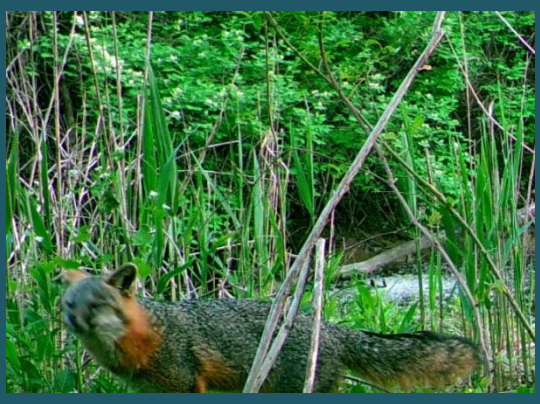
Integrated Natural Resources Management Plan

Hancock Field Air National Guard Base and the Eastern Air Defense Sector Site

May 2022



Air National Guard
3501 Fetchet Avenue
Joint Base Andrews, MD 20762

New York Air National Guard
Hancock Field Air National Guard Base
6001 E. Molloy Road
Syracuse, NY 13211

Under Contract With:
Department of the Army
Corps of Engineers, Omaha District
1616 Capital Avenue
Omaha, NE 68102

Contract:

W9128F-14-D 0018

Prepared by:

AGEISS

1740H Dell Range Blvd
Suite 293
Cheyenne, WY 82009

Finding of No Significant Impact (FONSI) for the Integrated Natural Resources Management Plan / Environmental Assessment Hancock Air National Guard Base and Eastern Air Defense Sector Site, New York

Purpose

Pursuant to the Council on Environmental Quality (CEQ) Regulations (40 *Code of Federal Regulations* (CFR) Parts 1500–1508) for implementing the procedural provisions of the National Environmental Policy Act (NEPA) (42 United States Code [USC] § 4321 et seq.) and 32 CFR Part 989, *Environmental Impact Analysis Process* (EIAP), the New York Air National Guard (NYANG) has conducted an Environmental Assessment (EA) of the potential effects associated with implementing an Integrated Natural Resources Management Plan (INRMP) at the Hancock Field Air National Guard Base and its Geographically Separate Units (Hancock Field ANGB) and the Eastern Air Defense Sector (EADS) site at the Griffiss Business and Technology Park, New York. This INRMP has been prepared in accordance with the provisions of the Sikes Act, as amended (16 USC § 670a et seq.), Department of Defense Instruction (DoDI) 4715.03, *Natural Resources Conservation Program*, Department of Defense Manual (DoDM) 4715.03, *INRMP Implementation Manual*, and Air Force Manual (AFMAN) 32-7003, *Environmental Conservation.* This INRMP has been prepared for the 174th Attack Wing (174 ATKW) of the NYANG at Hancock Field ANGB and the EADS site to manage significant natural resources in support of the training mission. Significant natural resources at Hancock Field ANGB include state-listed protected species, forested habitat, and Waters of the US (WOTUS), including wetlands. The purpose of the INRMP implementation is to comply with the Sikes Act and carry out the set of recommended resource-specific management strategies developed in the INRMP, which would enable the NYANG to effectively manage the use and condition of natural resources on Hancock Field ANGB and the EADS site. The EIAP for the implementation of the 2022 INRMP does not include an analysis of effects for individual projects. Site specific NEPA analysis will be completed before NYANG implements each individual INRMP project.

Background

The 174 ATKW is stationed at the Hancock Field Tract III Air National Guard Base (Tract III), located at the Syracuse Hancock International Airport in Onondaga County, New York, and two Geographically Separate Units (GSUs). Hancock Field Tract III is a 270-acre (109-hectare) parcel in Onondaga County located adjacent to the Syracuse Hancock International Airport which is accessed via East Molloy Road. A GSU, the Hancock Field Tract II (Tract II), is an approximate 86-acre (35-hectare) parcel in Onondaga County to the north of Hancock Field. This site is accessed via Stewart Drive. The second GSU is located in Madison County near the Town of Sullivan. The Town of Sullivan Radar Site (Radar Site) is approximately 4.0 acres (1.6 hectares) located at 2020 Enterprise Drive, Chittenango, NY. Throughout this plan, Hancock Field ANGB collectively refers to Tract III, Tract II, and the Radar Site and totals approximately 360 acres (146 hectares).

The EADS site is located at the Griffiss Business and Technology Park approximately 5 miles (8 kilometers) east of downtown Rome, NY in Oneida County. It occupies approximately 47 acres (19 hectares) composed of two parcels on what was formerly Griffiss Air Force Base. The Main Operational Site is the approximate 23-acre (9.3-hectare) southern parcel, and is home to the 224th Air Defense Group. The Antenna Site is the northern parcel, and is approximately 24 acres (9.7 hectares).

The 174 ATKW has a dual mission: one federal and one state. The primary mission of the 174 ATKW is to provide qualified airmen and weapons systems engaging in joint global air, space, and cyberspace operations, in support of homeland defense. The state mission is to assist state authorities during civil and natural disaster emergencies at the direction of the Governor of New York. The mission of EADS is to counter all air threats to the EADS' Area of Operations through vigilant detection, rapid warning, and precise tactical control of North American Aerospace Defense Command (NORAD) and U.S. Northern Command forces.

Proposed Action

The NYANG's Proposed Action is to implement the INRMP, which supports an ecosystem approach and includes natural resources management measures to be undertaken on Hancock Field ANGB and the EADS site. The Proposed Action focuses on a 5-year planning period, which is consistent with the timeframe for the management measures described in the INRMP. Implementation of the Proposed Action would support the NYANG's need to provide realistic training for NYANG personnel in fulfillment of mission requirements while complying with the Sikes Act and other environmental regulations and policies.

Alternatives

The development of proposed management measures for the INRMP included a screening analysis of resource-specific alternatives. The screening analysis involved the use of accepted criteria, standards, and guidelines, when available; and best professional judgment to identify management practices for achieving natural resources management objectives on the installation. The outcome of the screening analysis led to the development of the Proposed Action as described above. Consistent with the intent of NEPA, this screening process focused on identifying a range of reasonable resource-specific management alternatives and developing a plan that could be implemented, as a whole, in the foreseeable future. Management alternatives deemed to be infeasible were not analyzed further. As a result of the screening process, the EA, made an integral part of the INRMP, formally addresses two alternatives: the Proposed Action (i.e., implementation of the INRMP) and the No Action Alternative.

No Action Alternative

Under the No Action Alternative, the proposed management measures set forth in the INRMP would not be implemented. Current management measures for natural resources would remain in effect and existing (i.e., baseline) conditions would continue. Current management efforts are limited to bird/wildlife aircraft strike hazard and pest management. Species-specific management, habitat management including wetland protection, and population trends through species surveys are not conducted. The No Action Alternative serves as a baseline against which the Proposed Action can be evaluated. Inclusion of a No Action Alternative is prescribed by CEQ regulations; therefore, the No Action Alternative has been analyzed in the EA, which is included as a component of this INRMP.

Environmental Impacts of the Proposed Action

The EA has evaluated the potential environmental impacts associated with the Proposed Action and No Action Alternative. Potential impacts of the Proposed Action have been assessed for the following environmental resource areas:

Soils- The Proposed Action would minimize impacts on soils associated with erosion and sedimentation resulting in long-term beneficial effects to the resource. The 174 ATKW would

take a proactive approach to minimize and prevent soil erosion and compaction through implementation of revegetation plans, including interim mechanisms to stabilize the soil until vegetative cover has become established, and implementation of best management practices (BMPs).

Water Resources-Surface Water and Waters of the US- Implementation of the INRMP is expected to result in beneficial effects to surface water and WOTUS. The INRMP describes management activities and projects to prevent potential degradation in water quality and reduce sedimentation from erosion by conducting routine screening of watersheds to evaluate the potential for adverse impacts. Monitoring high risk erosion areas, monitoring re-vegetation efforts, implementing BMPs, and planning and constructing activities in areas that are less likely to impact wetlands would also provide beneficial effects.

Vegetation- The INRMP includes specific actions to manage installation ecosystems, including wildlife habitat surveys, protection of sensitive ecological areas, and an integrated approach to pest management. Establishment of long-term surveying and monitoring programs under the Proposed Action would provide long-term benefits to the native vegetation on the installations.

Wildlife- Projects listed in the INRMP and management recommendations would provide beneficial effects to wildlife under the Proposed Action. Wildlife surveys and support of the 2015 New York State Wildlife Action Plan (SWAP) would provide beneficial effects to regional biodiversity. Survey efforts would inform the 174 ATKW of species present on the installations and would allow the 174 ATKW to manage for specific species when possible to sustain populations. Implementation of the Bird/Wildlife Aircraft Strike Hazard plan and Integrated Pest Management plan reduces human and wildlife conflicts which could negatively impact the mission.

Special Status Species- Beneficial effects on special status species at Hancock Field ANGB and the EADS site would be expected with implementation of the INRMP, as it would provide a greater degree of protection and management for species not protected under the federal Endangered Species Act (ESA), such as state-listed species, species of greatest conservation need, and sensitive habitats. No federally threatened or endangered species have been documented on Hancock Field ANGB; however, one state threatened species (bald eagle [*Haliaeetus leucocephalus]*) and four high-priority state species of greatest conservation need (little brown bat [*Myotis lucifugus*], tri-colored bat [*Perimyotis subflavus*], eastern meadowlark [*Sturnella magna*], and grasshopper sparrow [*Ammodramus savannarum*]) have been observed and/or documented on the installation. Species surveys have not been conducted on the EADS site, but are proposed in the INRMP.

Land Use- Implementation of the INRMP would have long-term beneficial effects on the natural environment within the installations and, over time, ensure the sustainability of Hancock Field ANGB and EADS lands to support training activities and mission requirements (i.e., following the structured management approach in the INRMP would result in “no net loss” in training land).

Cumulative Impacts- Implementation of the INRMP would have long-term positive effects on the natural environment. The Hancock Field ANGB INRMP was developed to be consistent with regional goals and objectives in the 2015 SWAP. As development continues in areas adjacent to the installations, protection and conservation of natural resources within the boundaries of the installations will become more important. Measures implemented on Hancock Field ANGB and

the EADS site to prevent runoff, soil erosion, and degradation of wetlands will provide beneficial effects to the overall health of the Oswego River/Finger Lakes watershed. As such, a long-term, positive cumulative effect would be expected to natural resources as a result of this INRMP and other natural resources management activities occurring within the region.

In accordance with 40 CFR §1501.9(f)(1), the NYANG, in cooperation with the National Guard Bureau Natural Resources Program Manager, determined implementation of the INRMP would have no potential impacts on geology, floodplains, air quality, climate change, noise, utilities and infrastructure, cultural resources, hazardous materials, socioeconomics, environmental justice, protection of children, human health, and airspace. Implementation of the INRMP and associated plans would assist the federal and state Environmental Managers in their efforts to successfully manage natural resources found on the installations which include WOTUS, including wetlands, state species of greatest conservation need, and forested habitat.

Public Involvement

The Sikes Act requires the preparation of an INRMP in cooperation with the US Fish and Wildlife Service (USFWS) and the appropriate state fish and wildlife agency (New York State Department of Environmental Conservation [NYSDEC]) when significant natural resources are present. In addition, the Sikes Act requires the resulting Plan to reflect the mutual agreement of the parties concerning conservation, protection, and management of fish and wildlife resources. The USFWS and NYSDEC participated in the development of the INRMP which ensured that information concerning the natural resources on or in the vicinity of the installations was accurate and presented with acknowledgment to local and regional management strategies. Comments from the agencies were incorporated into the INRMP.

Per DoDM 4715.03, *INRMP Implementation Manual*, installations should provide the opportunity for public comment on new INRMPs as well as during revisions, when there is a mission change or changes that are expected to result in significant changes to biological resources from those identified in the existing INRMP. A Notice of Availability was placed in *The Post Standard* and *Rome Sentinel* newspapers on 9 December 2021 to invite the public to comment on the Draft INRMP/EA for a period of 30 days. The documents were available at the Onondaga County Central Library. No public comments were received.

Finding of No Significant Impact

Based on my review of the facts and analyses contained in the INRMP EA, I conclude that implementation of the Proposed Action to implement the INRMP would not have any significant adverse direct, indirect, or cumulative impacts on the quality of the human or natural environment. Accordingly, the requirements of NEPA, the CEQ, and 32 CFR Part 989 have been fulfilled and an Environmental Impact Statement is not required.

HEWETT.MARC.V.1170450791 Digitally signed by HEWETT.MARC.V.1170450791 Date: 2022.04.25 07:28:32 -04'00'

Marc V. Hewett, P.E., GS-15, DAF
Chief, Asset Management Division

25 Apr 2022
Date

SIGNATURE PAGE

This Integrated Natural Resources Management Plan (INRMP) has been prepared for the 174th Attack Wing (174 ATKW) of the New York Air National Guard, located at Hancock Field Tract III Air National Guard Base and its two Geographically Separate Units (hereafter Hancock Field ANGB), and the Eastern Air Defense Sector (EADS) site to manage significant natural resources in support of the training mission. Significant natural resources include the presence of state-listed species, forested habitat, and Waters of the US, including wetlands. The INRMP meets the intent of the Sikes Act (16 United States Code § 670a–670l, 74 Stat. 1052).

To the extent that resources permit, the US Fish and Wildlife Service, New York State Department of Environmental Conservation, 174 ATKW, and the 224th Air Defense Group, by signature of their agency representative, do hereby agree to work together for the purposes of conserving, protecting, and managing the natural resources present on Hancock Field ANGB and the EADS site. This INRMP may be modified and amended by agreement of the authorized representatives of the agencies. The agreement will become effective upon the date of the last signatory and shall continue in full force for a period of 5 years or until terminated by written notice to the other parties, in whole or in part, by any of the parties signing the agreement.

By their signatures below, or an attached sheet, all parties grant their concurrence with and acceptance of the following document.

Approving Officials:

MCCRINK.WILLIAM.JOSEPH.III.1037295244 Digitally signed by MCCRINK.WILLIAM.JOSEPH.III.1037295244 Date: 2022.05.12 10:52:20 -04'00' — 12 May 2022

Col. William J. McCrink III
Commander, 174th Attack Wing
Hancock Field Air National Guard Base — Date

ROOS.JOSEPH.FRANCIS.1015190244 Digitally signed by ROOS.JOSEPH.FRANCIS.1015190244 Date: 2022.05.16 15:09:47 -04'00' — 16 May 2022

Col. Joseph F. Roos
Commander, 224th Air Defense Group
Eastern Air Defense Sector — Date

IAN DREW Digitally signed by IAN DREW Date: 2022.06.17 11:09:06 -04'00' — 6/17/22

Ian Drew, Acting Project leader[1]
US Fish and Wildlife Service, New York Field Office — Date

5-9-2022

Dan Bishop
New York State Department of Environmental Conservation — Date

[1] The USFWS signature is predicated on the inclusion of the 17 June 2022 letter that follows the signature page that provides additional information and dates for some sections of the INRMP.

United States Department of the Interior

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

June 17, 2022

Ms. Wendy Arjo
Program Manager
AGEISS, Inc.
1740H Dell Range Boulevard
Suite 293, Cheyenne, WY 80229

Dear Ms. Arjo

This responds to the AGEISS, Inc. (AGEISS) letter, dated October 19, 2021, and various electronic emails regarding the proposed Integrated Natural Resources Management Plan (INRMP) for the Hancock Field Air National Guard Base (Hancock ANGB), and the Eastern Air Defense Sector (EADS). The Hancock ANBG includes the Hancock Field Tract III, a 270-acre parcel located on the south side of the Hancock International Airport, off East Molloy Road, in the City of Syracuse, Onondaga County, New York, Tract II, an 86-acre parcel located east of the airport, off Stewart Drive, in the City of Syracuse, Onondaga County, New York, and the Town of Sullivan Radar Site, a 4-acre parcel located at 2020 Enterprise Drive in the Town of Sullivan (Chittenango), Madison County, New York. The EADS sites include 2 parcels located at the Griffiss Business and Technology Park in the City of Rome, Madison County, New York. EADS sites include the Main Operational Site (Tract I, 23 acres), located off Perimeter Road (Highway 365), and the Antenna Site (Tract II, 86 acres), located off Golf Road, just north of the airport.

We understand that AGEISS is providing consulting services to the National Guard Bureau, Environmental Quality Branch (NGBA4VN) and that this is Hancock ANGB's first INRMP.

We are providing comments pursuant to the Sikes Act of September 15, 1960 (Act) (16 USC 670a-670o, 74 Stat. 1052), and amended Sikes Improvement Act of 1997. The Act maximizes conservation without compromising the military mission and ensures conservation and rehabilitation of natural resources on military installations. INRMPs are cooperative, agreed upon management plans between the Department of Defense, the U.S. Fish and Wildlife Service (Service), and the relevant state fish and wildlife agencies. The dates below reflect the coordination between the Service, Hancock ANGB and AGEISS over the past year.

We also provide comments pursuant to the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq*.) as Federal agencies, such as the Hancock ANGB, have responsibilities under section 7 of the ESA to consult with the Service regarding projects that may affect federally listed species or designated critical habitat and confer with the Service

regarding projects that are likely to jeopardize federally proposed species-or adversely modify proposed critical habitat. The Service may also provide comments pursuant to our authorities under the Migratory Bird Treaty Act (MBTA) (40 Stat. 755; 16 U.S.C. 703-712), the Bald and Golden Eagle Protection Act (BGEPA) (54 Stat. 250, as amended; 16 U.S.C. 668 *et seq*.), and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*) during the consultation process.

INRMP review and comment timeline:

October 2021: AGEISS requested review and comment on the draft INRMP from the Service's New York Field Office on October 19, 2021, with comments due by November 19, 2021.

November 3, 2021: An onsite meeting was held on November 3, 2021, to facilitate and discuss the draft INRMP, which the Service attended virtually.

November 5, 2021: AGEISS sent an email requesting comments from the Service regarding the draft INRMP by November 19, 2021, as they prepared for the 30-day public comment period.

November 9, 2021: AGEISS provided a report entitled "Final Bat Survey Report Air National Guard – 174th Attack Wing, Syracuse, New York" dated August 2021 on November 9, 2021.

November 19, 2021: The Service provided comments and recommendations on the draft INRMP to AGEISS on November 19, 2021.

December 10, 2021: AGEISS provided the Service with a copy of the draft final INRMP on December 10, 2021. This version incorporated comments from the Service and the New York State Department of Environmental Conservation (NYSDEC). Comments were requested by January 7, 2022.

January 27, 2022: The Service reviewed the INRMP and the Final Bat Survey Report and provided comments to AGEISS on January 27, 2022.

April 26, 2022: AGEISS provided the final INRMP to the Service with a request for signature.

May 5, 2022: The Service requested in an email to AGEISS that Hancock ANGB amend the final INRMP to correct the time of year window to remove trees on the installation to protect federally listed bat species. The final INRMP included an environmental window to remove trees from September to May to avoid take[1] of federally listed bat species, which is inconsistent with the Service's recommended dates for tree removal (see the Service's Indiana Bat Project Review Fact Sheet, dated March 2018, enclosed).

May 6, 2022: AGEISS responded to the Service that the Hancock ANGB environmental assessment was already signed by two signatories and; therefore, the Service's recommendations for tree removal could not be included in the INRMP.

[1] Take is defined in section 3 of the ESA as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or to attempt to engage in any such conduct.

The Service's recommended dates below apply to the federally listed Indiana bat (*Myotis sodalis*; Endangered) and the northern long-eared bat (*Myotis septentrionalis*; Threatened)[2]. They also benefit non-listed bat species, including little brown bats (*Myotis lucifigus*), tri-colored bats (*Perimyotis subflavus*), silver-haired bats (*Lasionycteris noctivagans*), hoary bats (*Lasiurus cinereus*), and eastern red bats (*Lasiurus borealis*). Cutting trees during the late fall through early spring months when bats are not actively using trees on the landscape helps protect bats not only from direct mortality (when they roost primarily in trees during the summer), but also during vulnerable periods when bats may still be using trees, such as right before entering into hibernation (when bats are bulking up on fat reserves and mating), and when emerging from hibernation (when bats are low on fat reserves and females may be pregnant).

The Service's recommended dates pertain to the timing of tree removal and are based on the Hancock ANGB site locations and the distance from these sites to the nearest Indiana bat/northern long-eared bat hibernaculum (overwintering site for hibernating bats). The recommended tree removal dates per location are as follows:

1. Hancock Field Tract II, Tract III, and the Town of Sullivan Radar Site (located less than 20 miles from the nearest hibernaculum), all tree clearing will be conducted **between November 1 to March 31.**

2. The EADS Antenna Site and EADS Main Operational Site (located over 35 miles from the nearest hibernaculum), all tree clearing will be conducted between **October 1 to March 31.**

We request that the Hancock ANGB attach this letter and the fact sheet to the INRMP as an addendum to reflect our comments and the appropriate tree removal dates for each of the five tracts associated with Hancock ANGB and EADS sites.

The request to change tree removal dates also applies to the following sections of the INRMP: :

- Section 2.3.1: Indiana bat and northern long-eared bat, pages 61, 62.
- Little brown and tri-colored bats, page 66
- Hoary and red bat, page 67
- Silver-haired bat, pages 67, 68
- Section 7.6, page 74 regarding management and,
- Objective GM 1, page 81

[2] Please note that on March 23, 2022, the Service published a proposal to reclassify the northern long-eared bat as endangered under the ESA. The U.S. District Court for the District of Columbia has ordered the Service to complete a new final listing determination for the northern long-eared bat by November 2022 (Case 1:15-cv-00477, March 1, 2021). The northern long-eared bat faces extinction due to the rangewide impacts of white-nose syndrome (WNS), a deadly fungal disease affecting cave-dwelling bats across the continent. The proposed reclassification, if finalized, would remove the current 4(d) rule[2] for the northern long-eared bat, as these rules may be applied only to threatened species. Depending on the type of effects a project has on the northern long-eared bat, the change in the species' status may trigger the need for additional review for any actions that are not completed once the new listing determination becomes effective (anticipated to occur by December 2022).

We understand that we will have the opportunity to coordinate during the INRMP annual coordination meetings, beginning in 2023, and when the INRMP is updated in 2027, to improve the INRMP for the Hancock ANGB and to ensure that the purpose of the Sikes Act and the ESA are met.

Thank you for the opportunity to review and comment on the Hancock ANGB INRMP. If you have any questions, please contact Sandra Doran at 607-753-9334 and reference project file number 2022-E-01790.

Sincerely,

IAN DREW Digitally signed by IAN DREW
Date: 2022.06.17 11:08:32 -04'00'

Ian Drew
Acting Field Supervisor

Enclosure

cc: NGB A4VN, Melanie Frisch/ Natural Resources Program Manager,
Hancock ANGB, Jason Preston/ Environmental Manager,
USFWS, Katherine Ineson/ Regional Military Lands Partnership Coordinator
NYSDEC, Region 7, Cortland, Daniel Bishop

ANNUAL REVIEW PROCEDURES

The Environmental Manager (EM) of the Hancock Field Air National Guard Base and the Eastern Air Defense Sector site will review the Integrated Natural Resources Management Plan (INRMP) annually, prior to September 30, in cooperation with the US Fish and Wildlife Service (USFWS) and the New York State Department of Environmental Conservation (NYSDEC) to ensure the goals and objectives of the INRMP remain current. Prior to the annual meeting with the USFWS and the NYSDEC, the EM will schedule an internal stakeholder's meeting with the Installation Pest Management Coordinator (IPMC), the Safety Office, the US Department of Agriculture-Animal and Plant Health Inspection Service-Wildlife Services (USDA-APHIS-WS), and tenant organizations to obtain feedback on how implementation of the INRMP affected or did not affect their programs and to obtain any comments and recommendations they may have. Following the internal stakeholders meeting, the EM will prepare a summary of the actions taken in support of the INRMP over the past year, what actions were not completed with an explanation of why they were not implemented, and the actions planned for the coming year. The EM will send out invitations with the written summary to the USFWS, NYSDEC, National Guard Bureau (NGB)/A4VN Natural Resources Program Manager, Safety Office, USDA-APHIS-WS, IPMC, and other entities deemed necessary to participate in an annual meeting held in-person, via a conference call, or via a Teams meeting to discuss the written summary, to address any questions regarding implementation of the INRMP over the past year, and to discuss the planned actions for the coming year. The EM will document the meeting with the invitation, an agenda, meeting minutes, and a sign-in roster of attendees. Following the meeting, the EM will submit the documentation to the USFWS and the NYSDEC for their review and comment and for concurrence that the documentation reflects the discussions held and the agreements made during the annual meeting. The standards used for this evaluation are set forth in Department of Defense Instruction (DoDI) 4715.03, *Natural Resources Conservation Program*, Enclosure 5. The installation's natural resources management progress will be determined based on information obtained annually that supports the focus areas in the DoDI 4715.03 through the US Air Force/NGB biannual environmental quality data calls.

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DOCUMENT CONTROL

Record of Review - In accordance with the Sikes Act, Department of Defense Instruction 4715.03, *Natural Resources Conservation Program*, Department of Defense Manual 4715.03, *INRMP Implementation Manual*, and Air Force Manual 32-7003, *Environmental Conservation*, an Integrated Natural Resources Management Plan (INRMP) is required to be reviewed annually to ensure plans and projects remain current, and every 5 years for operation and effect. Annual reviews and updates are accomplished through annual meetings led by the base Environmental Manager (EM) and attended by the US Fish and Wildlife Service (USFWS), the New York State Department of Environmental Conservation (NYSDEC) and, if required, the National Oceanic and Atmospheric Administration, National Marine Fisheries Service. During the annual meetings, actions taken over the previous year are discussed and actions to be taken over the coming year are discussed and agreed to. The meeting is followed up in writing for concurrence by the EM and the representatives from the USFWS and the NYSDEC. As part of the annual and 5-year reviews, the EM shall also hold meetings with internal stakeholders to ensure all personnel and tenants are informed of INRMP requirements.

ACRONYMS

°C	degrees Celsius
°F	degrees Fahrenheit
174 ATKW	174th Attack Wing
AFI	Air Force Instruction
AFMAN	Air Force Manual
ANG	Air National Guard
ANGB	Air National Guard Base
ANGRC	ANG Readiness Center
AT/FP	Antiterrorism / Force Protection
BA	Biological Assessment
BASH	Bird/Wildlife Aircraft Strike Hazard
BHWG	Bird/Wildlife Hazard Working Group
BMP	Best Management Practice
CATEX	Categorical Exclusion
CE	Civil Engineer
CECOS	Civil Engineer Corps Officers School
CEQ	Council on Environmental Quality
CFR	*Code of Federal Regulations*
CWA	Clean Water Act
DEPARC	Defense Environmental Programs Annual Report to Congress
DERP	Defense Environmental Restoration Program
DoD	Department of Defense
DoDI	Department of Defense Instruction
DoDM	Department of Defense Manual
DUSD	Deputy under Secretary of Defense
EA	Environmental Assessment
EADS	Eastern Air Defense Sector
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EM	Environmental Manager
EO	Executive Order
ESA	Endangered Species Act
ESC	Erosion and Sediment Control
FEMA	Federal Emergency Management Agency
FIRM	Federal Insurance Rate Map
FONSI	Finding of No Significant Impact
FW	Fish and Wildlife
FY	Fiscal Year
GIS	Geographic Information System
GM	Grounds Maintenance and Landscaping
GSU	Geographically Separate Unit
IFAW	International Fund for Animal Welfare
IICEP	Interagency and Intergovernmental Coordination for Environmental Planning

IN	Invasive Species
INRMP	Integrated Natural Resources Management Plan
IPM	Integrated Pest Management
IPMC	Installation Pest Management Coordinator
IRP	Installation Restoration Program
JD	Jurisdictional Determination
LEDPA	Least Environmentally Damaging Practicable Alternative
MBTA	Migratory Bird Treaty Act
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NEADS	Northeast Air Defense Sector
NEPA	National Environmental Policy Act
NGB	National Guard Bureau
NGB/A4VN NRPM	NGB/A4VN Natural Resources Program Manager
NLEB	Northern Long-eared Bat
NORAD	North American Aerospace Defense Command
NPDES	National Pollutant Discharge Elimination System
NYANG	New York Air National Guard
NYCRR	New York Codes, Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
OPR	Office of Primary Responsibility
PM	Program Management
RPA	Remotely Piloted Aircraft
SGCN	Species of Greatest Conservation Need
SPDES	State Pollutant Discharge Elimination System
SWAP	State Wildlife Action Plan
SWPPP	Stormwater Pollution Prevention Plan
TE	Threatened and Endangered
US	United States
USACE	US Army Corps of Engineers
USAF	US Air Force
USC	United States Code
USDA	US Department of Agriculture
USDA-APHIS-WS	US Department of Agriculture-Animal and Plant Health Inspection Service-Wildlife Services
USEPA	US Environmental Protection Agency
USFWS	US Fish and Wildlife Service
UST	Underground Storage Tank
VM	Vegetative Management
WA	Water Resource Protection
WMA	Wildlife Management Area
WNS	White-nose Syndrome
WOTUS	Waters of the US
WQC	Water Quality Certification
WT	Wetland Management and Protection

1.0 EXECUTIVE SUMMARY

The Sikes Act Improvement Act of 1997, 16 United States Code (USC) § 670a et seq., as amended, (herein referred to as the Sikes Act) requires federal military installations with significant natural resources to develop a long-range Integrated Natural Resources Management Plan (INRMP) and implement cooperative agreements with other agencies. The Sikes Act is implemented through Department of Defense (DoD) and US Air Force (USAF) instructions and manuals. The conservation measures discussed in the INRMP help manage water resources, reduce bird/wildlife aircraft strike hazard (BASH) risk, manage state and federally listed species, and sustain natural resources.

