1000 feet starting at the end of Runway 23. A glider staging zone and access to the assembly area from the pavement will extend in a strip between the secondary landing zone and the runway from the end of the runway to the second set of runway lights.

D. Runway 32 (See Area 4 on the map)

The assembly zone and glider staging zone will extend from the junction of Runway 32 and Taxiway D to 100 feet behind the end of the runway, and will extend back to the

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airport fence. This fence is also proposed to be moved back after obstruction clearing, and the back line of the assembly zone must be marked to reflect the original fence limit. The runway will be the primary landing zone. The secondary landing zone will be 100 feet wide centered on the old road bed paralleling the northeast side of the runway (to the right as craft approach the runway) and will extend for 1000 feet starting at the junction of the runway and Taxiway D.

In the event of an emergency, gliders will land anywhere on the airport that will permit a safe landing. Circumstances necessitating the need for any emergency landings in non-authorized areas will be detailed in a written report to be submitted to the DPW Commissioner and DEC Endangered Species Unit Leader, 625 Broadway, Albany, NY 12233-4754 within two weeks of the event.

No additional mowing (beyond that specified in II above) is permitted on the airport grounds, except as currently specified under the cooperative agreement for Karner blue and frosted elfin management at the airport between DPW and DEC.

III. Communication and Documentation

A. SSA will be responsible for informing all its members of the operational conditions at the airport. Any non-members towed by SSA will also be informed by the club of landing/assembly/tie down restrictions.

B. SSA will keep records of all off-pavement landings during the gliding season and make a report to the DPW and DEC Endangered Species Unit no later than December 31 each year. The records shall include the date and landing zone used.

C. Saratoga County DPW, in its role as the responsible entity for management of this airport, will oversee the implementation of this glider plan. Since these operational procedures restrict some of the past traditional use of the airport by gliders, the DPW will strive to notify motorized aircraft users to make them aware of these restrictions on glider landings and to ask for their cooperation in deferring to gliders whenever possible.

This agreement is to be considered binding. The elements detailed within are designed to minimize taking of Karner blue and frosted elfin butterflies during operation of off-pavement gliding activities. Should the terms of this agreement be violated by Saratoga Soaring Association members, guests, contractors or employees, operations off-pavement may be suspended. This operating agreement shall be periodically reviewed as necessary and modified

Enclosure 2

State of New York
Department of Environmental
Conservation

Gerald A. Barnhart
Director, Division of Fish
Wildlife, and Marine Resources

Saratoga County

Joseph C. Ritchey
Commissioner of Public Works

Saratoga Soaring Association

President

2009 BIOLOGICAL OPINION

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United States Department of the Interior

FISH AND WILDLIFE SERVICE

3817 Luker Road
Cortland, NY 13045



28 2009

September 24, 2009

Ms. Sukhbir K. Gill
Environmental Protection Specialist
U.S. Department of Transportation
Federal Aviation Administration
New York Airports District Office
600 Old Country Road, Suite 446
Garden City, NY 11530

Dear Ms. Gill:

We received your September 16, 2009, letter regarding the Saratoga County Department of Public Works' (County) proposed activities at the Saratoga County Airport (Airport) in the Town of Milton, Saratoga County, New York, and their effects on the Karner blue butterfly (*Lycaeides melissa samuelis*). In accordance with Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*), the Federal Aviation Administration (FAA) has requested reinitiation of consultation for activities at the Airport to address one specific action, the paving of a 0.08-acre gravel access road to an Automated Weather Observation Station (AWOS).

Incidental take authorization was previously issued for the construction/maintenance/use of the access road in the U.S. Fish and Wildlife Service's (Service) July 6, 2009, Biological Opinion (BO). We now understand that the County wishes to pave the access road in September or early October 2009. The proposed action includes the following conservation measures to minimize impacts to Karner blue butterflies:

Construction vehicles will be prohibited from operating off the existing access road;

All disturbances will be restored with the addition of loam- and KBB-friendly grass seed.

All disturbances will be within areas currently mowed for safety at the edge of pavement areas.

Equipment will be staged on the existing road surface and will remain on the road whenever possible, however, limited passing of equipment off and within close proximity to the edge of the road will be required.

The County will coordinate activities with the New York State Department of Environmental Conservation (NYSDEC).

All activities will be under the management of County personnel.

The following incorporates all previous amendments/revisions to the November 8, 2002, BO into one document. To expedite the consultation process for this latest reinitiation request, we found that an amendment was the most efficient mechanism.

This BO is based on information provided in numerous meetings, telephone conversations, letters, and electronic mail exchanges among the Service, FAA, and others. A complete administrative record of this consultation is on file at the Service's Cortland, New York, Field Office.

I. CONSULTATION HISTORY

- | | |
|--------------------|---|
| October 16, 1998 | Letter from the FAA to the Service regarding the North American Flight Service Hangar at the Saratoga County Airport. |
| December 1, 1998 | Letter from the Service to FAA regarding the North American Flight Service Hangar at the Saratoga County Airport and the presence of wild blue lupine (wild lupine, blue lupine, lupine). |
| May 12, 1999 | Letter from the New York State Department of Environmental Conservation (NYSDEC) Endangered Species Unit regarding the North American Flight Service Hangar at the Saratoga County Airport. |
| May 25, 1999 | Letter from Edwards & Kelcey (Saratoga Springs, NY) to the Service regarding the North American Flight Service Hangar at the Saratoga County Airport. |
| June 14, 1999 | Letter from the Service to FAA regarding the North American Flight Service Hangar at the Saratoga County Airport and the presence of blue lupine. |
| August 18, 2000 | Draft technical memorandum regarding Karner blue butterfly habitat prepared by Edwards & Kelcey. |
| August 2, 2000 | Letter from Edwards & Kelcey (Saratoga Springs, NY) to the Service regarding vegetation removal. |
| September 13, 2000 | Telephone conversation from the Service to Edwards & Kelcey (Saratoga Springs, NY) regarding what vegetation is to be removed. |
| November 27, 2000 | Coordination meeting at the Saratoga County Department of Public Works facility regarding obstruction removal regarding the Saratoga County Airport. |
| December 11, 2000 | Letter from Edwards & Kelcey (Saratoga Springs, NY) regarding resurfacing of Runway 14-32. |

December 21, 2000 Letter from Edwards & Kelcey (Manchester, NH) to the Service conveying Minutes of the November 27, 2000, Coordination Meeting.

January 16, 2001 Letter from Edwards & Kelcey (Saratoga Springs, NY) to the Service regarding the obstruction removal.

February 23, 2001 Letter from Edwards & Kelcey (Manchester, NH) to the Service regarding Runway 05/03 Design Drawings and Specifications.

March 12, 2001 Letter from Edwards & Kelcey (Saratoga Springs, NY) to the Service providing updated information for the Airport Master Plan and Environmental Assessment.

March 28, 2001 Preconstruction Meeting at the Saratoga County Department of Public Works facility regarding runway resurfacing.

April 10, 2001 Letter from Edwards & Kelcey (Manchester, NH) to the Service providing the Draft Airport Master Plan and Environmental Assessment.

April 30, 2001 Letter from the Service to Edwards & Kelcey (Saratoga Springs, NY & Manchester, NH) regarding resurfacing of the runways and removal of vegetation.

November 6, 2001 Telephone conversation between NYSDEC Endangered Species Unit and the Service regarding the nature of the proposed gravel roads.

November 6, 2001 Letter from Edwards & Kelcey to the Service conveying the Draft Environmental Assessment for the Saratoga County Airport for review.

November 16, 2001 Telephone conversation from the Service to Edwards & Kelcey regarding the environmental assessment schedule.

November 19, 2001 Telephone conversation from the Service to the FAA regarding the Master Plan and Environmental Assessment for the Saratoga County Airport. FAA advised that the Karner blue butterfly is present at the airport.

November 20, 2001 FAX from the Service to the FAA conveying consultation information.

January 17, 2002 Coordination meeting at the Saratoga County Department of Public Works facility regarding obstruction removal.

January 31, 2002 Letter from FAA dated January 29, 2002, requesting initiation of formal consultation.

March 5, 2002 Letter from the Service to Edwards & Kelcey (Saratoga Springs, NY) regarding obstruction removal.

March 15, 2002 Letter from the Service to FAA requesting additional information necessary to initiate formal consultation.

March 22, 2002 Telephone conversation from the Service to Edwards & Kelcey (Saratoga Springs, NY) regarding replanting of vegetation in the area of obstruction removal.

March 22, 2002 Telephone conversation from the Service to Edwards & Kelcey (Saratoga Springs, NY) regarding replanting specifications.

June 7, 2002 Preconstruction meeting at the Saratoga County Department of Public Works facility regarding obstruction removal.

June 10, 2002 Telephone conversation from the Service to the NYSDEC Endangered Species Unit regarding placement of gravel in front of Richmoor Aviation for access to the Automated Weather Observation Station (AWOS) Unit.

June 11, 2002 Telephone conversation from the Service to the NYSDEC Endangered Species Unit regarding the potential for adverse impact to Karner blue butterflies in the process of removing the chain link fence.

June 26, 2002 Letter from FAA dated June 24, 2002, received by the Service providing the additional information requested.

August 5, 2002 Letter from Edwards & Kelcey (Saratoga Springs, NY) to the Service requesting endangered species information relative to the parcel of vacant land.

August 6, 2002 Letter from the Service to FAA acknowledging receipt of all the information necessary to initiate formal consultation.

August 9, 2002 Letter from Edwards & Kelcey (Saratoga Springs, NY) to the Service submitting additional information on a parcel of vacant land associated with obstruction removal.

August 27, 2002 Letter from the Service to Edwards & Kelcey (Saratoga Springs, NY) stating no endangered species involvement on the parcel of vacant land.

October 29, 2002 Telephone conversations between the Service and the consultant, and the Service and the FAA regarding including the Facility Base Operations (FBO) building and apron in the five- to ten-year time period and consultation.

November 8, 2002 Letter from Service to FAA issuing Biological Opinion (BO).

February 10, 2003 Letter from FAA to Service stating that the County is responsible for Terms and Conditions associated with the November 8, 2002, and any future BOs.

September 2003	Multiple phone calls among the NYSDEC, Service, FAA, and County regarding the AWOS access road installation.
October 23, 2003	Letter from the Service to FAA regarding the AWOS access road installation.
October 29, 2003	Letter from the County to FAA regarding the AWOS access road installation.
August 31, 2006	Meeting among the County, FAA, Service, and NYSDEC.
September 6, 2006	Letter from the FAA to the Service regarding the AWOS.
August 2008- June 2009	Multiple electronic mail exchanges among the Service, County, NYSDEC, FAA, and consultants.
August 27, 2008	Copied on letter from FAA to NYSDEC regarding AWOS.
October 9, 2008	Letter from the Service to FAA amending November 8, 2002, BO.
November 7, 2008	Conference call among FAA, County, NYSDEC, and Service regarding terms and conditions 4, 5, and 6.
November 24, 2008	Letter from the Service to FAA revising November 7, 2008, BO.
February 6, 2009	Letter from the County to Service regarding proposed 2009 projects.
April 22, 2009	Letter from the Service to County responding to February 6, 2009, letter.
May 5, 2009	Letter from the County to Service responding to April 22, 2009, letter.
June 30, 2009	Letter from FAA to Service requesting reinitiation of formal consultation
July 1, 2009	Electronic mails from NYSDEC to County and County to Service revising project description.
July 6, 2009	Letter from Service to FAA issuing BO.
September 16, 2009	Letter from FAA to Service requesting reinitiation of formal consultation.

II. BIOLOGICAL OPINION

Description of the Proposed Action

The proposed new Federal action that is the subject of this amended BO is the funding and/or approval of activities at the Airport.

The original action associated with the November 2002 BO was the approval by the FAA of the Saratoga County Airport Master Plan Update - Five Year Program. Although the project documents address proposed projects in the one-to-five, and five-to-10-year time periods, the FAA requested consultation regarding the projects in the first five-year time period. The Five Year Program included rehabilitation of both runways, on- and off-airport tree obstruction removal, reconfiguration of the itinerant apron including relocation of two aviation fuel tanks, taxiway reconstruction, new construction of a glider hangar and snow removal equipment storage building, replacement of the pole barn hangar, acquisition of snow removal equipment, and aviation easement acquisition as described in the Draft Master Plan Update and the Draft Environmental Assessment. In addition, a T-hangar, replacement of the airport beacon, and regrading along the entrance taxiway to the North American Aviation area, FBO building, and apron were addressed.

The Saratoga County Airport Master Plan also includes a Draft Management Agreement (see Enclosure 1) between the NYSDEC and the County for Endangered Species Management at the airport to minimize the adverse effects of airport activities on listed species and their habitat. In addition, the Master Plan update includes a Draft Operations Agreement for Glider Activity at the Saratoga County Airport (see Enclosure 2) among the NYSDEC, the County, and Saratoga Soaring Association. This agreement is designed to minimize the adverse effects of glider operations on listed species and their habitat. These two agreements are still technically in draft form but are used by the County to minimize impacts to Karner blue butterflies. Therefore, the effects of the implementation of these two agreements are included in this consultation.

During informal consultation with the FAA on several projects included in the Master Plan Update, the Service previously determined that, based on the information provided or with certain measures included, these projects would not be likely to adversely affect the Karner blue butterfly. These projects included the Runway 5/23 rehabilitation, the Runway 14/32 rehabilitation, on-airport obstruction removal, and the purchase of an adjacent parcel of property for obstruction removal. The FAA later requested that the Runway 14/32 rehabilitation project be addressed through formal consultation due to temporary impacts that may not be avoided as discussed during informal consultation.

On October 9, 2008, the Service amended the BO to include the County's construction, operation, and maintenance of their AWOS facility. In addition, the County agreed to relocate the current staging area boundary near the end of Runway 23 to provide an additional 0.85 acre of area to be restored and managed for the Karner blue butterfly. A summary of projects for which the Service and FAA anticipated incidental take from the 2002 BO and 2008 amendment is provided in Table 1.

Table 1. Projects for which incidental take has previously been provided (2002 and 2008 BOs).

Project	Acreage Affected	Type of Incidental Take
Reconfigure Itinerant Tiedown Apron (includes relocation of two fuel tanks)	2.84	Disturbance and removal
Glider Hangar	0.50	Disturbance and removal
Construct Snow Removal Equipment Storage Building	0.08	Disturbance and removal
T-Hangar Development	0.40	Disturbance and removal
AWOS Gravel Access Road	0.08	Disturbance and removal
FBO Building and Apron	0.37	Disturbance and removal
	4.27	Subtotal (Dist. and removal)
Rehabilitation of Runway 14/32	2.54	Temporary disturbance
Reconstruct Taxiway C	0.63	Temporary disturbance
Reconstruct Taxiway A	1.38	Temporary disturbance
Regrading Along the Entrance Taxiway to the North American Aviation Area	0.02	Temporary disturbance
Replacement of the Airport Beacon	0.04	Temporary disturbance
Areas Mowed for Safety (i.e. around taxiway lights) - (Management Agreement)	3.00	Recurring disturbance
Turf in Exempt Areas - Mowing (Management Agreement)	11.00	Recurring disturbance
Snow Blowing and Plowing (Management Agreement)	0.12	Recurring disturbance

Glider Operations Areas (Glider Operations Agreement)	5.00	Recurring disturbance
	24.45	Subtotal (Temporary and recurring)
	28.72	TOTAL (All projects and activities)

On July 6, 2009, the BO was amended to include the paving, operation, and maintenance of approximately 4.5 miles of gravel perimeter access roads; reconstruction, operation, and maintenance of Taxiways B, D, E, and F; and the reconstruction, operation, and maintenance of an itinerant apron. The May 5, 2009, letter from the SCDPW to the Service (Enclosure 3) describes these actions and provides updates on several actions previously considered by the Service in our 2002 BO and is incorporated by reference. The following information comes from that document.

Taxiways B, D, E, and F and Itinerant Apron Reconstruction

Taxiways B, D, E, and F and the itinerant apron are proposed for reconstruction starting in early September with completion in October 2009, unless an earlier start is possible. Three reconstruction techniques are possible: “Mill and Overlay” which consists of milling (or grinding) off 3 inches of the existing pavement and replacing with 3 inches of new bituminous pavement; “Remove and Replace” which consists of removing 4 inches of the existing pavement by excavation and replacing with 4 inches of new bituminous pavement; and “Reclaim and Replace” which consists of reclaiming (i.e., mixing) the existing bituminous materials in place with new stone and existing subgrade soils, shaping and compacting the reclaimed material, and adding 4 inches of new bituminous pavement.

The “Remove and Replace” method is anticipated to disturb 2 feet off the edge of the existing pavement. The 2-foot value is estimated conservatively based upon a 4-inch cut occurring at the edge of the existing pavement after the existing pavement is excavated. This will result in a temporary 4-inch turf “lip” which will be cut and sloped away from the pavement edge during construction of the gravel base course. After the pavement is placed, a 2-foot-wide panel of new loam will be placed to “back-up” the new pavement’s exposed edge. The new loam areas will be seeded with Karner blue butterfly-friendly seed. The “Reclaim and Replace” method is anticipated to disturb 3 feet off the edge of the existing pavement. Reclaiming is a process where the existing pavement is pulverized and mixed in place to form gravel material on which the new asphalt pavement can be placed. The 3-foot value is estimated conservatively based upon the mechanical mixing of the reclaiming machine’s operation at the edge of the existing bituminous pavement. The reclaiming machine will leave approximately a 6-inch windrow at the edge of the existing pavement. The windrow will then be graded and compacted to construct the base course. After the pavement is placed, a 3-foot-wide panel of new loam will be placed to “back-up” the new pavement’s exposed edge. The new loam areas will be seeded with Karner blue butterfly-friendly seed. The “Mill and Overlay” technique is anticipated to result in no

temporary disturbance. The "Mill and Overlay" construction will be conducted within the existing pavement "foot print."

Conservation measures will be employed to minimize disturbances to Karner blue butterflies during the project construction. Construction vehicles will be prohibited from operating off of the existing taxiway and apron bituminous pavements and the airport perimeter roads. A 4-foot by 8-foot post-mounted sign will be placed at the entrances to the active haul roads with instructions to remind truck drivers to remain on the existing gravel roads and pavements. Truck turning movements will be limited to the existing gravel roads and pavements. A 3-foot high, continuous plastic orange snow fence will be installed 3 feet from the edge of the existing taxiway pavements as a visual cue to remind operators to stay within the pavements. After each phase of the taxiway project is completed, the snow fence will be removed to allow aircraft to use the newly constructed pavement. The contractor's operations will then move on to another portion of pavement for reconstruction where snow fence will be installed prior to working on that phase of the project. The contractor will not re-enter the previously constructed phase except to apply pavement markings which operations stay wholly on the existing pavements. The SCDPW consultant will be monitoring the construction full-time to ensure compliance with these conservation measures.

Access Road Paving

The project first includes thinning the existing heavy vegetative overgrowth from the gravel road with a very low mowing. The remaining vegetative growth would then be eliminated through the application of a systemic, broad spectrum herbicide (e.g. "Round-up") sometime in early to mid-September 2009. The herbicide would be applied by a licensed applicator using a tractor or other all-terrain vehicle mounted with a horizontal spray bar installed very low to the ground to target the herbicide on the gravel road surface and to avoid over spraying. The application will be carefully monitored and controlled and would only be applied in no-wind, dry conditions. After a sufficient waiting period, N.Y.S.D.O.T. Item No. 207.1 1 stabilization fabric will be installed over the entire area of the existing gravel road and an additional thickness of N.Y.S.D.O.T. Item No. 304.12 crusher run sub-base (+/- 3") will be installed, graded, and compacted to a width of 10' wide in order to true and level the existing gravel road sub-base. Three (3) inches of 10' wide N.Y.S.D.O.T. Item No. 403.138902 asphalt binder will then be installed over the gravel sub-base material. A semi-permeable substrate material is not considered because it would be cost prohibitive. It is also the objective of this project to prevent future vegetative growth through the paved surface. The approximate total road area to be paved is 4.5 miles by 8-10 feet wide or 5.45 acres. The SCDPW anticipates completing the gravel sub-base and asphalt paving between late September and the end of October 2009 and this phase of the project will take four to six weeks to complete. The equipment used for the completion of this project will enter the site through one of the six gates located around the perimeter of the airport. Equipment will be staged on the existing gravel road surface and will remain on the road whenever possible through coordinated sequencing and backing-up of the equipment. Limited passing of equipment off and within very close proximity to the edge of the access road will be required. The SCDPW expects to coordinate the activities in advance of the start of construction with a representative of NYSDEC to identify specific activities and sequence of the work, so as to minimize disturbances and avoid the most environmentally sensitive habitat areas. All activities will be under the management of county personnel. Future maintenance of the paved access road includes isolated patching, crack sealing, and elimination of weed growth through

mechanical means. Chemical elimination of weeds would be used only with prior notification to NYSDEC.

In addition, on July 1, 2009, we received electronic mails from the County and NYSDEC regarding a 689-foot x 16-foot corridor (0.25 acre) from the dead end of the access road on the northwest side of Runway 14 to connect to the end of the runway. This area will either be paved or will have gravel placed in it.

In a letter dated September 16, 2009 (enclosure 4), we received a request for reinitiation of consultation from the FAA for the proposed authorization of paving of the current 0.08-acre gravel access road to the AWOS facility. As mentioned above and summarized in Table 1, the Service previously provided incidental take coverage to the County for the permanent loss of occupied habitat in this area from the construction/use/maintenance of the gravel access road. In addition, any temporary disturbance outside the 0.08-acre access road is in an area that is mowed for safety and incidental take authorization was previously provided for recurring disturbances in that area.

In summary, there are multiple actions at the Airport under consideration. Several of these actions have been completed and several actions have yet to be completed, are conducted annually, or are otherwise ongoing (see **Effects of the Action** section below).

Rangewide Status of the Species

Species not considered further in this opinion

Since the November 2002 BO, the bald eagle (*Haliaeetus leucocephalus*) has been delisted and is not considered further. Therefore, the only Federally-listed species known to occur in the vicinity of the action area is the Karner blue butterfly.

Listing Status

The Karner blue butterfly was listed as endangered on December 14, 1992 (U.S. Department of Interior 1992). No critical habitat has been designated for this species. This species has been listed as endangered by the State of New York since April 1977.

Species Description

The Karner blue butterfly is a member of the Order Lepidoptera, Family Lycaenidae. Adult butterflies are rather small, with a wingspan of between 2.2 and 3.2 centimeters. 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.

Life History

The following is a summary of Karner blue butterfly life history. The Karner Blue Butterfly Recovery Plan (Recovery Plan) (Service 2003) provides a comprehensive summary of Karner blue butterfly life history and is incorporated by reference.

The Karner blue butterfly has two broods, or adult flight periods, each year. Eggs that have overwintered from the previous year hatch in April. The larvae feed on wild lupine leaves and mature rapidly. Near the end of May, the larvae pupate and adult Karner blue butterflies emerge very late in May in most years. The adults are typically in flight for the first 10 to 15 days of June when the wild lupine is in bloom. Female Karner blue butterflies lay eggs on or near wild lupine plants. The eggs hatch in about one week and the larvae feed for about three weeks. They then pupate and the second brood of adults appears about the first or second week of July. This flight of adults lays their eggs among leaf litter or on grass blades at the base of lupines or on lupine pods or stems; these eggs do not hatch until the following spring. Generally, by late August, no adults remain. Cold and/or rainy weather can delay the two flight periods of the butterfly.

In addition to wild lupine, the Karner blue butterfly generally 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. A variety of understory plants serve as nectar sources for the adults.

Since the only known food plant for Karner blue butterfly larvae is wild lupine, the distribution of the Karner blue butterfly is closely tied to the distribution of habitats that support the 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 mid-western states, the habitat is also dry, sandy openings, including openings in oak savannas, jack pine (*Pinus banksiana*) stands, and dune or sandplain communities.

The Karner blue butterfly is an example of a species for which suitable habitat occurs in relatively small areas (or patches) distributed over the landscape. Like other species whose habitat occurs in patches rather than large continuous tracts of land, populations of the Karner blue butterfly 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 of disturbance and succession (Givnish et al. 1988, Schweitzer 1989).

To preserve species with patch 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. 1998). Various research has shown dispersal of the Karner blue butterfly to range from about 200 yards (about 600 feet) to about 2 miles. Open linear areas such as road and railroad rights-of-ways, utility corridors, and forest roads and trails can serve as dispersal corridors for the Karner blue allowing them to re-colonize or colonize wild lupine patches.

Status and Distribution

Historically, the Karner blue butterfly occurred in a narrow geographic area that extended from eastern Minnesota, across portions Iowa, Wisconsin, Illinois, Indiana, Michigan, Ohio, Ontario (Canada), Pennsylvania, New York, Massachusetts, New Hampshire, and Maine. Over the past 100 years, the overall number of individuals present in all populations declined by 99 percent throughout the species' range. More than 90 percent of that decline occurred in the last 10 to 15 years. It is now thought to be extirpated from Iowa, Illinois, Ontario, Pennsylvania, Massachusetts, and Maine. Karner blue butterflies were also extirpated from Ohio in 1988 but reintroduction efforts at a Nature Conservancy preserve have been ongoing since 1998 with success. New Hampshire's population was extirpated in 2000, however, reintroduction efforts are ongoing using eggs from the Saratoga County Airport.

The decline of Karner blue butterfly populations in the mid-western states of Iowa, Illinois, Ohio, Indiana, Michigan, and Wisconsin has resulted chiefly from loss of habitat due to fire suppression, conversion by agriculture and forestry practices, and commercial and residential development (Service 2003). In addition, incompatible management practices (e.g. timing of controlled burns and mowing) within suitable habitat can adversely affect the Karner blue butterfly.

Wisconsin supports the largest and most widespread populations of the Karner blue butterfly. It is known from over 270 locations in Wisconsin, and most of the populations can be grouped into about fifteen large population areas in central and northwest Wisconsin (refer to Chapter II.B of the Habitat Conservation Plan, Volume 1, pp. 52-59, for distribution information) (Wisconsin Department of Natural Resources 1999). About two-thirds of the Karner blue butterfly colonies are on state, county, or Federal lands.

Species Recovery

The goal of the Recovery Plan is to perpetuate viable metapopulations of the Karner blue butterfly in the major ecological regions throughout its geographic range. Thirteen ecological regions or recovery units and six potential recovery units are identified.

The recovery objective is to perpetuate viable populations and large viable metapopulations of the Karner blue butterfly in the major physiographic, vegetational, and climatic regions throughout the range of the butterfly. The criteria (summarized) for reclassification from endangered to threatened status are:

1. Establish viable populations and large viable populations of Karner blues in the 13 specified recovery units; and
2. Each viable population shall have a management and monitoring plan to be implemented into the future, a sufficient number of individuals in an appropriate metapopulation structure for at least five years after the implementation of the management plan, and connectivity between subpopulations so that the average nearest-neighbor distance is no more than 1 kilometer and the maximum distance is no greater than 2 kilometers.