The INRMP is intended to be in support of and consistent with the Sikes Act. This INRMP is the primary guidance document and tool for managing natural resources on Hancock Field Tract III Air National Guard Base and its two Geographically Separate Units (GSUs) called Tract II and the Town of Sullivan Radar Site (collectively Hancock Field Air National Guard Base [ANGB]), and the Eastern Air Defense Sector (EADS) site which together total approximately 406.8 acres (164.6 hectares). Hancock Field Tract III occupies approximately 270 acres (109 hectares) in Onondaga County located adjacent to the Hancock International Airport which is accessed via East Molloy Road. A GSU, the Hancock Field Tract II (Tract II), is an approximate 86-acre (35-hectare) parcel in Onondaga County to the north of Hancock Field. This site is accessed via Stewart Drive. The second GSU is located in Madison County near the Town of Sullivan. The Town of Sullivan Radar Site (Radar Site) is approximately 4.0 acres (1.6 hectares) located at 2020 Enterprise Drive, Chittenango, NY. The 174th Attack Wing (174 ATKW) is located at Hancock Field ANGB and is responsible for the real property and environmental management of the EADS site. The EADS site is comprised of two parcels located at the Griffiss Business and Technology Park in Rome, NY. The Main Operational Site (Tract I) is approximately 23 acres (9.3 hectares) and the Antenna Site (Site II) is approximately 24 acres (9.7 hectares). The 174 ATKW has a dual mission: one federal and one state. The primary mission of the 174 ATKW is to "provide qualified airmen and weapons systems engaging in joint global air, space, and cyberspace operations, in support of homeland defense, and to aid civil authorities at the direction of the Governor of New York State." The mission of EADS is to counter all air threats to the EADS' Area of Operations through vigilant detection, rapid warning, and precise tactical control of North American Aerospace Defense Command (NORAD) and U.S. Northern Command forces. The state mission for the 174 ATKW is to assist state authorities during civil and natural disaster emergencies.

Natural resource management activities on Hancock Field ANGB and the EADS site must be conducted in a way that provides for sustainable land use, complies with applicable environmental laws and regulations, real estate leases and licenses, and provides for "no net loss" in the capability to support the military mission. This INRMP provides a structure and plan to manage natural resources effectively and ensures that facilities remain available to support the installation's military mission into the future.

Specific actions in this INRMP are supported by its goals and objectives, the annual work plans, and the management strategies. Goals and objectives are listed in **Section 8**, and work plans are provided in **Section 9**. The INRMP provides a description of the installation, the military mission, the environment on the installation, and specific plans and strategies for natural resource management designed for sustainable military training. Implementation of the INRMP will ensure the successful accomplishment of the military mission while promoting adaptive management that sustains ecosystem and biological integrity and provides for multiple uses of natural resources.

2.0 GENERAL INFORMATION

2.1 Purpose and Scope

This INRMP is the primary guidance document and tool for natural resource management at the Hancock Field ANGB and the EADS site. It provides for sustainable, healthy ecosystems; complies with applicable environmental laws and regulations, real estate leases and licenses; and provides for "no net loss" in the capability of installation lands to support the military mission. The Installation Commanders and the Environmental Manager (EM) can use this INRMP to manage natural resources more effectively to ensure that installation lands remain available and in good condition to support the military mission over the long term. The INRMP is consistent with the Sikes Act as required by the DoD, USAF, and the National Guard Bureau (NGB). A multiple-use approach is implemented to allow for the presence of mission-oriented activities, as well as protecting environmental quality through the efficient management of natural resources.

This INRMP solely directs lands under the management authority of the New York Air National Guard (NYANG). If the NYANG acquires additional lands at some future time, revision of the INRMP will provide management direction for such additional lands and will identify applicable natural resources management actions to address those additional resources. The comprehensive planning process, which incorporates logistics and operations of Hancock Field ANGB and the EADS site, should incorporate the concerns presented in this INRMP, so that growth of the installations can progress in a manner consistent with, and complementary to, the objectives of the USAF with respect to the protection of natural resources.

2.2 Management Philosophy

2.2.1 Ecosystem Management

Natural resources at the Hancock Field ANGB and the EADS site are managed with an ecosystem management approach as directed by Air Force Manual (AFMAN) 32-7003, *Environmental Conservation*, Department of Defense Instruction (DoDI) 4715.03, *Natural Resources Conservation Program*, and Department of Defense Manual (DoDM) 4715.03, *INRMP Implementation Manual* (Table 1). Ecosystem management may be defined as management to restore and maintain the health, sustainability, and biological diversity of ecosystems while supporting sustainable economies and communities. The goal of ecosystem management on military lands is to ensure that military lands support present and future training and testing requirements while preserving, improving, and enhancing ecosystem integrity.

Ecosystem management provides a means for the USAF to conserve biodiversity and to provide high-quality military readiness. This INRMP is a mechanism through which the 174 ATKW can maintain sustainable land use through ecosystem management. Each of the management strategies described in this INRMP should be monitored so that modifications can be made during implementation as conditions change. Human communities are entirely and completely dependent on the goods and services provided by our diverse ecosystems (Bernstein 2008). Decline of these ecosystems, and the biodiversity within them, is one of the foremost limitations to human prosperity. Ecosystem sustainability is the key to both biological diversity and human existence. It is the goal of this INRMP to successfully integrate ecological sustainability with goals and objectives that will sustain human communities and the operational missions of the Hancock Field ANGB and the EADS site. By protecting a mosaic of habitats that support the greatest variety of life, this INRMP helps perpetuate viable, sustainable populations of native species, and the communities they compose. The protection of these species and communities, in turn, promotes the sustainability of functional ecosystems across the landscape.

Table 1. Elements and Principles of Ecosystem Management

DoDI 4715.03 Elements	
1	Avoid single-species management and implement an ecosystem-based multiple species management approach that is consistent with the requirements of the Endangered Species Act (ESA).
2	Use an adaptive management approach to manage natural resources-related issues such as climate change.
3	Evaluate and engage in the formation of local or regional partnerships that benefit the goals and objectives of the INRMP.
4	Use the best available scientific information in decision-making and adaptive management techniques in natural resource management.
5	Foster long-term sustainability of ecosystem services.
AFMAN 32-7003 Principles	
1	Maintain or restore native ecosystem types across their natural range where practical and consistent with the military mission.
2	Maintain or restore natural ecological processes such as fire and other disturbance regimes where practical and consistent with the military mission.
3	Maintain or restore the hydrological processes in streams, floodplains, and wetlands when feasible and practical and consistent with the military mission.
4	Use regional approaches to implement ecosystem management on an installation by collaboration with other DoD components as well as other federal, state, and local agencies, and adjoining property owners.
5	Provide for outdoor recreation, agricultural production, harvesting of forest products, and other practical utilization of the land and its resources, provided that such use does not inflict long-term ecosystem damage or negatively impact the ANG mission.

2.2.2 Biodiversity

Biodiversity is the degree of variation of life within a given ecosystem, region, or even the entire planet. The DoD's challenge is to manage for biodiversity in a way that supports the military mission. Specific management practices identified in this INRMP have been developed to enhance and maintain biological diversity within the installation's ecosystems. Ecosystem management includes biodiversity conservation and invasive species control as integral parts of ecosystem management. Air National Guard (ANG) installations maintain or reestablish viable populations of all native species when practical and consistent with the military mission. ANG installations also identify the presence of exotic and invasive species, and implement programs to control and/or eradicate those species. Finally, when feasible, ANG installations develop joint control strategies with other federal, state, and local cooperating agencies and adjacent landowners to increase the effectiveness of control measures and for the benefits illustrated in Figure 1.

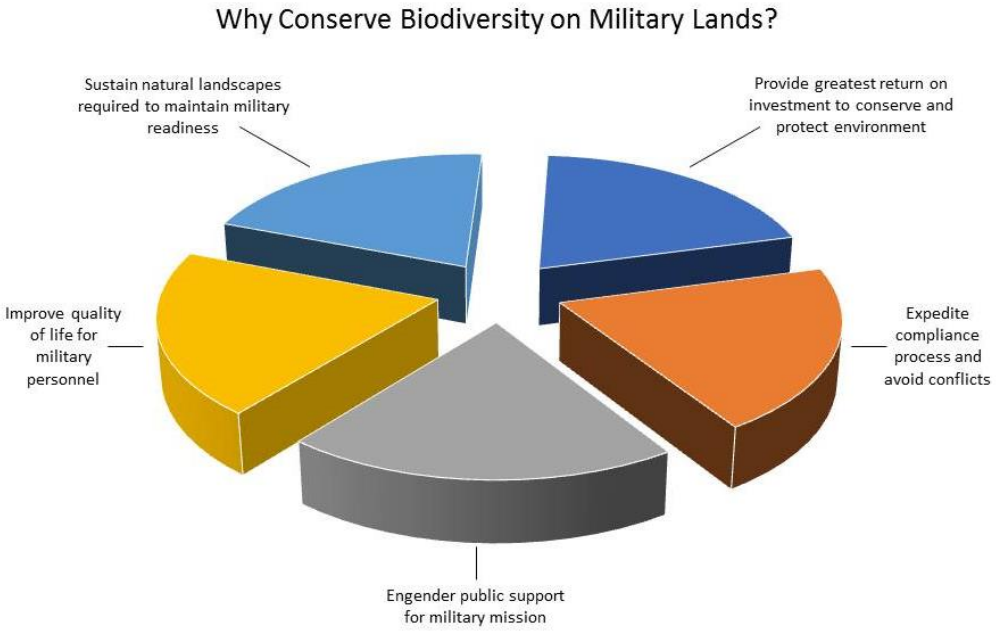


Figure 1. Why Conserve Biodiversity on Military Lands?
**Adapted from Keystone Center, 1996.*

This INRMP is the mechanism through which both ecosystem management and biodiversity conservation will be accomplished on Hancock Field ANGB and the EADS site in agreement with the successful accomplishment of the installations' operational missions. Specifically, management practices are as follows:

- Manage natural resources for long-term use and support of the ANG military mission.
- Minimize habitat fragmentation and promote the natural pattern and connectivity of habitats.
- Protect native species and discourage non-native, invasive species.
- Protect rare and ecologically important species.
- Protect unique or sensitive environments, such as wetlands.
- Maintain or mimic natural processes.
- Restore species, communities, and ecosystems.
- Monitor impacts on biodiversity.
- Recognize the role that trees and ground cover play in stormwater sequestration.
- Preserve trees where possible.

2.3 Authority

2.3.1 Natural Resources Law, Regulations & Policy

The NYANG, US Fish and Wildlife Service (USFWS), and New York State Department of Environmental Conservation (NYSDEC) determined an INRMP was required for the Hancock Field ANGB and the EADS site due to the presence of significant natural resources which include state-listed protected species, forested habitat, and Waters of the US (WOTUS) including wetlands, thereby necessitating conservation and management. To ensure proper consideration of fish, wildlife, and habitat needs, this INRMP was prepared in cooperation with the USFWS and NYSDEC. The draft INRMP was provided to the USFWS and NYSDEC for review and comment. A Task Force meeting was held in November 2021 to discuss the draft INRMP and all interested parties, such as, the Installation Pest Management Coordinator (IPMC), USFWS, NYSDEC, NGB,

the Safety Office, and the US Department of Agriculture-Animal and Plant Health Inspection Service-Wildlife Services (USDA-APHIS-WS) were invited. Comments from the meeting were incorporated into the draft final INRMP which was then made available for a 30-day public review. Comments provided by the agencies focused on:

- Consider implementation measures to increase pollinator habitat where feasible.
- Consider conducting surveys for the Karner blue butterfly (*Plebejus melissa samuelis*) and the frosted elfin (*Callophrys irus*).
- Conduct presence/absence surveys for bats prior to modifying or removing buildings on the installation.
- Provide additional information for bald eagle management.
- Update the timing of when tree removal and trimming should be limited during the bat maternity season (May 1 to September 30) to the maximum extent feasible.

No public comments were received. DoDI 4715.03, *Natural Resources Conservation Program*, identifies the DoD policies and procedures concerning natural resources management and INRMP reviews, public comment, and endangered species consultation. INRMPs are required to be jointly reviewed by the USFWS, NYSDEC, and the ANG installation for operation and effect on a regular basis, but not less than every 5 years. Minor updates and continued implementation of an existing INRMP do not require public comment. Major revisions to an INRMP do require an opportunity for public review. Specific projects in the INRMP may need informal or formal consultation under the Endangered Species Act (ESA) Section 7 at the time of project design depending on identifiable impacts to natural resources.

2.3.2 National Environmental Policy Act Compliance

The Environmental Impact Analysis Process (EIAP) is the process by which federal agencies facilitate compliance with environmental regulations. The primary legislation affecting these agencies' decision-making process is the National Environmental Policy Act of 1969 (NEPA; 42 USC § 4321 et seq.). NEPA requires that any organization using federal monies, proposing work on federal lands, or requiring a federal permit consider potential environmental consequences of proposed actions. The law's intent is to protect, restore, or enhance the environment through well-informed decisions.

The Council on Environmental Quality (CEQ) was established under NEPA for the purpose of implementing and overseeing federal policies as they relate to the NEPA process. The adoption of an INRMP can be considered a major federal action as defined by 40 *Code of Federal Regulations* (CFR) §1502.4 of the CEQ regulations. This requires an analysis of potential environmental impacts for the implementation of an INRMP. Individual projects for an INRMP typically undergo their own separate NEPA analysis. Required components of an EA have been incorporated into this INRMP and can be located in this document as follows:

- Purpose and Need for Action (§1501.5(c)(2) and 1502.13) – Section 11.2
- Description of Alternatives, including the Proposed Action (§1501.5(c)(2) and 1502.14) – Sections 11.3 and 11.4
- Description of Affected Environment (§1501.5(c)(1) and 1502.15) – Sections 4 and 5
- Analysis of Environmental Consequences (§1501.5(c)(2) and 1502.16) – Section 11.6

- Summary of Submitted Alternatives, Information, and Analyses (§1502.17) – Section 2.3.1
- Appendices (§1502.19)

CEQ regulations require intergovernmental notifications prior to making any detailed statement of environmental impacts. Through the Interagency and Intergovernmental Coordination for Environmental Planning (IICEP) process, NYANG notifies relevant federal, state, and local agencies and allows them sufficient time to make known their environmental concerns specific to a proposed action. Comments and concerns submitted by these agencies during the IICEP process are subsequently incorporated into the analysis of potential environmental impacts. This coordination fulfills requirements under Executive Order (EO) 12372, *Intergovernmental Review of Federal Programs,* and Air Force Instruction (AFI) 32-7060, IICEP. Furthermore, public participation in decision-making on new proposals is also required. Consideration of the views and information of all interested persons promotes open communication and enables better decision-making. Agencies, organizations, and members of the public with a potential interest in a proposed action, including minority, low-income, disadvantaged, and Native American groups, are urged to participate.

The EIAP for the implementation of Hancock Field ANGB and EADS 2022 INRMP was conducted in accordance with NEPA, CEQ *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (40 CFR § 1500-1508), and the USAF NEPA regulation 32 CFR Part 989. The EIAP and decision-making process for the Proposed Action (implementation of the 2022 INRMP) involved an examination of all environmental issues pertinent to the action proposed. Impact evaluations of the 2022 INRMP determined that no significant environmental impacts would result from implementation of the Proposed Action or any identified alternative. This determination was based on thorough review and analysis of existing resource information, and coordination with knowledgeable, responsible personnel from Hancock Field ANGB and the EADS site, and other relevant local, state, and federal agencies. The EIAP for the implementation of the 2022 INRMP does not include an analysis of effects for individual projects. Individual projects that have the potential to impact the environment will be analyzed separately in accordance with the NEPA process.

If a future project has the potential to impact the environment, the initial step in compliance with NEPA is to complete USAF Form 813 “Request for Environmental Impact Analysis” (Section 989.12 of 32 CFR Part 989) through ANG Readiness Center’s (ANGRC’s) online NEPA Tool. The form is prepared to aid in the development of the assessment, providing information on the proposed action and its alternatives, purpose, and potential environmental effects. This allows the proponent to identify potential environmental impacts early. The ANGRC reviews the Form 813 and associated information to determine if the proposed action requires a categorical exclusion (CATEX), EA, or environmental impact statement (EIS). Natural resources management actions in this INRMP at the time of implementation would be reviewed to determine if they qualify for a CATEX, EA, or would require an EIS depending on the impacts to the natural resources.

2.3.3 Responsibilities

The Hancock Field ANGB and EADS INRMP has been organized to ensure the implementation of year-round, cost-effective management activities and projects that meet the requirements of the installations. Various personnel and organizations within the ANG that are responsible for the implementation of this INRMP are described in the following subsections. Although the Hancock ANGB and EADS are environmentally connected, they have different commanders and missions that require separate signatures by each commander.

2.3.3.1 Installation Commander

The Installation Commanders oversee the installations (Hancock ANGB and EADS) and are responsible for ensuring that the goals and objectives of this INRMP are implemented to the fullest extent practicable based on funding and manpower availability. The Installation Commanders are the official signatories for the INRMP.

2.3.3.2 Base Civil Engineer

The Base Civil Engineers (CEs) plan, budget, approve, and oversee all maintenance and construction activities performed on the installations. All maintenance and construction-related projects or management activities proposed in this INRMP should be approved by the Base CE to ensure that funding is available and these projects are complementary to the installation's comprehensive planning processes.

2.3.3.3 NGB/A4VN Natural Resources Program Manager

The NGB/A4VN Natural Resources Program Manager (NGB/A4VN NRPM) is the technical point of contact on all natural resource related activities for the ANG. The NGB/A4VN NRPM tracks DoD and USAF policies and approves funding for projects identified as a priority in the INRMP. The development of projects included in the INRMP and any deviations from those projects will be submitted to the NGB/A4VN NRPM for review. Decisions resulting from those reviews will be a cooperative effort between the NGB/A4VN NRPM and the EM and/or the Installation's Natural Resources Manager, when applicable.

2.3.3.4 Environmental Manager

The EM plans, budgets, approves, and oversees all environmental activities performed on the installations and is responsible for ensuring that activities associated with the implementation of this INRMP adhere to applicable federal, state, local, and USAF environmental regulations and guidelines. Projects proposed in the INRMP are reviewed by the EM and the NGB/A4VN NRPM. The EM should independently review deviation from the projects proposed in this INRMP. Persons responsible for implementation of the INRMP are required to attend the Civil Engineer Corps Officers School (CECOS) DoD Natural Resources Compliance course (https://www.denix.osd.mil/cecos/).

2.3.3.5 Installation Pest Management Coordinator

The IPMC is responsible for the control of undesirable and/or nuisance plants and animals (including insects), and prevention of damage to natural resources. Pest management personnel utilize Integrated Pest Management (IPM) approaches and are responsible for the implementation of the IPM Plan. The IPMC is also responsible for completing monthly usage reports in the Pest Management Module in Enterprise Environmental, Safety, and Occupational Health Management Information System when pesticides are applied. The IPMC will, when required, assist in obtaining depredation permits for the management of wildlife on the installations and/or in the confines of the airfield on behalf of or in cooperation with the Safety Office and the USDA-APHIS-WS Specialist. The IPMC is also responsible for coordinating with the installation's Public Health Officer and/or Medical offices to ensure monitoring efforts and control methods for potential disease vectors or animals of other medical importance are specified in the IPM Plan and reported on. The IPMC will coordinate pest management activities with the EM to ensure sensitive areas are identified and to ensure actions taken do not impact those sensitive areas. The IPMC will ensure the goals and objectives of pest management activities are explained in the INRMP and will report

all pest management activities to the INRMP Working Group and when applicable, the Bird/Wildlife Hazard Working Group (BHWG).

2.3.3.6 Wing Safety Office

The Wing Safety Office is responsible for development, implementation, and management of the BASH Program at Hancock Field ANGB. The Wing Safety Office also ensures that bird/wildlife strikes resulting from aircraft assigned to transient units at Hancock Field ANGB are accurately documented and reported to the EM and the USAF BASH Team. The Wing Safety Office participates in Hancock Field ANGB's BHWG, which conducts meetings to evaluate and refine strategies for the reduction of BASH risk on Hancock Field ANGB. The Wing Safety Office is responsible for coordinating with and providing required information to the EM on BASH activities and ensures that the BHWG conducts meetings on the reduction of the BASH threat on the installation.

2.3.3.7 Airfield Management

Airfield Management is responsible for ensuring that the airfield is acceptable and appropriate for flight activity.

2.3.3.8 US Department of Agriculture-Animal and Plant Health Inspection Service-Wildlife Services

The USDA-APHIS-WS is responsible for monitoring hazardous wildlife that have the potential to create an aircraft strike hazard. USDA-APHIS-WS personnel support activities that pertain to the BASH Program and are responsible for wildlife depredation requirements within the airfield, as well as dispersal/harassment, capture and translocation, trapping and removal, and surveillance and monitoring. The USDA-APHIS-WS will coordinate efforts for the removal of species and studies needed with the EM.

2.3.3.9 Operations and Maintenance

Operations and Maintenance personnel are responsible for all grounds maintenance activities on the installation. Operations and Maintenance personnel will assist the IPMC and the EM in the implementation of natural resource management projects when applicable. The Operations and Maintenance personnel will also periodically review grounds maintenance equipment to determine if new or additional equipment is needed for the proper maintenance of the installation's landscapes.

2.3.3.10 Legal Office

The Legal Office will review any future natural resources management proposals and alert the Installation Commanders and the EM should there be any regulatory conflicts or shortfalls. In addition, the Legal Office will keep participating INRMP parties informed of any new statutes or regulations that might affect natural resources management.

2.3.3.11 Public Affairs Office

The Public Affairs Office is responsible for the coordination of public access for events at Hancock Field ANGB and EADS site when allowed. The Public Affairs Office serves as the point of contact to interface between the Installation Commander and civilian groups interested in installations for environmental, educational, or other purposes.

2.3.3.12 US Fish and Wildlife Service

The USFWS is a signatory of the INRMP and provides input regarding natural resource projects and operational component plans. The USFWS reviews and comments on the operations and effect update of the INRMP every 5 years and, when feasible, attends the task force meeting. The USFWS, when feasible, attends the annual meetings to discuss the status of the projects identified in the Annual Work Plans. At both the 5-year operations and effect and the annual meetings, the USFWS advises on the status of any pending additions or deletions to the federal threatened and endangered species list that have the potential for inhabiting Hancock Field ANGB and the EADS site. When feasible, the USFWS will support ANG wildlife and vegetation surveys conducted at Hancock Field ANGB and the EADS site.

2.3.3.13 New York State Department of Environmental Conservation

The NYSDEC is the state fish and wildlife agency and is a signatory of the INRMP and provides input regarding natural resource projects and operational component plans. The NYSDEC reviews and comments on the operations and effect update of the INRMP every 5 years and, when feasible, attends the task force meeting. The NYSDEC, when feasible, also attends the annual meetings to discuss the status of the projects identified in the Annual Work Plans. At both the 5-year operations and effect and the annual meetings, the NYSDEC advises on the status of any pending additions or deletions to the state threatened and endangered species list that have the potential for inhabiting Hancock Field ANGB and the EADS site. When feasible, the NYSDEC will support ANG wildlife and vegetation surveys conducted at Hancock Field ANGB and the EADS site.

2.4 Integration with Other Plans

By its nature, an INRMP is multidisciplinary and provides a summary of natural resources and associated management at a specific installation. As a result, information from an INRMP is incorporated into other plans and other plans are written to support an INRMP. Hancock Field ANGB plans include the following:

- Stormwater Pollution Prevention Plan (SWPPP). Provides an overview of prevention and management of stormwater (Hancock Field ANGB 2020).
- BASH Plan. Provides an active program to minimize bird and other wildlife strikes to aircraft on Hancock Field ANGB, including techniques, processes, responsibilities, and management recommendations (174 ATKW 2019).
- IPM Plan. Provides a summary of management of pest species to minimize impact to mission, natural resources, and the environment (Hancock Field ANGB 2018). This plan also supports pest management on the EADS site.

In addition, this INRMP reflects the goals and objectives of the New York State Wildlife Action Plan (SWAP). The DoD and the ANG encourage integration of the SWAP into the installation's natural resources management program. The SWAP represents a shared vision and a strategy that has been developed by working with state, federal, and local organizations that partner with NYSDEC for wildlife conservation. The purpose of New York's SWAP is to identify species of greatest conservation need (SGCN), their habitats, population threats, and recommended actions for their conservation (NYSDEC 2015). The EM will consult with the regional NYSDEC office to determine areas where the installation can participate in future wildlife conservation partnerships with the NYSDEC in support of the SWAP. In addition, the NYSDEC is part of the development and implementation of the INRMP.

3.0 INSTALLATION OVERVIEW

3.1 Location and Area

The 174 ATKW is located at Syracuse Hancock International Airport in Onondaga County in central New York approximately 5 miles (8 kilometers) north of Syracuse, NY (Figure 2). The Hancock Field Tract III is a 270-acre (109-hectare) parcel accessed via East Molloy Road, located adjacent to the south side of the airport (Figure 3). A GSU, Hancock Field Tract II, is an approximate 86-acre (35-hectare) parcel in Onondaga County to the east of the airport and is accessed via Stewart Drive (Figure 3). The second GSU (Radar Site) is approximately 4 acres (1.6 hectares) located in Madison County near the Town of Sullivan at 2020 Enterprise Drive, Chittenango, NY (Figure 4). The three sites together are referred to as the Hancock Field ANGB in this INRMP. The 174 ATKW is responsible for the real property and environmental management of the EADS site in Rome, NY. The host unit of EADS is the 224th Air Defense Group. The EADS site is comprised of two parcels located at the Griffiss Business and Technology Park (Figure 5). The Main Operational Site, which is accessed via Perimeter Road off Highway 365, is approximately 23 acres (9.3 hectares) and the Antenna Site, located off Golf Road at the northern end of the airport, is approximately 24 acres (9.7 hectares). The Hancock Field ANGB and the EADS site total approximately 406.8 acres (164.6 hectares).

In addition, the 174 ATKW currently has two GSUs stationed at Fort Drum, NY. These detachments are tenants of Fort Drum without any exclusive use of real property. Therefore, natural resources are managed under Fort Drum's INRMP and the GSUs are not discussed further in this document.

3.2 Installation History

The present Syracuse Hancock International Airport was established during World War II as a U.S. Army Air Corps base. On December 31, 1941, the War Department approved construction of an Army air base in Syracuse. Initially, Syracuse Army Air Base was used by the First Concentration Command and later the Air Materiel Command to process bombardment groups. In 1943, the base began a transport aircraft training mission. By 1944, the base had reverted to standby status. When the war in the European theater ended on May 8, 1945, the bombers used in that theater were stored at the Syracuse Army Air Base. The Syracuse Army Air Base closed on December 15, 1946 (NGB 2015).

The City of Syracuse took over its lease on July 22, 1946, and began plans to open an airport to redistribute air traffic from the city's Amboy municipal airport. On February 1, 1952, the USAF opened a base on the former Syracuse Army Air Base. The area became the headquarters of the 32nd Air Division of the Air Defense Command. Redevelopment of the former Army Air Base as an ANG installation began in 1954. The squadron's mission was changed and the unit was re-designated the 138th Tactical Fighter Squadron. The 138th Tactical Fighter Squadron provided conventional support to the North Atlantic Treaty Organization and was the only complete ANG unit mobilized. The unit was deactivated on August 20, 1962. Upon its return to the Syracuse Hancock International Airport, the unit was reorganized and federally recognized as the 174th Tactical Fighter Group. The 174th Tactical Fighter Group became the third ANG unit equipped with the A-10A Thunderbolt II in 1979 and was reconstituted as the 174th Tactical Fighter Wing. In 1988, the unit began a conversion to the F-16A Fighting Falcon. The unit received the designation as the 174th Fighter Wing in 1993 as a result of an internal reorganization in USAF and ANG command structure, and was subsequently re-designated as the 174 ATKW in 2012 (NGB 2015).