Also, each large viable population shall have the above as well as a larger areal extent and more suitable habitat than required for a viable population, a more robust metapopulation structure with larger number of individuals than a viable population, and reduced monitoring and reduced monitoring and management requirements compared to those required for a viable population.

The criteria for delisting are the same with the addition that each viable population shall be demonstrably self-reproducing, shall be maintained at or above minimum allowable population sizes, and shall be managed and monitored under the specific management and monitoring plans for at least 10 consecutive years.

Recovery Units

As stated above, thirteen recovery units have been identified for the Karner blue butterfly. One of these recovery units is in New York and includes the area between Glens Falls and the Albany Pine Bush and is named the Glacial Lake Albany (GLA) Recovery Unit. Two potential recovery units were also identified in the Recovery Plan in the Rome Sandplains and Tonawanda areas in central and western New York.

Figure B-2 Karner blue butterfly recovery units in Massachusetts, New Hampshire and New York.

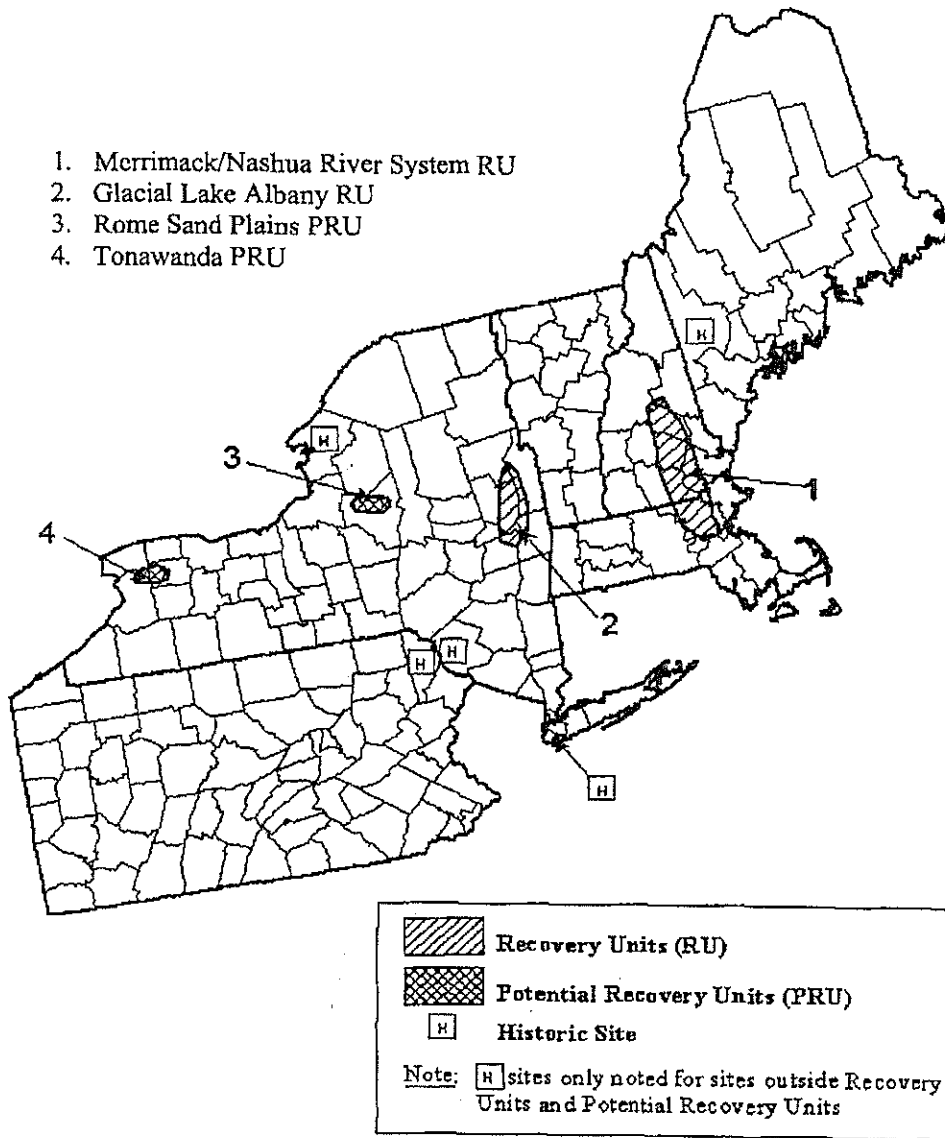


Figure 1. Recovery units and potential recovery units in New York and New England (Appendix B-11, Service 2003).

Within the GLA Recovery Unit, three metapopulation (viable population) areas are required under criterion #1. The Albany Pine Bush, Saratoga West, and Saratoga Sandplains have been described as potential areas for these viable populations.

Habitat loss, fragmentation, and degradation are considered the primary threats to the survival of the species (Service 2003). Development throughout the Saratoga, Queensbury, and Albany regions has contributed to the species decline and remains the primary threat to Karner blue butterflies in New York State. Fire suppression (resulting in vegetational succession) and habitat fragmentation have also impacted Karner blues in New York. 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. However, the NYSDEC and partners like The Nature Conservancy are actively working to restore habitat throughout the Albany Pine Bush and Saratoga Sandplains.

The Karner blue butterfly is known from approximately 28 locations in New York (all within the GLA Recovery Unit) at this time. There may be multiple management sites within a given sub-population and habitat restoration activities since 2002 have connected many previously separate areas. At least half of the New York management sites are 10 acres or less in size and another 25 percent are less than 20 acres (K. O'Brien, NYSDEC, 10/25/2002 pers. communication). These small sites are threatened by unfavorable mowing practices, woody encroachment from adjacent woodlands, development, and incompatible management practices.

The following paraphrased information was provided for the 2008 Service Recovery Data Call (K. O'Brien, NYSDEC, 08/28/2008 pers. communication). In 2008 we saw a continuation of the general downturn except in a few locations where Karner blue butterflies are expanding into recently created habitat adjacent to an existing subpopulation. Numbers at most known sites are lower than past years and even more sites may be extirpated. In Albany Pine Bush, the highest number seen at any site was a spring brood count of 19 which then had a peak second flight count of 8. In Saratoga Sandplains, the new habitat sites had peak counts markedly higher than in 2007 (103 was the highest count at one site, with several in the 90s), but almost all had summer brood counts much lower than the spring. The Airport had second brood counts over 100 for the first time since 2005; however, most of the other sites in Saratoga West had extremely low counts. There are no currently viable sites within the Queensbury population. Loss of lupine due to succession and/or damage from human activity, as well as weather, may account for the low counts at many sites.

Environmental Baseline

Status of the Karner blue butterfly at Saratoga County Airport

As noted above, there are approximately 28 Karner blue butterfly sub-populations in New York. Nine sub-populations are located in the Saratoga West viable population area (Airport, Geyser Road Dune Cut, Geyser Road Railroad, Geyser Road/Rowland Street, Rowland Street PROW, Rowland Street West, Hutchins Road, Route 145 Sandpit, Saratoga Spa State Park). The Airport is currently the largest Karner blue butterfly single site by acreage in the entire state. However, there are larger sub-populations in terms of numbers in Saratoga Sandplains. The closest two sub-populations to the Airport are powerlines approximately 500 meters away with the remaining much farther away.

The NYSDEC conducts transect surveys at the Airport each year. The counts from these transects do not represent the true population size, rather, they are an index to compare relative counts from year to year. The actual population size is likely much greater than the transect counts, however, distance sampling results from a 2007 study are not yet available for this site.

That said, we do know that the Airport has provided some of the largest numbers of Karner blue butterflies in the state. Peak second brood counts were 426 in 1997, 277 in 1998, 457 in 1999, 208 in 2000, 907 in 2001, 129 in 2002, 226 in 2003, 938 in 2004, 358 in 2005, 29 in 2006, 42 in 2007, and 177 in 2008. The variability in the numbers is most likely due to weather events at the airport. For example, in the Spring of 2002, late frosts damaged much of the lupine by killing leaves and flowers and during the activity period of the second brood, severe thunderstorms and wind events went through the area.

One of the most significant factors potentially limiting the Karner blue butterfly population at the Airport is the homogeneity of the site; the habitat is very open with little to no diversity in structure or topography. This homogeneity decreases the Karner blue's ability to survive weather events such as frosts or high winds. In addition, the nectar is poorly distributed throughout the site. Finally, some management practices of the County impact the Karner blue butterfly, as well as accidental incidents involving the County or users of the airport property. However, it is difficult to fully assess the long-term viability of the site, as the butterfly's future presence on nearby tracts is unknown; dispersal rates from or to the site are also unknown. Nearby Karner blue butterfly patches have an uncertain future given their lack of management. In addition, we have limited opportunities to create new patches near the Airport at this time.

Action Area

The action area, considered to be the area of direct and indirect impact, includes the Saratoga County Airport Property (see Figure 2) which is located in the Town of Milton, New York. The airport consists of 14 parcels of land that total 530 acres. In addition, the action area includes off-airport properties identified for acquisition and obstruction removal (see Enclosure 3).

Saratoga County Airport, Town of Milton, New York

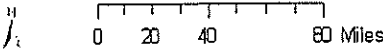
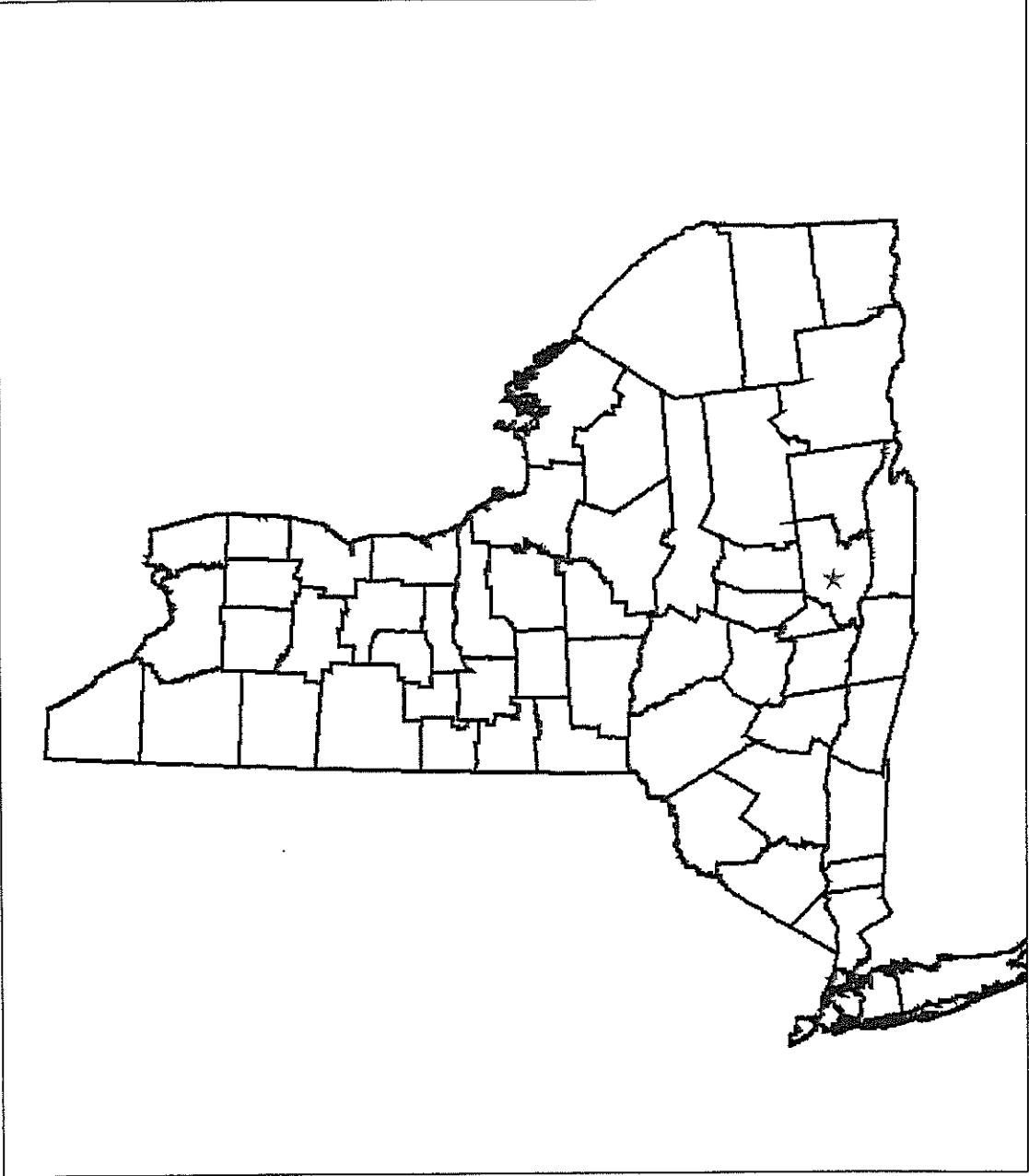


Figure 2. Location of Saratoga County Airport.

Effects of the Action

In evaluating the effects of the Federal action under consideration in this consultation, 50 CFR 402.2 and 402.14(g)(3) requires the Service to evaluate the direct and indirect effects of the action on the species.

Direct Effects

Many of the proposed activities at the Airport will result in direct adverse effects on Karner blue butterflies and their habitat as a result of the initial disturbance and removal of occupied and potential habitat for some of the projects, and the temporary disturbance of occupied and potential habitat for other projects and activities. Since some life stage of the Karner blue butterfly (eggs, larvae, pupae, or adults) are present year-round in occupied habitat, those projects and activities affecting occupied habitat, either permanently or temporarily will result in the taking (kill or injure) of Karner blue butterfly eggs, larvae, pupae, or adults, depending on the time of year of the disturbance to the habitat.

The host plant for the Karner blue butterfly, wild blue lupine, and the nectar species used by the adults are not evenly distributed over the airport property. Most of the open areas of the airport are mowed according to the existing Management Agreement with the NYSDEC using certain methods and timing to minimize potential impacts on the butterflies or their other life stages. This Management Agreement is being updated as a part of this Master Plan Update. Some areas of the airport have been designated as "exempt areas" under the Management Agreement and more frequent mowing and certain other necessary activities are allowed to take place within the exempt areas. Lupine and Karner blue butterflies or their other life stages may occur in grassy open areas within these exempt areas as well as the other open areas of the airport property; however, lupine and Karner blue butterfly occurrences in these exempt areas would be more scattered and sparse due to the habitat conditions, development, and activities there.

There has been no comprehensive mapping of lupine or nectar species at the airport, although lupine concentrations have been identified. For the purposes of this consultation and evaluation of project impacts, it was agreed to assume that lupine, nectar and Karner blue butterflies or their other life stages may be present in any open grassy areas of the property, and that the effects of the various projects and activities would be evaluated based on the acreages of open grassy areas affected. In addition, access roads currently have lupine and nectar growing through the gravel in many locations. Therefore, other non-forested, non-paved, non-manicured lawn areas are also considered as habitat. The Service recognizes that the actual amount of potential habitat or habitat that is occupied by Karner blue butterflies or their other life stages, and therefore affected, is less than the acreages described in the project documents and this BO.

Projects and activities that will result in the loss of Karner blue butterflies in any of their life stages which are present have been identified in the project documents and information provided for this consultation. Italicized projects have been completed since the 2002 BO. These projects and the acreages affected by them are:

- Reconfigure Itinerant Tiedown Apron (includes relocation of two fuel tanks) (2.84 acres)- Not completed but the avgas tank has been removed from the site

- *Glider Hangar (0.5 acre)- completed*
- Construct Snow Removal Equipment Storage Building (0.08 acre)
- T-Hangar Development (0.4 acre)
- *Gravel AWOS Access Road (0.08 acre)- completed-*
- **9/16/09 update - Paving of AWOS Access Road (same acreage)**
- FBO Building and Apron (0.37 acre)
- Annual Areas Mowed for Safety (i.e. around taxiway lights) (3.0 acres)
- Annual Areas Mowed Around the AWOS (up to 0.72 acre)
- Turf in Exempt Areas – Annual Mowing (11 acres)
- Annual Glider Operations Areas (up to 5.0 acres)
- *Rehabilitation of Runway 14/32 (2.54 acres)- completed*
- Reconstruct Taxiway C (0.63 acre)
- Reconstruct Taxiway A (1.38 acres)
- Reconstruct Taxiway D-North (0.08 acre)
- Reconstruct Taxiway E (0.27 acre)
- Reconstruct Itinerant Apron (0.06 acre)
- Temporary staging area for Taxiway B, D, E, F and Itinerant Apron reconstruction (0.49 acre)
- *Regrading Along the Entrance Taxiway to the North American Aviation Area (0.02 acre)- completed*
- *Replacement of the Airport Beacon (0.04 acre)- completed*
- Annual Snow Blowing and Plowing (0.12 acre)
- Annual Mowing in Non-Exempt Areas - Between October 15 and December 31 (191 acres)
- Annual Mowing in Newly Cleared and Replanted Areas (70 acres)

- Access Road Paving (limited off-road work and some small patches of lupine in current gravel roads) (5.7 acres)

Indirect Effects

Many of the above-listed activities also have the potential to result in indirect effects to Karner blue butterflies. The following actions will result in permanent loss of occupied habitat (lupine and/or nectar).

- Reconfigure Itinerant Tiedown Apron (includes relocation of two fuel tanks) (2.84 acres)- *Not completed but the avgas tank has been removed from the site*
- *Glider Hangar (0.5 acre)- completed*
- Construct Snow Removal Equipment Storage Building (0.08 acre)
- T-Hangar Development (0.4 acre)
- *AWOS Access Road (0.08 acre)- completed*
- **9/16/09 update - Paving of AWOS Access Road (same acreage)**
- FBO Building and Apron (0.37 acre)
- Access Road Paving (limited off-road work and some small patches of lupine and nectar in current gravel roads) (5.7 acres)

The following activities will result in long-term impacts (although no removal or destruction) to occupied habitat. The continual nature of the disturbance throughout the growing season renders them virtually permanently unavailable to Karner blue butterflies. Temporary adverse effects associated with the recurring activities taking place under the Management Agreement and Glider Operations Agreement were originally anticipated to be short-term but recurring periodically as described in the agreements. A more accurate description is that effects are long-term in the set-up areas adjacent to the runways given the repeated disturbance except for the set-up area next to runway 14 which is seldom used by gliders. Effects of glider landing areas off runways are less frequent and can be considered short-term in nature.

- Annual Areas Mowed for Safety (i.e. around taxiway lights) (3.0 acres)
- Annual Areas Mowed Around the AWOS (up to 0.72 acre)
- Turf in Exempt Areas – Annual Mowing (11 acres)
- Annual Glider Operations Areas (up to 5.0 acres)
- Access Road Maintenance (up to 3.27 acres)

In addition, other projects and activities will result in the loss of lupine with replanting of grasses/nectar. These projects and activities and the acreages affected are:

- *Rehabilitation of Runway 14/32 (2.54 acres)- completed*
- Reconstruct Taxiway C (0.63 acre)
- Reconstruct Taxiway A (1.38 acres)
- Reconstruct Taxiway D-North (0.08 acre)
- Reconstruct Taxiway E (0.27 acre)
- *Regrading Along the Entrance Taxiway to the North American Aviation Area (0.02 acre)- completed*
- *Replacement of the Airport Beacon (0.04 acre)- completed*

However, the small acreage and scattered nature of the areas of impact when compared to the overall availability of habitat for the Karner blue butterfly within their daily home range (<200 m on average) should result in minimal and short-term indirect effects to individual butterflies.

Beneficial Effects

Mowing in non-exempt areas (191 acres) and mowing in the newly cleared and replanted areas (70 acres) between October 15 and December 31 under the Management Agreement will minimize the adverse effects from the mowing operation because only Karner blue butterfly eggs will be present at that time. This mowing is anticipated to provide an overall benefit to the species by helping to maintain the suitability of the habitat at the site which otherwise would become unsuitable for lupine and Karner blue butterflies over time as a result of vegetation succession.

The clearing and replanting with lupine and nectar species which were part of the on-airport obstruction removal discussed in the 2002 BO has provided approximately 70 acres of additional habitat for the Karner blue butterflies at the airport. As of October 2008, the planting was successful in terms of increasing available nectar plants in some areas and in creating more open, grassy areas for Karner blue butterflies to fly around and rest in. However, there was minimal lupine seed in the mix and little expansion of breeding habitat associated with these efforts. A new term and condition was developed to address the need for increased plantings in the November 2008 amendments.

Cumulative Effects

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 BO. 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 Endangered Species Act.

Due to continued development pressure, future State, local, or private actions are anticipated to result in the loss and disturbance of other habitat and potential habitat for the Karner blue butterfly in areas around this site and throughout the region as well.

Since this site is part of an area which is a focus of State and Federal Recovery planning, it is anticipated that future State, local, and private actions will continue to occur in a manner that will contribute to the recovery of the Karner blue butterfly. The Service anticipates that additional habitat restoration, protection, and management in the area will occur over time, enhancing the overall importance and contribution of the recovery efforts at this site.

Conclusion

After reviewing the current status of the Karner blue butterfly at the Saratoga County Airport, in the Glacial Lake Albany recovery unit, as well as throughout the rest of its range, 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 FAA's approval of the Saratoga County Airport Master Plan Update - Five Year Program, as proposed, is not likely to jeopardize the continued existence of the Karner blue butterfly. No critical habitat has been designated for this species, therefore, none will be affected.

The Service has based this determination on the relative quality and size of the actual areas that will be adversely affected by the proposed action, the measures to avoid and minimize adverse impacts on the Karner blue butterfly that have been included in the proposed action and related projects and activities, the draft Management Agreement and draft Glider Operations Agreement which are designed to minimize adverse effects on the Karner blue butterfly, and the creation of approximately 70 acres of habitat at the site, as part of the proposed action which is expected to benefit the Karner blue butterfly.

III. INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and Federal regulations under Section 4(d) of the ESA prohibit the taking 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 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 such as 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 that 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 under the ESA, 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 FAA so that they become binding conditions of any funding, permits, and/or approvals issued to the County, as appropriate, for the exemption in Section 7(o)(2) to apply. The FAA has a continuing duty to regulate the activity covered by this incidental take statement. If the FAA 1) fails to require the

County to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit, authorization, or funding document; and/or 2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of Section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the FAA or County 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 and Extent of Take

The Service anticipates that incidental take of Karner blue butterflies will result from the initial disturbance and removal, and the temporary disturbance of occupied lupine habitat through crushing of adults, eggs, larvae, or pupae during project construction and conducting the described activities. This amount of take will be difficult to detect for the following reasons: the small size and delicate anatomical structure of the various life stages of the species; losses may be masked by fluctuations in numbers from other causes; and finding a dead or impaired specimen is unlikely.

Because of the difficulty in determining a level of take based on the number of Karner blue butterflies that will be adversely affected, and the strong association of the species to its habitat, the Service has decided that it is appropriate to base the level of authorized incidental take on the habitat acreage that will be affected by the proposed projects.

The following table lists the projects and activities which the Service anticipates will result in incidental take of Karner blue butterflies. Projects in italics have been completed between the issuance of the November 2002 BO and this amendment. Either adults, eggs, larvae, or pupae may be incidentally taken depending on the timing of the disturbance to the occupied habitat. As discussed previously, since lupine and nectar species are not evenly distributed over the airport property and comprehensive mapping of lupine has not been done, the following acreages represent the areas of occupied and potentially occupied habitat that will be affected.

Incidental take coverage for mowing in non-exempt areas (191 acres), and mowing in the newly cleared and replanted areas (70 acres) - between October 15 and December 31, was not previously covered through a BO prior to July 2009, but was addressed through the NYSDEC's Section 10(a)(1)(A) permit which authorizes letters of permission to those acting on NYSDEC's behalf for recovery activities for the Karner blue butterfly. This was addressed in the July 6, 2009, BO.

Table 2. Anticipated incidental take for projects in 2009 and beyond.

Project	Acreage Affected	Type of Incidental Take
Reconfigure Itinerant Tiedown Apron (includes relocation of two fuel tanks)	2.84	Permanent occupied habitat loss (kill and harm)
<i>Glider Hangar</i>	<i>0.50</i>	<i>Permanent occupied habitat loss</i>
Construct Snow Removal Equipment Storage Building	0.08	Permanent occupied habitat loss
T-Hangar Development	0.40	Permanent occupied habitat loss
<i>AWOS Gravel Access Road</i>	<i>0.08</i>	<i>Permanent occupied habitat loss</i>
9/16/09 update - Paving of AWOS Access Road	NA	Already counted as permanent occupied habitat loss
FBO Building and Apron	0.37	Permanent occupied habitat loss
Access road paving	5.7	Permanent occupied habitat loss
Areas Mowed for Safety (i.e. around taxiway lights) - (Management Agreement)	3.00	Recurring disturbance (kill and harm)
Turf in Exempt Areas -- (1) Mowing (Management Agreement)	11.00	Recurring disturbance
Snow Blowing and Plowing (Management Agreement)	0.12	Recurring disturbance
Glider Operations Areas (Glider Operations Agreement)	5.00	Recurring disturbance
	29.09	Subtotal (Permanent loss and recurring disturbance)

<i>Rehabilitation of Runway 14/32</i>	2.54	<i>Temporary disturbance/habitat loss (kill and short-term harm)</i>
Reconstruct Taxiway D-North	0.08	Temporary disturbance/habitat loss
Reconstruct Taxiway E	0.27	Temporary disturbance/habitat loss
Reconstruct Taxiway C	0.63	Temporary disturbance/habitat loss
Reconstruct Taxiway A	1.38	Temporary disturbance/habitat loss
<i>Regrading Along the Entrance Taxiway to the North American Aviation Area</i>	0.02	<i>Temporary disturbance/habitat loss</i>
<i>Replacement of the Airport Beacon</i>	0.04	<i>Temporary disturbance/habitat loss</i>
Itinerant apron replacement	0.06	Temporary disturbance/habitat loss within exempt mowing area (not duplicating acreage in final total)
Staging area	0.49	Temporary disturbance/habitat loss within exempt mowing area (not duplicating acreage in final total)
Access road maintenance	3.27	Temporary disturbance/habitat loss along edges
	9.03	Subtotal (Temporary disturbance/habitat loss)
Mowing in non-exempt areas	~261	Temporary disturbance to KBBs (kill/injure)
	298.32	TOTAL (All projects and activities)

Effect of the Take

In the accompanying Biological Opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

Reasonable and Prudent Measures to Minimize Take

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take:

1. Avoid disturbance of Karner blue butterfly habitat adjacent to or outside the areas described for project construction in the Master Plan documents, the FAA's September 7, 2006, and September 16, 2009, letters, and the County's May 5, 2009, letter.
2. Ensure the measures described in the draft Management Agreement and draft Glider Operations Agreement are carried out.
3. Restore additional habitat and enhance current habitat at the Airport.