ANGB - Air National Guard Base
EADS - Eastern Air Defense Sector

Figure 2. Hancock Field ANGB and EADS Site Regional Map

Legend

- Eastern Air Defense Sector Site
- Hancock Field Air National Guard Base

0 33,000 66,000 Feet

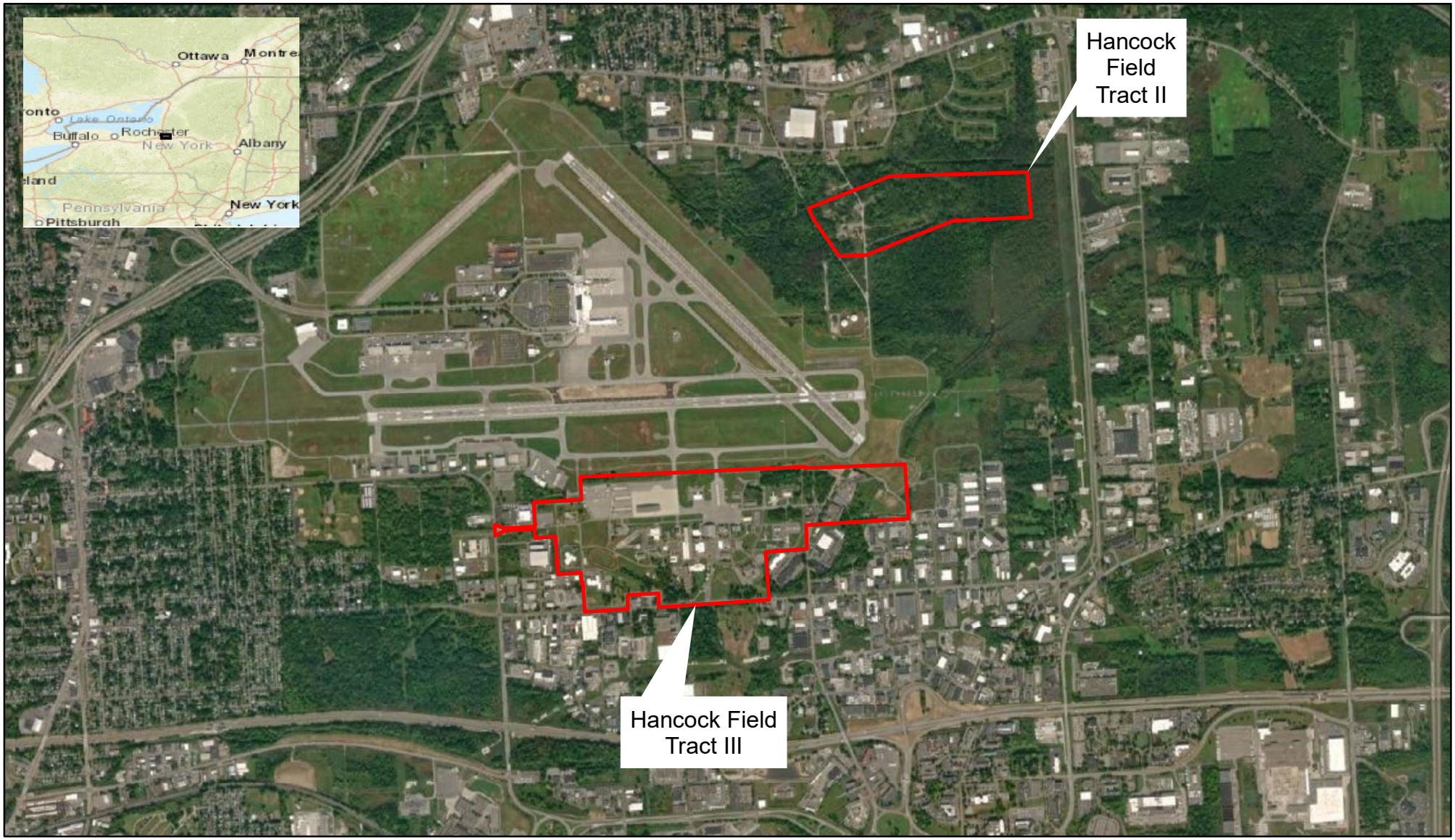


Figure 3. Hancock Field Tract III and Tract II Site Map

Legend

Installation

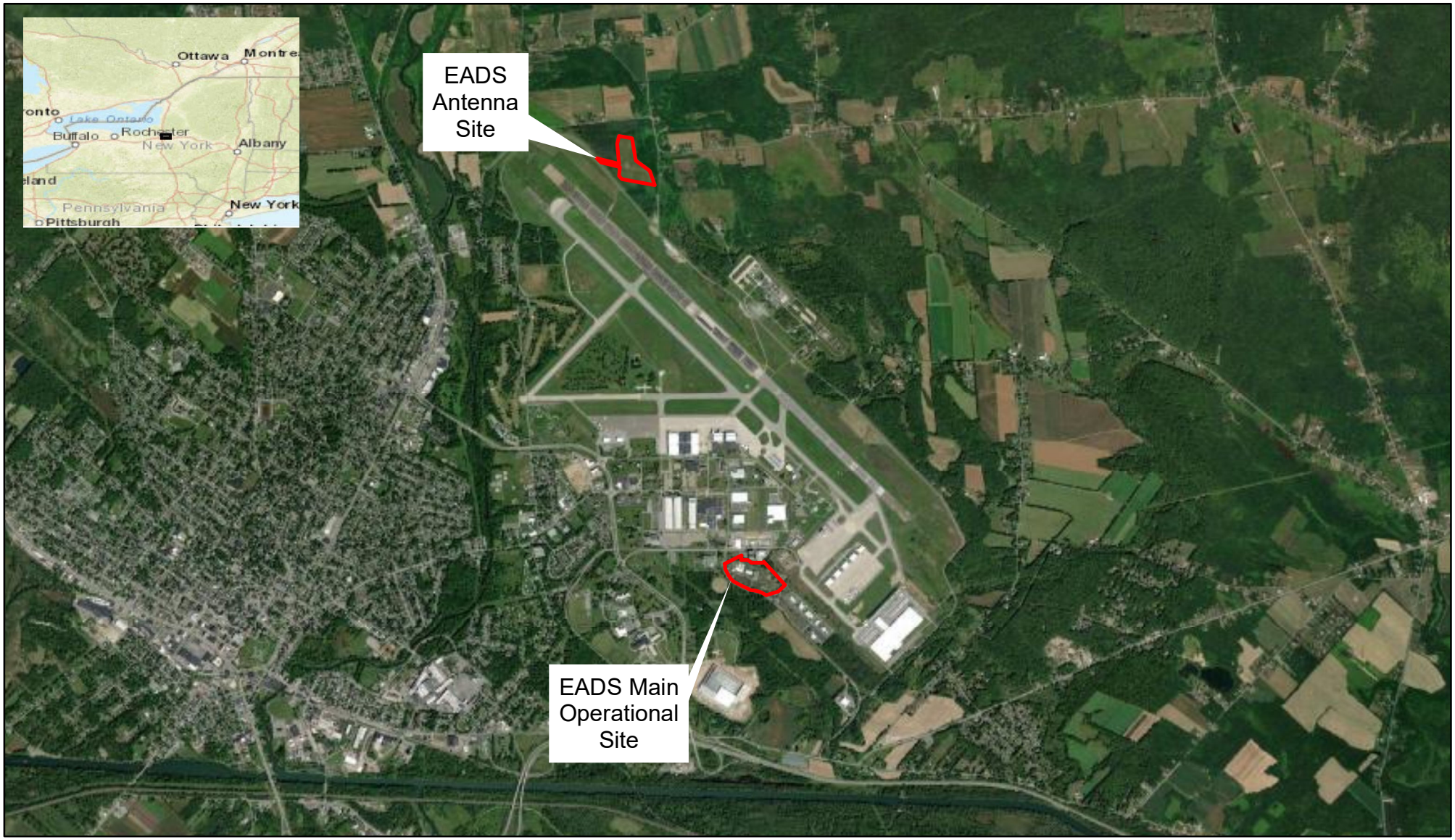
0 4,000 8,000 Feet

Figure 4. Town of Sullivan Radar Site Map

Legend

Town of Sullivan Radar Site

0 2,600 5,200 Feet



EADS - Eastern Air Defense Sector

Figure 5. Eastern Air Defense Sector Site Map

Legend

EADS Site

0 6,400 12,800 Feet

The 174 ATKW has a very unique mission within the ANG. In 2010, the last F-16 aircraft departed Hancock Field and the unit transitioned from the 174th Fighter Wing to the 174 ATKW in September 2012. The unit supports both training and operations of the MQ-9 Reaper remotely piloted aircraft (RPA). The 174 ATKW is one of three ANG units tasked with providing initial mission qualification training for MQ-9 crew members (to include launch and recovery of RPAs at the Syracuse Hancock International Airport). The Wing also provides real-time operational support of MQ-9 missions worldwide (174 ATKW 2019).

In response to the threat of long-range Soviet bombers, the U.S. and Canada signed a treaty in 1958 creating the bi-national NORAD, responsible for both countries air defense and air sovereignty (USAF 2021). Responsibility for air defense of the Northeast changed with various reorganizations and, in 1983 the 24th Air Division was assigned to Griffiss Air Force Base to provide air defense for the Northeast. The Northeast Air Defense Sector (NEADS) was activated and co-located with the 24th Air Division in 1987 (USAF 2021). NEADS took sole responsibility for the air defense mission when the air divisions were de-activated in the early 1990s. By the mid-1990s, the ANG assumed responsibility for U.S. air defense and provided command and control for the Continental U.S. NORAD Region and its subordinate Sector Headquarters (USAF 2021). In December 1994, the NYANG assumed primary responsibility for manning NEADS; the unit formally became the 224th Air Defense Group in 2014. In 2006, the Southeast Air Defense Sector was inactivated and NEADS assumed responsibility for defending the airspace east of the Mississippi River. To better align name and mission, NEADS formally became the EADS in 2009 (USAF 2021).

3.3 Military Missions

The primary mission of the 174 ATKW is to provide qualified airmen and weapons systems engaging in joint global air, space, and cyberspace operations, in support of homeland defense, and to aid civil authorities at the direction of the Governor of New York State. Operations include Air Education and Training Command's only MQ-9 Field Training Detachment and one of three Air Combat Command MQ-9 Formal Training Units. The 174 ATKW provides manpower to support MQ-9 combat Remote-Split Operations, Air Education and Training Command's MQ-9 maintenance field training, Air Combat Command MQ-9 Formal Training Unit, and multiple tenant units (NGB 2015). The 174 ATKW's state mission is to assist state authorities during civil and natural disaster emergencies. EADS' mission is to counter all air threats to its Area of Operations through vigilant detection, rapid warning, and precise tactical control of NORAD and the U.S. Northern Command forces.

3.4 Surrounding Communities

The 174 ATKW's main installation (Hancock Field Tract III) and two GSUs (Tract II and the Radar Site) are located in central New York, with Tract III and Tract II approximately 5 miles (8 kilometers) north of Syracuse, NY and the Radar Site approximately 11 miles (18 kilometers) to the east, near the Town of Sullivan. The EADS site is located in Rome, NY. Land use surrounding the Syracuse airport and the 174 ATKW primarily consists of industrial, commercial, and public services to the northeast and south, with residential areas to the southwest, north, and east of the airport (NGB 2015). Mattydale, NY (population 5,820) is located to the southwest of Tract III and North Syracuse, NY (population 6,767) is located to the north (US Census Bureau 2019a). Lyncourt, NY (population 3,974) is located to the south of Mattydale and just north of Syracuse (US Census Bureau 2019a). Syracuse, NY has a population of 142,310 according to the 2019 American Community Survey 1-Year Estimates (US Census Bureau 2019b). Land use surrounding the Griffiss Business and Technology Park in Rome, NY consists of residential to the west and south and undeveloped or agriculture to the north and east. Rome, NY has a population of 32,253 according to the 2019 American Community Survey 1-Year Estimates (US Census Bureau 2019a).

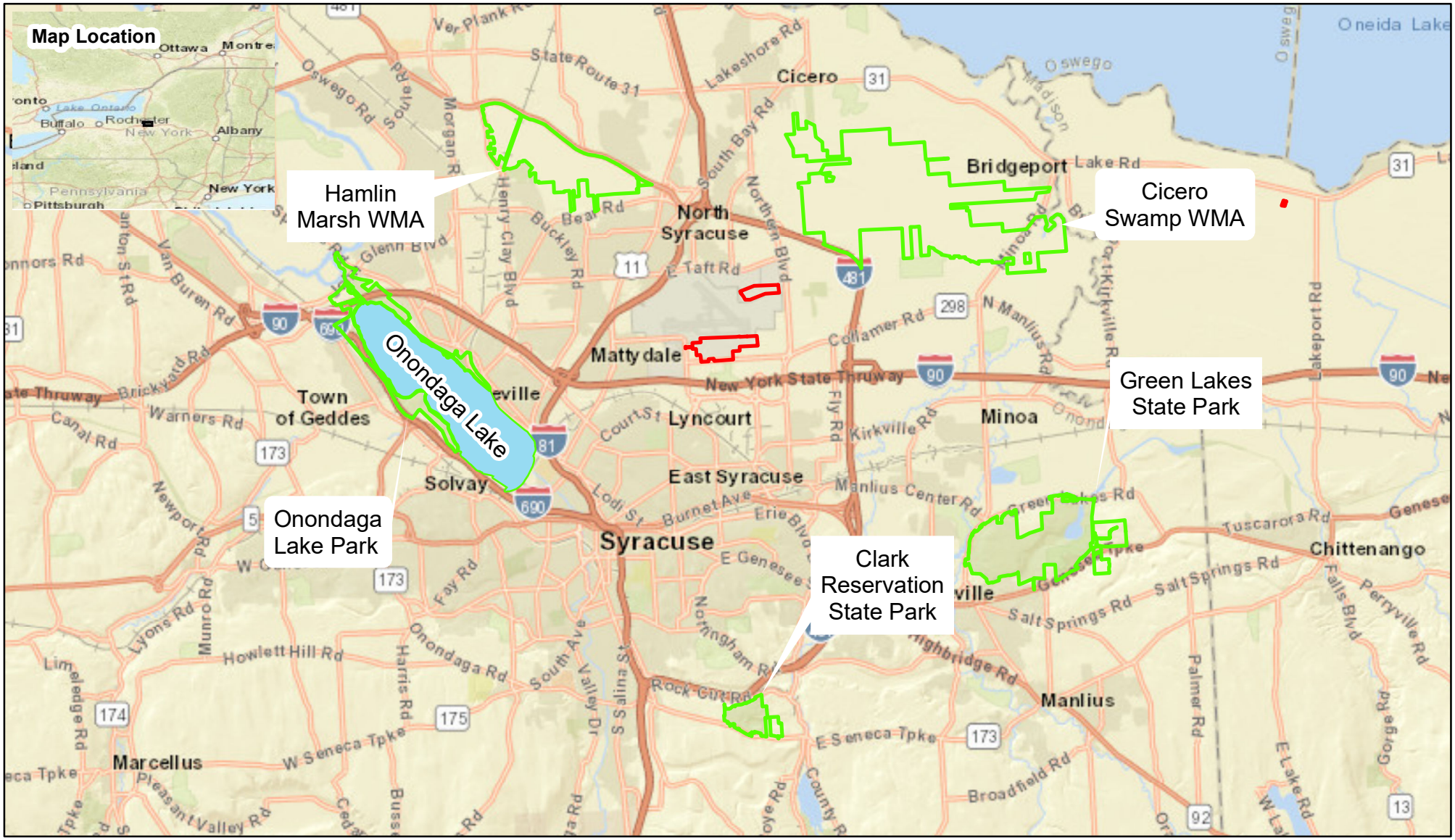
3.5 Local and Regional Natural Areas

Regional natural areas near Hancock Field ANGB include the following (Figure 6):

- Cicero Swamp Wildlife Management Area (WMA) is a 4,991-acre (2,020-hectare) area managed by NYSDEC for the primary purposes of wildlife and wildlife habitat management, and wildlife-dependent recreation. This WMA dominates the northeastern portion of Onondaga County and is low and wet, with upland islands scattered throughout (NYSDEC 2021a).
- Hamlin Marsh WMA is also managed by NYSDEC for wildlife and wildlife habitat management, and wildlife-dependent recreation. This WMA is 1,686 acres (682.3 hectares) with approximately 88 percent as wetland habitat. Mud Creek flows into and out of Hamlin Marsh WMA and drops only about 2.4 feet (0.73 meter) as it travels through the marsh. Mill Creek flows into the marsh from the south side under Bear Road (NYSDEC 2021b).
- Onondaga Lake and Onondaga Lake Park are located to the west of Hancock Field ANGB. The park is an 8-mile linear greenway, featuring four recreational trails. Other features include Wegmans Landing, a 10-acre (4-hectare) venue, with Wegmans Playground, a colorful mecca with climbers, swings, play houses, and slides and the 16,000-square-foot (1,500-square-meter) concrete Onondaga Lake Skatepark (Onondaga County Parks 2021).
- Clark Reservation State Park, roughly 340 acres (138 hectares), is a geologic wonder of the last ice age and a botanist's paradise. The park's natural features include rugged cliffs and rocky outcrops, woodland and meadow, a wetland and a glacial plunge basin lake in which the surface waters and bottom waters do not mix (NYS 2021a).
- Green Lakes State Park is approximately 2,000 acres (800 hectares) and features two glacial lakes surrounded by upland forest. Both Round and Green Lakes are meromictic lakes, meaning there is no fall and spring mixing of surface and bottom waters. Such lakes have a high potential for evidence of ancient plant and animal life (NYS 2021b).

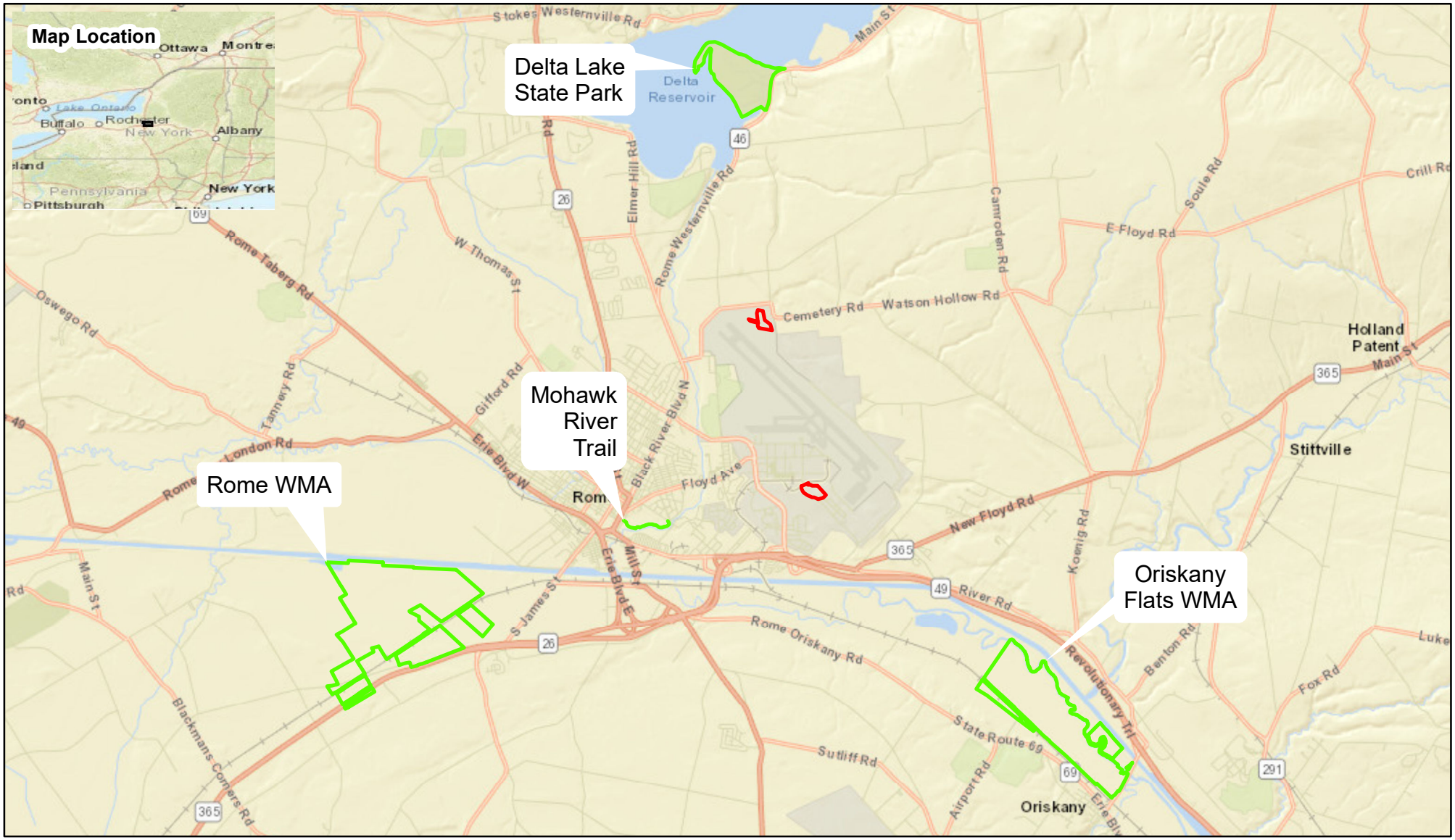
Regional natural areas near the EADS site include the following (Figure 7):

- Delta Lake State Park (720 acres [291 hectares]) is located on a peninsula extending into Delta Reservoir. Visitors can enjoy hiking, picnicking, camping, boating, as well as fishing. The peninsula was created when the Mohawk River was impounded in 1908 to form Delta Lake, a reservoir intended to supply water to the New York State Barge Canal (NYS 2021c).
- Mohawk River Trail is a 3.3-mile (5.3-kilometer) trail that parallels the river. At its southern end, the trail connects to the Erie Canalway Trail, a nearly 300-mile (500-kilometer) canal trail running the breadth of New York State (TrailLink 2021).
- Rome WMA is managed by NYSDEC for the purpose of wildlife management, wildlife habitat management, and wildlife-dependent recreation. The 1,204-acre (487.2-hectare) forested wetland area is adjacent to the 1913 Barge Canal corridor (the New York State Barge Canal system that includes the Erie Canal). The wetland complex on the WMA is important for flood control and water quality for the city of Rome (NYS 2021d).
- Oriskany Flats WMA is managed by NYSDEC for the purpose of wildlife management, wildlife habitat management, and wildlife-dependent recreation. This WMA is 806 acres (326 hectares) and contains fallow agricultural fields, wetlands, and brushland habitats. The WMA is located in the City of Rome along the Mohawk River (NYSDEC 2022).



ANGB - Air National Guard Base
WMA - Wildlife Management Area

Figure 6. Local and Regional Natural Areas near Hancock Field ANGB



EADS - Eastern Air Defense Sector
WMA - Wildlife Management Area

Figure 7. Local and Regional Natural Areas near the EADS Site

Legend

Eastern Air Defense Sector Site

0 15,000 30,000 Feet

4.0 PHYSICAL ENVIRONMENT

4.1 Climate

The climate in Syracuse, NY is warm and partly cloudy in the summer and cold and cloudy in the winter. The nearest National Weather Service weather station measuring both temperature and precipitation is located at the Syracuse Hancock International Airport. The average annual precipitation is 38.5 inches (97.8 centimeters). The least amount of precipitation occurs in February at 2.07 inches (5.26 centimeters); most precipitation falls in summer and early fall. The temperatures are highest on average in July, at around 81.6 degrees Fahrenheit (°F) [27.6 degrees Celsius (°C)]. January is the coldest month with an average high temperature of 31.5 °F (-0.278°C) and an average low temperature of 15.7 °F (-9.06 °C). The variation in the precipitation between the driest and wettest months is 1.71 inches (4.34 centimeters). Average monthly temperature and precipitation data are provided in Table 2.

Table 2. Average Monthly Temperatures and Precipitation in the Region

Month	Average Low Temperature (°F)	Average High Temperature (°F)	Average Precipitation (inches)
January	15.7	31.5	2.50
February	17.6	34.2	2.07
March	25.1	43.2	2.95
April	36.6	57.2	3.19
May	46.4	68.8	3.22
June	56.0	77.5	3.31
July	61.0	81.6	3.78
August	59.6	80.0	3.57
September	51.9	72.2	3.69
October	41.2	60.0	3.44
November	32.8	48.4	3.53
December	22.4	36.4	3.22

Source: NOAA 2021

°F degrees Fahrenheit

Climate Change

DoDI 4715.03, *Natural Resources Conservation Program,* requires the INRMP to include an assessment of the potential impacts of climate change on natural resources on the installation and to adaptively manage such resources to minimize adverse mission impacts. Climate change could have serious impacts on the state's diverse ecosystems and native species, and may encourage the spread of non-native species. Climate change would also likely alter the natural range of many different plants and animals.

The average annual temperatures statewide have risen approximately 2.4 °F (1.3 °C) since 1970 (NYSDEC 2021c). Spring begins a week earlier than it did a few decades ago which means that pollinating bees are arriving earlier and breeding bird population ranges have shifted northward. The Climate Leadership and Community Protection Act, passed in 2019, mandated that the state reduce greenhouse gas emissions by 85 percent by 2050 compared to 1990 levels (NYSDEC 2020a).

Initiated in 2008, the ClimAID (Integrated Assessment for Effective Climate Change Adaptation Strategies in New York State) process is funded by the New York State Energy Research and Development Authority with the goal of providing decision-makers with information on climate vulnerability and risks and developing adaptive strategies to meet those changes. Projections for the Tug Hill Plateau region (New York State Region 6), where Hancock Field Tract III and Tract II are located, as well as the East Hudson and Mohawk River Valley Region (New York State Region 5) where the Radar Site and the EADS site are located, include relatively low rainfall and increased drought in the summer months. Temperatures are expected to increase approximately 3.5 to 7.2 °F (1.9 to 4 °C) by the 2050s in both regions (Horton et al. 2014). The number of days over 90˚F (32 °C) ranges from 14-23 in the 2020s but increases to 22-50 by the 2050s in Region 5. Extreme heat days will also increase in Region 6 from 5-10 days in the 2020s to 9-26 days in the 2050s (Horton et al. 2014). Precipitation is expected to increase by 2 to 10 percent in Region 6 and by 2 to 15 percent in Region 5 by the 2050s with much of it occurring in the winter months as rain (Horton et al. 2014). Higher temperatures have the potential to affect ecosystems by altering pest populations and habitats (e.g. the expansion of invasive species such as kudzu [*Pueraria montana*], a state prohibited invasive species). Increased frequency of heavy downpours can heighten the risk of flooding. New York has an abundance of water resources and increasing water temperatures in rivers and streams will affect aquatic health; aquatic species will also be vulnerable to changes in timing and intensity of rainfall. Within the next several decades, New York State is likely to see shifts in species composition in natural landscapes and the state's forests, with the loss of spruce-fir forests, alpine tundra, and boreal plant communities. Increased temperatures have also reduced snowpack which impacts snow-dependent species like snowshoe hare, fox, bobcat, and cold-water fish species (Horton et al. 2014).

4.2 Landforms and Geology

Hancock Field ANGB and the EADS site are located in the Erie-Ontario Lowlands physiographic province, the plains which border the Great Lakes. The generally low relief is provided by a series of proglacial lake beach ridges. Within this physiographic province, the installations are located within the Oneida Lake Plain, a low area lying south and east of Oneida Lake, characterized by broad swampy lands, for example, Cicero Swamp (NYSDOT 2013). At its fullest extent, the Laurentide Ice Sheet of the Wisconsin Glaciation covered all of New York and the Great Lakes until the glacier retreated from Michigan around 12,000 to 10,000 years ago (174 ATKW 2013). The area is further defined as the Finger Lakes region, a group of eleven long, narrow north-south lakes that lie within a triangle between Syracuse, Rochester, and Elmira-Corning.

Within the Finger Lakes region near the Hancock Field ANGB, Paleozoic strata are found to depths of several thousand feet. During the Silurian period, the Central New York area was a shallow sea and evaporating seawater created thick salt deposits, which are mined today. Skeletons of marine animals, many of which were calcium carbonate, accumulated on the seafloor eventually becoming limestone. Tall mountains east of the shallow sea also eroded into the sea creating the thick sedimentary rocks of the Devonian age. This resulted in sandstone along deltas and beaches, close to land, and siltstone and shale formations in the deeper waters of the ancient sea. The black shales found throughout most of Central New York were formed around this time (NGB 2015).

Surficial geology in the Finger Lakes region, specifically the northeast portion of the region in the vicinity of the Syracuse Hancock International Airport and along the southwest shores of Oneida Lake, is predominately lacustrine silts and clay with a varying thickness of up to 164 feet (50 meters). Farther south, poorly sorted till (clay, silt-clay, boulder clay) with a variable thickness of up to 164 feet (50 meters) dominates the surficial geology features. Other glacial deposits in the area are less abundant and include lacustrine sand, swamp deposits, outwash sand and gravel,

bedrock and bedrock stipple overprint, kame moraine, till moraine, and lacustrine delta (NGB 2015).

The EADS site lies in the Mohawk Valley lowland just north of the Allegheny Plateau. Utica Shale forms the bedrock underlying the site and the surrounding area. The formation is highly fossiliferous. The depth to the Utica Shale is approximately 130 feet (40 meters) at the Main Operational Site and less at the Antenna Site. Deposits lying above the Utica Shale consist of clay, silt, sand, and gravel sediments laid down by glacial, fluvial, and lacustrine processes (Hancock ANGB 2018).

4.3 Soils

Figure 8. Hancock Field ANGB Landscape

According to the Natural Resources Conservation Service soil survey of Onondaga County, NY, l9 different types of soils underlie the Hancock Field Tract III with five soils types making up more than 60 percent of the area: Niagara silt loam, Collamer silt loam, Croghan loamy fine sand, Colonie loamy fine sand, and Minoa fine sandy loam (Figure 9; USDA NRCS 2021). The predominant naturally-occurring soil found throughout Tract III is the Niagara silt loam; these soils are characterized as somewhat poorly drained. While the Minoa fine sandy loam soils are also poorly drained, the other three soil types are moderately well to excessively drained soil types. Urban land, which is not composed of native soil, encompasses 18 percent of the site.

Twelve different types of soils underlie Hancock Field Tract II with the dominant type being gravel pits through the northwestern portion of the unit (Figure 9; USDA NRCS 2021). The other dominant soil types, all of which are poorly drained, include: Minoa fine sandy loam, Palms muck, and Niagara silt loam. Palms muck is a hydric soil associated with wetland features (e.g. swamps, marshes). The Radar Site contains two types of poorly drained silt loam soils: Odessa silt loam and Raynham silt loam (Figure 10; USDA NRCS 2021). The Raynham silt loam soils are found at the southern end of the site completely within the forested habitat.

The EADS site contains a high amount of urban land (44 percent) and three other soil types (Figure 11; USDA NRCS 2021). The Antenna Site is comprised of Alton gravelly loam and Niagara silt loam. Urban land comprises the majority of the Main Operational Site with a sliver of Windsor loamy fine sand found along the southern boundary. The clay deposits make for poorly drained soils in the Niagara silt loam whereas the other two soil types are well drained.

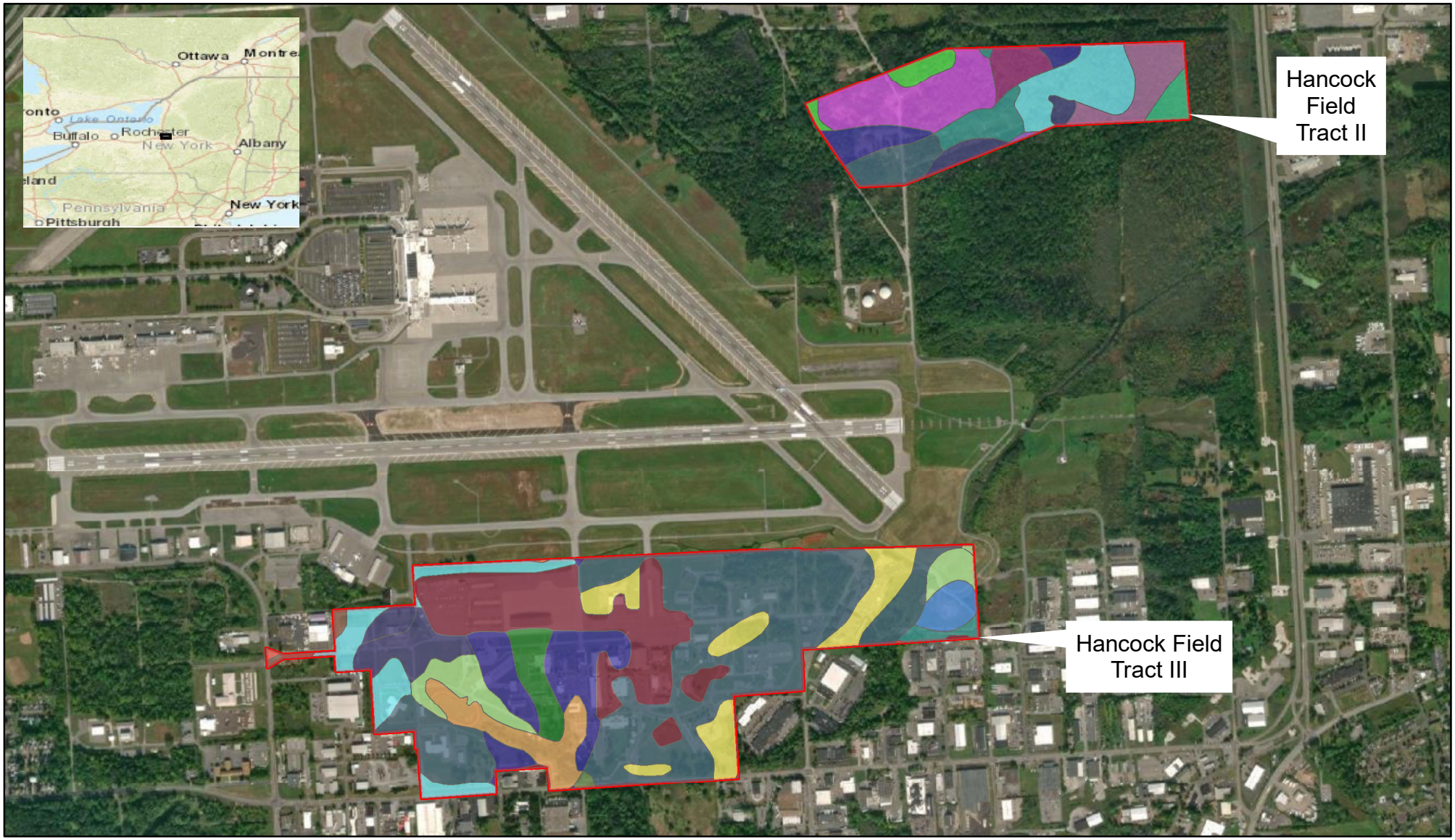


Figure 9. Soil Map for Hancock Field Tract III and Tract II

Legend

Installation

Name

- Alton gravelly fine sandy loam
- Arkport very fine sandy loam
- Canadaigua mucky silt loam
- Carlisle muck
- Collamer silt loam
- Colonie loamy fine sand
- Croghan loamy fine sand
- Cut and fill land
- Galen very find sandy loam
- Hilton loam
- Lockport & Brockport silty clay loams
- Minoa fine sandy loam
- Naumburg loamy fine sand
- Niagara silt loam
- Ontario loam
- Palms muck
- Pits, gravel
- Silt-LL
- Urban land
- Williamson silt loam

0 2,000 4,000 Feet

Figure 10. Soil Map for the Town of Sullivan Radar Site

Legend

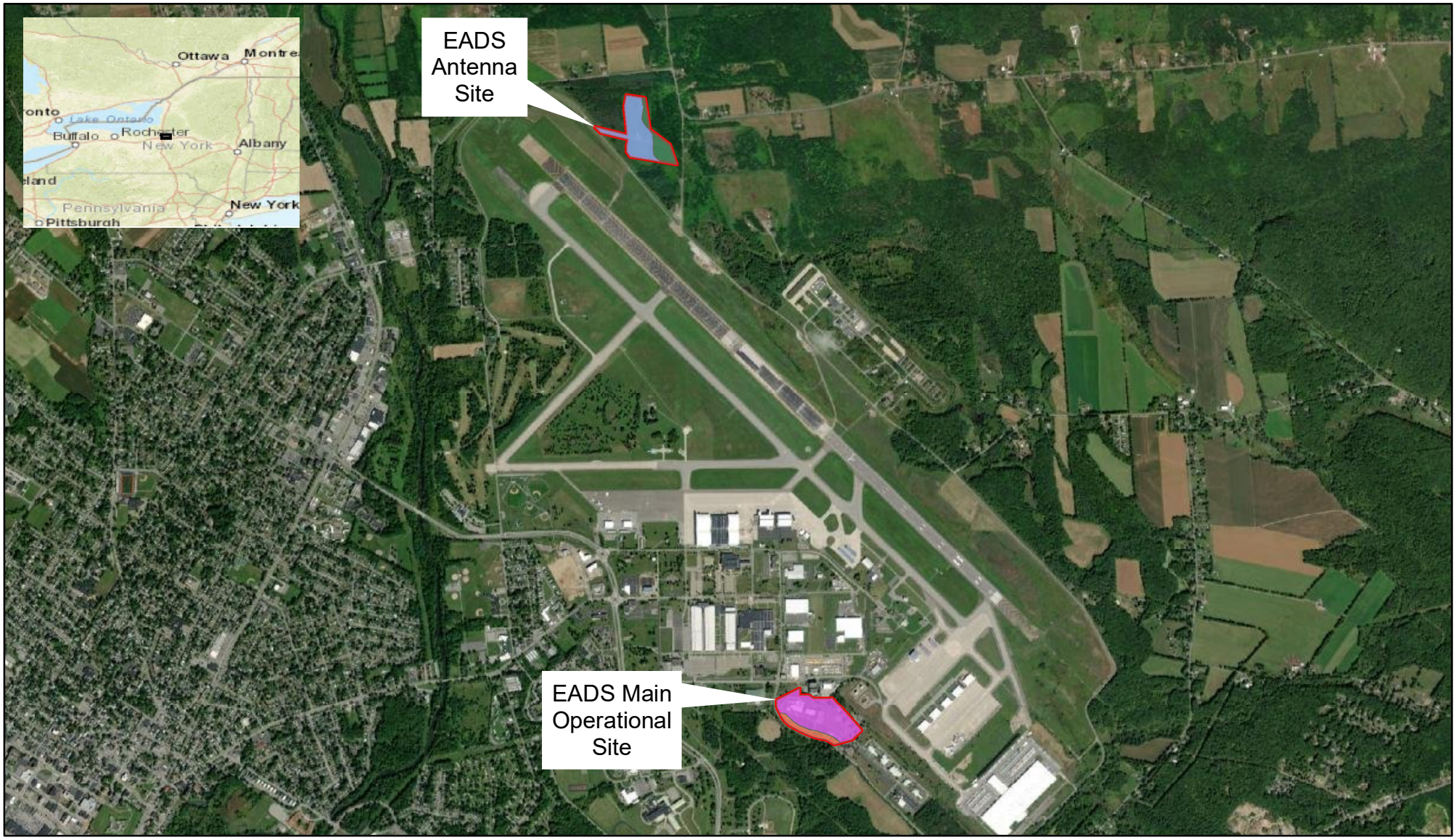
Town of Sullivan Radar Site

Soil Type

Odessa silt loam

Raynham silt loam

0 225 450 Feet



EADS - Eastern Air Defense Sector

Figure 11. Soil Map for the EADS Site

Legend

Eastern Air Defense Sector Site

Soil Type

- Urban Land
- Alton gravelly loam
- Niagara silt loam
- Windsor loamy fine sand

0 5,250 10,500 Feet

4.4 Hydrology

4.4.1 Groundwater

The Hancock Field ANGB is located within the Great Lakes Region groundwater basin. Groundwater resources of this region are derived from two major sources, unconsolidated materials (homogeneous accumulations of coarse-grained glacial materials or recent alluvium) or the underlying rock aquifers. Portions of the Hancock Field ANGB lie within local groundwater discharge zones, which are supported by typically high soil unit water levels, perennial stream flow, and the presence of numerous, large, permanent wetlands east of Syracuse Hancock International Airport (NGB 2015). Water levels have been measured from 3 to 8.5 feet (1.5 to 4.3 meters) below the ground surface at both Hancock Field Tract III and Tract II (Hancock Field ANGB 2018). Regional groundwater flow is to the south and southeast towards Ley Creek (Hancock Field ANGB 2018). No measurements have been collected for the Radar Site.

The aquifers underlying the Hancock Field ANGB generally correspond to the well-sorted, fairly homogeneous sand and gravel deposits (unconsolidated) and the highly fractured and jointed Vernon Formation shales (consolidated), which make up the surficial and bedrock aquifers, respectively. The confining layer separating the two aquifers is glacial till, which, by nature, has low effective porosity, low hydraulic conductivity, and low specific yields (NGB 2015). The primary aquifer underlying the Hancock Field ANGB as well as the EADS site is the Baldwinsville Aquifer.

The EADS site is located in the Mohawk River Basin which comprises the largest tributary to the Hudson River (NYANG 2006). The Mohawk River drains surface waters from the Adirondack Mountains through the Tug Hill geologic region, and culminates in the New York State Barge Canal, a primary navigation route (NYANG 2006). The general pattern of surface flow across Griffith Business and Technology Park, where the EADS site is located, is from the center of the park towards the perimeter. Surface runoff from the western portion of the airfield drains into the Mohawk River. Surface drainage from the rest of the park drains into Sixmile Creek (NYANG 2006).

4.4.2 Surface Water

New York is divided into 17 watersheds, which are the basis for management, monitoring, and assessment activities. Most of Onondaga County, including the city of Syracuse and the Hancock Field ANGB are located in the Oswego River/Finger Lakes Watershed, which totals 5,070 square miles (13,130 square kilometers) of land area entirely within New York. This watershed is one of the largest in New York State and includes the drainages of the Oswego, Oneida, Seneca, and Clyde rivers. Its headwaters originate in the southwestern Adirondack Mountains in the east and along the northern edge of the Appalachian Plateau and flow across the central lowlands before emptying into Lake Ontario. Approximately 6 percent of the total surface area comprises lakes (NYSDEC 2021d).

Seven wetlands and four watercourses are found on Hancock Field ANGB (further discussed in Section 5.5). Stormwater from the 174 ATKW on Hancock Field Tract III is discharged through four outfalls, each associated with an individual drainage basin (Figure 12). Drainage Basin 001 encompasses the southwestern-central areas of the base and stormwater flows through a combination of earthen ditches/grassed swales, underground pipes, and retention ponds to Outfall 001. Drainage Basin 002 encompasses the northeastern-central areas of the base. Stormwater flows through a combination of earthen ditches/grassed swales, underground pipes, and retention ponds to Outfall 002 located along Thompson Road on the southeastern perimeter of the base.

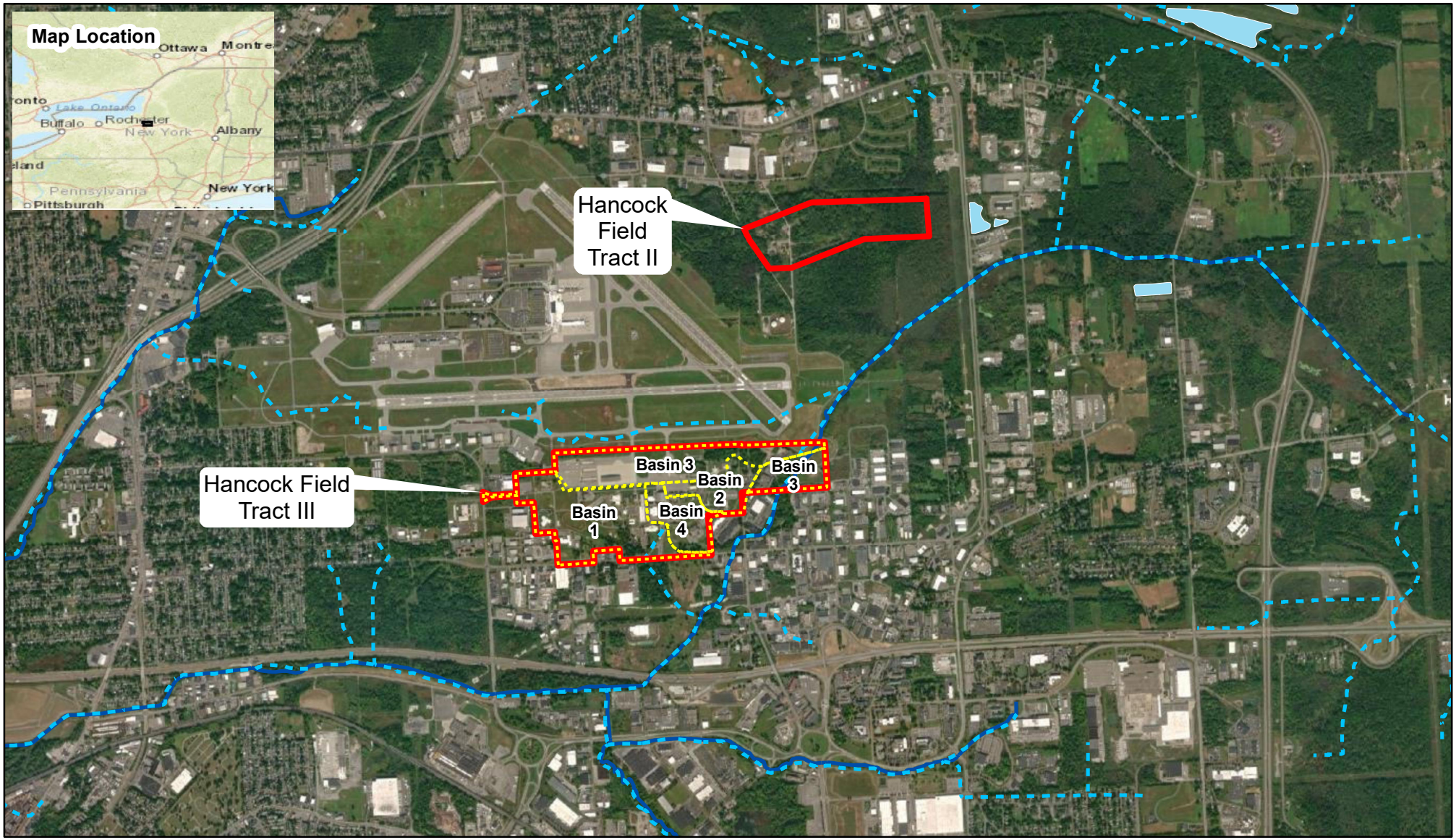


Figure 12. Hydrology Map for Hancock Field Tract III and Tract II

Legend

- Installation
- Hancock Field Tract III Drainage Basins

Area Hydrology

- Perennial lake or pond

Linear Hydrology

- Stream boundary, major category
- Drainage Streams

0 5,400 10,800 Feet

The northwestern areas of the base are encompassed in Drainage Basin 003 which receives stormwater runoff from the NYANG aircraft ramps and parking aprons and other airport facilities to the west including Runways 32 and 28. Stormwater flows via sheet flow, drainage ditches/swales, and underground piping to Outfall 003. Stormwater flowing through a combination of earthen ditches/grassed swales, underground pipes, and retention basins to Outfall 004 located at Thompson Road drains from Drainage Basin 004 which encompasses the southcentral areas of Hancock Field Tract III. All outfalls discharge to earthen ditches/grassed swales that drain to North Branch Ley Creek, a surface water body located to the south and east of the base, and classified with Water Classification C (Hancock Field ANGB 2020). Classification C waters support fisheries and are suitable for non-contact activities. Tract II does not contain designated drainage basins. Along the northern border of the Radar Site, a linear ditch connects the palustrine forested and emergent wetland and collects stormwater runoff (Figure 13).

The EADS site is located in the Mohawk River Watershed (Figure 14). The approximate 3,460-square-mile (8,960-square-kilometer) Mohawk River Basin makes up roughly 25 percent of the entire Hudson River drainage area. The Mohawk River headwaters are located between the southwestern portion of the Adirondack Mountains and the eastern edge of the Tug Hill Plateau. From here the river flows south towards Rome where it turns due east and carves a 140-mile (225-kilometer) path for the Erie Barge Canal before joining the Hudson River in Cohoes. The Mohawk River Basin includes several major tributaries and reservoirs, including Schoharie Creek, West Canada Creek, East Canada Creek, Hinckley Reservoir, Delta Reservoir, and Schoharie Reservoir (NYSDEC 2021e). The EADS site, located in Griffith Business and Technology Park, is bordered on the west, south, and east sides by small rivers and creeks (NYANG 2006). Based on a site visit there are no WOTUS at the EADS site.

Figure 13. Hydrology Map for the Town of Sullivan Radar Site

Legend

Town of Sullivan Radar Site

Area Hydrography

Perennial lake or pond

Linear Hydrography

Perennial stream or river

Drainage Streams

0 2,600 5,200 Feet

EADS - Eastern Air Defense Sector

Figure 14. Hydrology Map for the EADS Site

Legend

Eastern Air Defense Sector Site

Area Hydrology

- Perennial canal, ditch, or aqueduct
- Perennial lake or pond
- Perennial stream or river

Linear Hydrology

- Intermittent stream, river, or wash
- Perennial canal, ditch, or aqueduct
- Perennial stream or river
- Stream boundary, major category
- Drainage Basins

0 14,000 28,000 Feet

5.0 ECOSYSTEMS AND THE BIOTIC ENVIRONMENT

5.1 Ecosystem Classification

The Hancock Field ANGB is located within the Eastern Great Lakes Lowlands ecoregion which surrounds the Highland ecoregions of northern New York State (Bryce et al. 2010). Ecoregions denote areas of similarity in the mosaic of biotic, abiotic, terrestrial, and aquatic ecosystem components (EPA 2021). The soils in this area are limestone-derived soils and are deep and productive. As a result, less native forest remains in the ecoregion than in surrounding ecoregions as the region was cleared for urban development or agriculture (Bryce et al. 2010). This region is further subdivided by the US Environmental Protection Agency (USEPA) into six level-IV ecoregions. The Ontario Lowlands ecoregion is a diverse physiographic area whose relative proximity to Lake Ontario tempers the climate at the Hancock Field ANGB. The EADS site is located within the Mohawk Valley ecoregion, an irregular valley with rolling hills, low mountains, river terraces, and a narrow-incised river valley (Bryce et al. 2010). Canal building, channelization, and railroad and highway construction have affected the pattern and structure of the river's natural meanders as well as the wetlands in the ecoregion (Bryce et al. 2010).

5.2 Vegetation

5.2.1 Historic Vegetative Cover

Historically the areas of the Hancock Field ANGB and the EADS site had similar vegetative cover: forests dominated by beech (*Fragus* sp.) and sugar maple (*Acer saccharum*) with smaller amounts of white oak (*Quercus alba*), basswood (*Tilia americana*), elm (*Ulmus* sp.), and white ash (*Fraxinus americana*). Elm, black ash (*Fraxinus nigra*), and silver maple (*Acer saccharinum*) could be found in poorly drained hardwood swamps.

5.2.2 Current Vegetative Cover at Hancock Field ANGB

Five unique habitats are delineated on Hancock Field ANGB: landscaped, disturbed, woodland/hardwood, riparian woodland, and wetland (Hancock Field ANGB 2022). Of the 218 unique species documented, 136 of the species are considered native, 73 are introduced species, and 10 are classified as both (Table 3). Black locust (*Robinia pseudoacacia*), although native, is considered by New York as a regulated noxious weed. A description of each habitat type identified during the Hancock Field ANGB flora surveys is detailed below. Flora and fauna surveys have not been conducted at the EADS site, but are proposed in the INRMP.

Table 3. Plant Species Observed at the Hancock Field ANGB

Scientific Name	Common Name	Habitat Type(s) Observed	Origin[1]
Ferns			
Athyrium angustum	Northern lady fern	Wetland	Native
Onoclea sensibilis	Sensitive fern	Wetland, Woodland	Native
Osmundastrum cinnamomeum var. *cinnamomeum*	Cinnamon fern	Wetland	Native
Thelypteris noveboracensis	New York fern	Wetland, Woodland	Native
Graminoids			
Agrostis capillaris	Colonial bentgrass	Disturbed, Landscaped, Woodland	Introduced
Agrostis gigantea	Redtop	Landscaped, Wetland, Woodland,	Introduced

Scientific Name	Common Name	Habitat Type(s) Observed	Origin[1]
Agrostis scabra	Northern tickle grass	Disturbed	Native
Bolboschoenus maritimus	Cosmopolitan bulrush	Wetland	Native
Bromus inermis	Smooth brome	Woodland	Both
Bromus secalinus	Rye brome	Woodland	Introduced
Calamagrostis stricta	Slimstem reedgrass	Landscaped	Native
Carex alata	Broadwing sedge	Wetland	Native
Carex comosa	Bristly sedge	Disturbed	Native
Carex gynandra	Nodding sedge	Disturbed	Native
Carex intumescens	Bladder sedge	Wetland	Native
Carex lurida	Shallow sedge	Riparian woodland, Wetland	Native
Carex stricta	Tussock sedge	Disturbed, Wetland	Native
Carex vulpinoidea	Fox sedge	Disturbed, Wetland	Native
Cyperus esculentus	Yellow nutsedge	Landscaped	Both
Dactylis glomerata	Orchardgrass	Disturbed, Woodland	Introduced
Dichanthelium acuminatum	Tapered rosette grass	Woodland	Native
Echinochloa crus-galli	Barnyard grass	Disturbed, Landscaped	Introduced
Eleocharis palustris	Common spikerush	Wetland	Native
Elymus repens	Quackgrass	Disturbed, Woodland	Introduced
Eragrostis minor	Little lovegrass	Landscaped	Introduced
Hordeum vulgare	Common barley	Landscaped	Introduced
Juncus acuminatus	Tapertip rush	Wetland	Native
Juncus articulatus	Jointleaf rush	Wetland	Native
Juncus effusus	Common rush	Disturbed, Wetland	Native
Leersia oryzoides	Rice cutgrass	Disturbed, Wetland	Native
Lolium perenne	Perennial rye grass	Disturbed, Landscaped	Introduced
Muhlenbergia mexicana	Mexican muhly	Woodland	Native
Paspalum setaceum	Thin paspalum	Landscaped	Native
Phalaris arundinacea	Reed canarygrass	Disturbed, Riparian woodland, Wetland	Native
Phleum pratense	Timothy	Disturbed, Riparian woodland, Wetland, Woodland	Introduced
Phragmites australis	Common reed	Disturbed, Riparian woodland, Wetland	Both
Poa annua	Annual bluegrass	Landscaped	Introduced
Poa palustris	Fowl bluegrass	Disturbed, Wetland	Native
Poa pratensis	Kentucky bluegrass	Disturbed, Landscaped	Both
Schoenoplectus acutus	Hardstem bulrush	Wetland	Native
Scirpus atrovirens	Green bulrush	Wetland	Native
Scirpus cyperinus	Woolgrass	Disturbed	Native
Scirpus georgianus	Georgia bulrush	Wetland	Native
Setaria viridis	Green bristlegrass	Disturbed	Introduced
Sparganium americanum	American bur-reed	Wetland	Native

Scientific Name	Common Name	Habitat Type(s) Observed	Origin[1]
Sphenopholis intermedia	Slender wedgescale	Woodland	Native
Typha angustifolia	Narrowleaf cattail	Wetland	Both
Forbs			
Achillea millefolium	Common yarrow	Disturbed, Landscaped, Woodland	Both
Agrimonia striata	Roadside agrimony	Wetland	Native
Alliaria petiolata	Garlic mustard	Wetland, Woodland	NY Noxious
Ambrosia artemisiifolia	Annual ragweed	Disturbed, Landscaped	Both
Anemone canadensis	Canadian anemone	Riparian woodland, Woodland	Native
Anemone virginiana	Tall thimbleweed	Wetland, Woodland	Native
Apocynum cannabinum	Indianhemp	Disturbed, Wetland, Woodland	Native
Aralia nudicaulis	Wild sasparilla	Wetland	Native
Arctium lappa	Greater burdock	Disturbed, Woodland	Introduced
Arisaema triphyllum	Jack-in-the-pulpit	Wetland	Native
Asclepias incarnata	Swamp milkweed	Riparian woodland	Native
Asclepias syriaca	Common milkweed	Disturbed, Wetland, Woodland	Native
Asclepias tuberosa	Butterfly milkweed	Woodland	Native
Asparagus officinalis	Garden asparagus	Woodland	Introduced
Barbarea vulgaris	Yellow rocket	Disturbed	Introduced
Berteroa incana	Hoary alyssum	Landscaped, Woodland	Introduced
Bidens cernua	Nodding beggarticks	Disturbed	Native
Caltha palustris	Marsh marigold	Disturbed, Wetland	Native
Calystegia sepium	Hedge false bindweed	Riparian woodland, Woodland	Both
Cardamine bulbosa	Spring cress	Disturbed	Native
Centaurea nigra	Lesser knapweed	Wetland	Introduced
Centaurea stoebe	Spotted knapweed	Disturbed, Woodland	Introduced
Centaurium erythraea	European centaury	Landscaped, Wetland	Introduced
Chamaesyce vermiculata	Wormseed sandmat	Disturbed, Landscaped	Native
Cichorium intybus	Chicory	Disturbed, Landscaped	Introduced
Circaea lutetiana	Broadleaf enchanter's nightshade	Woodland	Native
Cirsium arvense	Canada thistle	Disturbed, Landscaped, Riparian woodland, Wetland, Woodland	NY Noxious
Cirsium vulgare	Bull thistle	Disturbed, Woodland	Introduced
Convolvulus arvensis	Field bindweed	Landscaped	Introduced
Conyza canadensis	Canadian horseweed	Landscaped, Woodland	Native
Daucus carota	Queen Anne's lace	Disturbed, Wetland, Woodland	Introduced
Dianthus armeria	Deptford pink	Landscaped	Introduced
Dipsacus fullonum	Fuller's teasel	Disturbed, Wetland, Woodland	Introduced
Epilobium hirsutum	Codlins and cream; Hairy willowherb	Disturbed, Wetland	Introduced