Terms and Conditions

In order to be exempt from prohibitions of Section 9 of the Act, the FAA must ensure that the following terms and conditions, which implement the reasonable and prudent measures described above, and outline required reporting and monitoring requirements, are included in the project plans. These terms and conditions are non-discretionary.

1. The County shall inform all employees and contractors of the presence of Karner blue butterflies and their habitat, and areas where construction operations and equipment are permitted and not permitted.
2. The County shall make all reasonable attempts to inform (via bulletins/notices, verbal communications, signage, etc.) all users of the airport of the presence of Karner blue butterflies and their habitat, and areas where activities are permitted and not permitted.
3. The County shall install/maintain a permanent sign (visible above any accumulated snow) demarcating the location for snow storage.
4. The County (or NYSDEC) shall inspect project areas at the start of and during construction to ensure construction disturbance is limited to the appropriate areas as described in the Master Plan and accompanying documents and the June 24 and January 29, 2002, and September 7, 2006, and September 16, 2009, letters from the FAA, and the County's May 5, 2009, letter.
5. The draft Management Agreement and draft Glider Operations Agreements shall be fully implemented in their current forms until finalized in versions that are at least as protective of Karner blue butterflies and their habitat as the draft agreements provided for this consultation.
6. The County shall assist the Service and NYSDEC with the hand planting of 0.85 acre of lupine and nectar near the end of Runway 23 by May 31, 2009. The NYSDEC shall provide seeds. *Completed May 14, 2009.*
7. The County is responsible for the planting of additional lupine and nectar in patches scattered throughout the original 70-acre planting area at the Airport by May 31, 2011. Planting shall

occur in April or May of a given year with planting efforts initiated in 2009 if possible; however, planting efforts may be spread out across the 3 years. Planting shall be done by seed drill pulled by a tractor. The NYSDEC will provide the seed drill and the County will provide the tractor and driver. The NYSDEC has agreed to mark out the areas for planting and assist the County tractor driver during the planting effort. *Completed May 14, 2009.*

8. The County shall implement rotational mowing operations along the outer portions of the Airport (e.g., areas 200 feet from runway/taxiway pavement to current fence lines). This section will be divided into three mowing units. Two units shall be mowed each year. The NYSDEC and Service shall meet with the County to clearly delineate these units by **August 1, 2009**. The County shall revise the Airport mowing plan with the assistance of the NYSDEC to reflect these changes.
9. Follow non-exempt mowing plan along access roads (e.g., mow after October).
10. Limit future herbicide application on the access roads to the width of the paved road (no overspray) and coordinate efforts with NYSDEC.
11. Reporting and Monitoring Requirements
 - a. The FAA or the County (if designated by the FAA) shall notify the Service and the NYSDEC, in writing, regarding the projected and actual start dates, progress, and completion, to the extent known, of project construction activities by **December 31 annually**.
 - b. The FAA or the County (if designated by the FAA) shall notify the Service and the NYSDEC of any unauthorized activities (regardless of who conducted said activities) or emergencies resulting in any adverse impacts not described in the Master Plan and subsequent documents and addressed in this BO. This notification shall be made within 48 hours or sooner, if possible.
 - c. The FAA shall notify the Service, in writing, **within 60 days** of the date of this BO, whether the FAA or the County shall be responsible for the above reporting requirements.
 - d. The contact for these reporting requirements is as follows:

David A. Stilwell, Field Supervisor
New York Field Office
U.S. Fish and Wildlife Service
3817 Luker Road
Cortland, NY 13045
(607) 753-9334

In conclusion, the Service believes that Karner blue butterflies, eggs, pupae, or larvae occurring in no more than **298.07 acres** of habitat will be taken incidentally, and only in the manner described above, 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 (e.g., if the geographical limit of what is currently anticipated to be the fullest extent of habitat alternation is exceeded), such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. The Federal Agency (FAA) 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.

Conservation Recommendations

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

The Service has identified the following actions that, if undertaken by the FAA and/or County, would further the conservation and assist in the recovery of the Karner blue butterfly.

1. The FAA and the County should continue to coordinate with the Service and the NYSDEC to promote the conservation and recovery of the Karner blue butterfly at the Saratoga County Airport.
2. The FAA and the County should consider supporting (funding) the use of distance-sampling techniques to provide further information on the status of the Karner blue butterfly population at the Saratoga County Airport.
3. The FAA and the County should coordinate with the Service and the NYSDEC regarding additional lupine and nectar species plantings to further enhance the Karner blue butterfly habitat at the site.
4. Saratoga County should continue to support management of Karner blue butterflies on other properties to reduce the overall risk of loss of Karner blue butterflies in highly fragmented habitat in Saratoga County.
5. Saratoga County should support incorporation of Karner blue butterfly conservation measures in planning, acquisition, and development review throughout the County.

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.

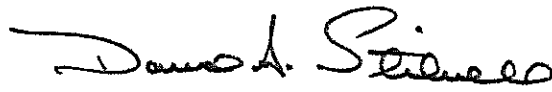
Reinitiation of Formal Consultation

This concludes formal consultation on the action(s) outlined in the September 16, 2009, 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 maintained (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 that was 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 extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

The Service appreciates the opportunity to work with the FAA, the County, and the NYSDEC in fulfilling our mutual responsibilities under the Endangered Species Act. Please contact Robyn Niver of this office at (607) 753-9334 if you have any questions or require additional information.

Sincerely,



David A. Stilwell
Field Supervisor

REFERENCES

Airport Master Plan Update, Saratoga County Airport, Draft Environmental Assessment, September 2001. Prepared by Edwards and Kelcey for the Saratoga County Department of Public Works.

Airport Master Plan Update, Saratoga County Airport, Draft Master Plan, April 2001. Prepared by Edwards and Kelcey for the Saratoga County Department of Public Works.

Draft Management Agreement between the Department of Environmental Conservation, Division of Fish, Wildlife, and Marine Resources and Saratoga County in Relation to Endangered Species Management at Saratoga County Airport. October 15, 2001.

Draft Operations Agreement for Glider Activity at the Saratoga County Airport. November 1, 2001.

Givnish, T.J., E.S. Menges, and D.F. Schweitzer. 1988. Minimum area requirements for long-term conservation of the Albany Pine Bush and Karner blue butterfly: an assessment. Unpublished report prepared by Malcolm Pirnie, Inc. for the City of Albany; Albany, New York. Typescript.

Harrison, S., D. Murphy, and P. Ehrlich. 1988. Distribution of the bay checkerspot butterfly, *Euphydryas editha bayensis*: evidence for a metapopulation model. *The American Naturalist* 132: 360-382.

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Schweitzer, D.F. 1989. Fact sheet for the Karner blue butterfly with special reference to New York. Unpublished report prepared for The Nature Conservancy, Albany, New York.

Schweitzer, D.F. 1990. The status of selected Karner blue remnants in Saratoga and Albany Counties, New York, with a discussion of monitoring methods. Report prepared for the New York State Department of Environmental Conservation, Endangered Species Unit, 23 pp.

U.S. Department of the Interior, U.S. Fish and Wildlife Service. December 14, 1992. Endangered and threatened wildlife and plants; determination of endangered status for the Karner blue butterfly. Federal Register 50 CFR Part 17, Vol. 57, No. 240: pp. 59236-59244.

U.S. Fish and Wildlife Service. 2003. Final Recovery Plan for the Karner Blue Butterfly (*Lycaeides melissa samuelis*). U.S. Fish and Wildlife Service, Fort Snelling, Minnesota. 273 pp.

Wisconsin Department of Natural Resources. March 1999. Wisconsin statewide Karner blue butterfly habitat conservation plan and environmental impact statement. Volume 1: statewide habitat conservation plan. 186 pp. Bureau of Endangered Resources, Madison, Wisconsin.

Enclosures

cc: Saratoga County Department of Public Works, Ballston Spa, NY (T. Speziale)
Jacobs Engineering, Manchester, NH (Attn: J. Gorham)
NYSDEC, Albany, NY (Endangered Species Unit, P. Nye and K. O'Brien)
NYSDEC, Ray Brook, NY (Env. Permits)
FWS, Albany, NY (Law Enforcement)

Enclosure 3



"Tom Speziale"
<tspeziale@saratogacountyny.gov>

05/05/2009 05:01 PM

To <Robyn_Niver@fws.gov>

cc "Kathleen O'Brien" <kmobrien@gw.dec.state.ny.us>,
<Sukhbir.Gill@faa.gov>, "Gorham, John"
<John.Gorham@jacobs.com>

bcc

Subject 5/5/09 Response to USFWS 4/22/09 Letter re. Saratoga
County Airport Projects

Robyn,

Attached please find our response to your 4/22/09 letter to us regarding Saratoga County Airport projects. We have mailed you and all other agencies hard copies via US mail. Your prompt response to this letter would be greatly appreciated.

Thank you

Thomas A. Speziale, Jr. <><
Deputy Commissioner of Public Works/Highway Division
Saratoga County Department of Public Works
3654 Galway Road
Ballston Spa, New York 12020
P - 518-885-2235
F - 518-885-8809

tspeziale@saratogacountyny.gov



050509 Letter to USFWS.pdf



JOSEPH C. RITCHEY, P.E.,
COMMISSIONER

SARATOGA COUNTY DEPARTMENT OF PUBLIC WORKS

SARATOGA COUNTY PUBLIC WORKS FACILITY
3654 GALWAY ROAD
BALLSTON SPA, NEW YORK 12020-2517
(518) 885-2235 or 885-0087
FAX (518) 885-8809

May 5, 2009

U.S. Fish & Wildlife Service
New York Field Office
3817 Luker Rd.
Cortland, NY 13045

Attention: Ms. Robyn A. Niver
Regarding: Saratoga County Airport
Subject: Additional Information on Newly Proposed Activities

Dear Ms. Niver,

Pursuant to the USFWS letter dated April 22, 2009, we herein provide the additional information requested on the newly proposed activities. We request your concurrence with these projects based upon the information provided, so that we may forward this information to the FAA and continue implementation of these projects.

The N.Y.S.D.O.T. funding for the two paving projects which includes the taxiways, itinerant apron and airport perimeter roads expires in April 2010. The paving projects will need to be constructed this summer and early fall or it is very possible that we could loose our funding. Therefore, we need your immediate attention and determination on the paving projects. Separate correspondence from USFWS regarding each project is acceptable. Also separate correspondence for the Off-Airport Obstruction and Avigation Easement projects once the butterfly survey is completed is acceptable as well.

Regarding the unmet terms and conditions referenced in the April 22nd letter, we have not received any correspondence from the FAA related to these issues. We have corresponded with USFWS and NYSDEC regarding the planting and mowing operations via email on April 29, 2009.

We request your reply by May 15th, 2009. Should you have any questions relative to this information, please contact me or John Gorham with Edwards and Kelcey, Inc. at (603) 666-7181.

Sincerely,

A handwritten signature in black ink, appearing to read "Thomas A. Speziale, Jr.", with a long horizontal flourish extending to the right.

Thomas A. Speziale, Jr.
Deputy Commissioner of Public Works/Highway Division

Attachments

cc: K. O'Brien - NYSDEC
S. Gill - FAA NYADO

Activities Not Previously Addressed by FAA/USFWS

A. Taxiways B, D, E, F and the Itinerant Apron – Funding N.Y.S.D.O.T. P.I.N. 1902.11

The pavements of Taxiways B, D, E and F, as well as the Itinerant Apron are being considered for reconstruction. The pavements are bituminous and range in age from 18 to 50-plus years. The pavements are deteriorated as indicated by cracking and spalling. Reconstruction of the pavements will allow the airport to maintain a safe operating surface for aircraft movements.

The project will be completed in multiple phases to allow aircraft to continue to use each of the airport's two (2) runways throughout the project. Each phase will close a portion of a taxiway or apron pavement.

The engineer has recommended three (3) reconstruction techniques: "Mill and Overlay" which consists of milling (or grinding) off 3 inches of the existing pavement and replacing with 3 inches of new bituminous pavement; "Remove and Replace" which consists of removing 4 inches of the existing pavement by excavation and replacing with 4 inches of new bituminous pavement; and "Reclaim and Replace" which consists of reclaiming (i.e. mixing) the existing bituminous materials in-place with new stone and existing subgrade soils, shaping and compacting the reclaimed material and adding 4 inches of new bituminous pavement.

Two of the techniques above ("Remove and Replace" and "Reclaim and Replace") are estimated to result in a disturbance at the edge of the paving operations. All disturbances will be restored with the addition of loam and Karner Blue Butterfly (KBB)-friendly grass seed. All temporary disturbances will be within areas currently mowed for safety at the edge of pavement areas. The width of the disturbances will vary by the pavement reconstruction techniques which are described in the paragraphs below.

The "Remove and Replace" method is anticipated to disturb 2 feet off the edge of the existing pavement. The 2-foot value is estimated conservatively based upon a 4-inch cut occurring at the edge of the existing pavement after the existing pavement is excavated. This will result in a temporary 4-inch turf 'lip' which will be cut and sloped away from the pavement edge during construction of the gravel base course. After the pavement is placed, a 2-foot wide panel of new loam will be placed to 'back-up' the new pavement's exposed edge. The new loam areas will be seeded with KBB-friendly seed.

The "Reclaim and Replace" method is anticipated to disturb 3 feet off the edge of the existing pavement. Reclaiming is a process where the existing pavement is pulverized and mixed in place to form gravel material on which the new asphalt pavement can be placed. The 3-foot value is estimated conservatively based upon the mechanical mixing of the reclaiming machine's operation at the edge of the existing bituminous pavement. The reclaiming machine will leave approximately a 6-inch windrow at the edge of the existing pavement. The windrow will then be graded and compacted to construct the base course. After the pavement is placed, a 3-foot wide panel of new loam will be placed to 'back-up' the new pavement's exposed edge. The new loam areas will be seeded with KBB-friendly seed.

Enclosure 3

The "Mill and Overlay" technique is anticipated to result in no temporary disturbance. The "Mill and Overlay" construction will be conducted within the existing pavement 'foot print'.

A summary of the pavement restoration techniques and temporary disturbances is as follows:

<u>Area</u>	<u>Technique</u>	<u>Pavement Area (Acres)</u>	<u>Off-Pavement Disturbance Area (Acres)</u>
Taxiway B	Mill and Overlay	1.06	0
Taxiway D-South	Mill and Overlay	1.97	0
Taxiway D-North	Remove and Replace	1.03	0.08
Taxiway E	Reclaim and Replace	2.19	0.27
Taxiway F	Mill and Overlay	0.17	0
Itinerant Apron	Reclaim and Replace	<u>2.95</u>	0.06
	Total	9.37	

We note that the Taxiway B, D, E, F and Itinerant Apron reconstruction methods are the same as those previously approved for the Taxiway A and C pavement reconstruction projects. It is also noted that the Itinerant Apron is wholly within the KBB Exempt Area. These taxiway and apron project areas are shown in Attachment 1. A typical pavement section of each technique is shown on Attachment 2.

With respect to the USFWS question relative to vegetation removal, we anticipate no vegetation removal within the "Mill and Overlay" pavement repair sections. Within the "Remove and Replace" pavement repair sections, we also anticipate no vegetation removal. However, we do anticipate the installation of a 1" to 3" layer of topsoil within 2 feet from the edge of the existing pavement. This thin layer of topsoil is required to back-up the edges of the newly placed bituminous pavement. Within the "Reclaim and Replace" pavement repair sections, we anticipate the removal of existing vegetation within 3 feet from the edge of the existing pavement by the Contractor's excavator. The removal of the existing vegetation within this section is performed so that it does not become mixed into the new pavement subbase material during the reclaiming process. The disturbance values indicated above account for these anticipated vegetation removal areas. Herbicides will not be used on the Taxiway and Apron project. Vegetation growing within the cracks of the pavement will be removed prior to pavement reconstruction by mechanical means. We also note that these vegetation removal areas are within the existing mowing limits at the edge of the taxiways. Attachment 3 shows the locations of these project disturbance areas.

With respect to the USFWS question relative to the type of pavement materials, the bituminous pavement material for all aircraft pavement reconstruction techniques will be per FAA specification P401, *PLANT MIX BITUMINOUS PAVEMENTS*. As a point of reference, this is the same material as on the Airport's two (2) runways. Base materials below the P401 will consist of reuse of the existing materials. In the "Remove and Replace" section, the existing materials are graded and compacted in-place. In the "Reclaim and Replace" section, the existing materials are mixed in place with the existing pavement and supplemental stone to formulate a base material meeting the FAA specification P209, *CRUSHED AGGREGATE BASE COURSE*. The "Mill and Overlay" section requires no manipulation of the base material.

With regard to the USFWS question relative to the project duration, the Taxiway B, D, E, F and Itinerant Apron reconstruction is estimated to require 37 calendar days to complete. The Taxiway A

Enclosure 3

and C reconstruction, previously approved, is estimated to require 18 calendar days to complete. Therefore, the total taxiway and apron pavement reconstruction project is 55 calendar days. The anticipated start is in early September 2009 with completion in October 2009. However, if we receive concurrence from the USFWS for this project in time to schedule, the project may be able to start in June 2009.

Regarding the question relative to the contractor's staging area, a location within the KBB Exempt area has been designated and is shown on Attachment 1.

Regarding the question of the timing of grass planting along the edge of the taxiways and intinerant apron, we anticipate this to occur in September and October 2009.

Conservation measures will be employed to mitigate disturbances to the KBB during the project construction. Construction vehicles will be prohibited from operating off of the existing taxiway and apron bituminous pavements and the airport perimeter roads. A 4'x8' post-mounted sign will be placed at the entrances to the active haul roads with instructions to remind truck drivers to remain on the existing gravel roads and pavements. Truck turning movements will be limited to the existing gravel roads and pavements. A 3-foot high, continuous plastic orange snow fence will be installed 3-feet from the edge of the existing taxiway pavements as a visual cue to remind operators to stay within the pavements. After each phase of the taxiway project is completed, the snow fence will be removed to allow aircraft to use the newly constructed pavement. The contractor's operations will then move on to anoither portion of pavement for reconstruction where snow fence will be installed prior to working on that phase of the project. The contractor will not re-enter the previously constructed phase except to apply pavement markings which operations stay wholly on the existing pavements. Our consultant will be monitoring the construction full-time to ensure compliance with these conservation measures.

B. Asphalt Pave Perimeter Access Road – Funding N.Y.S.D.O.T. P.I.N. 1902.13

Saratoga County Airport is home to the Federally Endangered Karner Blue Butterfly and their primary food source; Blue Lupine. Off-pavement operations are therefore, prohibited. In order to allow our maintenance crews to patrol the entire airport, inspect and repair the perimeter security fencing and maintain the field as needed, +/- 4.5 miles of 8'-10' wide gravel perimeter access roads have been constructed on the field. However, the gravel roads continue to support vegetative growth. This includes the spread of Blue Lupine which we are not allowed to control by the use of herbicides. If the Blue Lupine continues to over-grow onto these roads, N.Y.S.D.E.C. may reclaim these roads as Karner Blue Butterfly habitat and we will lose their use.

The proposed project is being 100% funded by a New York State Security Bond Act Grant. The project first includes thinning the existing heavy vegetative overgrowth from the gravel road with a very low mowing. The remaining vegetative growth would then be eliminated through the application of a systemic, broad spectrum herbicide (e.g. "Round-up") sometime in early to mid September 2009. The herbicide would be applied by a licensed applicator using a tractor or other all-terrain vehicle mounted with a horizontal spray bar installed very low to the ground to target the herbicide on the gravel road surface and to avoid over spraying. The application will be carefully monitored and controlled and would only be applied in no-wind, dry conditions. After a sufficient waiting period, N.Y.S.D.O.T. Item No. 207.11 stabilization fabric will be installed over the entire area of the existing gravel road and an additional thickness of N.Y.S.D.O.T. Item No. 304.12 crusher run sub-base

Enclosure 3

(+/- 3") will be installed, graded and compacted to a width of 10' wide in order to true and level the existing gravel road sub-base. Three (3) inches of 10' wide N.Y.S.D.O.T. Item No. 403.138902 asphalt binder will then be installed over the gravel sub-base material. A semi-permeable substrate material is not considered because it would be cost prohibitive. It is also the objective of this project to prevent future vegetative growth through the paved surface. The approximate total road area to be paved is 26,400 square yards. We anticipate completing the gravel sub-base and asphalt paving between late September and the end of October 2009 and this phase of the project will take four to six weeks to complete.

The equipment used for the completion of this project will enter the site through one of the six gates located around the perimeter of the airport, as shown on the Attachment 4. Equipment will be staged on the existing gravel road surface and will remain on the road whenever possible through coordinated sequencing and backing-up of the equipment. Limited passing of equipment off of and within very close proximity to the edge of the access road will be required. We expect to coordinate our activities in advance of the start of construction with a representative of N.Y.S.D.E.C. to identify our specific activities and sequence of the work, so as to minimize disturbances and avoid the most environmentally sensitive habitat areas. All activities will be under the management of county personnel.

Future maintenance of the paved access road would include isolated patching, crack sealing and elimination of weed growth through mechanical means. Chemical elimination of weeds would be used only with prior notification to N.Y.S.D.E.C.

Activities Previously Addressed by FAA/USFWS

Reconstruction of Taxiways A and C – Funding N.Y.S.D.O.T. P.I.N. 1902.11

The SCDPW/FAA will confirm the final amount of disturbance (post-project) completion in the annual report to the USFWS.

Off Airport Obstruction Removal Outside of Wetland Areas –Funding FAA AIP No. TBD

Per the USFWS April 22, 2009 letter, the SCDPW has requested the assistance of NYSDEC to conduct survey for the presence of KBB. Our consultant will be identifying, within the obstruction removal project, candidate parcels for the KBB survey by NYSDEC and coordinating this effort with the NYSDEC.

We also would like to highlight that off the Runway 23 end of the airport, there are trees that are being considered for removal under this project, as well. These on-airport areas have grown in height since the original Environmental Assessment (EA) conducted in 2003 and now are estimated to be within the FAR Part 77 surface. Also, there are 2 parcels of property adjacent to the airport property that have been acquired by the county since the 2003 EA. There is one parcel each near the ends of Runways 5 and 23. Refer to Attachment 5 for locations of the 2 parcels. Portions of the trees on these 2 parcels are also penetrations to the FAR Part 77 and are being considered for clearing under the current project. These areas will be considered in the KBB survey with NYSDEC.

In addition, since our February 6, 2009 correspondence with the USFWS, a wetlands mapping study now indicates a 0.03 acre portion of wetlands within the obstruction removal area. This area is located on a private residence off the end of Runway 14. A NYSDEC wetlands permit application will be completed for the removal/trimming of trees within the 0.03 acres of wetlands. At this time, the

Enclosure 3

Owner has not indicated whether the trees will be removed or trimmed in the subject wetland area.

Attachment 5 updates the anticipated obstruction removal project areas.

Avigation Easement Acquisition—Funding FAA AIP No. 3-36-0004-22-06

Similar to the "Off Airport Obstruction Removal" project, a KBB survey will be conducted for these areas. Since our February 6, 2009 correspondence, it has been determined that two (2) parcels within the runway protection zones (RPZ) of Runway 14 and 32 should be acquired by the county. The FAA recommends that airports attempt to own land within the RPZ. This will require the county to attempt to acquire these two (2) parcels. In addition, the priority of avigation easements has been reordered to include parcels on both the Runway 14 and 32 ends.

Attachment 5 includes the above described revisions to the Avigation Easement Acquisition project.

Replacement of Pole-Barn Hangar- Funding N.Y.S.D.O.T. P.I.N. 1902.11

The project is moving forward. Construction is anticipated to start in July 2009 and end in December 2009.

Attachments

Attachment 1 - Taxiway and Apron Project: "Project Areas"

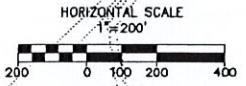
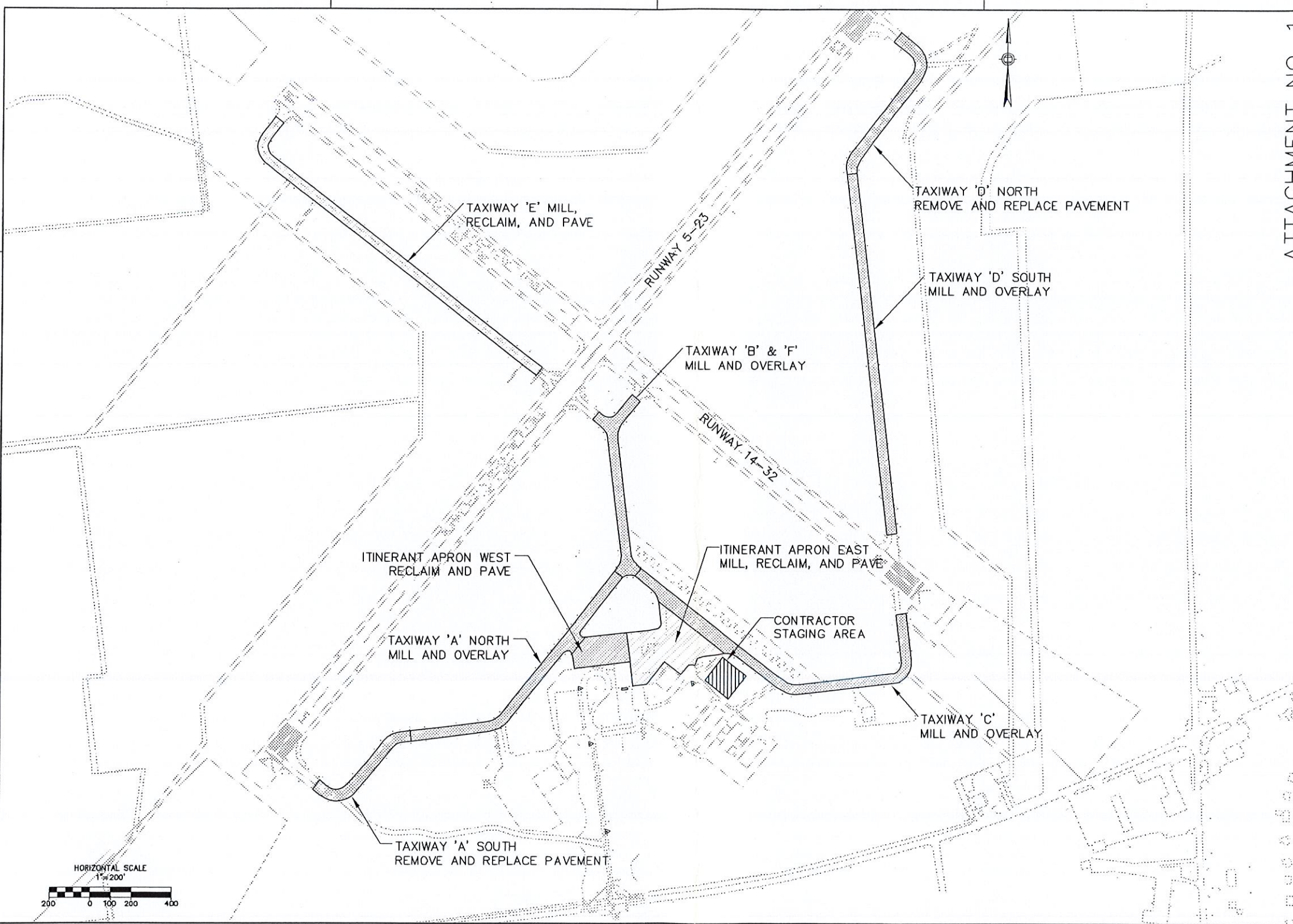
Attachment 2 - Taxiway and Apron Project: "Typical Sections"

Attachment 3 - Taxiway and Apron Project: "SK-1 Turf Disturbance Areas"

Attachment 4 - Perimeter Paving Road Project: "Site Plan Access Road - Paving"

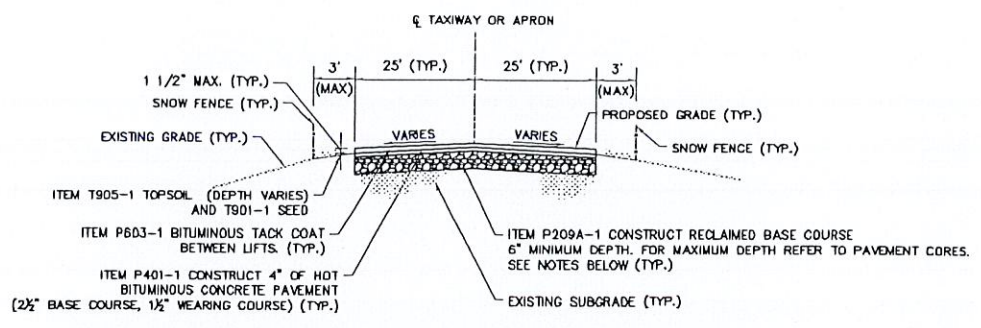
Attachment 5 - "Obstruction Removal, Avigation Easement and Land Acquisition Areas"

JACOBS - P:\ES20\08401 - SCA TV-Hangar\Admin\Corres\Letter for Term to USF&M\April 09\Attachment 01 General Plan.dwg [17 April 09, 2009 - 10:05am] [goham]



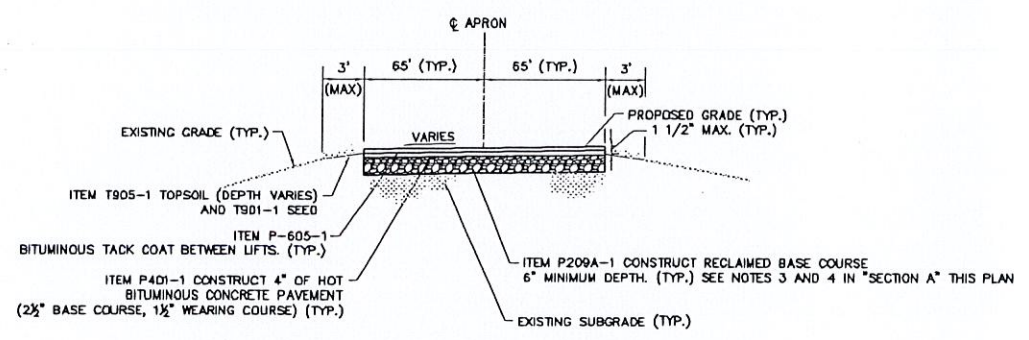
ATTACHMENT NO. 1

JACOBS 75 WOODLAND AVE SARATOGA SPRINGS, NEW YORK 12858 TEL: 518.584.2725 FAX: 518.584.2725	
APPROVED JWG	SCALE 1"=200'
CHKD BY: SST	DATE: MAY 2009
DESIGN BY: JMH	
SARATOGA COUNTY AIRPORT 405 GREENFIELD AVE BALSTON SPA, NEW YORK 12020 GENERAL PLAN	
BY: SST	
DESCRIPTION: FINAL REVIEW SET	
REV NO. 1	DATE 2/09
REV NO. 2	DATE 5/09
PROJECT NO.:	
COUNTY NO.:	
DRAWING NO.:	
1.1 SHEET 2 OF 57	

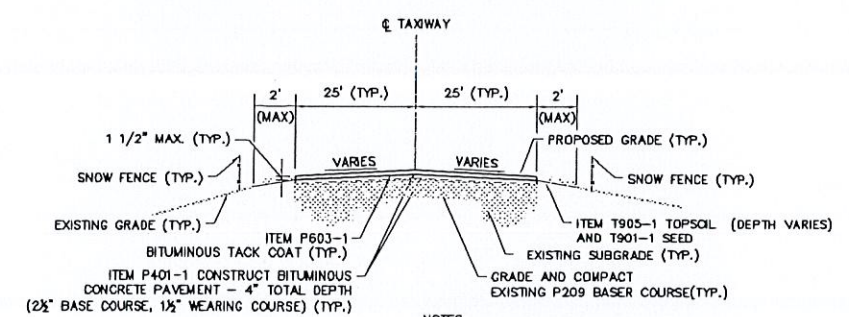


- NOTES:**
- CONTRACTOR SHALL MILL THE EXISTING BITUMINOUS CONCRETE PAVEMENT TO A SUITABLE DEPTH PRIOR TO RECLAIMING. EXISTING DEPTHS VARY. REFER TO PAVEMENT CORES. REFER TO SPECIFICATION P209A-1
 - MILLING OF RECLAIMED SECTION IS NOT PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO ITEM P209A-1
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDING THE NECESSARY SUPPLEMENTAL AGGREGATE (ITEM P209A-2) TO OBTAIN THE REQUIRED GRADATION. REFER TO SPECIFICATION P-209A.
 - THE CONTRACTOR SHALL RECLAIM THE ENTIRE DEPTH OF THE EXISTING BITUMINOUS PAVEMENT SECTION. THE CONTRACTOR SHALL UTILIZE PAVEMENT CORES AND CONDUCT ADDITIONAL TEST PITS AS REQUIRED TO ESTABLISH THE EXISTING PAVEMENT THICKNESS REQUIRED TO RECLAIM THE ALL EXISTING BITUMINOUS MATERIALS.

TYPICAL SECTION 'A' - MILL, RECLAIM AND OVERLAY
NOT TO SCALE

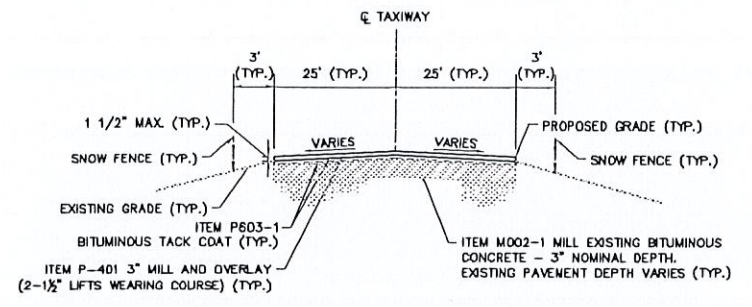


TYPICAL SECTION 'C' - RECLAIM AND OVERLAY
NOT TO SCALE

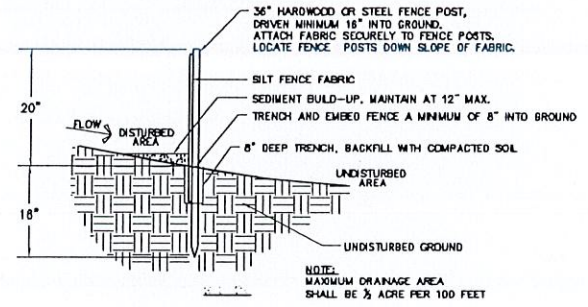
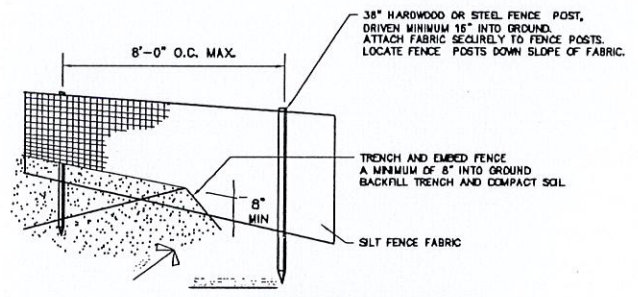


- NOTES:**
- CONTRACTOR SHALL REMOVE THE EXISTING BITUMINOUS CONCRETE PAVEMENT (4\"/>

TYPICAL SECTION 'D' - REMOVE AND REPLACE
NOT TO SCALE



TYPICAL SECTION 'B' - MILL AND OVERLAY
NOT TO SCALE



SEDIMENT CONTROL FENCE DETAIL
NOT TO SCALE

NOTES:
1. FOR SLOPE INFORMATION SEE CROSS SECTIONS DWG. NO. 5.1-5.13

ATTACHMENT 2



JACOBS
15 WOODLAND AVENUE
SARATOGA, NY 12158
PHONE: 518 584 3370
FAX: 518 584 8775

APPROVED: JNG
CHD BY: SST
DRAWN BY: JMH
DATE: MAY 2009
SCALE: AS SHOWN

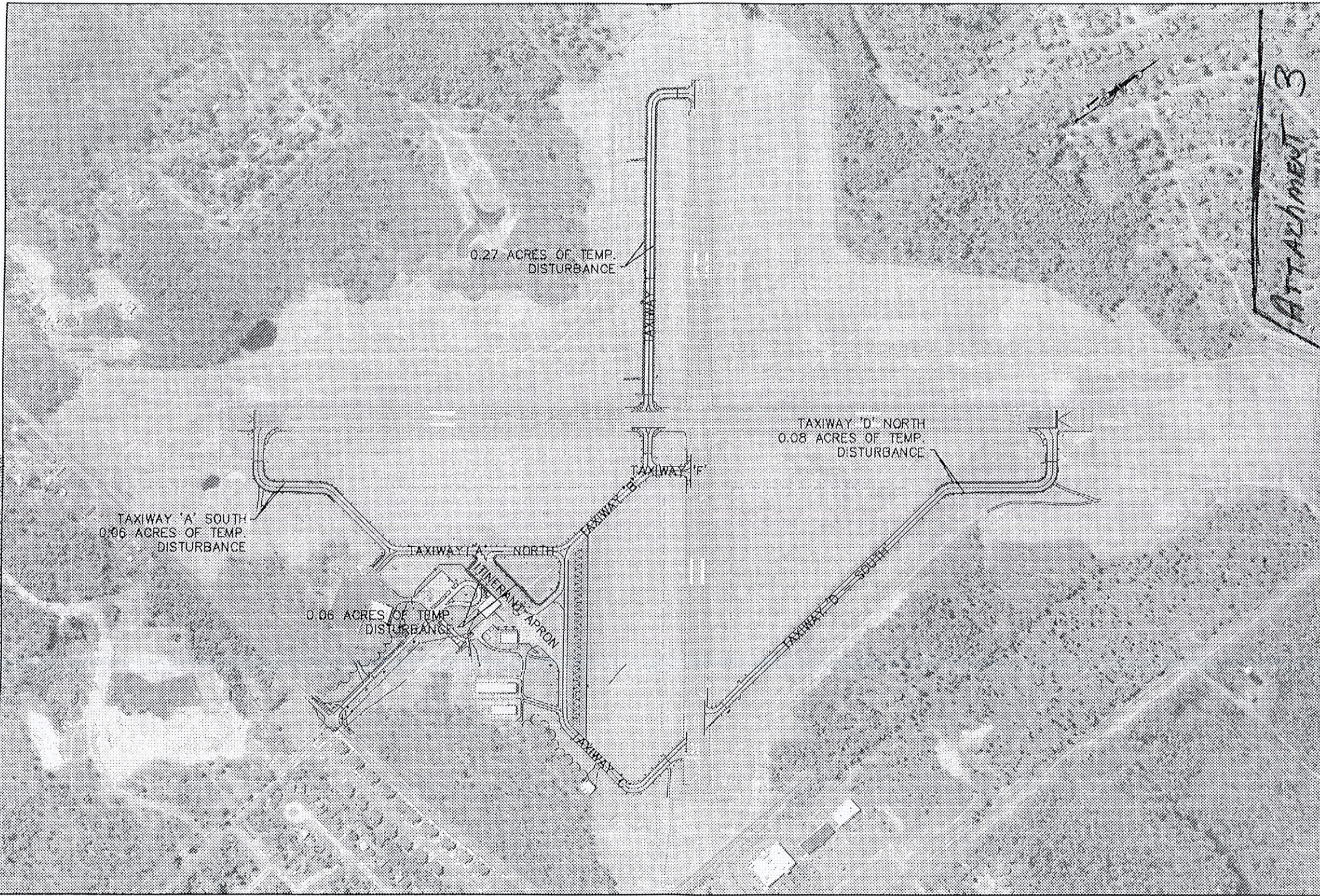
SARATOGA COUNTY AIRPORT
405 GREENFIELD AVE
BALSTON SPA, NEW YORK 12020

TYPICAL PAVEMENT SECTIONS

REV. NO.	DATE	DESCRIPTION	BY
1	2/09	FINAL REVIEW SET	SST
2	5/09	BID SET	SST

COUNTY NO. 12
DRAWING NO.

J:\ Jacobs - P1223\35661 - SCA-TV-1\hangar\CAD-Taxiway\Plan\1.7 - Typical Sections.dwg [17 April 2009 - 10:40am] (jng)

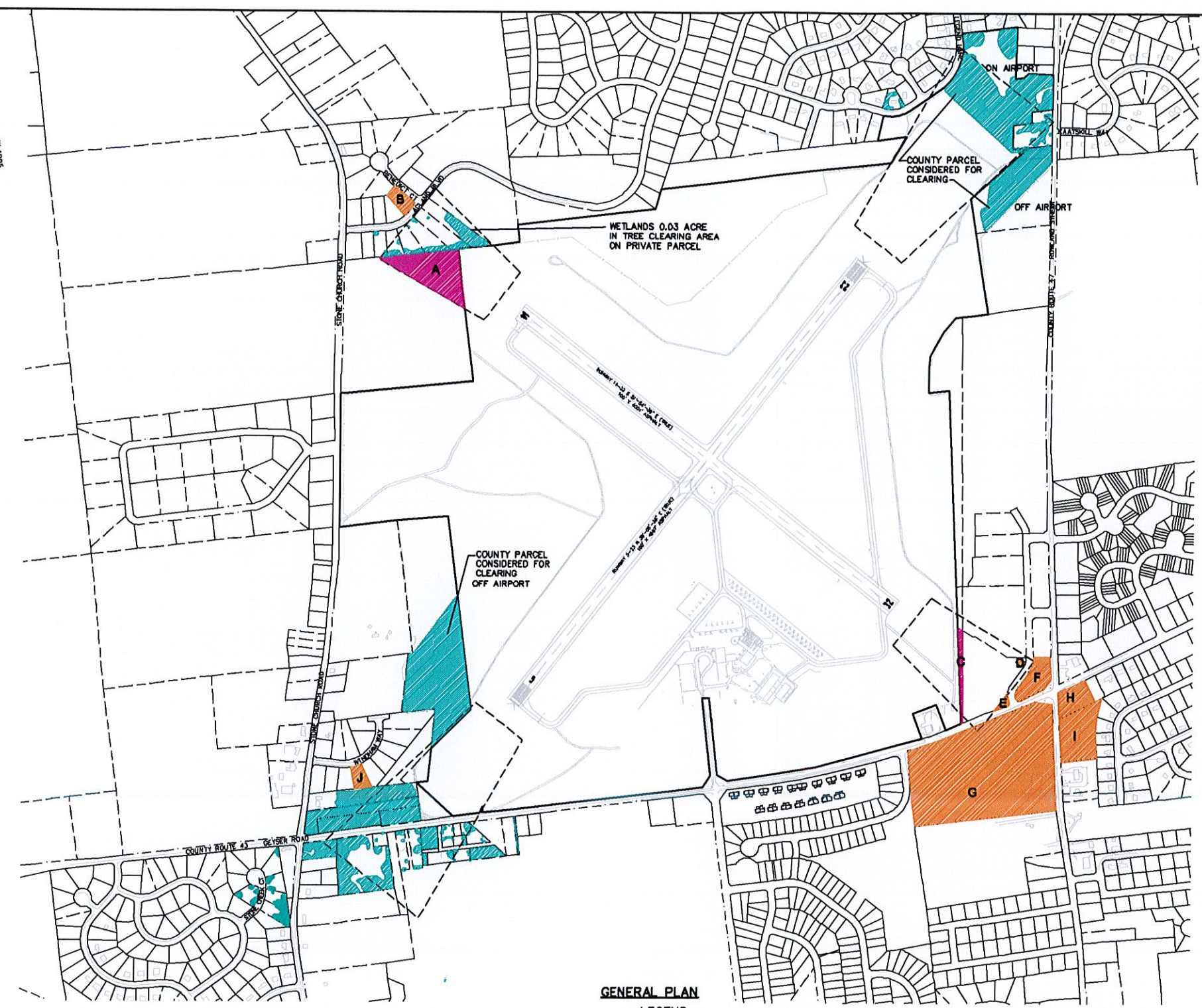


Attachment 3

SARATOGA COUNTY AIRPORT MELTON, NEW YORK		SCALE: NTS	JACOBS <small>77 WATERLOO AVE. SUITE 2000, WATKINS, NY 12159 PHONE: (518) 948-7272 FAX: (518) 948-7272</small>	
TAXIWAY IMPROVEMENT AND THREATENED SPECIES EXPANSION PROJECT		DATE: 1/11	DESIGNED BY: JMG	APPROVED BY: DMC
TURF DISTURBANCE AREAS		BY:	FORNARD BY: SST	
REVISIONS		DATE	BY	
DESCRIPTION				
PROJECT NO: E2X/38461				
FILE NAME: P/E2X/38461				
SYNOPSIS: PA 1832.11				
DRAWING NO.				
SK-1				
SHEET 1 of 1				



Jacobs - P:\2008\0404 - SCA Besson and Clearing\CAD\Sheet\Project Area.dwg (1/10/08) 12:28pm (jgornier)



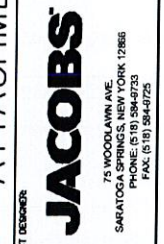
**GENERAL PLAN
LEGEND**

- AIRPORT PROPERTY LINE
- PROPERTY LINE OFF AIRPORT
- PROPOSED AVIGATION EASEMENTS
- PROPOSED CLEARING PROJECT
- PROPOSED PROPERTY ACQUISITION

PROPERTY ACQUISITIONS / AVIGATION EASEMENT PROJECT LOCATIONS		
RUNWAY	DWG ID	PARCEL ID
14	A	176.-2-10
	B	176.16-1-20
32	C	190.-7-10.3
	D	190.-7-16
	E	190.-7-15
	F	190.-7-1.12
	G	190.-7-5
	H	190.6-1-34
	I	190.10-1-1.1
5	J	189.12-1-54

CLEARING PROJECT AREAS	
RUNWAY	AREA (ACRES)
14	1.60
5	20.70
23	13.69
TOTAL	35.99

ATTACHMENT 5



SCALE:	N.T.S.	PRODUCT DESIGNER
DATE:	FEB 08	
DESIGNED BY:	ZAB	
DRAWN BY:	ZAB	
CHECKED BY:	JMG	
APPROVED:	DMC	

SARATOGA COUNTY AIRPORT
COUNTY OF SARATOGA, NEW YORK
FORM C - SHORT EA
**Obstruction Removal, Avigation
Easement and Land Acquisition Areas**

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X30404
 NTS/DOT: 1802.44
 AP NO: 3-36-0004-24-08
DRAWING NO.
SK-1
 SHEET 1 OF 1



Robyn Niver/R5/FWS/DOI

09/16/2009 01:34 PM

To MaryEllen VanDonsel/R5/FWS/DOI@FWS

cc Laury Zicari/R5/FWS/DOI@FWS

bcc

Subject

Fw: Saratoga Section 7 Consult.

Please log.

Robyn

Robyn A. Niver
Endangered Species Biologist
U.S. Fish & Wildlife Service
New York Field Office
3817 Luker Rd.
Cortland, NY 13045
(607) 753-9334 (voice)
(607) 753-9699 (fax)

----- Forwarded by Robyn Niver/R5/FWS/DOI on 09/16/2009 01:34 PM -----



Sukhbir.Gill@faa.gov

09/16/2009 12:00 PM

To Robyn_Niver@fws.gov

cc

Subject Saratoga Section 7 Consult.

Hi Robyn,

Please find attached a reinitiation letter as discussed yesterday regarding the paving of the AWOS access road.

I hope to hear back from you on your concurrence on survey work that was completed in June and submitted to your office in July regarding the Off-Airport Obstruction Removal Project.

Please let me know if you have any further questions. Thanks!

Suki Gill
Environmental Specialist
Federal Aviation Administration
New York Airports District Office
600 Old Country Road, Suite 446
Garden City, New York 11530
Phone: (516) 227-3815
Fax: (516) 227-3813



sukhbir.gill@faa.gov FWS - R. Niver Section 7 Letter 09-16-2009.pdf



U. S. Department
of Transportation

**Federal Aviation
Administration**

New York Airports District Office
600 Old Country Rd, Suite 446
Garden City, New York 11530
Telephone: 516-227-3800
Fax: 516-227-3813

September 16, 2009

Ms. Robyn A. Niver
US Fish & Wildlife Service
New York Field Office
3817 Luker Road
Cortland, New York 13045

Re: Saratoga County Airport (5B2)
Paving of the AWOS Access Road
US Fish & Wildlife Service – Section 7 Consultation

Dear Ms. Niver:

The Federal Aviation Administration (FAA) is hereby re-initiating consultation with the U.S. Fish and Wildlife Service (Service) in accordance with Section 7 of the Endangered Species Act of 1973 for the paving of the AWOS access road at Saratoga County Airport. The paving of the gravel road has the potential to impact the habitat of an endangered species, the Karner Blue Butterfly (KBB). The following discussion of the project is supplied as the required information in accordance with Section 402.14.

On July 6, 2009, the Service issued a Biological Opinion (BO) to the FAA for activities associated with the Saratoga County Master Plan Update. On February 6, 2003, the FAA issued a Finding of No Significant Impact (FONSI) for capital development projects contained in the Saratoga County Airport Master Plan Update and the subsequent Environmental Assessment (EA). One of the projects detailed in the Master Plan Update and EA was the construction of a 3,370 square-foot (sf) (approximately 0.08 acre) gravel road, which at this time will be paved.

The Sponsor recognizes the need to protect the habitat for the KBB and conservation measures will be employed to mitigate disturbances during the project construction. Construction vehicles will be prohibited from operating off of the existing access road. All disturbances will be restored with the addition of loam and KBB-friendly grass seed. All temporary disturbances will be within areas currently mowed for safety at the edge of pavement areas.

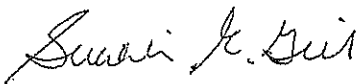
Ms. Robyn Niver
September 16, 2009
Page 2 of 3

Equipment will be staged on the existing gravel road surface and will remain on the road whenever possible through coordinated sequencing and backing-up of the equipment. Limited passing of equipment off of and within very close proximity to the edge of the access road will be required. The Sponsor will coordinate activities in advance of the start of construction with a representative of NYSDEC to identify specific activities and sequence of the work, so as to minimize disturbances and avoid the most environmentally sensitive habitat areas. All activities will be under the management of County personnel.

Future maintenance of the paved access road would include isolated patching, crack sealing and elimination of weed growth through mechanical means. Chemical elimination of weeds would be used only with prior notification to NYSDEC.

The Sponsor will be responsible for the Terms and Conditions associated with the July 6, 2009 BO and any new BO's the Service issues as a result of this letter. The issues identified above require immediate attention. If you need any further information please don't hesitate to contact me. Thank you for your prompt attention to this matter.

Sincerely,



Sukhbir K. Gill
Environmental Protection Specialist
New York Airports District Office

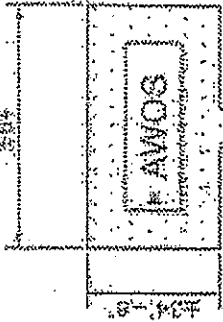
Enclosure

Enclosure 4

Ms. Robyn Niver
September 16, 2009
Page 3 of 3

cc: Thomas A. Speziale - Saratoga County DPW
Kathleen M. O'Brien - NYSDEC
John Gorham - Jacobs, Edwards and Kelcey

AREA OF GRAVEL ROAD = 13,370SF
AREA OF CENTER AVOS = 1640SF



GRAVEL ROAD
14'

AREA FLAGGED BY NYSDEC

SARATOGA COUNTY DEPARTMENT OF PUBLIC WORKS
AVOS GRAVEL AREA CALCULATION
BY J. FRENCH DATE 10/24/03

2011 BIOLOGICAL OPINION

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United States Department of the Interior



FISH AND WILDLIFE SERVICE

3817 Luker Road
Cortland, NY 13045

July 22, 2011

Ms. Sukhbir K. Gill
Environmental Protection Specialist
U.S. Department of Transportation
Federal Aviation Administration
New York Airports District Office
600 Old Country Road, Suite 446
Garden City, NY 11530

Dear Ms. Gill:

We received your March 10, 2011, letter regarding the Saratoga County Department of Public Works' (County) proposed activities at the Saratoga County Airport (Airport) in the Town of Milton, Saratoga County, New York, and their effects on the Karner blue butterfly (*Lycaeides melissa samuelis*). In accordance with Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*), the Federal Aviation Administration (FAA) has requested reinitiation of consultation for activities at the Airport to address the proposed rehabilitation of the taxiway lighting system and the installation of Precision Approach Path Indicator lights for Runways 5, 23, and 32 end, and reconstruction of the based aircraft apron.

This serves as an update to the U.S. Fish and Wildlife Service's (Service) September 24, 2009, Biological Opinion (BO) (enclosed). While all work is within areas where the Service has previously authorized incidental take of Karner blue butterflies due to other County activities, the proposed action was not previously considered. We must review the proposed action in light of the current status of the species and provide an updated assessment. Please note that while previous BOs did not include an end date, we consider any incidental take authorized to date from actions previously considered as valid through December 2012, as we understand the next Master Plan Revision Process will occur in 2012.

This BO is based on information provided in telephone conversations, letters, and electronic mail exchanges among the Service, FAA, and others. A complete administrative record of this consultation is on file at the Service's Cortland, New York, Field Office.

We are amending the 2009 BO by including additions to or replacing current language by section.

I. CONSULTATION HISTORY SINCE SEPTEMBER 2009 BO

Add the following items to the existing consultation history.