Scientific Name	Common Name	Habitat Type(s) Observed	Origin[1]
Equisetum arvense	Field horsetail	Disturbed, Riparian woodland, Wetland	Native
Equisetum hyemale	Scouringrush horsetail	Disturbed, Wetland, Woodland	Native
Erigeron annuus	Eastern daisy fleabane	Disturbed, Landscaped, Wetland, Woodland	Native
Erigeron strigosus	Prairie fleabane	Disturbed, Landscaped, Woodland	Native
Erythronium americanum	Yellow trout lily	Wetland	Native
Eupatorium maculatum	Spotted joe-pyeweed	Wetland	Native
Eupatorium perfoliatum	Boneset	Wetland	Native
Fragaria vesca	Common wild strawberry	Disturbed	Native
Fragaria virginiana	Virginia strawberry	Disturbed, Landscaped, Wetland, Woodland	Native
Galium aparine	Stickywilly	Disturbed, Wetland	Native
Galium mollugo	False baby's breath	Disturbed, Landscaped, Riparian woodland, Woodland	Introduced
Geum canadense	White avens	Wetland, Woodland	Native
Glechoma hederacea	Ground ivy	Woodland	Introduced
Gnaphalium uliginosum	Marsh cudweed	Landscaped, Wetland	Introduced
Hemerocallis fulva	Orange daylily	Landscaped, Wetland	Introduced
Hieracium piloselloides	Tall hawkweed	Wetland, Woodland	Introduced
Hypericum perforatum	Common St. John's wort	Disturbed, Wetland, Woodland	Introduced
Impatiens capensis	Spotted jewelweed	Disturbed	Native
Iris versicolor	Blue flag	Disturbed	Native
Lathyrus latifolius	Perennial pea	Disturbed, Landscaped, Wetland, Woodland	Introduced
Lemna minor	Common duckweed	Riparian woodland, Wetland	Native
Leucanthemum vulgare	Oxeye daisy	Landscaped, Woodland	Introduced
Lotus corniculatus	Bird's-foot trefoil	Disturbed, Landscaped, Riparian woodland, Wetland, Woodland	Introduced
Lysimachia ciliata	Fringed loosestrife	Wetland, Woodland	Native
Lysimachia nummularia	Creeping Jenny	Disturbed, Wetland	Introduced
Lythrum salicaria	Purple loosestrife	Wetland	NY Noxious
Maianthemum canadense	Canada mayflower	Wetland	Native
Maianthemum racemosum	False Solomon's seal	Wetland	Native
Malva moschata	Musk mallow	Wetland, Woodland	Introduced
Medicago lupulina	Black medick	Disturbed, Landscaped, Woodland	Introduced
Melilotus officinalis	Sweetclover	Landscaped, Woodland	Introduced
Mitchella repens	Partridgeberry	Woodland	Native
Mollugo verticillata	Green carpetweed	Disturbed, Landscaped	Native
Nasturtium officinale	Watercress	Wetland	Introduced
Nepeta cataria	Catnip	Woodland	Introduced

Scientific Name	Common Name	Habitat Type(s) Observed	Origin[1]
Oenothera biennis	Common evening primrose	Disturbed, Wetland, Woodland	Native
Oxalis dillenii	Slender yellow woodsorrel	Landscaped, Woodland	Native
Parthenocissus quinquefolia	Virginia creeper	Wetland, Woodland	Native
Persicaria lapathifolium	Curlytop knotweed	Wetland	Native
Persicaria virginiana	Jumpseed	Woodland	Native
Phytolacca americana	American pokeweed	Woodland	Native
Plantago lanceolata	Narrowleaf plantain	Disturbed, Landscaped	Introduced
Plantago rugelii	Blackseed plantain	Disturbed, Landscaped, Woodland	Native
Podophyllum peltatum	Mayapple	Wetland	Native
Polygonum aviculare	Prostrate knotweed	Landscaped	Introduced
Polygonum persicaria	Spotted lady's thumb	Landscaped	Introduced
Pontederia cordata	Pickerelweed	Wetland	Native
Potentilla recta	Sulphur cinquefoil	Wetland, Woodland	Introduced
Prunella vulgaris	Common selfheal	Disturbed, Landscaped, Wetland, Woodland	Native
Ranunculus abortivus	Kidney-leaved buttercup	Wetland	Native
Ranunculus acris	Tall buttercup	Woodland	Both
Ranunculus pensylvanicus	Pennsylvania buttercup	Disturbed	Native
Rubus hispidus	Bristly dewberry	Woodland	Native
Rubus occidentalis	Black raspberry	Wetland, Woodland	Native
Rudbeckia hirta	Black-eyed Susan	Woodland	Native
Rumex acetosella	Common sheep sorrel	Disturbed, Landscaped, Wetland, Woodland	Introduced
Rumex crispus	Curly dock	Disturbed, Riparian woodland, Wetland, Woodland	Introduced
Sagittaria latifolia	Broadleaf arrowhead	Riparian woodland	Native
Saponaria officinalis	Bouncingbet; Common soapwort	Disturbed, Landscaped, Woodland	Introduced
Saururus cernuus	Lizard's tail	Wetland	Native
Securigera varia	Crown vetch	Disturbed, Landscaped, Riparian woodland, Woodland	Introduced
Silene csereii	Balkan catchfly	Landscaped, Woodland	Introduced
Silene vulgaris	Maidenstears	Woodland	Introduced
Sisyrinchium angustifolium	Narrowleaf blue-eyed grass	Riparian woodland	Native
Solanum dulcamara	Climbing nightshade	Woodland	Introduced
Solidago canadensis	Canada goldenrod	Riparian woodland, Wetland, Woodland	Native
Sparganium eurycarpum	Broadfruit bur-reed	Wetland, Disturbed	Native
Stellaria media	Common chickweed	Disturbed, Landscaped	Introduced
Symphytum officinale	Common comfrey	Woodland	Introduced
Taraxacum officinale	Common dandelion	Disturbed, Landscaped, Woodland	Both
Thalictrum pubescens	King of the meadow	Riparian woodland	Native

Scientific Name	Common Name	Habitat Type(s) Observed	Origin[1]
Tiarella cordifolia	Foamflower	Wetland	Native
Toxicodendron radicans	Eastern poison ivy	Disturbed, Landscaped, Wetland, Woodland	Native
Trifolium aureum	Large hop clover	Disturbed	Introduced
Trifolium hybridum	Alsike clover	Landscaped, Riparian woodland, Woodland	Introduced
Trifolium pratense	Red clover	Disturbed, Landscaped, Woodland	Introduced
Trifolium repens	White clover	Disturbed, Landscaped, Riparian woodland, Woodland	Introduced
Trillium grandiflorum	White trillium	Wetland	Native
Typha latifolia	Broadleaf cattail	Disturbed, Wetland	Native
Verbascum blattaria	Moth mullein	Disturbed, Landscaped	Introduced
Verbascum thapsus	Common mullein	Disturbed, Woodland	Introduced
Verbena hastata	Swamp verbena	Wetland	Native
Verbena urticifolia	White vervain	Disturbed	Native
Veronica chamaedrys	Germander speedwell	Disturbed, Landscaped	Introduced
Veronica persica	Persian speedwell	Disturbed, Landscaped, Woodland	Introduced
Vicia cracca	Bird vetch	Woodland	Introduced
Viola sororia	Common blue violet	Disturbed, Wetland	Native
Vitis riparia	Riverbank grape	Riparian woodland, Wetland, Woodland	Native
Waldsteinia fragarioides	Appalachian barren strawberry	Woodland	Native
Shrubs			
Carpinus caroliniana	Musclewood	Wetland	Native
Cornus amomum	Silky dogwood	Disturbed, Wetland	Native
Cornus rugosa	Roundleaf dogwood	Woodland	Native
Cornus sericea	Red osier dogwood	Disturbed, Riparian woodland, Wetland	Native
Hamamelis virginiana	Witch hazel	Wetland	Native
Lindera benzoin	Spicebush	Wetland	Native
Lonicera morrowii	Morrow's honeysuckle	Wetland	NY Noxious
Ostrya virginiana	Hop hornbeam	Wetland	Native
Polygonum cuspidatum	Japanese knotweed	Riparian woodland, Wetland	NY Noxious
Prunus virginiana	Chokecherry	Wetland, Woodland	Native
Rhamnus cathartica	European buckthorn	Disturbed, Wetland	NY Noxious
Rhus typhina	Staghorn sumac	Riparian woodland	Native
Rosa multiflora	Multiflora rose	Disturbed, Landscaped, Wetland, Woodland	NY Noxious
Salix interior	Sandbar willow	Riparian woodland, Wetland	Native
Salix sericea	Silky willow	Riparian woodland, Wetland	Native
Viburnum dentatum	Smooth arrowwood	Wetland	Native

Scientific Name	Common Name	Habitat Type(s) Observed	Origin[1]
Viburnum lentago	Sweet viburnum	Wetland	Native
Viburnum nudum	Northern wild raisin	Wetland	Native
Trees			
Acer negundo	Boxelder	Landscaped, Woodland	Native
Acer rubrum	Red maple	Landscaped, Wetland	Native
Acer saccharinum	Silver maple	Landscaped, Wetland, Woodland	Native
Acer saccharum	Sugar maple	Landscaped, Woodland	Native
Alnus incana	Grey alder	Wetland	Native
Betula alleghaniensis	Yellow birch	Wetland	Native
Carya ovata	Shagbark hickory	Wetland, Woodland	Native
Catalpa speciosa	Northern catalpa	Landscaped	Native
Cornus florida	Flowering dogwood	Woodland	Native
Crataegus spp.	Hawthorn	Wetland	Native
Fagus grandifolia	American beech	Wetland	Native
Fraxinus americana	White ash	Riparian woodland	Native
Fraxinus pennsylvanica	Green ash	Wetland	Native
Juglans nigra	Black walnut	Riparian woodland, Woodland	Native
Juniperus virginiana	Eastern red cedar	Riparian woodland	Native
Picea abies	Norway spruce	Woodland	Introduced
Pinus strobus	Eastern white pine	Woodland	Native
Populus deltoides	Eastern cottonwood	Riparian woodland	Native
Populus tremuloides	Quaking aspen	Wetland	Native
Prunus pensylvanica	Fire cherry	Woodland	Native
Prunus serotina	Black cherry	Landscaped	Native
Quercus alba	White oak	Landscaped, Woodland	Native
Quercus bicolor	Swamp white oak	Wetland	Native
Quercus rubra	Northern red oak	Landscaped	Native
Robinia pseudoacacia	Black locust	Landscaped	Native/NY noxious
Salix babylonica	Weeping willow	Landscaped, Woodland	Introduced
Salix nigra	Black willow	Riparian woodland, Wetland	Native
Tilia americana	Basswood	Wetland	Native
Tsuga canadensis	Eastern hemlock	Wetland	Native
Ulmus americana	American elm	Landscaped, Wetland, Woodland	Native

Source: Hancock Field ANGB 2022

1 Native species are defined by the US Department of Agriculture (USDA) as species that are naturally occurring at the time of European colonization. An introduced species is a species that arrived later from some other part of the world. Species classified as “both” are native species that can be classified in either category because the species has infraspecific taxa that either are native or introduced.

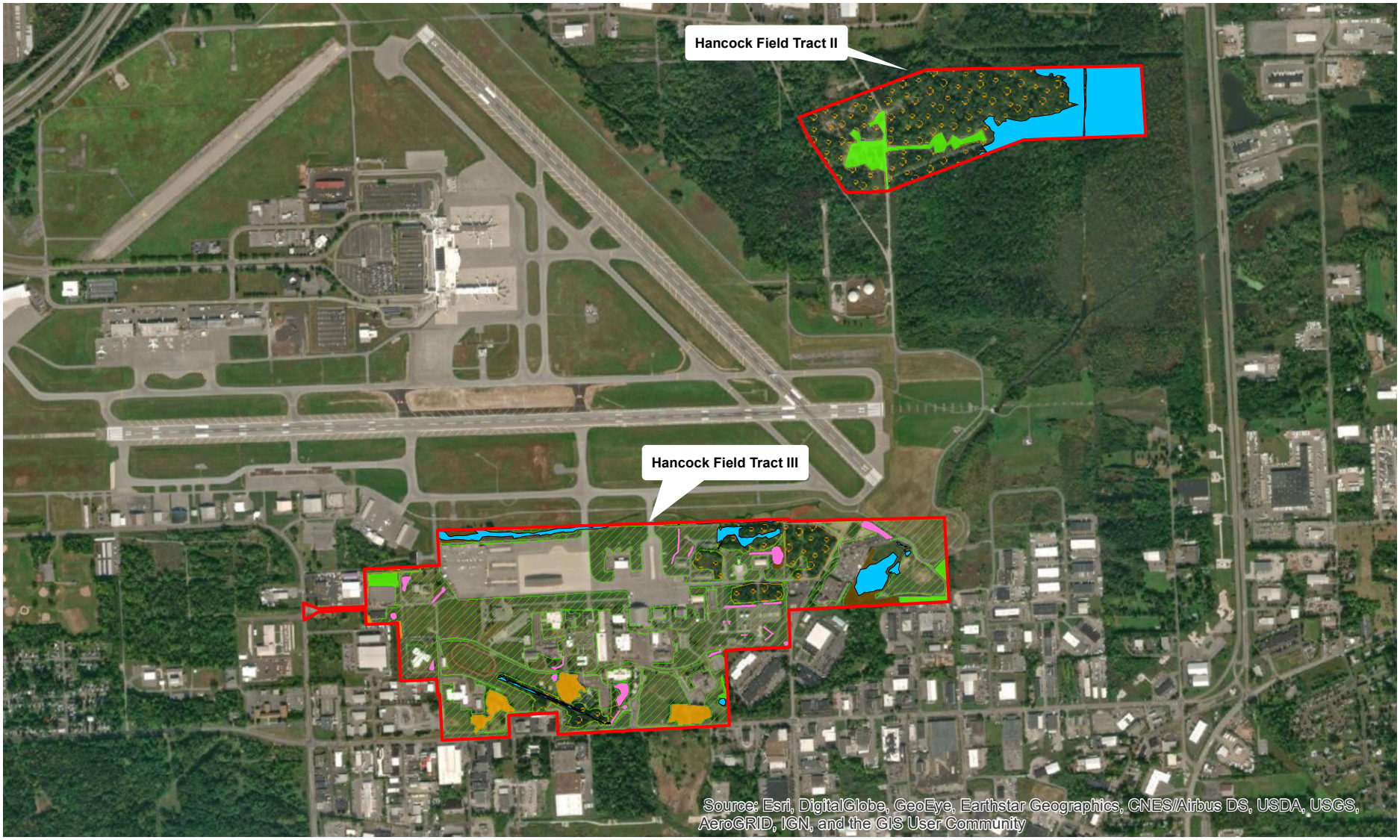
5.2.2.1 Hancock Field Tract III

Hancock Field Tract III consists of developed lands and maintained landscape in the cantonment area and four other habitat types: disturbed, woodland/hardwood, riparian woodland, and wetland outside of the cantonment area (Figure 15).

Landscaped: The landscaped habitat (approximately 140.4 acres [56.82 hectares]) is interspersed throughout Hancock Field Tract III and is comprised of two types: landscaped grasses or landscaped woodland. The landscaped woodland areas (6.7 acres [2.7 hectares]) are found in patches on the southern portion of the installation. The canopy is dominated by red maple (*Acer rubrum*) and American elm (*Ulmus americana*). Subcanopy tree species include red maple. The herbaceous layer includes mostly Kentucky bluegrass (*Poa pratensis*), blackseed plantain (*Plantago rugelii*), and white clover (*Trifolium repens*). The landscaped grassland habitat (133.7 acres [54.11 hectares]) consisted of only an herbaceous cover with a diversity of species such as redtop (*Agrostis gigantea*), thin paspalum (*Paspalum setaceum*), barnyard grass (*Echinochloa crus-galli*), yellow nutsedge (*Cyperus esculentus*), prostrate knotweed (*Polygonum aviculare*), and several other species in smaller populations.

Disturbed: At Hancock Field Tract III, disturbed open grass areas (3.4 acres [1.4 hectares]) occur in a few locations along the perimeter of the fence line. A limited shrub layer occurs in the disturbed habitat and consists of staghorn sumac (*Rhus typhina*). The herbaceous layer is dominated by bird's-foot trefoil (*Lotus corniculatus*), Canada golden rod (*Solidago canadensis*), reed canarygrass (*Phalaris arundinacea*), annual ragweed (*Ambrosia artemisiifolia*), perennial pea (*Lathyrus latifolius*), and Canada thistle (*Cirsium arvense*).

Woodland: Woodland habitat at Hancock Field Tract III is located on the flat upland in the northeastern section of the installation (100 acres [40 hectares]). A mixture of deciduous trees in the canopy includes: boxelder (*Acer negundo*), black cherry (*Prunus serotina*), black locust, and red maple. Minimal understory occurs in this habitat comprised of Kentucky bluegrass, slender yellow woodsorrel (*Oxalis dillenii*), common dandelion (*Taraxacum officinale*), and Canadian horseweed (*Conyza canadensis*).



Legend

- Area of Review

Vegetation

- Disturbed
- Landscaped Grassland
- Landscaped Woodland
- Riparian Woodland
- Woodland
- Wetland/Open Water
- Excavated Stormwater Drainage Feature

Figure 15. Habitat Distribution at Hancock Field Tract III and Tract II

0 1,000 2,000 3,000 Feet

Riparian Woodland: Riparian woodlands (approximately 7 acres [3 hectares]) can be found in two areas on the Hancock Field Tract III property. A narrow riparian woodland corridor occurs in the eastern portion of the installation with common reed (*Phragmites australis*) and Canada thistle dominating both banks. The canopy is dominated by white ash and black willow (*Salix nigra*). The woody shrubs and vine layer is composed of Japanese knotweed (*Polygonum cuspidatum*), riverbank grape (*Vitis riparia*), and hedge false bindweed (*Calystegia sepium*). Herbaceous cover is dominated by common reed, with reed canarygrass, bird's-foot trefoil, false baby's breath (*Galium mollugo*), and Canadian anemone (*Anemone canadensis*).

The other riparian woodland is located at the edge of an excavated stormwater drainage and is dominated by eastern cottonwood (*Populus deltoides*) and black willow, with black willow in the understory. Red osier dogwood (*Cornus sericea*) and Morrow's honeysuckle (*Lonicera morrowii*) comprise the shrub layer with Canada goldenrod (*Solidago canadensis*), crown vetch (*Securigera varia*), and reed canarygrass in the understory.

Wetland: A total of five potentially jurisdictional wetlands and two stream channels (2,544 linear feet [775.4 linear meters]) identified as WOTUS were identified at Hancock Field Tract III. Wetlands are further discussed in Section 5.5.

5.2.2.2 Hancock Field Tract II

Hancock Field Tract II consists of three habitat types (Figure 15): disturbed, woodland, and wetland.

Disturbed: A small area on Hancock Field Tract II adjacent to the main road was documented as disturbed habitat (6.8 acres [2.8 hectares]). This area is comprised mainly of piles of concrete, impermeable surfaces, and weedy species for vegetation. Quaking aspen (*Populus tremuloides*), black walnut (*Juglans nigra*), and eastern white pine (*Pinus strobus*) were found in the canopy with staghorn sumac present as the only shrub species. Herbaceous species included spotted knapweed (*Centaurea stoebe*), Canadian horseweed, prostrate knotweed, black medick (*Medicago lupulina*), chicory (*Cichorium intybus*), common sheep sorrel (*Rumex acetosella*), green bristlegrass (*Setaria viridis*), and Kentucky bluegrass.

Woodland: The majority of Hancock Field Tract II (approximately 55 acres [22 hectares]) is comprised of woodland habitat. Quaking aspen is the only tree species in the canopy west of the main road while Norway spruce (*Picea abies*) and quaking aspen are found in the subcanopy. The woody vine and shrub layer is comprised of red osier dogwood, Morrow's honeysuckle, riverbank grape, and Indianhemp (*Apocynum cannabinum*). The herbaceous layer contains many species including: butterfly milkweed (*Asclepias tuberosa*), scouringrush horsetail (*Equisetum hyemale*), common selfheal (*Prunella vulgaris*), Canada goldenrod, Kentucky bluegrass, black-eyed Susan (*Rudbeckia hirta*), tapered rosette grass (*Dichanthelium acuminatum*), and sweetclover (*Melilotus officinalis*).

Wetland: One wetland (totaling 23.2 acres [9.39 hectares]) and two streams (totaling approximately 1,307 linear feet [398.4 linear meters]) were delineated within Hancock Field Tract II. Wetlands are further discussed in Section 5.5.

5.2.2.3 Radar Site

The Radar Site consists of three of habitat types (Figure 16): disturbed, woodland, and wetland.

Disturbed: The disturbed grassy field at the Radar Site is predominantly an emergent wetland with a mosaic of drier patches especially along the western border. The disturbed mesic grassland (1.4 acres [0.57 hectare]) is comprised of Morrow's honeysuckle in the subshrub layer in places, and creeping Jenny (*Lysimachia nummularia*), nodding sedge (*Carex gynandra*), common reed grass, and Pennsylvania buttercup (*Ranunculus pensylvanicus*) dominating the herbaceous layer.

Woodland: The forested habitat at the Radar Site contains drier areas on the outskirts with a swamp in the middle of the woodlands (0.9 acre [0.4 hectare]). The canopy layer consists of a combination of red maple and silver maple, basswood, and shagbark hickory (*Carya ovata*). The subcanopy layer contains a mixture of American elm, basswood, red maple, green ash (*Fraxinus pennsylvanica*), and American beech (*Fagus grandifolia*). Musclewood (*Carpinus caroliniana*) is the common woody shrub found in this habitat, with fire cherry (*Prunus pensylvanica*), buckthorn (*Rhamnus cathartica*), American elm, and Virginia creeper (*Parthenocissus quinquefolia*) also documented. A diversity of subshrubs was documented including spicebush (*Lindera benzoin*), smooth arrowwood, silky dogwood (*Cornus amomum*), honeysuckle, and witch hazel (*Hamamelis virginiana*). Sensitive fern (*Onoclea sensibilis*) was the most prevalent herbaceous species found in the understory.

Wetland: A large wetland feature (1.8 acres [0.73 hectare]) comprised of a palustrine forested and emergent wetland extends offsite to the south and connects to a linear ditch feature along Commerce Drive along the northern border of the Radar Site. Wetlands are further discussed in Section 5.5.

5.2.3 Current Vegetative Cover at the EADS Site

A recent vegetative survey has not been completed for the EADS site; however, the entire site is comprised of maintained/landscaped grasslands. On the Main Operational Site, landscaped areas support tree species such as eastern cottonwood, pine (*Pinus sp.*), red maple, and oak (*Quercus* sp.). The herbaceous layer typically contains Kentucky bluegrass, perennial ryegrass (*Lolium perenne*), and fescue species (*Festuca* spp.). A mixed forested edge of fir, pine, and larch (*Larix laricina*) occurs on the north side of the Main Operational Site as well as around the entire Antenna Site. Species noted in the region that may occur in native habitats include: pitch pine (*Pinus rigida*), big tooth aspen (*Populus grandidentata*), black oak (*Quercus velutina*), chestnut oak (*Quercus montana*), white oak, scarlet oak (*Quercus coccinea*), red maple, beech, black cherry, boxelder, willow (*Salix* spp.), white ash (*Fraxinus americana*), eastern hop hornbeam (*Ostrya virginiana*), basswood, slippery elm (*Ulmus rubra*), butternut (*Juglans cinerea*), and sumac (*Rhus* spp.). In addition, soft wood species may include: white pine, red pine (*Pinus resinosa*), eastern hemlock (*Tsuga canadensis*), eastern red cedar (*Juniperus virginiana*), and spruce (*Picea* spp.) (NYANG 2006). A small wetland occurs south of the Antenna Site and a lake is approximately 5 miles (8 kilometers) north.

Legend

Town of Sullivan Radar Site

Habitat

Disturbed Field

Woodland

Wetland

Figure 16. Habitat Distribution at the Town of Sullivan Radar Site

0 60 120 180 Feet

5.3 Fish and Wildlife

A total of 42 birds, 15 mammals (including six bat species documented during the bat surveys), and one amphibian species (northern leopard frog [*Lithobates pipiens*]) were observed on Hancock Field ANGB during the 2020/2021 surveys (Tables 4 and 5). Acoustic bat surveys were conducted in July 2020 and May 2021. No aquatic species surveys have been conducted on the base. Additional bird species noticed during the BASH surveys have also been included in Table 4.

Table 4. Bird Species Observed at Hancock Field ANGB

Scientific Name	Common Name	Scientific Name	Common Name
Actitis macularius	Spotted sandpiper	*Larus delawarensis*	Ring-billed gull
Agelaius phoeniceus	Red-winged blackbird	*Larus argentatus*	Herring gull
Anas platyrhynchos	Mallard	*Meleagris gallopavo*	Wild turkey
Anser caerulescens	Snow goose	*Melospiza georgiana*	Swamp sparrow
Ammodramus savannarum	Grasshopper sparrow	*Melospiza melodia*	Song sparrow
Archilochus colubris	Ruby-throated hummingbird	*Mimus polyglottos*	Northern mockingbird
Ardea herodias	Great blue heron	*Myiarchus crinitus*	Great crested flycatcher
Branta canadensis	Canada goose	*Passer domesticus*	House sparrow
Buteo jamaicensis	Red-tailed hawk	*Passerculus sandwichensis*	Savannah sparrow
Butorides virescens	Green heron	*Petrochelidon pyrrhonota*	Cliff swallow
Cardinalis cardinalis	Northern cardinal	*Picoides pubescens*	Downy woodpecker
Cathartes aura	Turkey vulture	*Piranga olivacea*	Scarlet tanager
Charadrius vociferus	Killdeer	*Poecile atricapillus*	Black-capped chickadee
Coccyzus americanus	Yellow-billed cuckoo	*Quiscalus quiscula*	Common grackle
Colaptes auratus	Northern flicker	*Scolopax minor*	American woodcock
Columba livia	Rock pigeon	*Setophaga coronata*	Yellow-rumped warbler
Corvus brachyrhynchos	American crow	*Setophaga petechia*	Yellow warbler
Cyanocitta cristata	Blue jay	*Setophaga ruticilla*	American redstart
Dolichonyx oryzivorus	Bobolink	*Spinus tristis*	American goldfinch
Dryobates pubescens	Downy woodpecker	*Spizella passerina*	Chipping sparrow
Dumetella carolinensis	Gray catbird	*Sturnella magna*	Eastern meadowlark
Eremophila alpestris	Horned lark	*Sturnus vulgaris*	European starling
Falco sparverius	American kestrel	*Turdus migratorius*	American robin
Haliaeetus leucocephalus	Bald eagle	*Tyrannus tyrannus*	Eastern kingbird
Hirundo rustica	Barn swallow	*Vireo gilvus*	Warbling vireo
Hylocichla mustelina	Wood thrush	*Zenaida macroura*	Mourning dove
Icterus galbula	Baltimore oriole		

Source: 174 ATKW 2019; Hancock Field ANGB 2022; USDA 2021

Table 5. Mammal Species at Hancock Field ANGB

Scientific Name	Common Name	Scientific Name	Common Name
Canis latrans	Coyote	*Odocoileus virginianus*	White-tailed deer
Eptesicus fuscus	Big brown bat	*Ondatra zibethicus*	Muskrat
Lasionycteris noctivagans	Silver-haired bat	*Perimyotis subflavus*	Tri-colored bat
Lasiurus borealis	Eastern red bat	*Procyon lotor*	Raccoon
Lasiurus cinereus	Hoary bat	*Sciurus carolinensis*	Eastern gray squirrel
Marmota monax	Woodchuck	*Tamiasciurus hudsonicus*	American red squirrel
Mephitis mephitis	Striped skunk	*Vulpes vulpes*	Red fox
Myotis lucifugus	Little brown bat		

Source: Hancock Field ANGB 2021a and 2022

Although no wildlife surveys have recently been conducted at the EADS site, common mammal species found in the area include: American red squirrel (*Tamiasciurius hudsonicus*), eastern chipmunk (*Tamias striatus*), raccoon (*Procyon lotor*), white-tailed deer (*Odocoileus virginianus*), and gray squirrel (*Sciurus carolinensis*). Avian species expected at the EADS site are common in developed areas such as blue jay (*Cyanocitta cristata*), American crow (*Corvus brachyrhynchos*), black-capped chickadee (*Poecile atricapillus*), northern cardinal (*Cardinalis cardinalis*), and American robin [(*Turdus migratorius*); NYANG 2006]. Osprey (*Pandion haliaetus*) have been observed nesting on the antennas at the EADS site.