- September 24, 2009 Letter from the Service to FAA amending BO to include paving of the current 0.08-acre gravel access road to the AWOS facility.
- December 29, 2009 Letter from the Service to FAA providing technical assistance regarding obstruction removal at the ends of Runways 5, 14, and 23 and avigation easement acquisition for future tree clearing at the end of Runway 32.
- January 24, 2011 Electronic mail exchange among McFarland-Johnson, New York State Department of Environmental Conservation (NYSDEC), and the Service regarding lighting replacement.
- February 3, 2011 Conference call among McFarland-Johnson, County, FAA, and the Service to discuss proposed projects.
- March 10, 2011 Letter from FAA to the Service requesting reinitiation of formal consultation.
- July 2011 E-mail exchanges between the Service and FAA regarding project description clarification.

II. BIOLOGICAL OPINION

Description of the Proposed Action

Add the following to the original description.

The proposed new Federal action is the funding and/or approval of the following activities at the Airport: rehabilitation of the taxiway lighting system and the installation of Precision Approach Path Indicator (PAPI) lights for Runways 5, 23, and 32 end, and reconstruction of the based aircraft apron (Figure 1). The taxiway lighting system and the runway PAPIs play an integral part in airport operations and provide a safe environment for aircraft to operate in.

This project will rehabilitate the airport's failing taxiway lighting system. The lighting rehabilitation will require trenching procedures to remove the old direct buried cable and replace it with new conduit and wiring. New taxiway light units will be installed on new bases in situ to replace the current light units. New wiring to the electrical vault will be connected to the indoor electrical vault.

The taxiway edge lighting work includes installation of the following elements:

- Individual edge lights, which are placed 10 feet from the taxiway pavement edge, and are located a maximum of 200 feet apart, along the length of the existing taxiways.
- Electrical conduit and cable that connect each light (conduit is parallel to the pavement edge).
- Bare copper wire (counterpoise, or ground wire) that is installed 5 feet from the edge of the taxiway pavement.

The total length of lighting system is approximately 21,500 linear feet (10,750 linear feet of taxiway pavement, with the lights installed on each side of taxiway). The area of disturbance is conservatively estimated as an area 15 feet wide (conduit installed 10 feet from pavement edge, and the track of the construction equipment is assumed to extend an additional five feet beyond the conduit trench) by 21,500 linear feet in length, for a total area of 322,500 square feet. Trenching will be completed using the narrowest trench width possible (generally 12 inches) (typically per a Ditch Witch). All work will be initiated and completed during frozen ground conditions. All disturbances will be within areas currently mowed.

The outdated Visual Approach Slope Indicator (VASI) currently in place at the airport for Runways 5, 23, and 32 ends will be replaced with modernized PAPIs. Installation of the proposed PAPIs will impact turf areas adjacent to the south edge of pavement of runway 23 approach end, the north edge of pavement of runway 5 approach end, and the south edge of pavement of runway 32 approach end.

The PAPI's consist of navigational equipment installed on a concrete foundation, 2 feet wide by 4 feet in length. Each PAPI installation consists of two units, installed 30 feet and 50 feet, respectively, from the runway edge. The area of this installation that will be disturbed is conservatively estimated as 60 feet by 20 feet, or 1,200 square feet. Three PAPI's will be installed, resulting in a total disturbance of 3,600 square feet.

In addition to the PAPI equipment itself, electrical conduit (approximately 4,600 linear feet) will be installed to provide power to the units. The PAPIs will require approximately 4,600 feet of additional trenching for the new electrical wiring. The PAPIs will require two trench lines, one five feet from pavement for the bare copper ground wiring and the other at ten feet from the edge of the pavement for the conduit line. Trenching will be completed in the same manner as the lighting rehabilitation and will be also limited to a 12-inch maximum width. Assuming the conduit is placed 10 feet from the pavement edge, with a 15 foot width of disturbance, the installation of the PAPI conduit will disturb an additional 4,600 ft X 15 ft = 69,000 square feet. All work will be initiated and completed during frozen ground conditions. All disturbances will be within areas currently mowed.

Total disturbance is calculated as $322,500 \text{ sf} + 3,600 \text{ sf} + 69,000 \text{ sf} = 395,100 \text{ sf} = 9.07 \text{ acres}$. It should be noted that other than the actual PAPI equipment foundations, and the individual edge lights themselves, all disturbance is temporary. These areas will be regraded to match existing ground elevations, and re-seeded with butterfly-friendly seed.

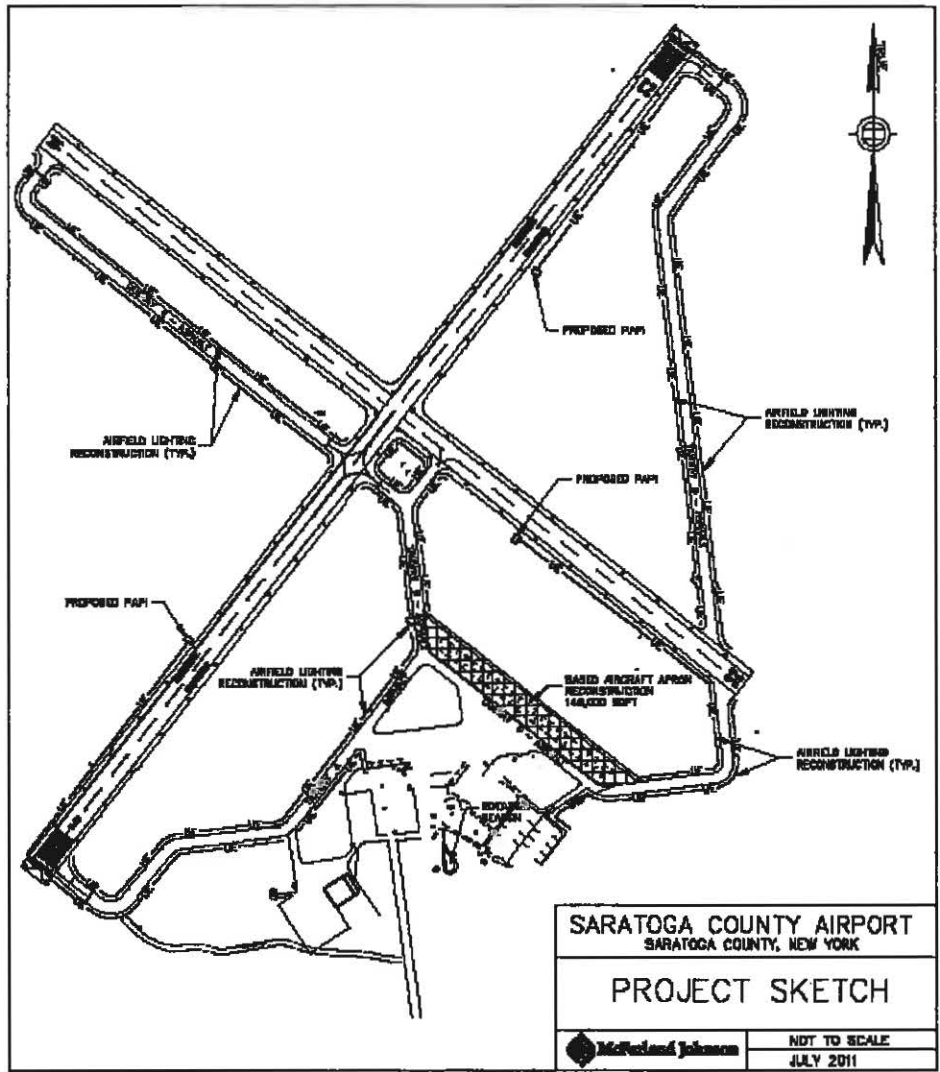
The based aircraft tie-down ramp asphalt pavement is critically deteriorated with full depth cracks throughout the surface area. Reconstruction will require a full depth reconstruction of the ramp within the current ramp footprint occupying approximately 16,500 square yards.

The existing apron pavement will be removed and reconstructed, with no additional permanent impervious surface being installed. During construction, an area 15 feet from the existing pavement edge, and 1,150 feet in length will likely be disturbed due to construction equipment

activity. This area is calculated to be 17,250 square feet, or 0.4 acre. Similar to the electrical work, all disturbance is temporary. These areas will be regraded to match existing ground elevations, and re-seeded with butterfly-friendly seed. The project will also paint new lines to remark the tie down area.

Add a new Figure 1 and renumber all of the following figures accordingly.

Figure 1. Proposed project sketch.



The proposed action includes the following conservation measures to minimize impacts to Karner blue butterflies (item in italics is a requested change):

Work will be conducted in the winter during frozen ground conditions;

Construction vehicles will be limited to the project work limits (as defined in project plans);

Protective orange fencing will be installed and maintained during construction activities to limit activity within the project work limits;

A 4-foot by 8-foot post-mounted sign will be placed at the entrances to the active haul roads with instructions to remind drivers to remain on existing gravel roads and pavements;

A consultant will monitor the construction full-time to ensure compliance with the conservation measures;

Equipment will be staged on a closed section of existing taxiway or apron pavement;

All temporary disturbances will be restored with the addition of loam and Karner blue butterfly-friendly grass seed. *Please note that sandy soils (not loam) shall be used (see terms and conditions);*

Equipment will be staged on the existing road surface and will remain on the road whenever possible; however, limited passing of equipment off and within close proximity to the edge of the road will be required;

The County will coordinate activities with the NYSDEC; and

All activities will be under the management of County personnel.

A summary of projects for which the Service and FAA anticipated incidental take from the 2002 BO and subsequent amendments is provided in Table 1. Replace Table 1 (page 7 of the 2009 BO) with the following.

Table 1. Projects for which incidental take has previously been provided.

Project	Acreage Affected	Type of Incidental Take
<i>Reconfigure Itinerant Tiedown Apron (includes relocation of two fuel tanks)</i>	2.84	Permanent occupied habitat loss (kill and harm)
Glider Hangar	0.50	Permanent occupied habitat loss
Construct Snow Removal Equipment Storage Building	0.08	Permanent occupied habitat loss
T-Hangar Development	0.40	Permanent occupied habitat loss
AWOS Gravel Access Road	0.08	Permanent occupied habitat loss
Paving of AWOS Access Road	NA	Already counted as permanent occupied habitat loss
FBO Building and Apron	0.37	Permanent occupied habitat loss
Access road paving	5.7	Permanent occupied habitat loss
Areas Mowed for Safety (i.e. around taxiway lights) - (Management Agreement)	3.00	Recurring disturbance (kill and harm)
Turf in Exempt Areas – (1) Mowing (Management Agreement)	11.00	Recurring disturbance
Snow Blowing and Plowing (Management Agreement)	0.12	Recurring disturbance
Glider Operations Areas (Glider Operations Agreement)	5.00	Recurring disturbance
	29.09	Subtotal (Permanent loss and recurring disturbance)
Rehabilitation of Runway 14/32	2.54	Temporary disturbance/habitat loss (kill and short-term harm)
Reconstruct Taxiway D-North	0.08	Temporary disturbance/habitat loss
Reconstruct Taxiway E	0.27	Temporary disturbance/habitat loss
Reconstruct Taxiway C	0.63	Temporary disturbance/habitat loss
Reconstruct Taxiway A	1.38	Temporary disturbance/habitat loss

Regrading Along the Entrance Taxiway to the North American Aviation Area	0.02	Temporary disturbance/habitat loss
Replacement of the Airport Beacon	0.04	Temporary disturbance/habitat loss
Itinerant apron replacement	0.06	Temporary disturbance/habitat loss within exempt mowing area (not duplicating acreage in final total)
Staging area	0.49	Temporary disturbance/habitat loss within exempt mowing area (not duplicating acreage in final total)
Access road maintenance	3.27	Temporary disturbance/habitat loss along edges
	9.03	Subtotal (Temporary disturbance/habitat loss)
Mowing in non-exempt areas	~261	Temporary disturbance to KBBs (kill/injure)
	298.32	TOTAL (All projects and activities)

Rangewide Status of the Species

Species not considered further in this opinion

No updates.

Listing Status

No updates.

Species Description

No updates.

Life History

No updates.

Status and Distribution

No updates.

Species Recovery

No updates.

Recovery Units

No changes to first two introductory paragraphs. Add new subheadings and revise remainder of page 15 of the 2009 BO as described below.

Status of the Karner Blue Butterfly within GLA

The Karner blue butterfly is known from approximately 28 locations in New York (all within the GLA Recovery Unit) at this time. There may be multiple management sites within a given sub-population and habitat restoration activities since 2002 have connected many previously separate areas. At least half of the New York management sites are 10 acres or less in size and another 25 percent are less than 20 acres (K. O'Brien, NYSDEC, 10/25/2002 pers. communication). These small sites are threatened by unfavorable mowing practices, woody encroachment from adjacent woodlands, development, and incompatible management practices.

The following paraphrased information was provided for the 2008 Service Recovery Data Call (K. O'Brien, NYSDEC, 08/28/2008 pers. communication). In 2008 we saw a continuation of the general downturn except in a few locations where Karner blue butterflies are expanding into recently created habitat adjacent to an existing subpopulation. Numbers at most known sites are lower than past years and even more sites may be extirpated. In the Albany Pine Bush, the highest number seen at any site was a spring brood count of 19 which then had a peak second flight count of 8. In the Saratoga Sandplains, the new habitat sites had peak counts markedly higher than in 2007 (103 was the highest count at one site, with several in the 90s), but almost all had summer brood counts much lower than the spring. The Airport had second brood counts over 100 for the first time since 2005; however, most of the other sites in Saratoga West had extremely low counts. There are no currently viable sites within the Queensbury population. Loss of lupine due to succession and/or damage from human activity, as well as weather, may account for the low counts at many sites.

The 2009 Service Recovery Data Call indicated an increase (compared to very low counts in 2006-2008) in the Saratoga County Airport population, with general declines at other New York (GLA) sites (Service 2009). In general, Karner blue butterfly numbers were better in 2010 than in 2009, possibly due to the better (although still extreme) weather (NYSDEC 2011).

Factors Affecting the Species' Environment within GLA

Habitat loss, fragmentation, and degradation are considered the primary threats to the survival of the species (Service 2003). Development throughout the Saratoga, Queensbury, and Albany regions has contributed to the species' decline and remains the primary threat to Karner blue butterflies in New York State. Fire suppression, resulting in vegetational succession, and habitat fragmentation have also impacted Karner blues in New York. 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. However, the NYSDEC and partners like The Nature Conservancy (TNC) are actively working to restore habitat throughout the Albany Pine Bush and Saratoga Sandplains.

Ongoing Karner blue butterfly management and monitoring (e.g., monitoring and marking butterflies; mowing and prescribed burning of vegetation; collection of lupine seed; captive-rearing and translocations of butterflies) may exert near-term adverse effects on small proportions of local populations of Karner blue butterflies; however, these activities are also essential to maintain long-term habitat conditions that cannot persist without regular active management.

Similar restoration and management activities, along with the potential for a return to baseline habitat conditions associated with a recently issued Safe Harbor Agreement to TNC, were addressed in an intra-Service biological opinion dated April 12, 2010.

A biological opinion issued to the U.S. Army Corps of Engineers on May 20, 2010, documented effects and anticipated incidental take associated with butterfly management and monitoring of a restoration site as part of mitigation for impacts associated with expansion of the Albany County Landfill. No other biological opinions have been issued for Karner blue butterflies in New York State.

Environmental Baseline

Status of the Karner blue butterfly at Saratoga County Airport

Replace the entire section with the following language.

As noted above, there are approximately 28 Karner blue butterfly sub-populations in New York. Nine sub-populations are located in the Saratoga West viable population area (Airport, Geyser Road Dune Cut, Geyser Road Railroad, Geyser Road/Rowland Street, Rowland Street PROW, Rowland Street West, Hutchins Road, Route 145 Sandpit, Saratoga Spa State Park). The Airport is currently the largest Karner blue butterfly single site by acreage in the entire state. However, there are larger sub-populations in terms of numbers in Saratoga Sandplains. The closest two sub-populations to the Airport are powerlines approximately 500 meters away with the remaining much farther away.

The NYSDEC conducts transect surveys at the Airport each year. The counts from these transects do not represent the true population size, rather, they are an index to compare relative counts from year to year. The actual population size is likely much greater than the transect counts, and distance sampling is now used at the Airport to estimate population size. That said, we do know that the Airport has provided some of the largest numbers of Karner blue butterflies in the state. Peak second brood counts were 426 in 1997, 277 in 1998, 457 in 1999, 208 in 2000, 907 in 2001, 129 in 2002, 226 in 2003, 938 in 2004, 358 in 2005, 29 in 2006, 42 in 2007, and 177 in 2008. Distance sampling conducted in 2007, 2009, and 2010 resulted in summer brood estimates of 900-1,300, 550-800, and 1,450-2,250 butterflies respectively (NYSDEC 2011). The variability in the numbers is most likely due to weather events at the airport. For example, in the Spring of 2002, late frosts damaged much of the lupine by killing leaves and flowers and during the activity period of the second brood, severe thunderstorms and wind events went through the area.

One of the most significant factors potentially limiting the Karner blue butterfly population at the Airport is the homogeneity of the site; the habitat is very open with little to no diversity in structure or topography. This homogeneity decreases the Karner blue's ability to survive weather events such as frosts or high winds. In addition, the nectar is poorly distributed throughout the site. Finally, some management practices of the County impact the Karner blue butterfly, as well as accidental incidents involving the County or users of the airport property. However, it is difficult to fully assess the long-term viability of the site, as the butterfly's future presence on nearby tracts is unknown; dispersal rates from or to the site are also unknown. Nearby Karner blue butterfly patches have an uncertain future given their lack of management. In addition, we have limited opportunities to create new patches near the Airport at this time.

Action Area

No updates.

Effects of the Action

No changes to the introductory sentence.

Direct Effects

Replace the entire section with the following language.

Many of the proposed activities at the Airport will result in direct adverse effects on Karner blue butterflies and their habitat as a result of the initial disturbance and removal of occupied and potential habitat for some of the projects, and the temporary disturbance of occupied and potential habitat for other projects and activities. Since some life stage of the Karner blue butterfly (eggs, larvae, pupae, or adults) are present year-round in occupied habitat, those projects and activities affecting occupied habitat, either permanently or temporarily will result in the taking (kill or injure) of Karner blue butterfly eggs, larvae, pupae, or adults, depending on the time of year of the disturbance to the habitat.

The host plant for the Karner blue butterfly, wild blue lupine, and the nectar species used by the adults are not evenly distributed over the airport property. Most of the open areas of the airport are mowed according to the existing Management Agreement with the NYSDEC using certain methods and timing to minimize potential impacts on the butterflies or their other life stages. Some areas of the airport have been designated as "exempt areas" under the Management Agreement and more frequent mowing and certain other necessary activities are allowed to take place within the exempt areas. These areas total approximately 14 acres. Lupine and Karner blue butterflies or their other life stages may occur in grassy open areas within these exempt areas as well as the other open areas of the airport property; however, lupine and Karner blue butterfly occurrences in these exempt areas would be more scattered and sparse due to the habitat conditions, development, and activities there. The proposed activities addressed in this BO update will all occur within 4.94 acres of previously described "exempt areas". An additional 4.53 acres of temporary disturbance is proposed within "non-exempt" currently mowed areas.

There has been no comprehensive mapping of lupine or nectar species at the Airport, although lupine concentrations have been identified. For the purposes of this consultation and evaluation of project impacts, it was agreed to assume that lupine, nectar, and Karner blue butterflies or their other life stages may be present in any open grassy areas of the property, and that the effects of the various projects and activities would be evaluated based on the acreages of open grassy areas affected. Access roads previously had lupine and nectar growing through the gravel in many locations. However, access roads have since been paved. Other non-forested, non-paved, non-manicured lawn areas are also considered as habitat. The Service recognizes that the actual amount of potential habitat or habitat that is occupied by Karner blue butterflies or their other life stages, and therefore affected, is less than the acreages described in the project documents and this BO.

Projects and activities that will result in the loss of Karner blue butterflies in any of their life stages that are present have been identified in the project documents and information provided for this consultation. Italicized projects have been completed or are ongoing since the 2002 BO. These projects and the acreages affected by them are:

- Reconfigure Itinerant Tiedown Apron (includes relocation of two fuel tanks) (2.84 acres)
- Not completed but the avgas tank has been removed from the site
- *Glider Hangar (0.5 acre) - completed*
- Construct Snow Removal Equipment Storage Building (0.08 acre) - *no longer proposed*
- T-Hangar Development (0.4 acre)
- *Gravel AWOS Access Road (0.08 acre) - completed*
- *Paving of AWOS Access Road (same acreage) - completed*
- FBO Building and Apron (0.37 acre)
- *Annual Areas Mowed for Safety (i.e. around taxiway lights) (3.0 acres) - ongoing*
- *Annual Areas Mowed Around the AWOS (up to 0.72 acre) - ongoing*
- *Turf in Exempt Areas – Annual Mowing (11 acres) - ongoing*
- *Annual Glider Operations Areas (up to 5.0 acres) - ongoing*
- *Rehabilitation of Runway 14/32 (2.54 acres) - completed*
- *Reconstruct Taxiway C (0.63 acre) - completed*
- *Reconstruct Taxiway A (1.38 acres) - completed*
- *Reconstruct Taxiway D-North (0.08 acre) - completed*

- *Reconstruct Taxiway E (0.27 acre) - completed*
- *Reconstruct Itinerant Apron (0.06 acre) - completed*
- *Temporary staging area for Taxiway B, D, E, F and Itinerant Apron reconstruction (0.49 acre) - completed*
- *Regrading Along the Entrance Taxiway to the North American Aviation Area (0.02 acre) - completed*
- *Replacement of the Airport Beacon (0.04 acre) - completed*
- *Annual Snow Blowing and Plowing (0.12 acre) - ongoing*
- *Annual Mowing in Non-Exempt Areas - Between October 15 and December 31 (191 acres) - ongoing*
- *Annual Mowing in Newly Cleared and Replanted Areas (70 acres) - ongoing*
- *Access Road Paving (limited off-road work and some small patches of lupine in current gravel roads) (5.7 acres) - completed*
- *New Hangar and apron adjacent to North American Flight Services (formerly Richmor) - completed*

Indirect Effects

Replace the entire section with the following language.

Many of the above-listed activities also have the potential to result in indirect effects to Karner blue butterflies. The following actions will result in permanent loss of occupied habitat (lupine and/or nectar).

- *Reconfigure Itinerant Tiedown Apron (includes relocation of two fuel tanks) (2.84 acres) - Not completed but the avgas tank has been removed from the site*
- *Glider Hangar (0.5 acre) - completed*
- *Construct Snow Removal Equipment Storage Building (0.08 acre) - no longer proposed*
- *T-Hangar Development (0.4 acre)*
- *AWOS Access Road (0.08 acre) - completed*
- *Paving of AWOS Access Road (same acreage) - completed*

- FBO Building and Apron (0.37 acre)
- *Access Road Paving (limited off-road work and some small patches of lupine and nectar in current gravel roads) (5.7 acres) - completed*

The following activities will result in long-term impacts (although no removal or destruction) to occupied habitat. The continual nature of the disturbance throughout the growing season renders them virtually permanently unavailable to Karner blue butterflies. Temporary adverse effects associated with the recurring activities taking place under the Management Agreement and Glider Operations Agreement were originally anticipated to be short-term but recurring periodically as described in the agreements. A more accurate description is that effects are long-term in the set-up areas adjacent to the runways given the repeated disturbance except for the set-up area next to runway 14 which is seldom used by gliders. Effects of glider landing areas off runways are less frequent and can be considered short-term in nature.

- *Annual Areas Mowed for Safety (i.e. around taxiway lights) (3.0 acres) - ongoing*
- *Annual Areas Mowed Around the AWOS (up to 0.72 acre) - ongoing*
- *Turf in Exempt Areas – Annual Mowing (11 acres) - ongoing*
- *Annual Glider Operations Areas (up to 5.0 acres) - ongoing*
- *Access Road Maintenance (up to 3.27 acres) - ongoing*

In addition, other projects and activities will result in the loss of lupine with replanting of grasses/nectar. These projects and activities and the acreages affected are:

- *Rehabilitation of Runway 14/32 (2.54 acres) - completed*
- *Reconstruct Taxiway C (0.63 acre) - completed*
- *Reconstruct Taxiway A (1.38 acres) - completed*
- *Reconstruct Taxiway D-North (0.08 acre) - completed*
- *Reconstruct Taxiway E (0.27 acre) - completed*
- *Regrading Along the Entrance Taxiway to the North American Aviation Area (0.02 acre) - completed*
- *Replacement of the Airport Beacon (0.04 acre) - completed*

However, the small acreage and scattered nature of the areas of impact when compared to the overall availability of habitat for the Karner blue butterfly within their daily home range (<200 m on average) should result in minimal and short-term indirect effects to individual butterflies.

Beneficial Effects

Add the following introductory paragraph to page 21 of the 2009 BO.

The proposed action implements recovery actions in the Karner blue butterfly recovery plan (Service 2003). The primary actions addressed are Action 1.23 (continue/start management activities for New York), 1.4111 (protect existing Karner blue populations using Section 7 Federal responsibilities), and 4.2 (inform local governments of Karner blue recovery units).

Cumulative Effects

No updates.

Conclusion

Replace the entire section with the following language.

The proposed taxiway lighting rehabilitation, installation of PAPI lights, and reconstruction of the based aircraft apron are anticipated to result in the death of any Karner blue butterflies (egg stage) that are present in the 9.47 acres of construction work area that were not already killed during routine mowing of the area. As stated above, all work will be conducted within areas that are routinely mowed and for which the Service has previously authorized incidental take of Karner blue butterflies.

In addition, the trenching activities are anticipated to result in the injury or death of any wild blue lupine, grass, or nectar plants with roots in the trench zone. This will result in a temporary decrease in habitat for Karner blue butterflies until new plants are established. No additional acres of Karner blue butterfly habitat will be impacted from the proposed action than previously considered. However, we did not previously expect death of plants due to routine mowing. Instead, we expected that plants would be maintained in a state that was generally unsuitable for use by Karner blue butterflies. Therefore, we expect few Karner blue butterflies to be exposed to the activities. However, any butterflies that are exposed to heavy equipment are anticipated to be crushed and die.

The FAA/County have proposed restoring the work area with loam and Karner blue butterfly grass seed. Please see **terms and conditions** for a revision to the restoration terms.

Given that no new habitat areas are proposed for disturbance, we do not anticipate any new impact to the overall population at the Airport. In turn, we do not expect the project to result in reductions in the overall fitness of the population. Therefore, it is the Service's Biological Opinion that the FAA's approval of the proposed taxiway lighting rehabilitation, installation of PAPI lights, and reconstruction of the based aircraft apron, is not likely to jeopardize the continued existence of the Karner blue butterfly. No critical habitat has been designated for this species, therefore, none will be affected.

The Service has based this determination on the relative quality and size of the actual areas that will be adversely affected by the proposed action, the measures to avoid and minimize adverse

impacts on the Karner blue butterfly that have been included in the proposed action and related projects and activities, the draft Management Agreement and draft Glider Operations Agreement that are designed to minimize adverse effects on the Karner blue butterfly, and the creation of approximately 70 acres of habitat at the site, as part of the proposed action that is expected to benefit the Karner blue butterfly.

III. INCIDENTAL TAKE STATEMENT

No changes to the introductory paragraphs.

Amount and Extent of Take

To the end of this section, add the following.

The proposed taxiway lighting reconstruction and PAPI will result in the death of any Karner blue butterflies (egg stage) that are present in the 9.47 acres of construction work area that were not already killed during routine mowing of the area. In addition, the trenching activities are anticipated to result in the injury or death of any wild blue lupine, grass, or nectar plants with roots in the trench zone.

Table 2 on page 24 of the 2009 BO describes the Project areas where the proposed lighting actions will occur. 4.94 acres will occur in “Areas Mowed for Safety (i.e. around taxiway lights) - (Management Agreement) - 3.00 acres of recurring disturbance (kill and harm)” or “Turf in Exempt Areas (1) Mowing – (Management Agreement) - 11.0 acres of recurring disturbance” and 4.53 acres will occur in “Mowing in non-exempt areas – 261 acres of temporary disturbance to KBBs.”

Effect of the Take

In the accompanying BO, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

Reasonable and Prudent Measures to Minimize Take

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take:

Add the following measure to the 2009 BO.

1. Avoid disturbance of Karner blue butterfly habitat adjacent to or outside the areas described for project construction in the FAA’s March 20, 2011, letter.

Terms and Conditions

In order to be exempt from prohibitions of Section 9 of the Act, the FAA must ensure that the following terms and conditions, which implement the reasonable and prudent measures described

above, and outline required reporting and monitoring requirements, are included in the project plans. These terms and conditions are non-discretionary.

Add the following terms and conditions to the 2009 BO.

1. The County (or NYSDEC) shall inspect project areas at the start of and during construction to ensure construction disturbance is limited to the appropriate areas as described in the FAA's March 10, 2011, letter.
2. The County shall backfill trenched areas with the trenched soil material or other clean, sandy soils immediately after taxiway and PAPI equipment installation. The County shall plant all disturbed soils with butterfly-friendly grass by May 15, 2012. Plant species shall be coordinated with NYSDEC and the Service by October 31, 2011.

No changes to conclusion paragraph.

Conservation Recommendations

No updates.

Reinitiation of Formal Consultation

This concludes formal consultation on the action(s) outlined in the March 10, 2011, 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 maintained (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 that was 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 extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

The Service appreciates the opportunity to work with the FAA, the County, and the NYSDEC in fulfilling our mutual responsibilities under the Endangered Species Act. Please contact Robyn Niver of this office at (607) 753-9334 if you have any questions or require additional information.

Sincerely,



David A. Stilwell
Field Supervisor

REFERENCES

Add the following references.

New York State Department of Environmental Conservation. 2011. PROGRESS REPORT: KARNER BLUE BUTTERFLY SURVEYS OVERVIEW. April 1, 2010 - March 31, 2011.

U.S. Fish and Wildlife Service. 2009. Recovery Data Call unpublished report.

Enclosure

cc: Saratoga County Department of Public Works, Ballston Spa, NY (T. Speziale)
NYSDEC, Albany, NY (Wildlife Diversity Unit, K. O'Brien)
NYSDEC, Warrensburg, NY (Env. Permits)
NYFO, Project & BR Files
Niver File
ES:NYFO:RNiver:ran:mvd

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
3817 Luker Road
Cortland, New York 13045



December 14, 2018

Mr. Jonathan Zack DeLaune
Environmental Protection Specialist
U.S. Department of Transportation
Federal Aviation Administration
New York Airports District Office
1 Aviation Plaza, Suite 111
Jamaica, NY 11434

Dear Mr. DeLaune:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion (Opinion) based on our review of the proposed Master Plan Phase 1 Projects (referred to as "Project" for the remainder of this document) located at the Saratoga County Airport (Airport) in the Town of Milton, Saratoga County (County), New York, and their effects on the federally listed endangered Karner blue butterfly (*Lycaeides melissa samuelis*) and the federally listed threatened northern long-eared bat (*Myotis septentrionalis*) in accordance with section 7 of the Endangered Species Act (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA). Your July 16, 2018, request for formal consultation was received on July 18, 2018. The Service received an extension for completing this Opinion from the Federal Aviation Administration (FAA) on November 6, 2018.

This Opinion is based on information provided in the July 2018 Biological Assessment (BA) (McFarland-Johnson, Inc. 2018a), the July 2018 Environmental Assessment (McFarland-Johnson, Inc. 2018b), telephone conversations, field investigations, and other sources of information. The consultation history is located in Appendix A. A complete administrative record of this consultation is on file in this office.

The FAA has concluded that the proposed action will not result in any prohibited incidental take of the northern long-eared bat. This Project may affect the northern long-eared bat; however, there are no effects beyond those previously disclosed in the Service's programmatic biological opinion for the final 4(d) rule dated January 5, 2016. Any taking that may occur incidental to this Project is not prohibited under the final 4(d) rule (50 CFR §17.40(o)). This Project is consistent with the description of the proposed action in the programmatic biological opinion, and the 4(d) rule does not prohibit incidental take of the northern long-eared bat that may occur as a result of this Project. Therefore, the programmatic biological opinion satisfies the FAA's

responsibilities under the ESA section 7(a)(2) relative to the northern long-eared bat for this Project.

Please keep in mind that you must report any departures from the plans submitted; results of any surveys conducted; or, any dead, injured, or sick northern long-eared bats that are found. If the removal components of the Project are not completed within 1 year of this letter, you must update your determination and resubmit the required information.

The frosted elfin (*Collophrys irus irus*) is a butterfly listed by the State of New York that also occurs at the Saratoga Airport. Adverse and beneficial impacts are anticipated to be similar for the frosted elfin as those to the Karner blue butterfly. We appreciate any pro-active efforts the County and FAA take to conserve the frosted elfin.

BIOLOGICAL OPINION

DESCRIPTION OF PROPOSED ACTION

As defined in the ESA section 7 regulations (50 CFR 402.02), “action” means “all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by federal agencies in the United States or upon the high seas.”

The following is a summary of the proposed action and a detailed description and maps can be found in the BA.

The County is proposing several Airport Projects at the Airport in the Town of Milton, Saratoga County, New York (Figures 1a and 1b). Several components are likely to adversely affect the Karner blue butterfly and mitigation efforts are also included to help offset impacts (see below).

The FAA is the lead federal agency for the evaluation and approval of the Project. The proposed action will be funded by a variety of sources including FAA grants, the County, and New York State Department of Transportation.

The proposed action includes the following components and is summarized in Table 1:

- Partial-Parallel Taxiway A Construction;
- Taxiway C Improvements;
- Glider Operations Improvements;
- Wildlife Hazard Management Plan (WHMP) Implementation – Mowing Plan Revisions;
- WHMP Implementation – Perimeter Fence Improvements;
- Land and/or Easement Acquisition Land Use Control and Vegetation Obstruction Removal;
- Off-Airport Habitat Mitigation; and
- Operations and Maintenance done in accordance with the Habitat Management and Protection Plan (HMPP).

Saratoga County Airport, Town of Milton, New York

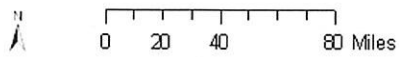
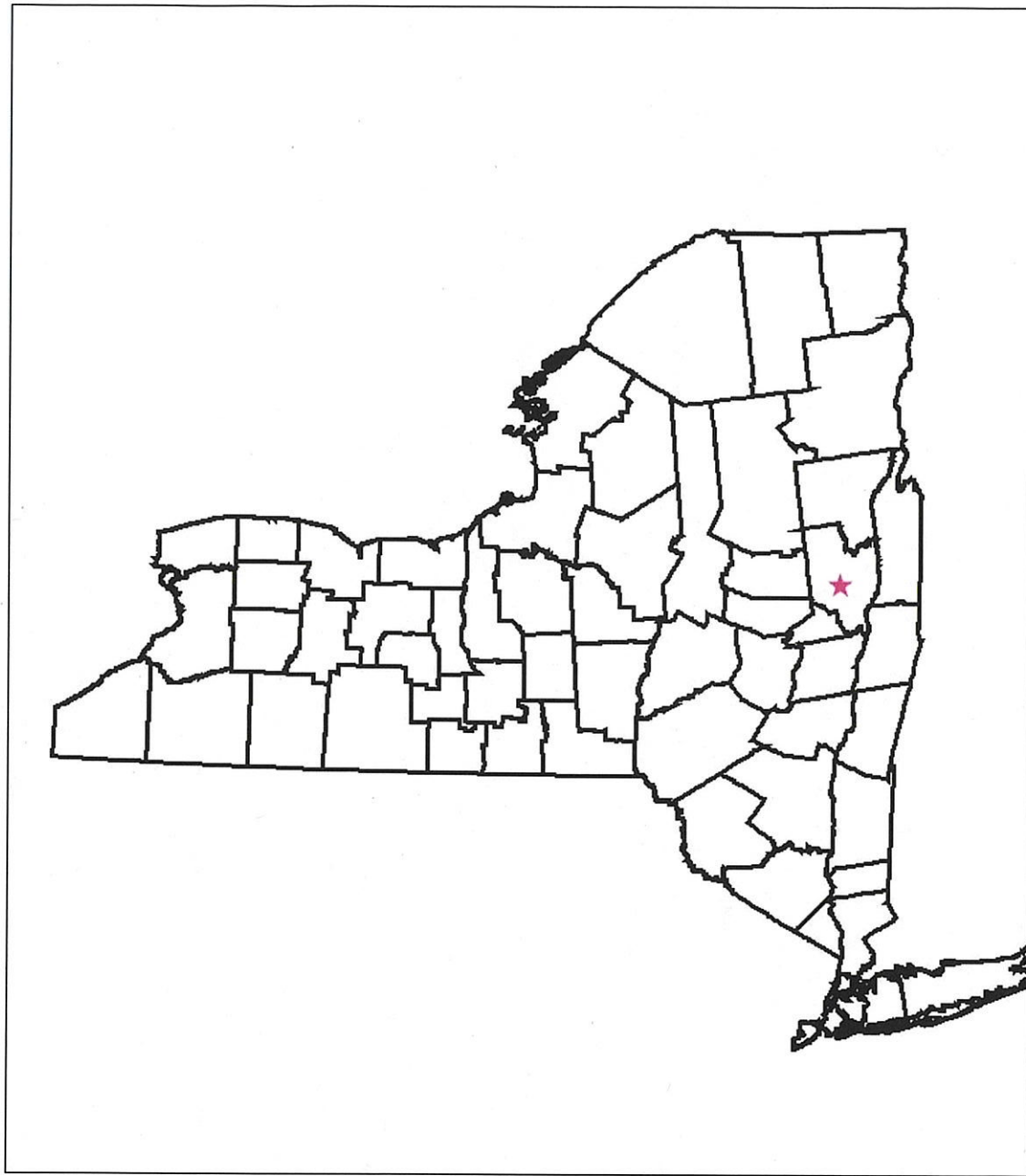


Figure 1a. Location of Saratoga County Airport.

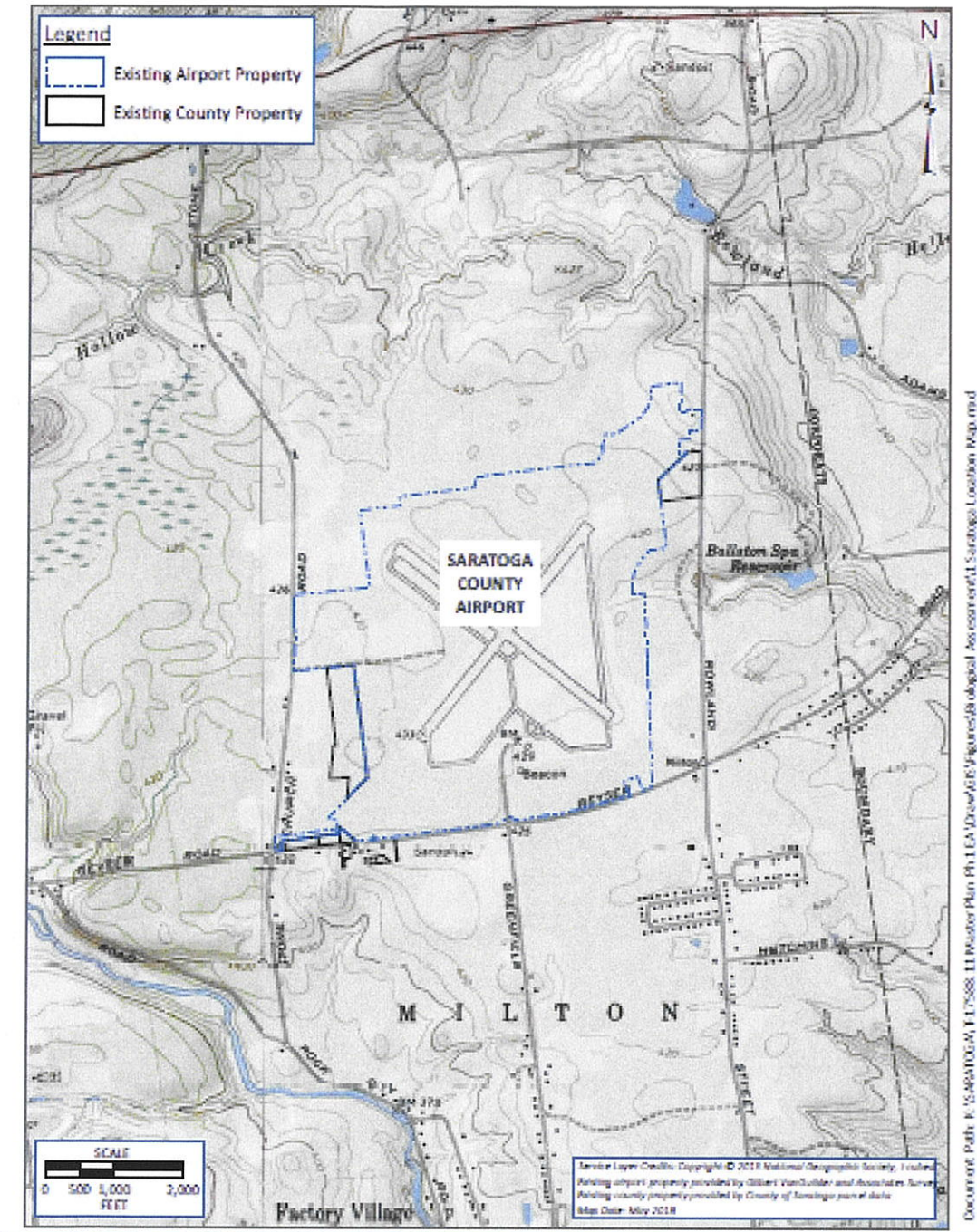


Figure 1b. Location of Saratoga County Airport.

Table 1. Proposed Action Components

Project Title	Project Activity
Partial-Parallel Taxiway A Construction	Construct a 1,650-foot asphalt taxiway, 50 feet wide, on the southeasterly side of Runway 5-23
	Construct stormwater features
	Remove stub taxiway connecting Taxiway B to Runway 32
	Abandon Taxiway D in place - Northern and southern portions will be used as glider staging areas and remainder will be abandoned
	Install and relocate Medium Intensity Taxiway Edge Lighting (MITL) where necessary along the proposed and existing taxiway – 10 feet off pavement
	Remove existing taxiway lighting fixtures from the abandoned taxiways - the lighting conduit and bases will be left in place and caps will be placed over any openings
	Remove taxiway signage for the old taxiways - the signage conduit and foundations will be left in place and caps will be placed over any openings
	Install taxiway signage 32 feet off of pavement for the new taxiway
	Relocate the existing Airport wind sock to the east of the proposed taxiway
	Reseed turf areas with little bluestem
Taxiway C Improvements	Straighten Taxiway C to provide right-angle intersection with Runway 32
	Construct 0.50-acre asphalt taxiway
	Construct stormwater features
	Abandon existing taxiway section between apron and Runway 32 for use by gliders
	Relocate and install MITL
	Remove existing taxiway lighting fixtures from the abandoned taxiways - the lighting conduit and bases will be left in place and caps will be placed over any openings
	Remove taxiway signage for the old taxiways - the signage conduit and foundations will be left in place and caps will be placed over any openings
	Install signage
Reseed turf areas with little bluestem	
Glider Operations Improvements	Construct an approximate 0.38-acre turf run-up/glider staging area at the current bend in Taxiway C
	Install retroreflective markers on the edge of the run-up area, between the proposed Taxiway C and the glider run-up area
	Reseed turf areas with little bluestem

Project Title	Project Activity
Mowing Plan Revisions	Conduct annual mowing operations (unrestricted) of 67.47 acres of runway safety areas (RSA) and taxiway safety areas (TSA) (Exempt Area ¹)
Perimeter Fence Improvements	Remove 1.2 acres of trees
	Remove existing 6-foot high perimeter fence
	Install 10-foot high chain link fence
	Reseed turf areas with little bluestem
	Mow 8-foot wide grass corridor
Land and/or Easement Acquisition Land Use Control and Vegetation Obstruction Removal	Remove 0.11 acres of trees on Airport property along the perimeter fence on the Runway 32 end
	Remove 15.55 acres of trees of Airport property on the end of runways
Off-Airport Habitat Mitigation	Restore and manage 180 acres of Karner blue butterfly habitat on County-owned property in the Towns of Wilton and Northumberland
Operations and Maintenance	Follow Mowing Plan in HMPP – non-Exempt Area (~226 acres)
	Conduct snow removal following HMPP
	Ensure glider operations follow HMPP

Conservation Measures

In addition to any specific measures discussed above, the following conservation measures will be implemented during construction, operation, and management associated with the Project:

- A construction monitor will be onsite during construction to ensure compliance with the conservation measures;
- Post-mounted signs (4-foot by 8-foot) will be placed at the entrances to the active haul roads (within exempt or temporary construction impact areas) with instructions to remind drivers to remain on existing gravel and paved areas;
- New York State Department of Environmental Conservation (NYSDEC) will be notified prior to commencement of construction activities and immediately after completion of construction. Ongoing coordination with NYSDEC during construction will be conducted if necessary; and
- All construction, operation, and management of activities will be under the management of County personnel.

The HMPP lists additional conservation measures for all operations and maintenance activities at the Airport. For example, the County will:

- Avoid use of machinery on all habitat areas at any time of the year with the exception of those areas and times specifically identified in the HMPP.

¹ Exempt Area – term used to define area of Airport “exempt” from conservation measures (e.g., mowing time of year restrictions)

- Annually instruct its employees of the mowing schedule and the restrictions of driving or parking any vehicles outside of designated areas and will emphasize the importance of adhering to the terms of the HMPP.
- Annually inform Airport tenants about restrictions on operation of aircraft or vehicles off-pavement in undesignated areas.
- Encourage Airport tenants to inform any pilots they are in radio contact with of these restrictions.
- Erect signs at the entrance road advising visitors and pilots that vehicles may be parked only in designated areas and may not be parked off-pavement.
- Request a pilot notification be placed in the FAA Airport Facility Directory regarding restrictions and unauthorized off-pavement operations.
- Mow the rest of the Airport (non-Exempt) between October 15 and December 31.
- Annually ensure gliders tie-down, take off, land, and assemble in approved areas.
- Coordinate with NYSDEC and the Service regarding any changes to operations at the Airport.
- Provide access to NYSDEC to conduct periodic surveys of Karner blue butterflies and frosted elfin butterflies.

ACTION AREA

The Action Area is defined (50 CFR 402.02) as “all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action.” The Service has determined that the Action Area for this Project is the Airport and the off-Airport obstruction removal areas and mitigation areas.

STATUS OF THE SPECIES

Per ESA section 7 regulations (50 CFR 402.14(g)(2)), it is the Service’s responsibility to “evaluate the current status of the listed species or critical habitat.” The Service listed the Karner blue butterfly as endangered on December 14, 1992 (57 FR 59236). This species has been listed as endangered by the State of New York since April 1977. The following is a summary of the Karner blue butterfly’s individual and population needs drawn from the Karner Blue Butterfly Recovery Plan (Recovery Plan) (Service 2003).

The Karner blue butterfly has two broods, or adult flight periods, each year. Eggs that have overwintered from the previous year hatch in April. The larvae feed on wild lupine leaves and mature rapidly. Near the end of May, the larvae pupate and adult Karner blue butterflies emerge very late in May in most years. The adults are typically in flight for the first 10 to 15 days of June when the wild lupine is in bloom. Female Karner blue butterflies lay eggs on or near wild lupine plants. The eggs hatch in about 1 week and the larvae feed for about 3 weeks. They then pupate and the second brood of adults appears about the first or second week of July. This flight of adults lays their eggs among leaf litter or on grass blades at the base of lupines or on lupine pods or stems; these eggs do not hatch until the following spring. Generally, by late August, no adults remain. Cold and/or rainy weather can delay the two flight periods of the butterfly.

In addition to wild lupine, the Karner blue butterfly generally 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. A variety of understory plants serve as nectar sources for the adults.

Since the only known food plant for Karner blue butterfly larvae is wild lupine, the distribution of the Karner blue butterfly is closely tied to the distribution of habitats that support the 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 mid-western states, the habitat is also dry, sandy openings, including openings in oak savannas, jack pine (*Pinus banksiana*) stands, and dune or sandplain communities.

The Karner blue butterfly is an example of a species for which suitable habitat occurs in relatively small areas (or patches) distributed over the landscape. Like other species whose habitat occurs in patches rather than large continuous tracts of land, populations of the Karner blue butterfly 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 of disturbance and succession (Givnish et al. 1988, Schweitzer 1989).

To preserve species with patch 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. 1998). Various research has shown dispersal of the Karner blue butterfly to range from about 200 yards (about 600 feet) to about 2 miles. Recent research has described most dispersal activity to occur within approximately 300 meters (328 yards) of occupied habitat (Dorian, unpublished data). Open linear areas such as road and railroad right-of-ways, utility corridors, and forest roads and trails can serve as dispersal corridors for the Karner blue butterfly allowing them to re-colonize or colonize wild lupine patches.

To assess the current status of the species, it is helpful to first understand the species' conservation needs which are generally described in terms of reproduction, numbers, and distribution (RND). The Service has more recently characterized RND for a given species via the conservation principles of resiliency (ability of species/populations to withstand stochastic events which is measured in metrics such as numbers, growth rates), redundancy (ability of a species to withstand catastrophic events which is measured in metrics such as number of populations and their distribution), and representation (variation/ability of a species to adapt to changing conditions which may include behavioral, morphological, genetics, or other variation) (collectively known as the three Rs) (Shaffer et al. 2002; Wolf et al. 2015; Smith et al. 2018).

Thirteen ecological regions or recovery units and six potential recovery units² are identified in the Recovery Plan (Figure 2).

² Recovery Units are designed to address redundancy (multiple units and multiple populations within units) and representation (units are broadly distributed across the range).

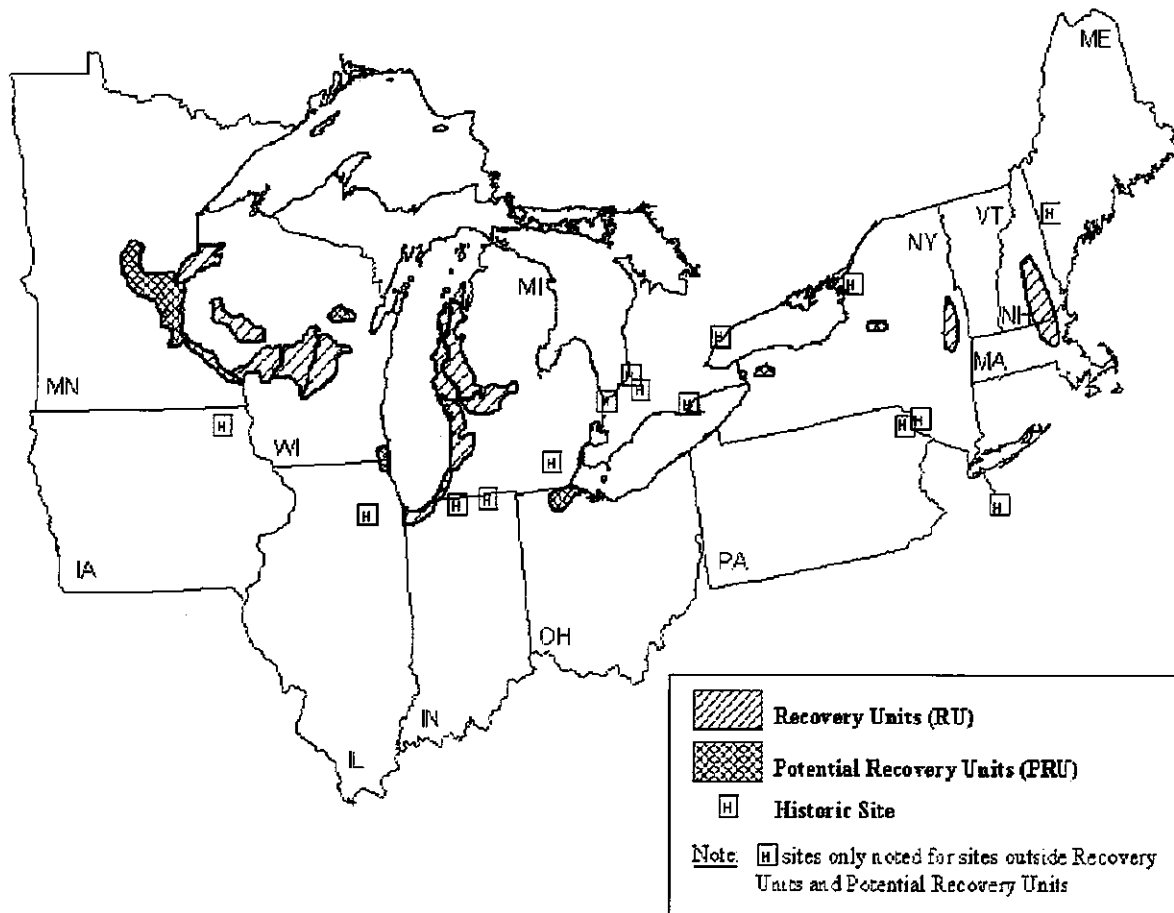


Figure 2. Karner Blue Butterfly Recovery Units (Service 2003).