5.4 Threatened and Endangered Species and Species of Concern

Federal status as a threatened or endangered species is derived from the ESA of 1973 (16 USC §1531 et seq.) and administered, depending on the species, by the USFWS and the National Marine Fisheries Service. According to the USFWS, four federally listed species have the potential to occur on Hancock Field ANGB. The monarch butterfly (*Danaus plexippus*) was recently listed as a candidate species by the USFWS. No federally listed species are identified by the USFWS as potentially occurring at the EADS site. In addition, New York State code, 6 New York Codes, Rules and Regulations (NYCRR) 182.1 - .16, provides a list of native wildlife species listed as endangered, threatened, and of special concern as well as state regulations related to listed species (NYSDEC 2020b). State and federally listed wildlife species that could potentially occur on Hancock Field ANGB and the EADS site are listed in Table 6. The Protected Native Plants Program was created as a result of the adoption of the protected native plant regulation (6 NYCRR 193.3), which includes lists of over 500 endangered and threatened plant species.

Table 6. State and Federally Listed Species in Onondaga, Madison, and Oneida Counties, New York

Scientific Name	Common Name	Listing
Invertebrates		
Callophrys irus	Frosted elfin	T[3]
Danaus plexippus	Monarch butterfly	C
Plebejus melissa samuelis	Karner blue	FE, E[3]
Pyrgus centaureae wyandot	Southern grizzled skipper	E
Siphlonisca aerodromia	Tomah mayfly	E
Speyeria idalia	Regal fritillary	E
Reptiles		
Crotalus horridus	Timber rattlesnake	E[1,2]
Emydoidea blandingii	Blanding's turtle	E
Glyptemys muhlenbergii	Bog turtle	E[1,2]
Sistrurus catenatus	Eastern massasauga rattlesnake	FT, SC[1,2]
Birds		
Ammodramus henslowii	Henslow's sparrow	T
Aquila chrysaetos	Golden eagle	X
Asio flammeus	Short-eared owl	E
Bartramia longicauda	Upland sandpiper	T
Chlidonias niger	Black tern	T[3]
Circus hudsonius	Northern harrier	T
Cistothorus platensis	Sedge wren	T
Falco peregrinus	Peregrine falcon	E
Haliaeetus leucocephalus	Bald eagle	T
Ixobrychus exilis	Least bittern	T
Lanius ludovicianus	Loggerhead shrike	E[3]
Laterallus jamaicensis	Black rail	E
Podilymbus podiceps	Pied-billed grebe	T
Sterna hirundo	Common tern	T
Sternula antillarum	Least tern	T
Mammals		
Myotis septentrionalis	Northern long-eared bat	FT[1,3], T
Myotis sodalis	Indiana bat	FE[1], E
Plants		
Acalypha virginica	Virginia threeseed mercury	E[1]
Agalinis maritima var. *maritima*	Seaside agalinis	T[1]
Agastache nepetoides	Yellow giant-hyssop	T[1,3]
Agrimonia rostellata	Woodland agrimony	T[1]
Aletris farinosa	Star grass	T[1]
Andersonglossum boreale	Northern wild comfrey	E
Anticlea elegans var. *glauca*	Mountain death camas	T
Aplectrum hyemale	Puttyroot	E

Scientific Name	Common Name	Listing
Arethusa bulbosa	Dragon's mouth orchid	T
Arnoglossum atriplicifolium	Pale Indian plantain	E[3]
Asplenium scolopendrium var. *americanum*	American Hart's-tongue fern	FT, T
Astragalus neglectus	Cooper's milkvetch	E[1]
Bidens laevis	Smooth beggar-ticks	T[1,3]
Boechera stricta	Drummond's rock cress	T[1]
Bolboschoenus maritimus ssp. *paludosus*	Seaside bulrush	T[1]
Borodinia dentata	Short's rock cress	T[3]
Botrychium campestre	Prairie dunewort	E[1]
Botrychium minganense	Mingan moonwort	E[1,3]
Botrychium neolunaria	Common moonwort	E[1,3]
Botrychium oneidense	Blunt-lobe grape fern	T
Botrychium rugulosum	Rugulose grape fern	E
Buchnera americana	Bluehearts	E[2]
Callitriche terrestris	Terrestrial starwort	T[1,3]
Calypso bulbosa var. *americana*	Calypso	E[1,3]
Campanula americana	Tall bellflower	E[1]
Cardamine douglassii	Purple spring cress	T
Carex aggregata	Glomerate sedge	E[1,3]
Carex amphibola	Ambiguous sedge	E[3]
Carex bullata	Button sedge	E[3]
Carex buxbaumii	Brown bog sedge	T[1,3]
Carex capillaris	Hair-like sedge	E[1]
Carex careyana	Carey's sedge	E
Carex chordorrhiza	Creeping sedge	T[1,3]
Carex conjuncta	Soft fox sedge	T[3]
Carex crawei	Crawe's sedge	T[3]
Carex cumulata	Clustered sedge	T[3]
Carex davisii	Davis' sedge	T[3]
Carex debilis var. *debilis*	White-edge sedge	T[3]
Carex decomposita	Cypress-knee sedge	E[3]
Carex formosa	Handsome sedge	T[3]
Carex frankii	Frank's sedge	E[2,3]
Carex glaucodea	Glaucous sedge	T[1]
Carex haydenii	Cloud sedge	E
Carex houghtoniana	Houghton's sedge	T[3]
Carex jamesii	James' sedge	T[1]
Carex livida	Livid sedge	E[2,3]
Carex lupuliformis	False hop sedge	T[3]
Carex mesochorea	Midland sedge	T[1]
Carex mitchelliana	Mitchell's sedge	E[3]

Scientific Name	Common Name	Listing
Carex nigra	Black sedge	E[3]
Carex retroflexa	Redflexed sedge	T[1]
Carex sartwellii	Sartwell's sedge	E
Carex schweinitzii	Schweinitz's sedge	T
Carex shortiana	Short's sedge	E[1]
Carex styloflexa	Bent sedge	E[2]
Carex sychnocephala	Many-headed sedge	E[3]
Carex tenuiflora	Sparse-flowered sedge	E[2,3]
Carex typhina	Cat-tail sedge	E[3]
Carya laciniosa	Big shellbark hickory	T[1,3]
Castilleja coccinea	Scarlet Indian-paintbrush	E
Chaerophyllum procumbens var. *procumben*	Spreading chervil	E[1]
Chamaelirium luteum	Fairywand	E[1]
Collinsia verna	Blue-eyed Mary	E[2,3]
Corallorhiza striata var. *striata*	Striped coralroot	E[2]
Cuscuta campestris	Field dodder	E[1]
Cuscuta cephalanthi	Buttonbush dodder	E[1]
Cyperus lupulinus ssp. *lupulinus*	Great Plains flat sedge	T[1,3]
Cyperus subsquarrosus	Dwarf bulrush	E[2,3]
Cypripedium arietinum	Ram's head lady's slipper	T
Cypripedium candidum	Small white lady's slipper	E[1]
Cypripedium parviflorum var. *parviflorum*	Southern small yellow lady's slipper	E
Desmodium ciliare	Little-leaf tick trefoil	T
Desmodium nuttallii	Nuttall's tick trefoil	E[1]
Desmodium obtusum	Stiff tick trefoil	E[1]
Diphasiastrum complanatum	Northern running-pine	E[3]
Diplachne fusca ssp. *fascicularis*	Salt meadow grass	E[1]
Draba arabisans	Rock whitlow grass	T[1,3]
Dracocephalum parviflorum	American dragonhead	E[3]
Elatine americana	American waterwort	E[3]
Eleocharis diandra	Wright's spike rush	E[2,3]
Eleocharis equisetoides	Knotted spike rush	T[1]
Eleocharis ovata	Ovate spike rush	E[2,3]
Eleocharis quadrangulata	Angled spike rush	E[1,3]
Eleocharis uniglumis	Salt-marsh spike rush	T[3]
Equisetum palustre	Marsh horsetail	T
Equisetum pratense	Meadow horsetail	T[3]
Eurybia spectabilis	Showy aster	E[1]
Frasera caroliniensis	Green gentian	T[3]
Galium concinnum	Shining bedstraw	E[1]

Scientific Name	Common Name	Listing
Geum virginianum	Rough avens	T
Gymnocladus dioicus	Kentucky coffeetree	E[1,3]
Halenia deflexa ssp. *deflexa*	Spurred gentain	E[3]
Hydrastis canadensis	Goldenseal	T
Isotria medeoloides	Small whorled pogonia	E[1]
Jeffersonia diphylla	Twinleaf	T[1]
Juncus subcaudatus	Spreading rush	E[3]
Juniperus horizontalis	Creeping juniper	E
Lactuca hirsuta	Downy lettuce	E[3]
Lilium michiganense	Michigan lily	E[1]
Linum sulcatum	Yellow wild flax	T
Liparis liliifolia	Large twayblade	E[1,3]
Lithospermum croceum	Golden puccoon	E[1]
Lithospermum virginianum	Virginia false gromwell	E[1,3]
Lycopus rubellus	Stalked bugleweed	E[2]
Lygodium palmatum	Climbing fern	E[1.3]
Lysimachia hybrida	Lowland yellow loosestrife	E[3]
Myriophyllum farwellii	Farwell's water milfoil	T[1,3]
Najas marina	Spiny water nymph	E[1]
Neottia bifolia	Southern twayblade	E
Neottia convallarioides	Broad-lipped twayblade	E[1,3]
Oxybasis rubra var. *rubra*	Red pigweed	T[1,3]
Pedicularis lanceolata	Swamp lousewort	T
Persicaria careyi	Carey's smartweed	E
Persicaria setacea	Swamp smartweed	E
Petasites frigidus var. *palmatus*	Sweet coltsfoot	E
Phlox maculata ssp. *maculata*	Wild sweet William	E
Physalis virginiana var.*virginiana*	Virginia ground cherry	E[3]
Platanthera ciliaris	Orange fringed orchid	E[1,3]
Platanthera hooker	Hooker's orchid	E[1,3]
Platanthera leucophaea	Eastern prairie fringed orchid	E[1]
Poa sylvestris	Forest blue grass	E[1]
Podostemum ceratophyllum	Riverweed	T[3]
Polygonum buxiforme	Small's knotweed	E
Potamogeton alpinus	Red pondweed	T[3]
Potamogeton diversifolius	Southern snailseed pondweed	E[3]
Potamogeton strictifolius	Straight-leaved pondweed	E
Primula mistassinica	Bird's eye primrose	T[3]
Prunus pumila var. *depressa*	Dwarf cherry	T[3]
Pseudognaphalium micradenium	Catfoot	E[3]
Pterospora andromedea	Pinedrops	E[3]

Scientific Name	Common Name	Listing
Pycnanthemum verticillatum var. *verticillatum*	Whorled mountain mint	E[3]
Pyrola asarifolia ssp. *asarifolia*	Pink wintergreen	T
Ranunculus cymbalaria	Seaside crowfoot	E[1]
Rhodiola rosea	Common roseroot	E[2]
Rhododendron canadense	Rhodora	T[3]
Rorippa aquatica	Lake cress	T
Rumex hastatulus	Heart sorrel	E[1]
Tilia americana var. *heterophylla*	White basswood	E[1]
Tipularia discolor	Cranefly orchid	E[1]
Triantha glutinosa	Sticky false asphodel	E[1]
Triglochin palustris	Marsh arrow grass	T
Triphora trianthophoros ssp. *trianthophoros*	Nodding pogonia	T
Sabatia campanulata	Slender marsh pink	E[1]
Saxifraga aizoides	Yellow mountain saxifrage	T[3]
Scleria triglomerata	Whip nut sedge	E[3]
Senecio suaveolens	Sweet-scented Indian plantain	E[1]
Silene caroliniana ssp. *pensylvanica*	Wild pink	T[1]
Smallanthus uvedalia	Bear's foot	E[1]
Solidago ohioensis	Ohio goldenrod	T[1]
Stuckenia filiformis	Slender pondweed	E
Symphyotrichum boreale	Northern bog aster	T
Symphyotrichum ciliolatum	Lindley's aster	E[1]
Symphyotrichum lanceolatum var. *interior*	Small-headed aster	E[2]
Symphyotrichum oolentangiense	Sky-blue aster	E[3]
Symphyotrichum subulatum var. *subulatum*	Annual saltmarsh aster	T[1]
Ulmus thomasii	Cork elm	T
Utricularia radiata	Small floating bladderwort	T[1]
Vaccinium cespitosum	Dwarf bilberry	E[3]
Valeriana uliginosa	Marsh valerian	E
Valerianella chenopodiifolia	Goosefoot corn salad	E[1,3]
Valerianella umbilicata	Navel corn salad	E[3]
Vernonia gigantea	Tall ironweed	E[3]
Viburnum nudum var. *nudum*	Southern wild raisin	E[1]
Viola nephrophylla	Northern bog violet	E

Source: USFWS 2020 and 2021a, b, c; NYSDEC 2014c
1 Onondaga County only
2 Madison County only
3 Oneida County only
FE = Federally endangered FT = Federally threatened C = Federal candidate
E = Endangered (state) T = Threatened (state) SC = State Special Concern X = believed extirpated in the state

5.5 Waters of the US, Wetlands, and Floodplains

5.5.1 Waters of the US

A WOTUS survey was conducted for Hancock Field ANGB in 2020. A total of 34.42 acres (13.92 hectares) of wetlands and 3,851 linear feet (1,174 linear meters) of stream were delineated within the installation. A full description of these seven wetlands and four watercourses can be found in the WOTUS report (Hancock Field ANGB 2021b). A brief description of the wetland habitat is summarized below by site.

Within Hancock Field Tract III, five potentially jurisdictional wetlands (totaling approximately 9.47 acres [3.83 hectares]) and two WOTUS (totaling approximately 2,544 linear feet [775.4 linear meters]) were delineated (Figure 17).

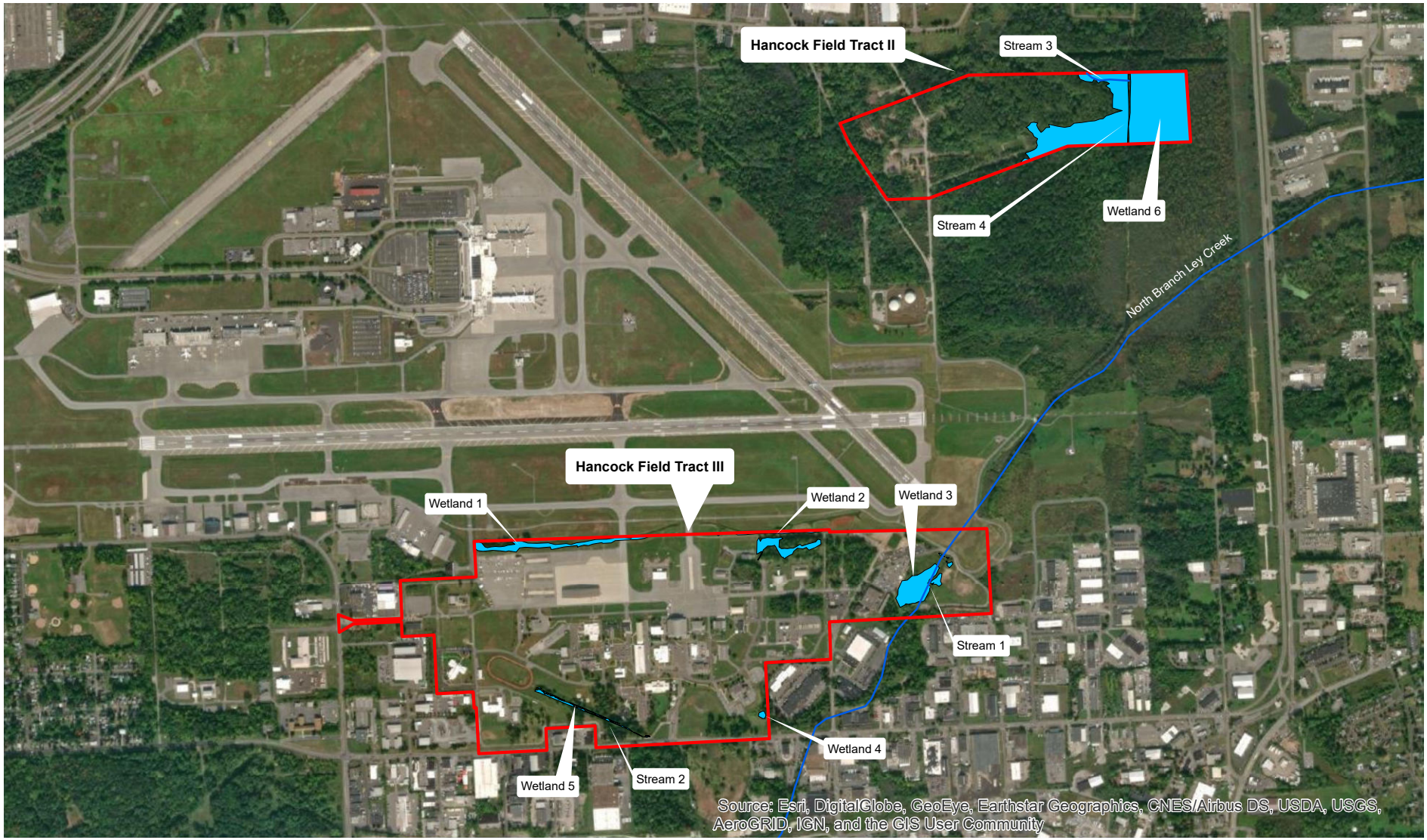
Wetland 1 is a 2.72-acre (1.10-hectare) palustrine emergent wetland that lies along the northern border of Tract III. Vegetation at this wetland is dominated by phragmites. The shrub layer consists of silky dogwood, silky willow (*Salix sericea*), and sandbar willow (*Salix interior*). Spotted joe-pyeweed (*Eupatorium maculatum*), boneset (*Eupatorium perfoilatum*), and common horsetail (*Equisetum arvense*) are found in the herbaceous stratum. Wetland 1 connects to Wetland 2 and Wetland 3, and eventually flows into the Northern Branch of Ley Creek, which is identified as Stream 1 below.

Wetland 2 is a 3.02-acre (1.22-hectare) palustrine forested wetland located near the northern boundary of Tract III and is connected to Wetland 1. The vegetation of Wetland 2 is dominated by red maple and American elm. Small areas of scrub shrub and emergent wetland vegetation occur within the larger forested wetland that include species such as red maple, green ash, phragmites, royal fern (*Osmunda regalis*), and sensitive fern. Drainage from this feature exits Wetland 2 through a series of buried culverts to the north connecting it to Wetland 1 and eventually leading to the North Branch of Ley Creek (Stream 1).

Wetland 3 is a 3.10-acre (1.25-hectare) palustrine emergent wetland that was recently cleared and grubbed as part of a rehabilitation of a former ammunitions range and is also located in the northeastern corner of Tract III. Phragmites, creeping Jenny, and common horsetail can be found in the herbaceous stratum. The North Branch of Ley Creek flows through the eastern portion of Wetland 3.

Wetland 4 is a 0.12-acre (0.049-hectare) emergent wetland that is currently located in a deep depression with a control standpipe in the southeast corner of Tract III. The standpipe appears to direct overflow to the North Branch of Ley Creek offsite. The vegetation of Wetland 4 is dominated by green arrow arum (*Peltandra virginica*). Black willow, red osier dogwood, green ash, narrowleaf cattail (*Typha angustifolia*), and American bur-reed (*Sparganium americanum*) can also be found in this wetland.

Wetland 5 is a 0.51-acre (0.21-hectare) emergent/scrub shrub wetland that has formed within a historic ravine and encompasses a perennial stream flowing off Tract III to the south into the North Branch Ley Creek. The vegetation of Wetland 5 is dominated by spotted touch-me-not or jewelweed (*Impatiens capensis*) and reed canary grass. Creeping Jenny and watercress (*Nasturtium officinale*) can also be found in the herbaceous layer with red maple, red osier dogwood, green ash, and staghorn sumac found in the canopy and the shrub layer.



Legend

- Installation
- Stream
- Wetland

Figure 17. Waters of the US and Wetlands on Hancock Field Tract III and Tract II

0 1,000 2,000 3,000 Feet

Stream 1 (North Branch of Ley Creek) is a 921-linear-foot (281-linear-meter) stream feature located in the northeast corner of Tract III. Stream 1 enters Tract III from the Syracuse Hancock International Airport property, flows across the northeastern corner of Tract III in a southwesterly direction, and exits the property beneath the southern fenced property line. The source of Stream 1 is the low-lying areas of East Syracuse, and this stream has been ditched, rerouted, and significantly altered in the past. Part of its source also originates from the Tract II site.

Stream 2 (unnamed tributary to North Branch of Ley Creek) is a 1,623-linear-foot (494.7-linear-meter) stream feature located in the south-central portion of Tract III. Stream 2 originates from the outlet of a culvert and flows through a deep ravine. Stream 2 flows in a southeasterly direction for approximately 1,623 feet (494.7 meters) prior to entering a culvert and exiting the property to the south. Stream 2 eventually flows into the North Branch of Ley Creek approximately 1,675 feet (510.5 meters) south of the Tract III southern property line.

Within Hancock Field Tract II, one wetland (Wetland 6), totaling 23.2 acres (9.39 hectares) and two streams (approximately 1,307 linear feet [398.4 linear meters]) were delineated (Figure 17). The wetland is a palustrine forested wetland encompassing the eastern third of the site. The vegetation is dominated by silver maple, eastern cottonwood, green ash, and American elm in the tree stratum, and jewelweed and fowl bluegrass (*Poa palustris*) in the herbaceous stratum. Green ash, sweet viburnum (*Viburnum lentago*), and buckthorn (*Rhamnus cathartica*) can be found in the shrub stratum. The tributary to North Branch Ley Creek passes through the wetland to the eastern side.

Stream 3 is a 477-linear-foot (145-linear-meter) perennial stream feature entering the north central border of Tract II and flowing in a southeasterly direction through a culvert beneath an abandoned roadway and into a large ditch (a tributary to the North Branch of Ley Creek). Stream 3 is within Wetland 6.

Stream 4 is an 830-linear-foot (253-linear-meter) perennial stream feature that enters the north central border of Tract II and flows due south. Stream 3 is a tributary to Stream 4 and joins Stream 4 near the northern border of Tract II. Stream 4 flows off the parcel to the south and joins the North Branch of Ley Creek on the City of Syracuse property (Hancock International Airport) before flowing across Tract III as Stream 1.

At the Radar Site, Wetland 7 is a large wetland feature (1.8 acres [0.73 hectare]) comprised of a palustrine forested and emergent wetland that extends offsite to the south and connects to a linear ditch feature along Commerce Drive along the northern border of the site (Figure 18). The vegetation of the emergent portion of the wetland is dominated by creeping Jenny and Pennsylvania buttercup. Morrow's honeysuckle occurs in the subshrub layer. Several other grasses and forbs comprise this emergent wetland including common reed grass, common horsetail, nodding sedge, tussock sedge (*Carex stricta*), woolgrass (*Scirpus cyperinus*), and musclewood. The palustrine forested wetland is dominated by red and silver maple with a subcanopy including American elm, green ash, and red maple. Silky dogwood and spicebush dominate the subshrubs while the herbaceous vegetation is dominated by sensitive fern.

Based on a site visit during the October 2021 Task Force meeting, the biologist and NGB/A4VN NRPM determined that there are no WOTUS at the EADS site.

Legend

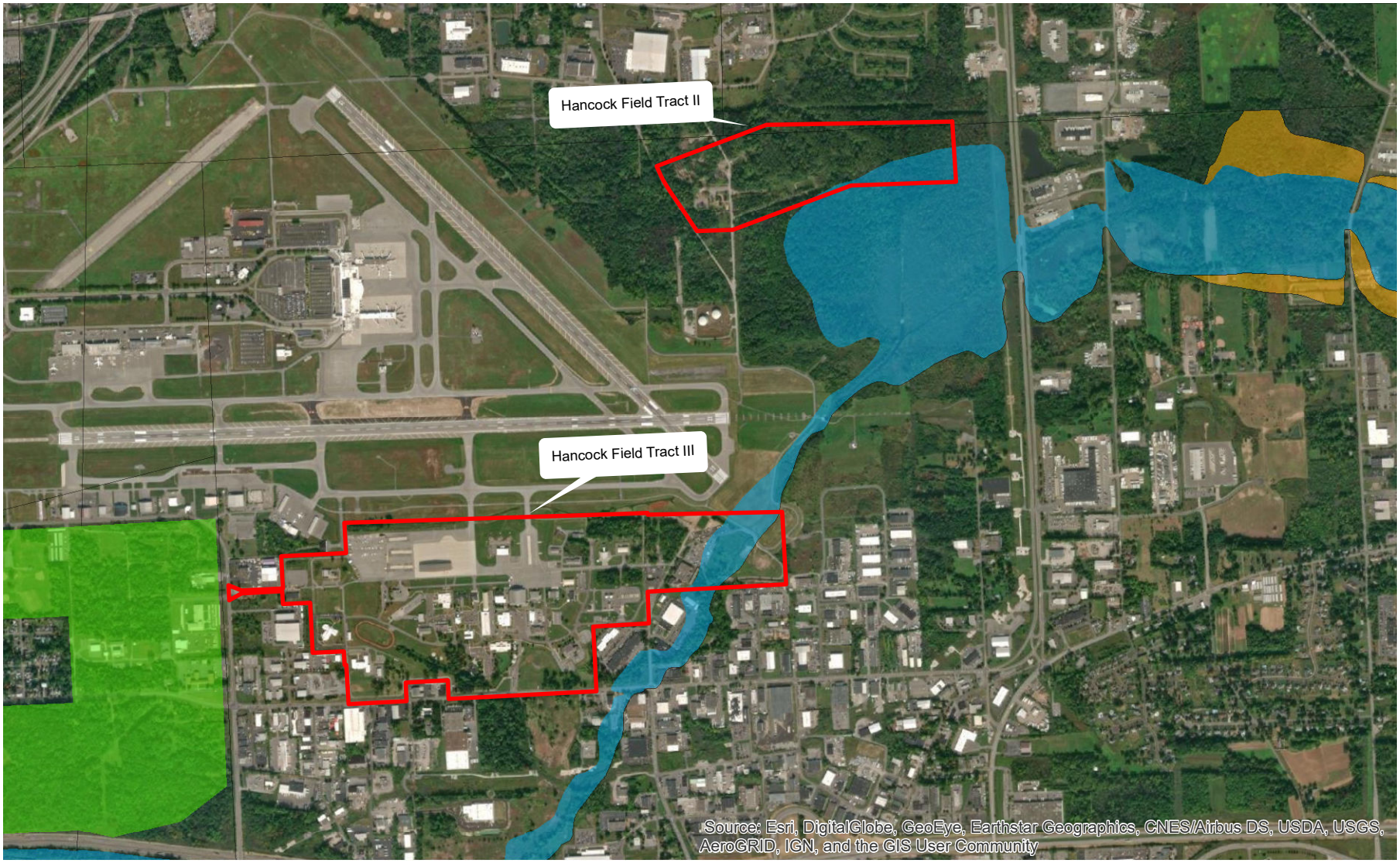
- Town of Sullivan Radar Site
- Wetland

Figure 18. Waters of the US and Wetlands on the Town of Sullivan Radar Site

0 100 200 300 Feet

5.5.2 Floodplains

Floodplains are lowlands and relatively flat areas adjoining waters that are subject to flooding. The 100-year floodplain is designated based on different factors on the Federal Insurance Rate Maps (FIRMs) along with other flooding and storm surge information. With respect to occurrence, a 100-year flood has a one percent chance of occurring in any given year and the 500-year flood has a 0.2 percent chance in any given year. The limits to which that flood reaches defines the floodplains. Floodplains are regulated by the Federal Emergency Management Agency (FEMA) with standards outlined in 44 CFR Part 60.3. EO 11988, *Floodplain Management*, requires agencies to assess the effects that their actions may have on floodplains and to consider alternatives to avoid adverse effects and incompatible development on floodplains. A portion of the eastern border of Hancock Field Tract III and Tract II (Figure 19) lies within the 100-year floodplain on FIRMs #36067C0226F and #36067C0227F (effective 4 November 2016). These two sites contain approximately 24.5 acres (2.5 hectares) that fall within the 100-year floodplain (FEMA 2011). No floodplains occur on the Radar Site (Figure 20; FIRM #3604090004B, effective 3 April 1985) or the EADS site (Figure 21; FIRMs #36065C556F and #36065C0559F, effective 27 September 2013).