The criteria (summarized) for reclassification from endangered to threatened status are:

1. Establish a minimum of 27 metapopulations (19 viable populations (VP) and 8 large viable populations (LP))³ of Karner blues in the 13 specified recovery units; and
2. Each VP shall have:
 - a. a management and monitoring plan;
 - b. a sufficient number of individuals in an appropriate metapopulation structure, maintained for at least 5 consecutive years. The number of individuals shall be at least 3,000 first or second brood adults in the final year of evaluation and in 4 of the 5 years overall. In all years, the number of adults shall be greater than 1,500 in one of either the first or second brood. In some circumstances the 3,000 level may be too high or too low (refer to Appendix E of the Recovery Plan); and
 - c. connectivity between subpopulations so that the average nearest-neighbor distance between subpopulations is no more than 1 kilometer (0.62 miles), and the

³ Defining characteristics of populations addresses population resiliency.

maximum distance between subpopulations is no greater than 2 kilometers (1.24 miles). In some cases the 1 kilometer dispersal distance may be too far.

3. Each LP shall have in addition to Criterion 2:
 - a. a larger areal extent and more suitable habitat than required for a minimum VP (~640 acres of suitable habitat within a 10 square-mile area);
 - b. a more robust metapopulation structure with larger numbers of individuals than a VP, specifically:
 - i. connectivity between subpopulations so that the average nearest-neighbor distance between subpopulations is no more than 1 kilometer (0.62 miles), and the maximum distance between subpopulations is no greater than 2 kilometers (1.24 miles).
 - ii. at least 6,000 adult butterflies maintained for at least 5 consecutive years. At least 6,000 first or second brood adults shall be present in the final year of evaluation and in 4 of the 5 years overall;
 - b. reduced monitoring and management requirements compared to those required for a VP.

Delisting will be considered when a minimum of 29 metapopulations (13 VP and 16 LP) have been established within at least 13 recovery units and are being managed consistent with the plan. The remainder of criteria for delisting are the same with the addition that each viable population shall be demonstrably self-reproducing, shall be maintained at or above minimum allowable population sizes, and shall be managed and monitored under the specific management and monitoring plans for at least 10 consecutive years.

The primary actions to address these criteria include protecting and managing Karner blue butterflies and their habitat, monitoring populations, implementing translocations where appropriate, developing and implementing outreach and education, and conducting priority research.

Now that we have described the species basic needs, we can assess its current condition. At the time of listing, the Karner blue butterfly occurred in eight states and was considered extirpated in Iowa, Pennsylvania, Massachusetts, and Maine, as well as the province of Ontario. As of November 2018, Karner blue butterflies are known to occur in five states and are considered extirpated in Illinois, Indiana, and Minnesota (Service unpublished data). In Indiana, the last observation was in 2014 and only two individuals were found. In Illinois, very low numbers of Karner blue butterflies were observed only twice (in 1992 and 2001) at one site and not seen since. In Minnesota, in 2011 no Karner blue butterflies were found for the first time at that state's only known site, and have not been recorded since. Despite this, the rangewide distribution of Karner blue butterflies has not changed much since the species was listed with populations spread from New Hampshire to Wisconsin.

The distribution of Karner blue butterflies within each extant state has also generally remained the same. An exception is in Michigan where the range and number of Karner blue butterfly occurrences have increased since listing (Service 2012). In addition, in New York, Karner blue butterflies are no longer known from Schenectady County due to the loss of one small, isolated occurrence (Service 2012). However, habitat has been restored and expanded in Albany and Saratoga Counties.

Between 2017 and 2018, populations are increasing in some areas (e.g., Michigan, Albany Pine Bush in New York) while populations in others (e.g., Ohio, New Hampshire) seem stable and others (e.g., Wisconsin) are demonstrating a decline (Service unpublished data). While overall abundance declined in Wisconsin in 2018, estimated abundance from distance-sampling sites was still approximately 32,000 butterflies (Service unpublished data) and the number of populations has increased since listing (Service 2012). The primary factors influencing the status of the species include loss of habitat due to natural succession, lack of management, invasive species, and commercial, industrial, and residential development. These threats persist in all states. Impacts related to climate change also appear to be starting with the presence of third brood butterflies noted in most states. These butterflies have been smaller in size with less capacity for eggs than larger butterflies. In summary, as a whole, the rangewide status of the species appears to be stable (with some populations improving and others declining) and the Service recommended maintaining the current classification as an endangered species in its last 5-year review (Service 2012). For a more detailed account of the species description, life history, population dynamics, threats, and conservation needs, refer to <https://ecos.fws.gov/ecp0/profile/speciesProfile?slid=6656>.

Status of the Species Within Glacial Lake Albany Recovery Unit

One of the Karner blue butterfly recovery units is in New York and includes the area between Glens Falls and the Albany Pine Bush and is named the Glacial Lake Albany Recovery Unit (GLARU) (Figure 3). Two additional areas are considered “potential recovery units” in central and western New York (Rome Sand Plains and Tonawanda Potential Recovery Units). There are no recovery criteria for “potential recovery units” as they are not required for meeting the overall conservation needs for the species. However, if a VP is established in either “potential recovery unit”, it can count toward one VP in the GLARU. There are no extant Karner blue butterfly sites in either “potential recovery unit” in New York. Within the GLARU, three metapopulation (VP) areas are recommended under criterion #1. The Albany Pine Bush, Saratoga West, Queensbury, and Saratoga Sandplains have been described as potential locations for VPs within the GLARU. Only two of these metapopulations have met any of the criteria to be considered a VP to date (see below).

Within the GLARU, there are approximately 29 Karner blue butterfly sub-populations spread across the 4 metapopulations (Service 2012). Two have stable to declining numbers of Karner blue butterflies (Saratoga West and Queensbury and two are considered stable to improving (Albany Pine Bush and Saratoga Sandplains). The Airport is located within the Saratoga West metapopulation in which there are few sub-populations (9) with poor connectivity to each other and with little management except for at the Airport and a state park (Saratoga Spa State Park). The Queensbury population has a similar number of small sub-populations focused along power line rights-of-way. National Grid has developed a habitat conservation plan and received an incidental take permit to address impacts from their operations and management that includes habitat restoration and management within a segment of this population as well as other locations in the GLARU.

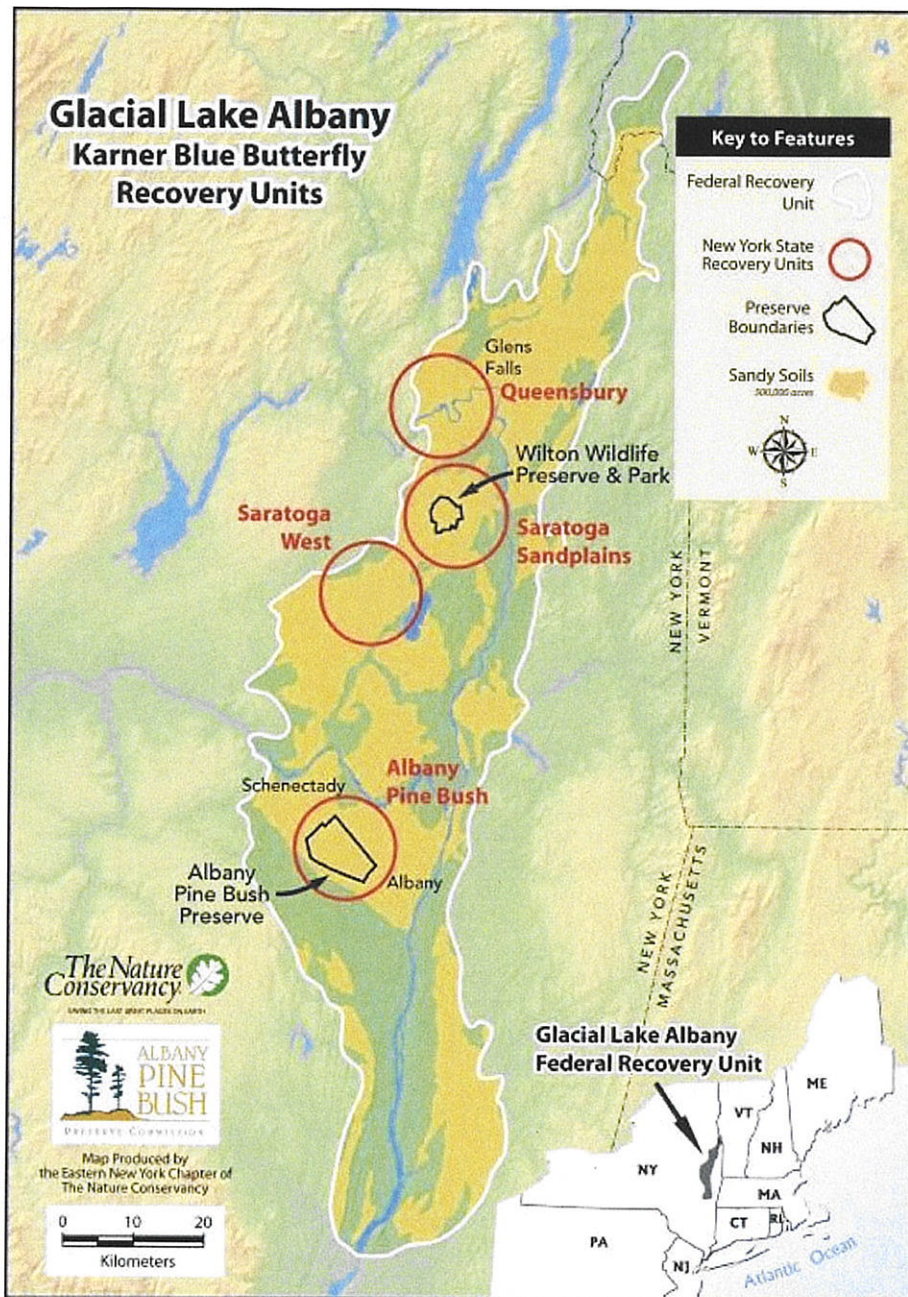


Figure 3. Karner Blue Butterfly Populations in the GLARU (APBPC).

At the time of the last 5-year review, the Saratoga Sandplains metapopulation supported the largest Karner blue butterfly population in the eastern United States (>20,000 butterflies) (Service 2012). Habitat has increased significantly at this site, from 5 acres to approximately 140 acres over the past 15 years. Restoration work, consisting of land acquisition, tree clearing, planting, and mowing resulted in a dramatic population increase from less than 1,000 Karner blue butterflies in 2003 to more than 20,000 butterflies in 2010 (Service 2012). Peak counts associated with distance sampling estimates continued to increase in 2011-2016; however, 2017 counts were down at the few sites surveyed (NYSDEC 2018). Population estimates derived from these counts are not yet available but they are similar or higher than 2011-2013 counts.

The Albany Pine Bush metapopulation has also increased in recent years. In 2017, the Albany Pine Bush Preserve Commission (APBPC) estimated that the first flight supported 6,170 adults and the second flight contained 11,780 butterflies (Gifford 2018). In 2018, the first flight exceeded 5,000 adults and the second flight exceeded 10,000 butterflies with one third of sites monitored (N. Gifford, pers. comm.). The most recent survey year marks the sixth consecutive year that the Albany Pine Bush metapopulation exceeded the Recovery Plan population target (3,000 adults in either the first or second brood), and the fourth time it exceeded the population target set by APBPC (7,640 adults) (Gifford 2018, N. Gifford, pers. comm.) (Figure 4). There are currently over 700 acres of potentially occupied lupine habitat within Albany Pine Bush (N. Gifford, pers. comm.).

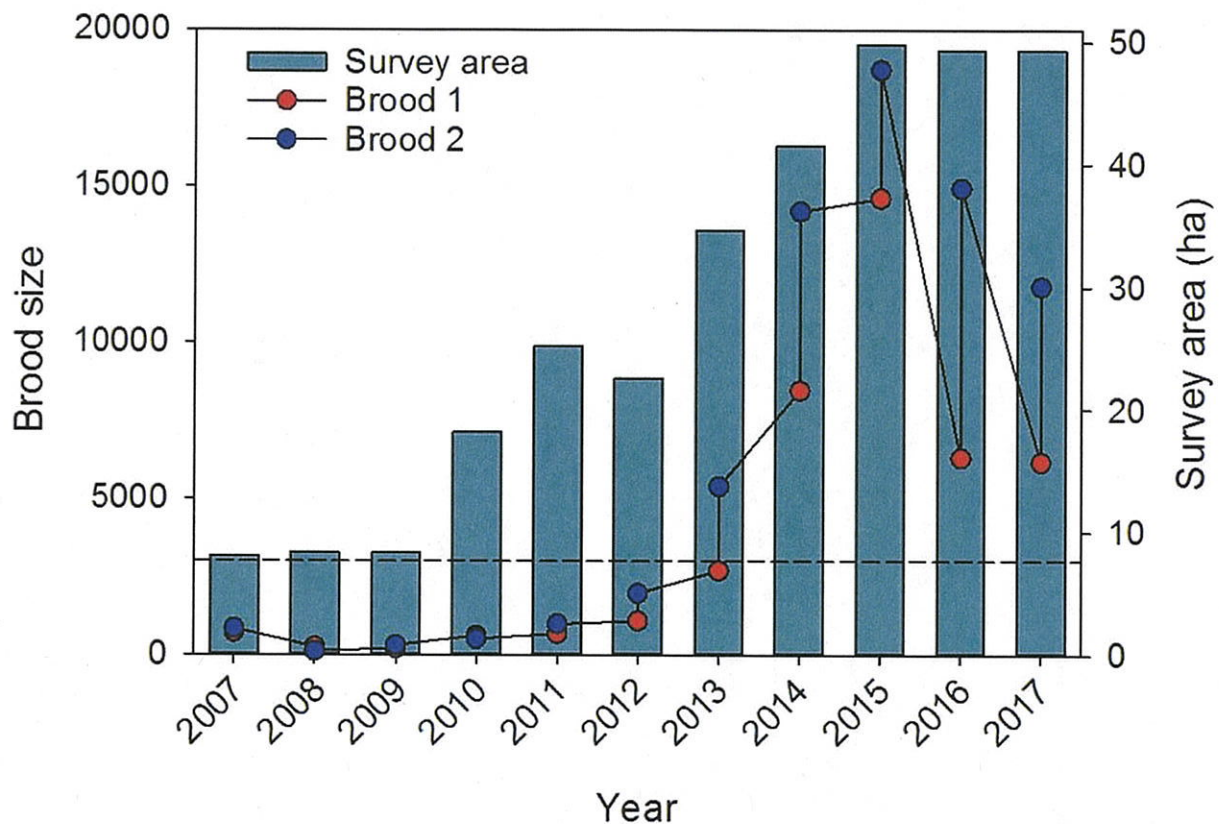


Figure 4. Brood size estimates of the Karner blue butterfly metapopulation at the Albany Pine Bush recovery unit, 2007-2017 (from Gifford 2018).

In summary, the status of the Karner blue butterfly is improving in the GLARU with these improvements focused in the Albany Pine Bush and Saratoga Sandplains populations.

STATUS OF CRITICAL HABITAT

No critical habitat has been designated for this species.

ENVIRONMENTAL BASELINE

Regulations implementing the ESA (50 CFR 402.02) define the environmental baseline as the past and present impacts of all federal, state, or private actions and other human activities in the Action Area. Also included in the environmental baseline are the anticipated and/or ongoing impacts of all proposed federal projects in the Action Area that have undergone section 7 consultation, and the impacts of state and private actions which are contemporaneous with the consultation in progress.

Status of the Species Within the Action Area

As noted above, there are approximately 29 Karner blue butterfly sub-populations in New York spread across the 4 populations. The Airport is located within the Saratoga West population and the mitigation areas are located within the Saratoga Sandplains population.

Saratoga West

In addition to the Airport, eight other sub-populations are located in the Saratoga West population (Geyser Road Dune Cut, Geyser Road Railroad, Geyser Road/Rowland Street, Rowland Street PROW, Rowland Street West, Hutchins Road, Route 145 Sandpit, Saratoga Spa State Park). The closest two sub-populations to the Airport are powerlines approximately 250-300 meters (328 yards) away, with the remaining sub-populations located much farther away. While the Airport is approximately 293 acres in size, most sub-populations in Saratoga West are small (4-6 acres). Occupied Karner blue butterfly sites in this population are considered highly fragmented due to development, and in some cases by wetlands, with power line corridors providing some of the only available connectivity between patches of suitable habitat.

Karner blue butterflies at the Airport have been monitored by the NYSDEC for many years. At the time of listing, the Airport was considered one of the most important sub-populations for Karner blue butterflies in New York, simply based on number of observed adult butterflies. However, the Airport has experienced reduced numbers of Karner blue butterflies since then, likely due to its habitat. The Airport site is homogenous in terms of habitat characteristics (very open with little to no diversity in structure or topography) and does not have many of the elements currently considered important for long-term population viability (e.g., overstory cover, shade heterogeneity) (Bried et al. 2006, Bried et al. 2014). This homogeneity decreases the Karner blue butterflies' ability to survive weather events such as frosts or high winds. In addition, the nectar is poorly distributed throughout the site. Nearby Karner blue butterfly patches have an uncertain future given their lack of management. In addition, we have limited opportunities to create new habitat patches near the Airport at this time due to Airport operational needs.

In the past, the NYSDEC conducted transect surveys at the Airport each year. The counts from these transects do not represent the true population size; rather, they are an index to compare relative counts from year to year. Peak second brood counts from transects ranged from a high of 938 in 2004 to a low of 29 (Figure 5).

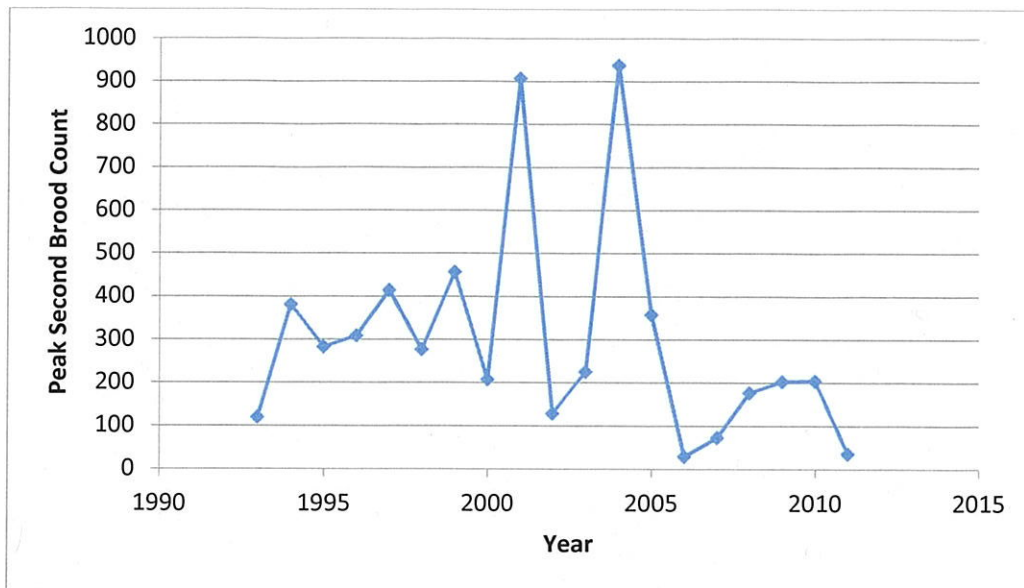


Figure 5. Peak second brood Karner blue butterfly transect counts at the Saratoga County Airport.

Distance sampling methods were conducted in 2007-2016 to better estimate population size. Peak second brood counts during efforts between 2011 and 2016 ranged from 2 in 2013 to 140 in 2014 (Figure 6). While not exactly comparable with the transect counts, they remain far below the high count in 2004 and have been hovering around less than 150 for more than 12 years.

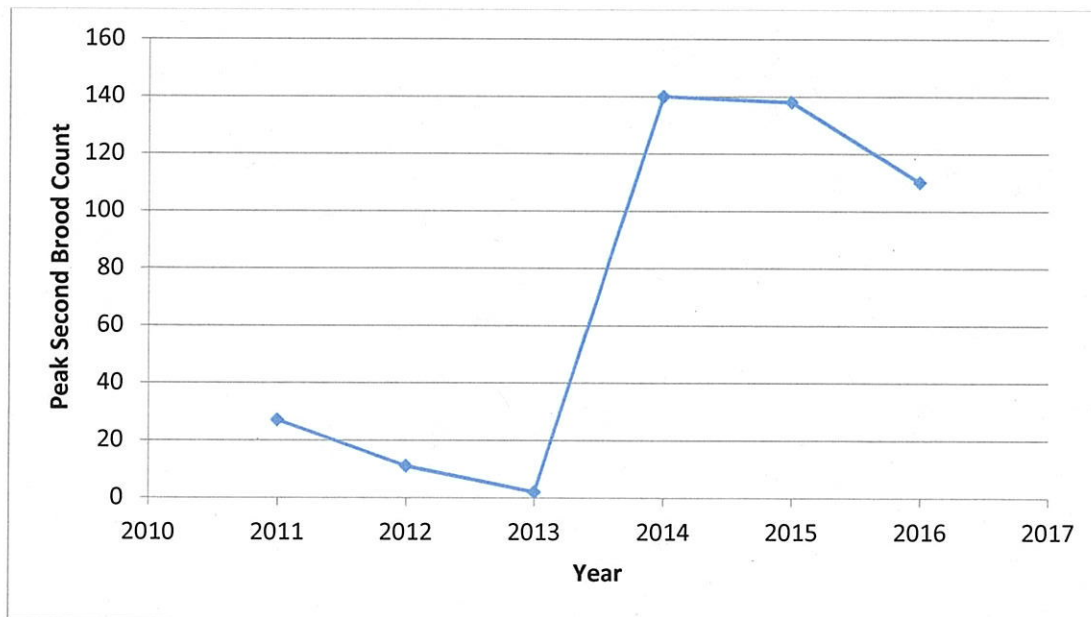


Figure 6. Peak second brood Karner blue butterfly counts associated with distance sampling at the Saratoga County Airport.

No counts were conducted in 2017 or 2018, but NYSDEC plans to conduct counts in 2019 (K. O'Brien, pers. comm.). Due to the crash in numbers observed in 2006, increasing

development pressures at the airport, and the low probability of increasing the land base to support additional populations, the NYSDEC began to reevaluate the likelihood of achieving a VP in Saratoga West in 2015 (NYSDEC 2016).

Saratoga Sandplains

The proposed habitat mitigation areas are located approximately 9 miles northeast of the Airport within the Saratoga Sandplains metapopulation (Figure 3). The acreage of restored habitat and numbers of observed adult Karner blue butterflies in the Saratoga Sandplains has been steadily increasing over the past approximately 15 years. As discussed above, habitat restoration efforts have been underway since the early 2000s to increase Karner blue butterfly habitat from 5 acres to over approximately 140 acres. Peak counts associated with distance sampling estimates continued to increase in 2011-2016 (NYSDEC 2018) (Figure 7).

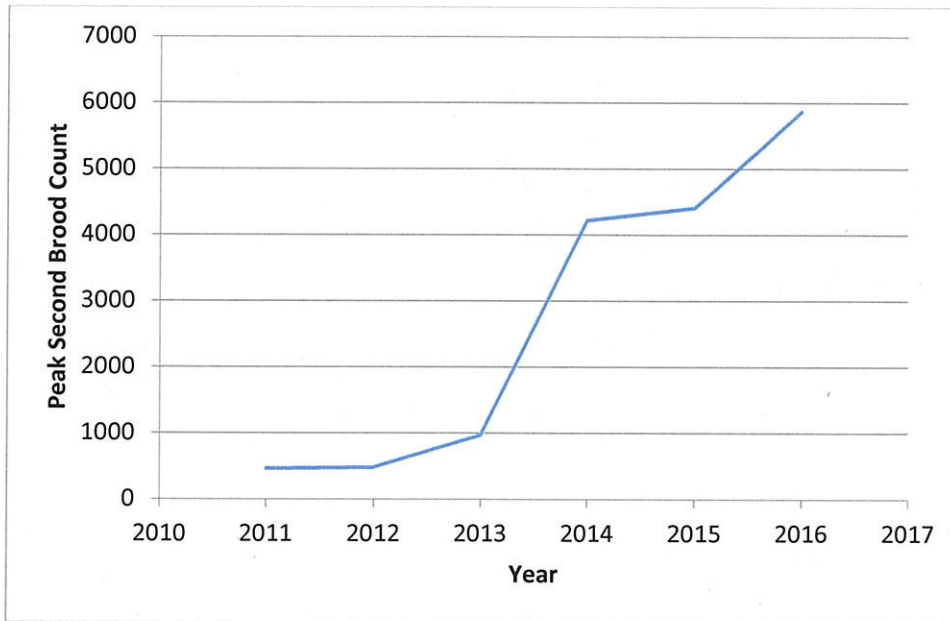


Figure 7. Peak second brood Karner blue butterfly counts associated with distance sampling at Saratoga Sandplains sites.

Summary

In summary, the status of the Karner blue butterfly is improving within one population and declining within another within the Action Area. The overall assessment of the Action Area is that the status of the Karner blue butterfly is improving with significant gains towards meeting recovery needs in the Saratoga Sandplains.

EFFECTS OF THE ACTION

Direct effects are the direct or immediate effects of the project on the species, its habitat, or designated/proposed critical habitat. Indirect effects are defined as those that are caused by the

proposed action and are later in time, but still are reasonably certain to occur (50 CFR 402.02). An interrelated activity is an activity that is part of the proposed action and depends on the proposed action for its justification. An interdependent activity is an activity that has no independent utility apart from the action under consultation. Direct and indirect effects of the proposed action along with the effects of interrelated/interdependent activities are all considered together as the “effects of the action.”

The potential effects of the proposed action are summarized in Table 2 and further described in Appendix B. Two components are not anticipated to result in any adverse impacts (Land and/or Easement Acquisition Land Use Control and Vegetation Obstruction Removal and Perimeter Fence Replacement Phase 1) as they are outside of Karner blue butterfly habitat and will not be further discussed in this Opinion. All other components of the Project have been identified as having the potential to affect the Karner blue butterfly (Appendix B) as a result of the initial disturbance and permanent removal of occupied and potential habitat or the temporary disturbance of occupied and potential habitat. Since some life stages of the Karner blue butterfly (eggs, larvae, pupae, or adults) are present year-round in occupied habitat, those activities affecting occupied habitat, either permanently or temporarily, will result in the taking (kill) of Karner blue butterfly eggs, larvae, pupae, or adults, depending on the time of year of the disturbance to the habitat. In addition, for activities that result in permanent loss of habitat, or in the case of unrestricted mowing, continually make the habitat unavailable to Karner blue butterflies, harm of Karner blue butterflies is anticipated. Because Karner blue butterflies are tied to specific habitat requirements, the removal of those habitat features results in a loss of feeding, breeding, and sheltering habitat. The core lupine areas at the Airport will be impacted by the Project, pushing any surviving butterflies into suboptimal habitat. Limited lupine patches will result in fewer areas to successfully find mates. Fewer lupine patches will provide reduced resources for egg-laying and larval feeding. Ongoing mowing of the non-exempt areas (most of the Airport) will continue. This mowing is anticipated to provide an overall benefit to the species by helping to maintain the suitability of the habitat at the site which otherwise would become unsuitable for lupine and Karner blue butterflies over time, as a result of vegetation succession. Pursuant to the HMPP, mowing will be done once per year between October 15 and December 31 and mowing blades will be set to between 6 and 8 inches high to minimize the adverse effects. Karner blue butterfly eggs will be the only life stage present at that time and not all eggs are anticipated to be impacted.

Off-airport habitat mitigation will benefit Karner blue butterflies by expanding suitable habitat patches in proximity to existing habitat. However, once butterflies are repatriated to restored lands by natural expansion from nearby occurrences, management activities required to maintain suitable habitat may result in some take of individual butterflies (egg, larvae, pupae, or adult) or temporary short-term degradation of habitat. Conservation measures (e.g., time-of-year restrictions) to minimize potentially negative effects of any management activities are or will be included as part of the mitigation plans that will be developed with a future FAA grant. Although management activities will still cause unavoidable take of eggs in occupied habitat, the overall benefits of restoring and maintaining suitable habitat conditions far outweigh the adverse effects.

In addition, these short term effects are essential to the long-term survival of the species. Furthermore, an expanded habitat base and increased populations facilitated by these

management activities on the newly restored lands are fundamental to increasing the overall demographic security of this disturbance-dependent species. The increased distribution of butterfly populations is also anticipated to decrease the likelihood that management activities in any one area will impact many individual butterflies.

Table 2. Summary of Project Component Impacts to Karner Blue Butterflies.

Construction/Project Description	Off-site Habitat Creation (Acres)	“Permanent” Impact (Acres)	Impact (recurring but overall beneficial)
Land and/or Easement Acquisition Land Use Control and Vegetation Obstruction Removal (outside of KBB habitat)	---	---	
Perimeter Fence Replacement Phase 1 (outside of KBB habitat)	---	---	
Perimeter Fence Replacement Phase 2	---	3.64	
Partial-Parallel Taxiway A	---	4.68	
Mowing Plan (All TSAs & RW 23 RSA)	---	36	
Mowing Plan (RW 14-32 & RW 5 RSAs)	---	31.47	
Taxiway C Improvements	---	0.81	
Glider Staging/Run-Up Area	---	0.38	
Habitat Mitigation Construction Phase 1 (South Site)	24	---	
Habitat Mitigation Construction Phase 2 (North Site)	74	---	
Habitat Mitigation Construction Phase 3 (East Site)	82	---	
Total – New Impacts	180	76.98	
Mowing Plan – ongoing mowing of non-Exempt Areas			~222

CUMULATIVE EFFECTS

Cumulative effects are those “effects of future State or private activities, not involving federal activities, that are reasonably certain to occur within the Action Area” considered in this Opinion (50 CFR 402.02).

The Service is not aware of any future state, tribal, local, or private actions that are reasonably certain to occur within the Action Area at this time; therefore, no cumulative effects are anticipated.

JEOPARDY AND ADVERSE MODIFICATION ANALYSIS

Section 7(a)(2) of the ESA requires that federal agencies ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat.

Jeopardy Analysis Framework

“Jeopardize the continued existence of” means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR 402.02). The following analysis relies on 4 components: (1) Status of the Species, (2) Environmental Baseline, (3) Effects of the Action, and (4) Cumulative Effects. The jeopardy analysis in this Opinion emphasizes the rangewide survival and recovery needs of the listed species and the role of the Action Area in providing for those needs. It is within this context that we evaluate the significance of the proposed federal action, taken together with cumulative effects, for purposes of making the jeopardy determination.

Analysis for Jeopardy/Adverse Modification

Impacts to Individuals – The proposed action includes the permanent (or equivalent to permanent) removal of approximately 77 acres of occupied Karner blue butterfly habitat. There are two components of the Project that are anticipated to result in overall beneficial effects with periodic, unavoidable adverse impacts. First, during annual mowing of 222 acres of the non-Exempt Area of the Airport; and second, during future management of 180 acres of off-site restored habitat. As discussed in the Effects of the Action, potential effects of the action include effects to the Karner blue butterfly present within the Action Area year-round. Effects generally include death from crushing of individual eggs, larvae, pupae, or adults by equipment and harm to any surviving individuals from removal of habitat. In summary, we anticipate impacts to individual Karner blue butterflies in either their annual survival or reproductive rates.

Impacts to Populations – As we have concluded that individual Karner blue butterflies are likely to experience impacts to their annual survival or reproductive rates, we need to assess the aggregated consequences of the anticipated impacts on the population to which these individuals belong.

Impacts to Saratoga West

As stated above, the Airport is the most significant sub-population within the Saratoga West metapopulation and the rest of the sub-populations are small with limited connectivity. The Project is anticipated to remove or otherwise make unavailable 77 acres of core habitat at the Airport, resulting in a significant reduction in the likelihood of long-term persistence of the

Airport sub-population. The Karner blue butterfly population size is anticipated to decline with smaller numbers of butterflies potentially persisting outside of the Project impact areas (see Table 2). Additional habitat will remain available within approximately 222 acres, but lupine and nectar are sparse in this area. Given the lack of habitat heterogeneity at the Airport and declines in population size since the species was listed, this sub-population's resilience was already fairly low. The additional impacts associated with the Project may result in extirpation over time. Regardless of whether the Project may result in increased risk of extirpation in the future, the likelihood that the Saratoga West metapopulation will contribute to the overall conservation and recovery of the species is low.

Impacts to Saratoga Sandplains

The proposed 180 acres of habitat restoration will occur on existing County lands in the towns of Wilton and Northumberland. The County is an important partner of the Wilton Wildlife Preserve and Park⁴, a local organization whose mission is "to conserve ecological systems and natural settings while providing opportunities for environmental education and outdoor recreation." The sites selected for restoration and management will expand upon the existing 140 acres of available habitat and are intended to meet the acreage goal of suitable habitat for a VP⁵ of 320 acres. By restoring and managing additional habitat, the likelihood that the Saratoga Sandplains metapopulation will contribute to the overall conservation and recovery of the species is high. Once habitat is restored, unavoidable impacts to individual butterflies will occur during periodic management and monitoring activities.

Impacts to Species – As we have concluded that a population of the Karner blue butterfly is likely to experience reductions in fitness, we need to assess the aggregated consequences of the anticipated reductions of the exposed population on the species as a whole.

As we have concluded that one population of the Karner blue butterfly is likely to experience reduction in fitness, we need to assess the aggregated consequences of the anticipated reductions of the exposed population on the species as a whole. To understand the consequences of population-level effects at the species level, we need to understand the RND needs of the species. As discussed in the Status of the Species, to meet the goal of recovery of the Karner blue butterfly, at least 29 healthy metapopulations within 13 recovery units are recommended across the range of the species (Service 2003). Because recovery units have been designated for the Karner blue butterfly, we first will assess the consequences of these impacts at the recovery unit level. As discussed in the Status of the Species, at least 3 healthy metapopulations are recommended within the GLARU (Service 2003). Prior to this Project, the GLARU status was considered increasing. The Albany Pine Bush metapopulation is on track to meet LP targets rather than VP targets of the Recovery Plan. The Saratoga Sandplains metapopulation has met numerical targets for a LP for several years but does not yet have sufficient habitat to spread the risk of stochastic events across multiple sub-populations. The Project is anticipated to impact two of the GLARU metapopulations, resulting in a continued decline of the Saratoga West

⁴Information available at <http://www.wiltonpreserve.org/> accessed November 1, 2018.

⁵ No specific acreage goal is stated in the Recovery Plan. However, a LP has a minimum goal of 6,000 adult butterflies and 640 acres. Therefore, with a VP goal of 3,000 adult butterflies, we are targeting at least 320 acres of suitable habitat for a VP.

metapopulation but a significant increase in the Saratoga Sandplains metapopulation by bolstering habitat conditions to levels anticipated to be sufficient for a VP.

The concept of recommending at least three metapopulations within the GLARU was intended to help improve redundancy (number of healthy metapopulations) for the Karner blue butterfly. Having multiple metapopulations spread across the range reduces the risk that the species may be adversely affected by catastrophic events. The Project will reduce the likelihood that the Saratoga West population will be healthy over time. An ultimate loss of the Saratoga West metapopulation would reduce the number of reproducing metapopulations of Karner blue butterflies across the range but it would not reduce the distribution in New York, GLARU, or the species as a whole.

The Saratoga West metapopulation does not represent any unique behavioral, genetic, or morphological variation (representation) that we are aware of. In fact, subpopulations within this metapopulation are only 3.5 miles from the nearest Saratoga Sandplains subpopulations. These two metapopulations include a similar latitudinal gradient experiencing similar weather events and potential climate shifts over time. The continued reduction in health in the Saratoga West metapopulation has been observed over the past 12 years. There are limited opportunities to change this trajectory without significant changes to management at the Airport, which is counter to the proposed measures recommended for increased public safety.

Focusing efforts on the Saratoga Sandplains metapopulation will help ensure its long term health and will greatly increase the likelihood of meeting recovery goals for the species. In addition, the Albany Pine Bush metapopulation has exceeded population targets for a LP. Overall, the GLARU is anticipated to have at least two healthy Karner blue butterfly metapopulations (one VP and one LP) after this Project is implemented.

CONCLUSION

We considered the current overall stable rangewide status of the Karner blue butterfly (improving in some metapopulations and declining in others), the improving status of the GLARU, and the declining condition of the species within the Action Area (environmental baseline). We then assessed the effects of the proposed action and the potential for cumulative effects in the Action Area on individuals, populations, and the species as a whole. As stated in the Jeopardy Analysis, we do not anticipate any reductions in the overall RND of the Karner blue butterfly. It is the Service's Opinion that the Project, as proposed, is not likely to jeopardize the continued existence of the Karner blue butterfly.

INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without a special exemption. Take is defined in section 3 of the ESA 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 (50 CFR § 17.3). 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 ESA provided that such taking is in compliance with the terms and conditions of this incidental take statement (ITS).

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

AMOUNT OR EXTENT OF TAKE ANTICIPATED

50 CFR 402.14(i)(1)(i) states that surrogates may be used to express the amount or extent of anticipated take provided the Opinion or ITS: (1) describes the causal link between the surrogate and take of the listed species; (2) describes why it is not practical to express the amount of anticipated take or to monitor take-related impacts in terms of individuals of the listed species; and (3) sets a clear standard for determining when the amount or extent of the taking has been exceeded.

The following ITS will use acres of habitat as a surrogate because determining the exact numerical limits on the amount of incidental take are not practical. In this situation, acres of habitat impacted will serve as a reasonable and appropriate surrogate for incidental take of the Karner blue butterfly because any activities within suitable habitat will directly and indirectly cause the anticipated incidental take within the bounds of the identified acres of habitat.

The ESA does not require use of precise, empirical scientific data to make decisions, but instead requires use of the best available scientific and commercial data to make determinations within specified statutory time frames. Therefore, when lacking empirical data, the Service must make science-based assumptions in its decision-making process. This is often the case when the Service must complete its effects analysis, jeopardy and adverse modification determinations, and ITS based on data that is incomplete, and lacks site-specific, empirical data.

For the Karner blue butterfly, it is not practical to express the amount of anticipated take in terms of individuals because there is no density or abundance estimate for the portion of the Action Area where take is anticipated. As a result, predicting the precise number of individuals that will be taken is not possible. Additionally, it is not practical to monitor take-related impacts in terms of individual Karner blue butterflies for the following reasons: 1) the Karner blue butterfly has a small body size making it difficult to locate, which makes encountering dead or injured individuals unlikely; 2) the Karner blue butterfly has a delicate anatomical structure making it unlikely to actually relocate a dead specimen; and 3) losses may be masked by annual fluctuations in numbers.

However, because the location, timing, and acreage of habitat impacts can be readily identified, measured, and monitored, this surrogate is the most reasonable means for detecting when take may be exceeded. While working outside of the evaluated parameters (e.g., work zones, seasonal or timing restrictions, and specified acreages) does not automatically mean that take has been exceeded, these events provide a clear trigger that requires the FAA to reinstate consultation, during which the Service will determine whether incidental take has been exceeded since detection of individuals taken, as described above, is not practical.

The anticipated take is described in Table 2 below.

Table 2. Amount and type of anticipated incidental take of Karner blue butterfly.

Amount of Take Anticipated (Surrogate)	Life Stage when Take is Anticipated	Type of Take	Take is Anticipated as a Result of
76.98 acres	All	Harm	Loss of habitat at Airport (permanent or recurring disturbance rendering habitat lost).
76.98 acres (same location as above)	All	Kill	Crushing during construction activities at Airport.
222 acres in non-Exempt Area	Eggs	Kill	Crushing due to annual mowing at Airport (between October 15 and December 31)
180 acres	All	Kill	Crushing during restoration activities on Off-Airport mitigation lands after habitat is restored and Karner blue butterflies begin using the habitat.

REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take of Karner blue butterflies:

1. Ensure success of mitigation restoration prior to initiation of any component of the revised mowing plan.
2. Ensure permanent management and stewardship of the mitigation sites.

TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of the ESA, the FAA 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 nondiscretionary.

1. Provide a draft Mitigation Management and Protection Plan (MMPP) to Service and NYSDEC for review and approval **no later than 6 months following** the Off-Airport Mitigation (design) FAA grant approval.
2. The MMPP shall include details on:
 - a. proposed restoration strategy
 - b. timing of all aspects of initial restoration (e.g., barriers to ATVs, clearing, grubbing, planting, signage)
 - c. who will do each aspect of restoration (County or contractor)
 - d. proposed seed mix and rate
 - e. lupine seed collection plan – location, percentage collected at any given site so as not to impact a Karner blue butterfly or frosted elfin population present, measures for avoiding larvae on pods – if submitting a partial plan for seed collection, it will be provided by April 30, 2019
 - f. nectar/grass seed sources – if collecting locally, provide location, percentage collected at any given site so as not to impact a Karner blue butterfly or frosted elfin population present, if submitting a partial plan for seed purchase and/or collection, it will be provided by April 30, 2019
 - g. habitat monitoring
 - success criteria for restoration
 - i. who will conduct (consultant with Karner blue butterfly knowledge and NYSDEC endangered species collector’s permit)
 - ii. timing (e.g., annual for first 3 years)
 - h. butterfly monitoring
 - i. who will conduct (consultant with Karner blue butterfly knowledge and NYSDEC endangered species collector’s permit)
 - ii. methods
 - iii. timing (e.g., every 2 years)
 - i. future maintenance
 - i. who will conduct (e.g., County staff)
 - ii. timing (e.g., routine cycle for mowing, herbicide, etc.)
 - j. permanent protection
 - i. will County retain ownership
 - ii. plans for ATV or other trespass management and enforcement
3. Provide revised Table 8 from the BA to Service and NYSDEC no later than 6 months following the Off-Airport Mitigation (design) FAA grant approval, detailing conceptual proposed Project timing and duration in light of lag time for restoration success.
4. Ensure all mitigation sites meet success criteria (Bried et al. 2014) (“good” or “very good”) prior to initiation of any component of the revised mowing plan. It generally takes up to 3 years for sites to have wild lupine, nectar, and grasses, and for Karner blue butterfly colonization.

MONITORING AND REPORTING REQUIREMENTS

1. The FAA or the County (if designated by the FAA) shall notify the Service and the NYSDEC, in writing, regarding the projected and actual start dates, progress, and completion, to the extent known, of Project activities and verify that the location, timing,

and acreage of Karner blue butterfly habitat authorized for activities was not exceeded, and all conservation measures were followed, in a report, by **December 31st annually**.

2. The FAA or the County (if designated by the FAA) shall provide the Service and the NYSDEC, in writing, habitat and Karner blue butterfly monitoring reports in accordance with MMPP (see above).
3. The FAA or the County (if designated by the FAA) shall notify the Service and the NYSDEC of any unauthorized activities (regardless of who conducted said activities) or emergencies resulting in any adverse impacts not described in the Master Plan and subsequent documents and addressed in this BO. This notification shall be made within 48 hours or sooner, if possible.
4. The FAA shall notify the Service, in writing, **within 60 days** of the date of this BO, whether the FAA or the County shall be responsible for the above reporting requirements.
5. The contact for these reporting requirements is as follows:

David A. Stilwell, Field Supervisor
New York Field Office
U.S. Fish and Wildlife Service
3817 Luker Road
Cortland, NY 13045
Attn: Robyn Niver
robyn_niver@fws.gov
(607) 753-9334

Care must be taken in handling any dead specimens of proposed or listed species to preserve biological material in the best possible state. In conjunction with the preservation of any dead specimens, the finder has the responsibility to ensure that evidence intrinsic to determining the cause of death of the specimen is not unnecessarily disturbed. The finding of dead specimens does not imply enforcement proceedings pursuant to the ESA. The reporting of dead specimens is required to enable the Service to determine if take is reached or exceeded and to ensure that the terms and conditions are appropriate and effective. Upon locating a dead specimen, notify the Service's New York Field Office.

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.

The Service has identified the following actions that, if undertaken by the FAA and/or County, would further the conservation and assist in the recovery of the Karner blue butterfly.

1. The FAA and the County should continue to coordinate with the Service and the NYSDEC to promote the conservation and recovery of the Karner blue butterfly within the County.
2. The County should support incorporation of Karner blue butterfly conservation measures in planning, acquisition, and development review throughout the County.

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 initiation 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.

If you have any questions regarding this Opinion, or our shared responsibilities under the ESA, please contact Ms. Robyn Niver, of this office, at 607-299-0620.

Sincerely,



for

David A. Stilwell
Field Supervisor

Enclosures

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Appendix A. CONSULTATION HISTORY SINCE 2011 OPINION

- 8-18-11 Technical Advisory Committee Meeting for the Saratoga County Master Plan Update was held in Ballston Spa. Town, County, NYSDEC, FAA, McFarland-Johnson, Inc., (MJ) and glider clubs attended.
- 1-19-12 The Service attended a TAC Meeting by phone.
- 5-12-12 The Service attended a meeting.
- 1-8-13 The Service received annual update from County regarding 2012 activities covered under the 2011 Opinion.
- 3-8-13 The Service received invitation to April 11, 2013, TAC meeting and 3 additional meetings.
- 4-11-13 The Service attended TAC Meeting by phone.
- 9-30-13 The NYSDEC issued incidental take permit for variety of activities at the Airport.
- 10-29-13 The Service attended TAC Meeting by phone.
- 11-8-13 The Service, FAA, and MJ met in Cortland to discuss Karner blue butterflies.
- 12-31-13 The Service received annual update from County regarding 2013 activities covered under the 2011 Opinion.
- 10-30-14 The Service received the draft Master Plan Report.
- 2-6-15 The Service received annual update from County regarding 2014 activities covered under the 2011 Opinion.
- 11-23-15 The Service, NYSDEC, County, FAA, and MJ attended NEPA kick-off meeting call.
- 11-30-15 The Service received a Memorandum which provided a summary of the November 23, 2015, agency kick-off meeting.
- 12-10-15 The Service received a copy of the Wildlife Hazard Assessment.
- 2-17-16 The Service received the FAA-approved Final WHMP.
- 4-26-16 The Service received annual update from County regarding 2015 activities covered under the 2011 Opinion.

- 5-31-16 The Service received a Memorandum for the Master Plan Phase I EA Habitat Impacts to the agencies for review and discussion purposes at the June 2, 2016, meeting.
- 6-2-16 The Service, NYSDEC, County, FAA, and MJ met at the Saratoga County Department of Public Works offices to further discuss the Proposed Action, EA, protected species and habitat impacts, habitat mitigation, and Section 7 process and scheduling. The meeting was followed by a site visit to the Airport to discuss the proposed EA projects and section 7 process requirements.
- 7-13-16 The Service received an updated Habitat Impacts Memorandum based on discussions held during the June 2, 2016, meeting and a Memorandum which provided a summary of the June 2, 2016, meeting.
- 8-29-16 Email exchanges between NYSDEC and MJ regarding butterfly population at the Airport.
- 10-11-16 Email exchanges between Service, NYSDEC, and MJ regarding content and scheduling of the BA.
- 11-29-16 The Service received annual update from County regarding 2016 activities covered under the 2011 Opinion.
- 1-17-17 The Service received draft BA and initiation of formal consultation from FAA.
- 1-19-17 The Service responded with email requesting a word version of BA and clarified that FAA is not requesting initiation of formal consultation as this is just a draft BA.
- 1-20-17 The FAA responded thanking us and will send word version shortly.
- 1-24-17 The Service received word version of BA from MJ.
- 3-2-17 The Service (New York and Twin Cities Field Offices) and NYSDEC participated in a call to discuss the project and brief the Service's national lead for the KBB.
- 3-13-17 The Service, NYSDEC, and FAA participated in a call to discuss the project in advance of providing comments on the BA.
- 3-22-17 The Service provided comments on draft BA to FAA.
- 4-10-17 The Service and NYSDEC briefed the KBB Recovery Team on project.
- 4-18-17 The NYSDEC sent comments on draft BA to the Service, County, FAA, and MJ.
- 4-18-17 The Service participated in a conference call with NYSDEC, County, FAA, and MJ.

- 10-12-17 The NYSDEC and MJ held a site visit of off-airport mitigation sites to discuss potential habitat mitigation and constraints.
- 1-16-18 The Service participated in a conference call with the NYSDEC, FAA, County, and MJ to discuss proposed off-airport habitat mitigation and timeline for agency review of BA and EA.
- 7-18-18 The Service received BA and request for initiation of formal consultation.
- 7-26-18 The Service received the draft EA.
- 10-2-18 The Service sent a letter to the FAA acknowledging initiation of formal consultation.
- 10-2-18 The Service sent an electronic mail to MJ that the Service has no comments on the draft EA.
- 10-29-18 The Service requested an extension for completion of the Biological Opinion to December 21, 2018.
- 11-1-18 The Service requested shapefiles for the project.
- 11-6-18 The Service received shapefiles for the project.
- 11-6-18 The Service requested an updated Habitat Management Protection Plan (HMPP).
- 11-6-18 The FAA agreed to the Service's requested extension.
- 11-7-18 The Service shared draft reasonable and prudent measures (RPMs) and terms and conditions (TCs) with the FAA, County, NYSDEC, and MJ.
- 11-13-18 The Service participated in a conference call with NYSDEC, County, FAA, and MJ to discuss RPMs and TCs.
- 11-13-18 The Service received comments from MJ on RPMs and TCs.
- 11-26-18 The Service received a revised HMPP.
- 12-4-18 The Service participated in a conference call with NYSDEC, FAA and MJ to discuss RPMs and TCs.

Appendix B. Potential Effects of Project on Karner blue butterflies.

Sub-activity	Resources exposed			Determination (No Effect, Not Likely to Adversely Affect, Likely to Adversely Affect)	
	Resource or Individuals	Life stage	Functions of the Resource (Breeding, Feeding, Sheltering, Migration/ Dispersal)		
Off-Airport Obstruction Removal	NA	NA	NA	NE – no suitable habitat observed in areas proposed for obstruction removal projects	
Perimeter Fence Replacement Phase 1	NA	NA	NA	NE – no suitable habitat observed in areas proposed for obstruction removal projects	
Perimeter Fence Replacement Phase 2	Crushing	Individuals	NA	Death	LAA
	NA	wild lupine, nectar, grasses	Permanent loss	Range of response for individual butterflies from negligible to reduced reproduction from loss of available suitable habitat for breeding, to reduced survival from loss of available suitable habitat for sheltering	LAA

Sub-activity	Resources exposed			Determination (No Effect, Not Likely to Adversely Affect, Likely to Adversely Affect)			
	Resource or Individuals	Life stage	Functions of the Resource (Breeding, Feeding, Sheltering, Migration/ Dispersal)				
Partial-Parallel Taxiway A	Crushing	NA	individuals	All	NA	Death	LAA
	NA	Permanent loss	wild lupine, nectar, grasses	All	B,F,S	Range of response for individual butterflies from negligible to reduced reproduction from loss of available suitable habitat for breeding, to reduced survival from loss of available suitable habitat for sheltering	LAA
Safety Area Mowing Plan	Crushing	NA	Individuals	All	NA	Death	LAA
	NA	Repeated mowing will basically render the area as unavailable to Karner blue butterflies	wild lupine, nectar, grasses	All	B,F,S	Range of response for individual butterflies from negligible to reduced reproduction from loss of available suitable habitat for breeding, to reduced survival from loss of available suitable habitat for sheltering	LAA

Sub-activity	Resources exposed			Determination (No Effect, Not Likely to Adversely Affect, Likely to Adversely Affect)	
	Resource or Individuals	Life stage	Functions of the Resource (Breeding, Feeding, Sheltering, Migration/Dispersal)		
Taxiway C Realignment	Crushing	Individuals	NA	Death	LAA
	NA	wild lupine, nectar, grasses	Permanent loss	Range of response for individual butterflies from negligible to reduced reproduction from loss of available suitable habitat for breeding, to reduced survival from loss of available suitable habitat for sheltering	LAA
Glider Staging/Run-up Area	Crushing	Individuals	NA	Death	LAA
	NA	wild lupine, nectar, grasses	Permanent loss	Range of response for individual butterflies from negligible to reduced reproduction from loss of available suitable habitat for breeding, to reduced survival from loss of available suitable habitat for sheltering	LAA

Sub-activity	Resources exposed			Determination (No Effect, Not Likely to Adversely Affect, Likely to Adversely Affect)			
	Resource or Individuals	Life stage	Functions of the Resource (Breeding, Feeding, Sheltering, Migration/ Dispersal)				
Safety Area Mowing Plan	Crushing	Individuals	All	NA	Death	LAA	
	NA	Repeated mowing will basically render the area as unavailable to Karner blue butterflies	Individuals	will lupine, nectar, grasses	All	B, F, S	Range of response for individual butterflies from negligible to reduced reproduction from loss of available suitable habitat for breeding, to reduced survival from loss of available suitable habitat for sheltering
Off-site KBB Habitat Restoration and Management	Crushing	Individuals	All	NA	Death	LAA	
	NA	Overall beneficial – restoration and management of habitat	All	will lupine, nectar, grasses	B, F, S	Anticipated increase in available habitat. Periodic disturbance in occupied habitat results in unavoidable impacts to individuals but population should increase.	Beneficial

Sub-activity	Resources exposed			Determination (No Effect, Not Likely to Adversely Affect, Likely to Adversely Affect)	
	Resource or Individuals	Life stage	Functions of the Resource (Breeding, Feeding, Sheltering, Migration/ Dispersal)		
Habitat Management and Protection Plan Mowing of Non-Exempt Area	Crushing	NA	NA	LAA	
	NA	Overall neutral to beneficial – management of sparse patches of suitable habitat spread across the Airport	Individuals wild lupine, nectar, grasses	AI	B, F, S
			Death	Anticipated increase in available habitat. Periodic disturbance in occupied habitat results in unavoidable impacts to individuals but habitat should remain for individuals.	Neutral to beneficial

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