Legend

Installation

FEMA Flood Zone Designation

ZONE

- AE - 1% annual chance of flood (100 year)
- ANI - Area not included (not mapped)
- X - minimal flood hazard
- X500 - minimal flood hazard (500 year)

Figure 19. Flood Hazard Zones at Hancock Field Tract III and Tract II

0 1,000 2,000 3,000 Feet

Legend

Town of Sullivan Radar Site

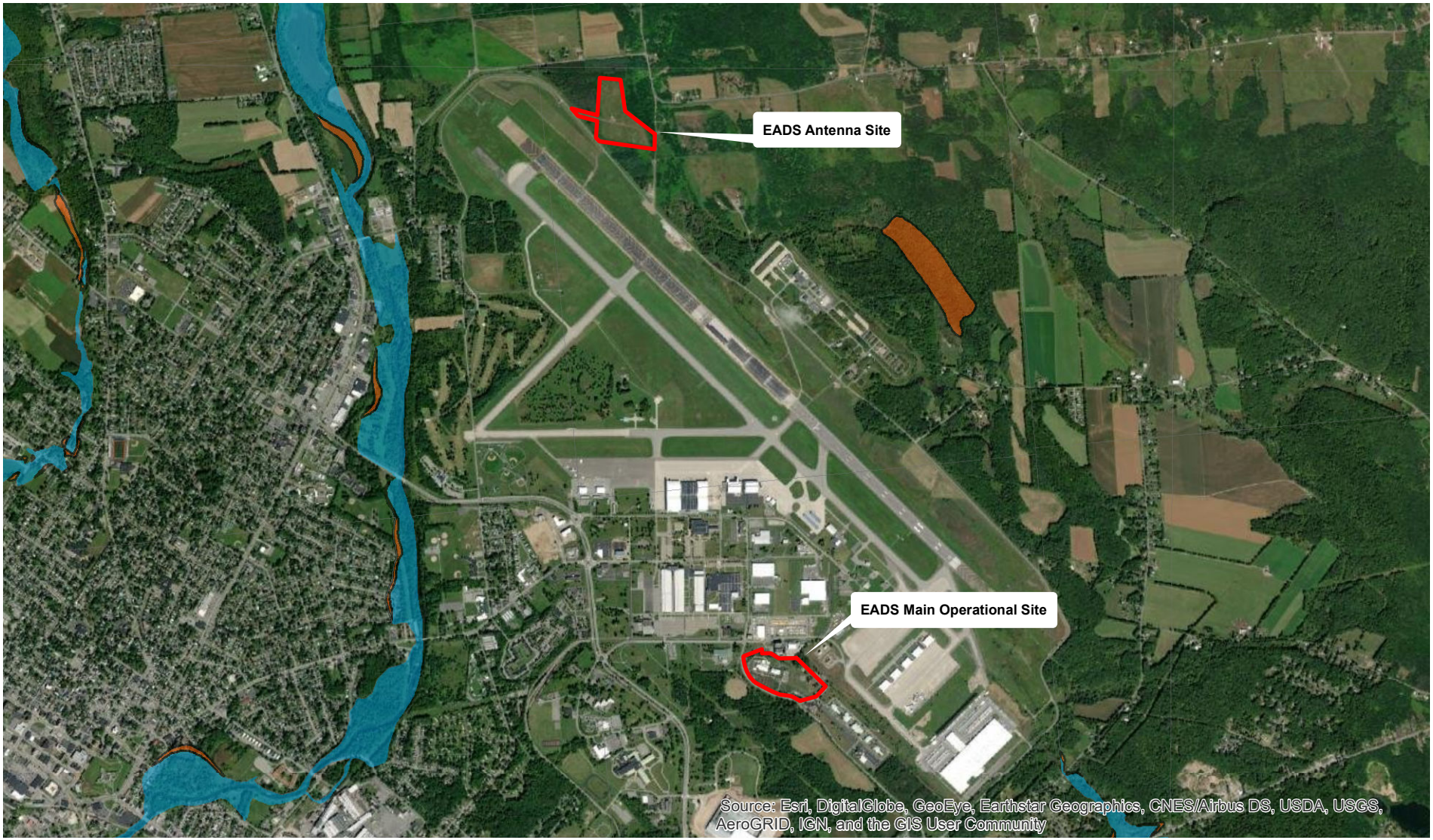
FEMA Flood Zone Designation

ZONE

X

Figure 20. Flood Hazard Zones at the Town of Sullivan Radar Site

0 300 600 900 Feet



EADS - Eastern Air Defense Sector

Figure 21. Flood Hazard Zones at the EADS Site

Legend

Eastern Air Defense Sector Site

FEMA Flood Zone Designation

ZONE

A

AE - 1% annual chance of flood (100 year)

X - minimal flood hazard

X500 - minimal flood hazard (500 year)

0 2,000 4,000 6,000 Feet

6.0 MISSION IMPACTS ON NATURAL RESOURCES

6.1 Natural Resources Needed to Support the Military Mission

Missionscape refers to the condition of the landscape best suited to support the various missions and varies depending upon the type of training. The 174 ATKW mission provides qualified airmen and weapon systems engaging in global air, space, cyberspace, and state civil support operations. The 174 ATKW requires operation areas to support tactical air operations and surrounding areas to serve as a buffer to reduce BASH risk and provide support facilities and functions. The military mission and training requirements are dynamic and can change over time, requiring potential changes to natural resource needs to support the mission. Thus, natural resources needed to support the 174 ATKW mission include vegetated buffers for water quality preservation and some open space for security and safety clear zones associated with antiterrorism / force protection (AT/FP) and training exercises. Degradation of natural resources can result in unintended impacts to the military mission, impaired readiness, and increased expenses for natural resources management rather than the military mission. The NYANG needs the land and its natural resources to function together in a healthy ecosystem to support the military mission. Management activities in this INRMP are designed to support the desired habitats and ecosystem functions to meet the military mission.

6.2 Natural Resources Constraints to Mission and Mission Planning

The natural resources constraints to installation planning and mission are summarized as:

- 174 ATKW must manage state and federally listed species without impacting the mission. Any new activities or infrastructure could be limited in areas where state or federally listed species are known to occur or where there is state priority habitat.
- Any project that is anticipated to significantly impact floodplains must undergo the NEPA process per 32 CFR Part 989 and be approved by the NGB/A4VN NRPM. Any project that permanently alters the hydrology of a floodplain may require a floodplain study to arrive at the correct elevations to meet state or local government regulations. If a study is required the installation will have to work directly with the state or local government agency responsible for the administration of floodplain laws and regulations.
- Any project which is anticipated to impact WOTUS including wetlands must obtain a Section 404 Permit from the US Army Corps of Engineers (USACE) and a Section 401 Water Quality Certification (WQC) from the NYSDEC. A delineation of the boundaries of all onsite WOTUS including wetlands must be completed in accordance with the policies and procedures defined under the Rivers and Harbors Act; 33 CFR Part 328; the 1987 USACE Wetlands Delineation Manual, Technical Report Y-87-1, and subsequent rules and guidelines issued governing its implementation; and the applicable Regional Supplement to the 1987 USACE Wetlands Delineation Manual. Projects with impacts to wetlands must also undergo the NEPA process per 32 CFR Part 989 and be approved by NGB/A4VN NRPM.
- Hancock Field ANGB possesses populations of, and habitat features that are attractive to, high BASH threat species (species that historically cause the greatest damage).

6.2.1 Land Use

In this plan, Hancock Field ANGB collectively refers to the Hancock Field Tract III, Tract II, and the Radar Site. The Hancock Field Tract III is located on approximately 270 acres (109 hectares) of land in Onondaga County located adjacent to the Syracuse Hancock International Airport which is

accessed via East Molloy Road. A GSU, the Hancock Field Tract II, is an approximate 86-acre (35-hectare) parcel in Onondaga County to the north of Hancock Field. This site is accessed via Stewart Drive. The second GSU is located in Madison County near the Town of Sullivan. The Radar Site is approximately 4.0 acres (1.6 hectares) located at 2020 Enterprise Drive, Chittenango, NY. Hancock Field ANGB contains facilities and infrastructure developed to support the administrative, maintenance, and operational functions associated with the 174 ATKW mission. Land use surrounding the airport and the Hancock Field Tract III primarily consists of industrial, commercial, and public services to the northeast and south, with residential areas to the southwest, north, and east of the airport (NGB 2015). The airport is to the west of Tract II and other land use around this tract includes undeveloped to the south, and commercial to the north and east. Land use around the Radar Site consists of undeveloped lands to the south and east, residential development to the north, and limited commercial development to the west.

The EADS site is composed of two parcels located at the Griffiss Business and Technology Park in Rome, NY. The Main Operational Site (Tract I) is approximately 23 acres (9.3 hectares) and is accessed via Perimeter Road off Highway 365. The Antenna Site (Site II) is the antenna location off Golf Road at the northern end of the airport (24 acres [9.7 hectares]). Land use around the EADS Antenna Site is mainly the airport, although agricultural use occurs towards the east and residential/agricultural use to the north. The EADS Main Operational Site is surrounded mainly by commercial land use. The Hancock Field ANGB and the EADS site total approximately 406.8 acres (164.6 hectares).

6.2.2 Current Major Impacts

Mission activities at the Hancock Field ANGB include maintaining a level of operational readiness that provides trained and equipped combat-ready tactical units ready for immediate integration into the active USAF. Impacts to natural resources are more likely to result from mission support activities, including facility and utility construction activities. In addition, support and non-mission related activities, such as management and disposal of hazardous substances, industrial operations, and landscape maintenance activities can potentially affect natural resources. The current major impacts to natural resources from the Hancock Field ANGB and the EADS site military missions include:

- Impacts to migratory birds (managed through the BASH Program).
- Impacts to the environment from the potential misuse of hazardous materials and pesticides.
- Impacts from installation restoration sites.

6.2.2.1 Installation Restoration Sites

The Defense Environmental Restoration Program (DERP) was developed by the DoD to investigate and clean up hazardous substances, pollutants, and contaminants that pose environmental health and safety risks at active military installations and formerly used defense sites. Future development of sites identified through the DERP might be constrained depending on the severity of the contamination or the extent of the remedial action required. The overall objective of the DERP is to identify potential environmental problems and provide timely remedies to protect public health and the environment. The installation restoration program (IRP) established under DERP is a comprehensive program to identify and address environmental contamination from past military operations. The IRP sites at Hancock Field ANGB are discussed below (Figure 22).

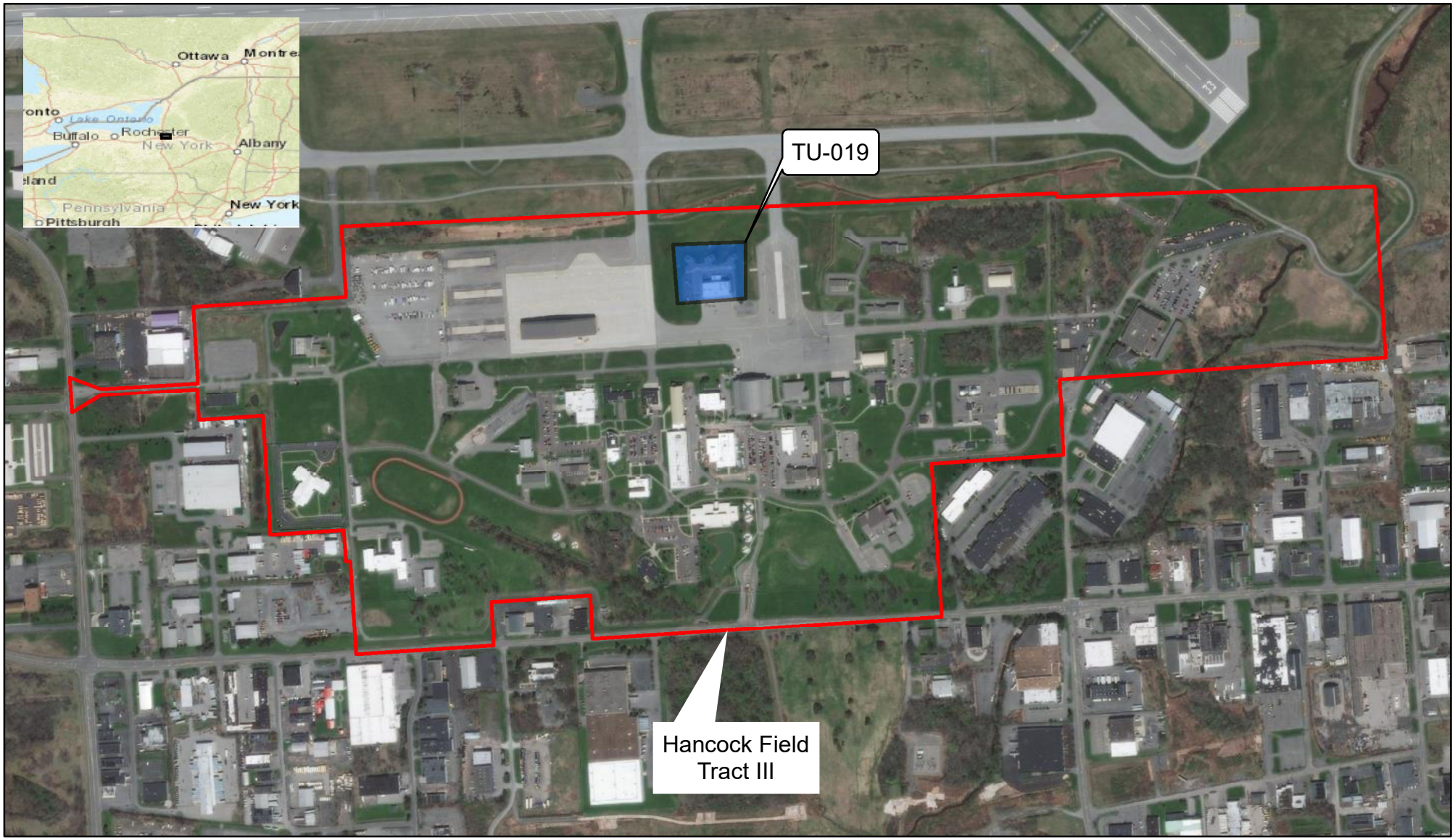


Figure 22. Installation Restoration Program Sites at Hancock Field Tract III

Legend

Installation

Restoration Site

0 1,250 2,500 Feet

Site TU-019

Site TU-019 encompasses contamination associated with the former underground storage tank (UST) #011 that was adjacent to former Building 1600 (now Building 646) on Hancock Field Tract III. Former Building 1600 was used for corrosion control and aircraft painting. The UST located at the site was an 8,000-gallon (30,000-liter) fuel oil tank that was reported to have been removed in October 1995. During the 2015 site inspection, volatile organic compounds were detected in the groundwater at concentrations above project action limits (NGB 2020). A remedial investigation was conducted and recommended further delineation of the groundwater contamination plume concentrated on the eastern side of Building 646 for Site TU-019.

7.0 NATURAL RESOURCES PROGRAM MANAGEMENT

7.1 Natural Resources Program Management

The guiding philosophy of the INRMP is to take an ecosystems approach to managing natural resources. Ecosystem management is based on clearly stated goals and objectives, and associated projects. The INRMP identifies goals and objectives, and presents the means to accomplish them as well as the methodologies to monitor results.

7.2 Fish and Wildlife Management

Wildlife management involves manipulating various aspects of an ecosystem to benefit chosen wildlife species. Management of habitats generally is focused to benefit native species, particularly listed species and game species. Habitat management could be required to decrease the abundance of certain wildlife species or to reduce animal damage or bird strike hazards. The installations' limited size necessitates implementation of wildlife management options that do not increase the potential for wildlife mission conflicts but still conserve regional biodiversity. Wildlife population and habitat management on Hancock Field ANGB and the EADS site will (1) attempt to deter animals from foraging or roosting in areas near or adjacent to the flightline and other mission-critical areas, (2) attract wildlife to portions of the installation away from these areas, and (3) protect and conserve regional biodiversity through conservation of habitats and habitat corridors across the installations.

The DoD and the ANG encourage support of SWAPs as part of a comprehensive installation natural resources program. The implementation of this INRMP and many of the proposed projects will support the goals of the New York SWAP. In addition, New York State code 6 NYCRR 182.1 - .16 provides a list of native wildlife species listed as endangered, threatened, and of special concern as well as state regulations related to listed species (NYSDEC 2021f).

7.2.1 Federal Wildlife Policies and Regulations

Endangered Species Act

The ESA of 1973, as amended (16 USC §1531 et seq.) provides for the identification and protection of threatened and endangered plants and animals, including their critical habitats. The ESA requires federal agencies to conserve threatened and endangered species and cooperate with state and local authorities to resolve water resources issues in concert with the conservation of threatened and endangered species. This law establishes a consultation process involving federal agencies with input from state agencies to minimize impacts to the greatest extent practicable by agency action that would adversely affect species or habitat. Further, it prohibits all persons subject to U.S. jurisdiction from taking, including any harm or harassment, endangered or threatened species.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits, unless permitted by regulations, the pursuit, hunting, take, capture, killing, or attempting to take, capture, kill, or possess any migratory bird included in the MBTA, including any part, nest, or egg of any such bird (16 USC § 703). The DoD has a Memorandum of Understanding (MOU) with the USFWS pursuant to EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, which outlines a collaborative approach to promote the conservation of migratory bird populations. This MOU specifically pertains to natural resource management activities, including, but not limited to, habitat management, erosion control, forestry activities, invasive weed management, and prescribed burning. It also pertains to installation support functions, operation of industrial activities, construction and demolition activities, and hazardous waste cleanup. In February 2007, the USFWS finalized regulations for issuing incidental take permits to the DoD. If any of the Armed Forces determine that a proposed or an ongoing military readiness activity may result in a significant adverse effect on a population of migratory bird species, then they must confer and cooperate with the USFWS to develop appropriate and reasonable conservation measures to minimize or mitigate identified significant adverse effects (50 CFR Part 21). At this time, the DoD MOU is under review.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 USC 668-668c), enacted in 1940 and amended several times since then, prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof."

In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously-used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death, or nest abandonment.

7.2.2 Nuisance Wildlife and Wildlife Diseases

Wildlife species that pose a moderate to high risk are identified in the installation's BASH Plan (174 ATKW 2019). Steps to reduce bird airstrikes are outlined and followed per the BASH guidelines. Aside from those species, there are few nuisance (e.g. rats, mice, opossum) wildlife species at the installations. Any large-scale wildlife deaths and unnatural behavior occurring on the installations will be reported, recorded, and investigated in conjunction with USFWS, USEPA, and NYSDEC personnel, if appropriate. Hancock Field ANGB cooperates with USDA-APHIS-WS for BASH management.

7.2.3 Management of Threatened and Endangered Species and Habitats

This section presents information about the management of priority species that are located within or have the potential to occur at Hancock Field ANGB, along with requirements and strategies for their management. No federally listed species were identified by the USFWS as potentially occurring at the EADS site (USFWS 2021c). As additional surveys and natural resources management activities are conducted, it is possible other species may be added in the future.

7.2.3.1 Federally-listed Special Status Wildlife Species

Four federally listed species and one candidate species were noted in the three counties and have the potential to occur at Hancock Field ANGB (USFWS 2021a and b): northern long-eared bat (*Myotis septentrionalis*; NLEB), Indiana bat (*Myotis sodalis*), eastern massasauga rattlesnake (*Sistrurus catenatus*), Karner blue, and candidate monarch butterfly. Although no federally listed bats were detected during the 2020 and 2021 surveys, forested areas at Hancock Field ANGB present some snags and other roosting opportunities for NLEBs and Indiana bats as well as non-listed bat species.

Northern Long-eared Bat: The NLEB was federally listed as threatened on April 2, 2015 due to declines in population caused by white-nose syndrome (WNS). The bat is also listed in New York as a threatened species. The bat is distinguished from other *Myotis* species by its long ears. This medium-sized bat has a body length of 3.0 to 3.7 inches (76 to 94 millimeters) and a wing span of 8.9 to 10 inches (230 to 250 millimeters; USFWS 2016a). Adult bats can weigh between 0.18 and 0.28 ounces (5.1 and 7.9 grams). This migratory bat species hibernates from mid-fall through mid-spring in mines or caves and spends its summers in wooded areas (USFWS 2016b). Suitable spring staging/fall swarming habitat, which is most typically within 5 miles (8 kilometers) of a hibernaculum, consists of the variety of forested/wooded habitats where they roost, forage, and travel (USFWS 2016b). NLEBs roost underneath bark, in cavities, or in crevices of both live trees and snags (typically ≥ 3.0 inches [7.6 centimeters] diameter at breast height). NLEBs are known to use a wide variety of tree species and a network of roost trees based on presence of cavities or crevices or presence of peeling bark (USFWS 2016b). The NLEB will also roost in buildings (Harvey et.al. 2011).

Figure 23. Northern long-eared bat

Photo courtesy of USFWS

Tree-roosting bats prefer leafy sites, well covered above, but open below. They will often use camouflage by roosting in a clump of dead leaves (Harvey et. al. 2011). Roosting locations are often over 6 feet (2 meters) above the ground, and located on the edge of a clearing.

The following management strategies for the NLEB are recommended:

- Ensure the use of pesticides on the base and in sensitive habitats is done in accordance with the product label at the lowest amount possible.
- Limit presence of off-road vehicles in known foraging habitat to the maximum extent feasible.
- Limit tree removal and trimming to outside the maternity season (May 1 to September 30) to the maximum extent feasible.
- Protect snags greater than 5.0 inches (13 centimeters) in diameter in early stages of decay, where they do not pose a safety hazard, particularly in the areas currently forested.
- Maintain vegetation along surface water features to reduce erosion of streambanks which serve as critical foraging areas.

Indiana Bat: The Indiana bat was federally listed as endangered on March 11, 1967 (41 *Federal Register* 17740) and critical habitat was designated on September 24, 1976 (41 *Federal Register* 41914). However, critical habitat does not occur on the installations. The bat is also listed as endangered by the state. This bat weighs 0.25 ounce (7.1 grams), has a body length of approximately 1.9 inches (4.8 centimeters) and has a wingspan between 8.9 and 11 inches (230 and 280 millimeters). Although this species is similar to other related bat species, it can be distinguished as the Indiana bat by comparison of characteristics such as the structure of the foot and color variations in the fur (USFWS 2006).

In the winter, Indiana bats hibernate in caves or sometimes abandoned mines. During the summer months, the bats migrate to summer habitat in wooded areas where they usually roost on dead or dying trees under loose bark. Primary roost trees are typically large (greater than 9.0 inches [23 centimeters] diameter at breast height) with loose, exfoliating bark and a high degree of solar exposure. Indiana bats feed on aquatic and terrestrial insects while foraging in forested stream corridors, upland and bottomland forests and wooded edges, forested wetlands, and impounded bodies of water at night (USFWS 2006 and 2008a).

Figure 24. Indiana bat
Photo courtesy of USFWS

The following management strategies for the Indiana bat are recommended:

- Ensure the use of pesticides on the base and in sensitive habitats is done in accordance with the product label at the lowest amount possible.
- Limit presence of off-road vehicles in known foraging habitat to the maximum extent feasible.
- Limit tree removal and trimming to outside the maternity season (May 1 to September 30) to the maximum extent feasible.
- Protect snags greater than 5.0 inches (13 centimeters) in diameter in early stages of decay, where they do not pose a safety hazard, particularly in the areas currently forested.
- Maintain vegetation along surface water features to reduce erosion of streambanks which serve as critical foraging areas.

Eastern Massasauga Rattlesnake: The eastern massasauga is a small, thick-bodied rattlesnake listed as threatened by the USFWS and is a state species of concern. The average length of this light brown colored snake with large, light-edged chocolate brown blotches on its back is about 2 feet (0.6 meter). Eastern massasaugas inhabit wet areas including wet prairies, marshes, and low areas along rivers and lakes, while also utilizing adjacent uplands during parts of the year (USFWS 2016c). No suitable habitat was observed for the eastern massasauga on Hancock Field Tract III or Tract II. Wetland areas were isolated and lacked the complexity of vegetation and species composition that would provide adequate cover for the eastern massasauga. Wetlands within the Radar Site are limited to drainage ditches, highly disturbed common reed-dominated and forested wetlands. The wetlands at the site also lacked the complexity of vegetation structure and species composition that

Figure 25. Eastern massasauga rattlesnake
Photo courtesy of USFWS

would provide adequate cover for the eastern massasauga. The rattlesnake prefers small rodents and hunts its prey by sight, by feeling vibrations, by sensing heat given off by its prey, and by detecting chemicals given off by the animal (USFWS 2016c). The eastern massasauga depends on wetlands for shelter and food as well as nearby uplands. Habitat loss as well as intolerance for venomous snakes contributed to the species' listing.

The following management strategies for the eastern massasauga rattlesnake are recommended:

- Ensure the use of pesticides on the base and in sensitive habitats is done in accordance with the product label at the lowest amount possible.
- Alter mowing practices after emergence from hibernation (April-October). Consider mowing patterns that begin in the middle of a site and work outwards or a back and forth method to allow the snakes an escape mechanism.
- Use wildlife-safe materials (such as jute) for erosion control and site restoration. Avoid using erosion control products containing plastic mesh netting or other similar material that could entangle snakes.
- To increase human safety and awareness of the eastern massasauga rattlesnake, provide educational information for those implementing projects on the installation.

Karner Blue: The Karner blue is a small butterfly (approximately 1.0-inch [2.5-centimeter] wing span) listed as endangered by the USFWS in 1992. Although the males and females of the species have different coloring on the top of the wings, underneath both species are gray with a continuous band of orange crescents along the edges of both wings with scattered black spots circled with white (USFWS 2008b). The Karner blue has a very strict habitat requirement with caterpillars feeding only on the leaves of the wild lupine (*Lupinus perennis*) plant and adults feeding on the nectar of the flowering plants. With such a specific habitat preference, the lack of natural disturbances (grazing and wildlife) as well as land development has severely impacted the availability of habitat for the species (USFWS 2008b).

Figure 26. Karner blue

Photo courtesy of USFWS

The following management strategy for the Karner blue is recommended:

- Allow wild lupine to grow and potentially expand into field edges where feasible.

Monarch Butterfly: In 2020, the USFWS determined that listing the monarch under the ESA is warranted but precluded at this time by higher priority listing actions. With this finding, the monarch butterfly becomes a candidate for listing (USFWS 2021d). The monarch butterfly can be found in a variety of habitats, especially those supporting milkweed plants (*Asclepias* sp.), the primary food source of the caterpillars. These butterflies feed on nectar sources found in grasslands, prairies, meadows, and wetlands.

Figure 27. Monarch butterfly

Photo courtesy of Conserve Wildlife Foundation of New Jersey

Monarch butterfly populations have declined more than 90 percent over the past 20 years (MDNR 2015). Herbicide and pesticide use as well as the loss of habitat supporting milkweed and adequate nectar sources have contributed to the decline of the species. The following management strategies for the monarch butterfly are recommended:

- Allow common milkweed to grow and potentially expand into field edges where feasible.
- Consider landscaping with native fall-blooming flowers and allowing the species to expand where feasible. This will also help attract other pollinators such as native bees.

At Risk Species: In addition to the five listed species (NLEB, Indiana bat, eastern massasauga rattlesnake, Karner blue, and monarch butterfly), the USFWS National Listing Workplan (USFWS 2019) was reviewed to determine if any species could occur at Hancock Field ANGB or the EADS site that are considered "at risk". The species that are considered "at risk" have a timeline for a listing decision to be made in the next five years and conservation measures are recommended. Six species are listed in New York by the USFWS as species at risk and could potentially occur on the installation: tri-colored bat (*Perimyotis subflavus*), little brown bat (*Myotis lucifugus*), golden-winged warbler (*Vermivora chrysoptera*), spotted turtle (*Clemmys guttata*), wood turtle (*Glyptemys insculpta*), and frosted elfin butterfly.

The tri-colored bat was documented at Hancock Field Tract II and the little brown bat at the Radar Site. Management strategies suggested for the Indiana bat and NLEB would also benefit these species. Both bat species are also high-priority SGCN by the state of New York and are discussed further below. The golden-winged warbler inhabits early successional habitats with a dense herbaceous layer and patches of shrubs, often next to forest edges (NYSDEC 2014b). Spotted turtles use a variety of habitats such as ponds, marshy meadows, shrub swamps, forested wetlands, streams, rivers, ditches, or other small bodies of still water (NYSDEC 2013a) while wood turtles use both aquatic and terrestrial habitats. Preferred aquatic habitats include slow-moving streams adjacent to early successional uplands. Terrestrial habitats include fields and meadows (with alder, willow, meadowsweet, or multiflora rose), and early to mid-successional forests (with oak, black birch, and red maple) (NYSDEC 2013b). Frosted elfin butterfly habitat includes pine-oak and oak-heath scrub, roadsides, and open, brushy fields along edges of open woods. Host plants for this species include wild lupine, wild indigo (*Baptisia tinctoria*), or blue false indigo (*B. australis*) (NYSDEC 2014a).

7.2.3.2 State Special Status Species

One state-listed avian species was observed during the 2021 surveys (Hancock ANGB 2022): the bald eagle (*Haliaeetus leucocephalus*). In addition, the New York SWAP assessed species, identifying important habitats, population trends, and the scope and severity of threats for each species and developed a list of species that are considered SGCN (NYSDEC 2015). During the 2019 BASH survey and the 2020 and 2021 surveys at the Hancock Field ANGB, four high-priority SGCN and six other SCGN were documented. The four high-priority SGCN include: little brown bat, tri-colored bat, eastern meadowlark (*Sturnella magna*), and the grasshopper sparrow (*Ammodramus savannarum*). Three additional bat species and three avian species are considered SGCN in the state: hoary bat (*Lasiurus cinereus*), eastern red bat (*Lasiurus borealis*), silver-haired bat (*Lasionycteris noctivagans*), American woodcock (*Scolopax minor*), scarlet tanager (*Piranga olivacea*), and wood thrush (*Hylocichla mustelina*). New York defines the high-priority SGCN as species whose status is known and conservation action is needed in the next 10 years. These species are experiencing a population decline, or have identified threats that may put them in jeopardy, and need timely management intervention or they are likely to reach critical population levels in New

York (NYSDEC 2015). SGCN are experiencing some levels of population decline and need conservation actions to maintain stable population levels or sustain recovery (NYSDEC 2015).

Bald Eagle: Bald eagles, listed as threatened by the state, are one of the largest raptor species in North America weighing 8.0-14 pounds (3.6-6.4 kilograms) and standing about 30 inches (80 centimeters) in height (NYSDEC 2021g). The species typically nests in forested habitat along ocean shorelines or other large bodies of water or rivers. Although fish make up a large portion of their diet, bald eagles are opportunistic foragers. By March, bald eagles lay their clutch in nests that have easy access at the edge of wooded areas. Bald eagle restoration in New York started in 1976 and has successfully resulted in an increase in the population throughout the state (NYSDEC 2021g). Bald eagles were not documented as nesting at any of the sites.

Figure 28. Bald eagle

Photo courtesy of Bill Byrne, Massachusetts Wildlife

The following management strategies for the bald eagle are recommended:

- Preserve habitat where feasible.
- Protect potential roost and nest sites by retaining mature trees and old growth stands, particularly within 0.5 mile (0.8 kilometer) from water.
- Follow USFWS conservation management guidelines for bald eagles.
- Maintain distance between the activity and the nest (distance buffers) if nesting is documented on the installation.
- Avoid certain activities during the nesting season (timing buffers) if nesting is documented on the installation (see Table 7).

Table 7. Recommended Buffer Distances by Activity for Bald Eagles

Activity	Restriction Period	Recommended Buffer Distance
New building, roadway, or utility construction	Year-round	¼ mile from nest
Motorized recreation	Breeding season	660 feet from nest
	Non-breeding season	660 feet from roost
Non-motorized recreation	Breeding season	330 feet from nest
	Non-breeding season	330 feet from roost
Aircraft/unmanned aerial vehicles	Breeding season	¼ mile or 1,500 feet above ground level at nest
	Non-breeding season	¼ mile or 1,500 feet above ground level at roost
Blasting, fireworks, or other loud noises	Breeding season	1 mile from nest
	Non-breeding season	1 mile from roost

Little Brown Bat: The little brown bat is a common insectivorous bat found across much of North America, with Arkansas representing the southwestern edge of its range in the eastern United States (Sasse et al. 2011). This tiny bat weighs between 5.0 and 14 grams (0.17 to 0.49 ounces) and ranges in length from 60 to 102 millimeters (2.36 to 4.02 inches; UM 2006). These bats have small ears but large hind feet. Little brown bats use trees, piles of wood, and buildings for day and night roosts during their active season. Hibernation and the use of mines or caves as hibernaculum sites begins in the south around November and ends mid-March (UM 2006). Little brown bats are often found in forested areas near water where insects are plentiful. Like many cave-dwelling bats, this species is vulnerable to the fungal disease known as WNS.

Figure 29. Little brown bat

Photo courtesy of Kentucky Department of Fish and Wildlife Resources, John MacGregor

The following management strategies for the little brown bat are recommended:

- Conduct the demolition of structures or large-scale renovations to roof and wall areas outside of the maternity period (May 1 to September 30) if bats are thought to occupy buildings on the installation, to the extent feasible.
- Limit tree removal and trimming to outside the maternity season (May 1 to September 30), to the extent feasible.
- Conduct surveys of buildings before modification or construction to determine if bats are present.

Tri-colored Bat: The tri-colored bat, also known as the eastern pipistrelle, prefers open habitat with large trees and woodland edges (NYSDEC 2017). As the name implies, tri-colored bats have three colored fur: dark gray at the base, then broadly banded with yellowish brown, and tipped with dark brown. This small bat weighs 0.1 to 0.3 ounce (2 to 8 grams) and is about 3.0 to 3.5 inches (7.6 to 8.9 centimeters) in length (MDC 2021). The species forages over tree tops and water features. Summer roosting occurs mainly in forested habitat and sometimes buildings, while hibernation sites are caves and mines. In New York, the 20 largest tri-colored bat hibernacula have declined by approximately 98 percent post WNS (NYSDEC 2017).

Figure 30. Tri-colored bat

Photo courtesy of Kentucky Department of Fish and Wildlife

The following management strategies for the tri-colored bat are recommended:

- Conduct the demolition of structures or large-scale renovations to roof and wall areas outside of the maternity period (May 1 to September 30) if bats are thought to occupy buildings on the installation, to the extent feasible.
- Limit tree removal and trimming to outside the maternity season (May 1 to September 30), to the extent feasible.

- Conduct surveys of buildings before modification or construction to determine if bats are present.

Eastern Meadowlark: The eastern meadowlark is a ground-nesting passerine of grasslands, hayfields, and pastures (NHESP 2020). Adults have bright yellow throats and chests and average 7.5 to 10 inches (19 to 25 centimeters) in size (NYSDEC 2021h). The species prefers large areas of grazed pastures or grasslands and nests are constructed within dense vegetation (NYSDEC 2021h). Development, forest succession, and agricultural practices have reduced grassland habitats and caused declines in the species throughout its range. Continued restoration and management of grassland communities to provide suitable nesting habitats are important for the species.

Figure 31. Eastern meadow lark

Photo courtesy of Cornell Lab of Ornithology

The following management strategies for the eastern meadowlark are recommended:

- Maintain existing grasslands where possible.
- Avoid mowing during the breeding season (April 1 to August 15) where feasible.

Grasshopper Sparrow: The grasshopper sparrow is a small sparrow species (4.5 to 5.5 inches [11-13 centimeters]) that prefers to remain close to the ground where it walks more than flies (Cornell 2019a). This species prefers open hayfields, prairies, and grasslands with some bare ground. Habitat loss from conversion of grasslands to croplands has contributed to the decline of the grasshopper sparrow (AGFC 2015). Changes in agricultural practices, loss of habitat to development, and natural succession has led to a population decline of the species (NHESP 2015). This species has been documented during BASH surveys, but was not documented during the 2020 and 2021 flora and fauna surveys.

Figure 32. Grasshopper sparrow

Photo courtesy of Luke Seitz, Macaulay Library

The following management strategies for the grasshopper sparrow are recommended:

- Maintain existing grasslands where possible.
- Avoid mowing during the breeding season (April 1 to August 15) where feasible.

Hoary Bat: Hoary bats roost in forested habitat in a variety of tree species. Most of their diet consists of Lepidoptera species (moths; NYNHP 2014a). They have grey-tipped yellowish-brown fur and a yellow throat and weigh 0.7 to 1.6 ounce (20 to 45 grams) and average 5 to 6 inches (13 to 15 centimeters) in length.

Figure 33. Hoary bat

Photo courtesy of Kentucky Department of Fish and Wildlife

The following management strategies for the hoary bat are recommended:

- Preserve forested habitat where feasible.
- Limit tree removal and trimming to outside the maternity season (May 1 to September 30), to the extent feasible.

Eastern Red Bat: The eastern red bat roosts in deciduous trees and sometimes shrubs. They forage for insects over open fields and grasslands as well as water sources (NYNHP 2014b). Hibernating eastern red bats have been documented in a variety of locations, ranging from tree hollows and exposed tree trunks to areas on the ground covered in leaf litter (TPWD 2021). This reddish-orange bat weighs 0.25 to 0.56 ounce (7.1 to 16 grams) and averages 3.7 to 4.7 inches (9.4 to 12 centimeters) in length.

Figure 34. Eastern red bat

Photo courtesy of Kentucky Department of Fish and Wildlife

The following management strategies for the eastern red bat are recommended:

- Preserve forested habitat where feasible.
- Limit tree removal and trimming to outside the maternity season (May 1 to September 30), to the extent feasible.

Silver-haired Bat: The silver-haired bat is also a tree roosting species inhabiting forests especially near water sources. The bats often roost in hollow trees, crevices in rocks and cliffs, and under loose bark (MADFW 2015). The dark blackish-brown fur is tipped with silver on this smaller bat species weighing 0.35 ounce (9.9 grams) and averaging 3.9 inches (9.9 centimeters) in length. Unlike cave bats that have one pup per year, the silver-haired bat can produce three or four pups (MADFW 2015).

Figure 35. Silver-haired bat

Photo courtesy of Kentucky Department of Fish and Wildlife

The following management strategies for the silver-haired bat are recommended:

- Preserve forested habitat where feasible.
- Limit tree removal and trimming to outside the maternity season (May 1 to September 30), to the extent feasible.

American Woodcock: Weighing about 8 to 12 ounces (200 to 340 grams) and averaging the size of a mourning dove, the American woodcock is a unique upland bird species. The woodcock has a very long bill with a flexible tip for probing through soil, and its eyes are set high on the back of its head to protect against aerial predation (NYSDEC 2021i). Its mottled body color allows it to blend into leaf litter. The American woodcock is a migratory bird, found in New York during the breeding season where it requires a diverse mix of habitats including riparian shrublands, forests, and upland shrublands to survive (NYSDEC 2021i). The species relies on trees and shrubs that require full sunlight and open canopies which are maintained during forest disturbance (NYSDEC 2021i). The species is declining in the state due to loss of upland and wetland habitat due to development and the natural succession of forested habitats (NYSDEC 2021i).

Figure 36. American woodcock
Photo courtesy of the Audubon Society

The following management strategy for the American woodcock is recommended:

- Where feasible promote open canopies in some forested habitat on Hancock Field Tract III.

Scarlet Tanager: Scarlet tanagers are medium-sized song birds (6.3 to 6.7 inches [16 to 17 centimeters]) with males colored bright red with black wings and tails. Although mainly insectivores, these birds will also consume fruits and spend most of their time in the canopy (Cornell 2019b). The species prefers undisturbed tracts of forest with a mixture of deciduous and evergreen tree species for nesting (Cornell 2019b).

Figure 37. Scarlet tanager
Photo courtesy of the Missouri Department of Conservation

The following management strategies for the scarlet tanager are recommended:

- Preserve forested habitat where feasible.
- Limit tree removal and trimming to outside the nesting season (April 1 to August 1), to the extent feasible.

Wood Thrush: Wood thrushes are described as a pot-bellied short-tailed bird approximately 7.5 to 8.3 inches (19 to 21 centimeters) in length. This species has a warm-reddish brown colored back with a mottled chest and a bold white eye circle (Cornell 2019c). The wood thrush hops through the leaf litter on forest floors foraging for insects. The neo-tropical migrant breeds in mixed and deciduous forests of the eastern United States (Cornell 2019c).

The following management strategies for the wood thrush are recommended:

- Preserve forested habitat where feasible.
- Limit tree removal and trimming to outside the nesting season (April 1 to August 1), to the extent feasible.

Figure 38. Wood thrush

Photo courtesy of Cornell Lab of Ornithology

In order to facilitate the continuation of the military mission and meet natural resource management objectives while minimizing impacts to special status species, NYANG will:

- Update flora and fauna inventories every 3-5 years as the occurrence of listed species is subject to change over time as a result of either recruitment, responses to management activities, identification of additional protected species, or changes in the status of species currently present at Hancock Field ANGB and the EADS site.
- Maintain existing forested areas, grasslands, and wetlands, and minimize disturbance in riparian and wetland buffers to the maximum extent feasible.

7.2.3.3 Climate Change and Special Status Species Vulnerability

Climate change vulnerability assessments are a means of preparing for and coping with the effects of climate change. Vulnerability is defined as the susceptibility of a species or habitat to the negative effects of climate change and other stressors (Boesch 2008). Climate change vulnerability for special status species is related to each species' expected exposure to climate change stressors, the sensitivity of that species to the stressors, and the adaptive capacity of the species to cope with the stressors related to climate change. Although not all species have been examined, Table 8 indicates which species have been identified as vulnerable to climate change according to the vulnerability assessment conducted by the New York Natural Heritage Program (Schlesinger et al. 2011).

Table 8. Climate Change Vulnerability of Special Status Species

Species	Status	Climate Vulnerability
Karner blue (*Plebejus melissa samuelis*)	FE	Extremely vulnerable
Frosted elfin (*Callophrys irus*)	USFWS Species at Risk	Extremely vulnerable
Indiana bat (*Myotis sodalis*)	FE	Moderately vulnerable
Eastern massasauga rattlesnake (*Sistrurus catenatus*)	FT	Presumed stable
Hoary bat (*Lasiurus cinereus*)	SGCN	Presumed stable
Little brown bat (*Myotis lucifugus*)	SGCN	Presumed stable
Monarch butterfly (*Danaus plexippus*)	FC	None noted

Source: Schlesinger et al. 2011
FE = Federally endangered FT = Federally threatened FC = Federal candidate
SGCN = Species of Greatest Conservation Need (state)
USFWS = US Fish and Wildlife Service

7.3 Water and Wetland Resource Protection

Water resources on the Hancock Field ANGB consist of seven wetlands and four unnamed streams as described in Section 5.5. In addition to the wetlands and stream features identified, 14 excavated stormwater drainage features and seven excavated stormwater management basins were identified within the Hancock Field Tract III and a single excavated stormwater drainage feature within the Radar Site. Water resources were not observed at the EADS site during the 2021 site visit. Water resource protection is important to natural resources management because it directly affects surface water quality and the value of aquatic habitats. Wetlands, floodplains, and stream buffers are critical in the protection and maintenance of wildlife resources. The 174 ATKW currently protects its water resources through compliance with federal, state, and local environmental regulations that require the installation to comply with spill prevention control and countermeasures and to implement stormwater pollution prevention best management practices (BMPs). The objective of these regulations is to prevent pollutants (e.g., fuels, solvents, sediments) from entering surface waters.

7.3.1 Regulatory and Permitting

The Clean Water Act (CWA; 33 USC 1251 et seq.) is the primary federal statute that protects the nation's waters. The intent of the CWA is to prevent, reduce, and eliminate pollution in the nation's waters for the purposes of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters. WOTUS include, but are not limited to, coastal and inland waters, lakes, rivers, ponds, streams, intermittent streams, vernal pools, and wetlands. See 33 CFR Part 328.3(a) for the full list of WOTUS.

The three primary sections of the CWA that may affect day to day operations are Sections 404, 401, and 402. The USACE is the regulatory agency responsible for implementation of the CWA and the USEPA has oversight of the CWA. Section 404 regulates the discharge of dredged or fill material into WOTUS, including wetlands. When impacts to WOTUS, including wetlands, cannot be avoided, a Section 404 permit must be obtained from the USACE. When a Section 404 permit is required, a Section 401 WQC from the state is also required.

Section 10 of the Rivers and Harbors Act (33 USC 403) regulates the placement of any obstructions in and the excavation or fill in any navigable WOTUS. The USACE is the regulatory agency responsible for implementation of the Rivers and Harbors Act.

Management of wetlands on federal lands, including military installations, is further governed by EO 11990, *Protection of Wetlands*, and DoDI 4715.03, *Natural Resources Conservation Program*. Under EO 11990 and DoDI 4715.03, wetlands are required to be managed for "no net loss". This means short- and long-term impacts to WOTUS, including wetlands, must be avoided. If they cannot be avoided, the impacts must be minimized to the least environmentally damaging practicable alternative (LEDPA). When impacts cannot be avoided, they must be mitigated to ensure there is no net loss of acreage.

To obtain Section 404 and Section 10 permits and Section 401 WQC, applicants are, depending on the state in which the installation is located, required to submit permit applications to the USACE and the state agency responsible for implementation of Section 401 or through a Joint Permit Application. There are different types of Section 404 and Section 10 permits that include but are not limited to individual and Nationwide Permits. The specific type of permit is based on the total area of impact and the overall impact to the system. WQCs can be individual or they can be issued as part of a Nationwide Permit. In New York, the state agency responsible for implementation of Section 401 is the NYSDEC.

Applications for Section 404 permits must include an avoidance and minimization analysis that addresses the USEPA Section 404(b)(1) Guidelines (40 CFR Part 230.10). The analysis must demonstrate the effort made to first avoid the impacts and then the rationale for the selected LEDPA. The analysis must also demonstrate the impacts will not cause or contribute to violations of state water quality standards and the activity does not jeopardize listed species or sensitive cultural resources (33 CFR Part 320.3 [e] and [g]). The analysis must also identify mitigation requirements and the preferred alternative selected to meet mitigation requirements.

Wastewater, construction, stormwater, and pretreatment discharges, also known as point source discharges, are managed through the National Pollution Discharge Elimination System (NPDES) Permit Program as authorized by Section 402 of the CWA. NYSDEC implements Section 402 for the state of New York. All point source discharges must have a NPDES permit. NPDES permits require specific actions including monitoring and analysis work that must be conducted during the lifetime of the permit.

The Freshwater Wetlands Act (Article 24 and Title 23 of Article 71 of the Environmental Conservation Law) gives the NYSDEC jurisdiction over state-protected wetlands and adjacent areas. To be protected under the Freshwater Wetlands Act, a wetland must be 12.4 acres (5.02 hectares or larger). Wetlands smaller than this may be protected if they are considered of unusual local importance. Around every wetland is an "adjacent area" of 100 feet (30 meters) that is also regulated to provide protection for the wetland.

Under Article 15 of the Environmental Conservation Law (Protection of Waters), the NYSDEC also has regulatory jurisdiction over any activity that disturbs the bed or banks of protected streams. In addition, small lakes and ponds with a surface area of 10 acres (4.0 hectares) or less, located within the course of a protected stream, are considered part of a stream and are subject to regulation under the stream protection category of Article 15. An Article 15 permit is required from the NYSDEC for any disturbance to a stream classified as having a standard of quality and purity of 'C' or better (on a scale from A – C) and 'T' (trout waters). Although the North Branch of Ley Creek is categorized as C for waters supporting fisheries and suitable for non-contact activities, there are no streams within Hancock Field ANGB that are classified as T or higher.

In New York, the NYSDEC also administers the Section 401 WQC program. Section 401 WQCs are required for all projects that require a Section 404 that may result in a discharge to water bodies, including wetlands. The state may issue a WQC with or without conditions, or deny certification for activities that may result in a discharge to water bodies. Certain activities have already been provided blanket statewide WQC and do not require an individual determination. The NYSDEC Blanket Water Quality Certification only applies to limited activities, and those that are covered by a specific USACE Nationwide 404 Permit (NYSDEC 2021j).

EO 11988, *Floodplains Management*, requires all federal agencies to provide leadership and take action to reduce the risk of floodplain loss; minimize the impacts of floods on human safety, health, and welfare; and restore and preserve the natural and beneficial values of floodplains when acquiring, managing, or disposing of federal lands. In addition, if action is taken that permits an encroachment within the floodplain that alters the flood hazards on a national FIRM (e.g., changes to the floodplain boundary), Hancock Field ANGB must submit an analysis reflecting those changes to FEMA. FEMA headquarters can be contacted at 202-646-3461 to obtain booklet MT-2, *Revisions to National Flood Insurance Program Maps*, for further guidance. The NYSDEC administers the National Flood Insurance Program for the state of New York.

This INRMP focuses mainly on the potential impacts to water resources related to ground disturbance and stormwater associated with changes in impervious areas. The Hancock Field ANGB and the EADS site implement the following specific watershed protection measures:

- Obtaining coverage under the State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (GP-0-15-002) for construction that disturbs greater than 1 acre (0.4 hectare). Ensuring BMPs designated under the regulations are implemented.
- Obtaining a Section 404 permit and a Section 401 WQC prior to the commencement of any land disturbance. Mitigation may be required for the loss of acreage.
- Avoiding disturbing wetlands when practicable.
- Managing invasive species to promote desirable native species.
- Maintaining vegetated buffers around water resources.
- Restricting vehicles within 100 feet (30 meters) of water resources except where established crossings and roads exist, or when special access is required.
- Adhering to New York State Standards and Specifications for Erosion and Sediment Control (ESC), also known as the Blue Book. The Blue Book provides standards and specifications for the selection, design, and implementation of ESC practices for the development of ESC plans for the SPDES General Permit for Stormwater Discharges from Construction Activity.

7.3.2 Coastal Management Zones

No coastal zone exists at Hancock Field ANGB or the EADS site; therefore, no requirements have been established for a coastal zone program or management plan.

7.3.3 Vegetation Buffers

Vegetated buffers are also referred to as riparian management zones, riparian buffers, wetland buffers, lake buffers, buffer strips, filter strips, or streamside management areas. Buffers can take many forms and may vary in size and function depending on the upland land use and the type of water resource being protected. They can either be grassland or forest, and may or may not be mowed and maintained occasionally. One of the primary purposes of a vegetated buffer is for water quality protection by providing vegetation to interrupt water flow and to trap and filter out suspended sediments, nutrients, chemicals, and other polluting agents before they reach the body of water. Vegetated buffers should be maintained along all perennial and intermittent streams, wetlands, lakes, or ponds where nearby management activities result in surface/soil disturbance, earth changes, and where erosion and sediment transport occur during rain events. Hancock Field ANGB will maintain riparian buffers around water resources to reduce the influx of sedimentation and other materials into the water resources.

7.4 Grounds Maintenance

Hancock Field ANGB and the EADS site currently occupy approximately 406 acres (165 hectares) of land which includes approximately 288 acres (117 hectares) of open space. The grounds maintenance personnel currently mow the grass in the maintained areas of the installation and conduct tree maintenance. It is recommended that the installation move toward the use of more native plants that require less maintenance inputs in terms of energy, water, manpower, equipment, and chemicals. The implementation of this goal will promote the sustainable management of federal

facility lands through the implementation of cost-effective, environmentally-sound landscaping practices, and programs to reduce adverse impacts to the natural environment. All grounds maintenance activities will ensure compliance with environmental legislation, regulations, and guidelines. General recommendations to promote environmentally beneficial landscaping include:

- Maximize use of regionally native plant species and avoid introduction of invasive, non-native species in revegetation and landscaping activities.
- Choose plantings with climate change resiliency in mind. Implement water-efficient practices, use efficient irrigation systems and recycled water, and use landscaping to conserve energy.
- Design landscaping to be suitable to the specific site and appropriate for the use and operation of the facility.

7.5 Wildland Fire Management

The threat of wildfire to the mission and natural resources is extremely low and a wildland fire management plan for Hancock Field ANGB and the EADS site is not required.

7.6 Forest Management

Approximately 156 acres (63 hectares) of forested lands occur on Hancock Field ANGB (not including the EADS site); however, there is no formal management program in place. Forest lands will be managed with the overall goal of supporting the installation ecosystem and resources. Future projects may include the development of a forestry management plan. The 174 ATKW will avoid removing trees during nesting season (April 1 to August 1), bat maternity season (May 1 to September 30), and in other areas that are associated with state threatened or endangered species, and state species of special concern.

7.7 Soil Conservation and Sediment Management

The soils at the installation are susceptible to water erosion if not protected with vegetation or other cover. Maintenance of key ecosystem functions, such as erosion control and sediment retention, requires a healthy, uniform ground cover be established as quickly as possible following land use conversion or disturbance, and that interim soil stabilization measures be implemented. Two main types of soil erosion exist: wind erosion and water erosion. Several factors affect water erosion. These factors include rainfall, slope steepness and length, soil texture or erodibility, cover protecting the soil, and special practices such as terracing or planting on the contour. Sediment resulting from erosion affects surface water quality and aquatic organisms. Soil types with high susceptibility for soil erosion on Hancock Field ANGB include Niagara silt loam and Collamer silt loam. At the EADS site, soil types susceptible to erosion include Niagara silt loam and Windsor loamy fine sand. Construction activities that disturb the ground surface can accelerate erosion by removing vegetation, compacting or disturbing the soil, changing natural drainage patterns, and by covering the ground with impermeable surfaces (pavement, concrete, buildings). When the land surface is impermeable, stormwater can no longer infiltrate, resulting in larger amounts of water that can move more quickly across a site and which can carry larger amounts of sediment and other pollutants into stormwater drains and drainage basins ultimately flowing into wetlands, streams, and rivers. As soil quality declines, adverse impacts to on-site and off-site environments increase. Therefore, the maintenance of soil quality is important for efficient and productive land management and utilization.

Stormwater discharges from Hancock Field ANGB are covered under the New York State Multi-Sector General Permit. Prior to its current coverage under the General Permit, Hancock Field ANGB was covered under an individual SPDES Permit (Permit Number NY0244066). The Multi-Sector General Permit (Permit Number GP-0-17-004) became effective on March 1, 2018 and expires on February 28, 2023. Before commencing construction activity that will involve soil disturbance of one or more acres, the base must obtain coverage under the SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-15-002). A Notice of Intent Form must be filed with NYSDEC prior to construction. To protect water quality, the 174 ATKW implements the following strategies:

- Monitoring surface water quality.
- Implementing BMPs for construction and industrial activities.
- Preventing surface water pollution by ensuring environmental plans (e.g. SWPPP) are implemented when appropriate.
- Minimizing the use of pesticides.
- Maintaining vegetation buffers around water resources.
- Re-seeding disturbed areas after construction with native grasses and plant species.

7.8 Outdoor Recreation, Public Access, and Public Outreach

Due to security and/or safety measures, there is currently no unsupervised public access or individual public access programs for outdoor recreation or otherwise at Hancock Field ANGB and the EADS site.

7.9 Conservation Law Enforcement

No hunting or fishing is allowed on the installations; therefore, conservation law enforcement officers are not necessary.

7.10 Geographic Information Systems

Geographic Information System (GIS) is used to manage and catalog information acquired in natural resources research. GIS assists in planning by charting areas of environmental concern and providing a baseline for analyzing the potential impacts of any proposed natural resources management action. Managers can implement the capabilities of a GIS to watershed, wetlands, wildlife, and various other natural resource management applications. GIS needs and requirements will be addressed through the ANG GeoBase Program.

7.11 Other Plans

7.11.1 Integrated Pest Management Plan

The IPM Plan is followed at Hancock Field ANGB and the EADS site to control organisms that negatively influence human health or the environment while using sustainable practices (Hancock Field ANGB 2018). The plan aims for non-chemical pest removal when possible. Strategies include mowing and frequently removing waste to eliminate rodent habitat and food sources. Removing invasive species at installation boundaries is key to keep plants from encroaching inward. Pesticide application is conducted by a certified pesticide applicator.

Beaver (*Castor canadensis*), beaver dams, and beaver lodges have been observed in Ley Creek on Hancock Field Tract III and just south of the base. Damming of the creek increases flooding potential of Perimeter Road and culverts that carry Ley Creek off the installation. The removal of beaver dams and lodges and the taking of nuisance beaver are authorized with a permit issued by NYSDEC (Hancock Field ANGB 2018). Hancock Field ANGB implements a depredation program to deter and eliminate the common pigeon or rock dove (*Columba livia*) that causes damage to aircraft and equipment in the aircraft hangers.

7.11.2 Invasive Species

Non-native, invasive, and pest species have the potential to be a major contributor to ecosystem destabilization. Non-native species (also termed exotic), as the name indicates, are species from other regions of the world which have been artificially introduced to the region, primarily through human activities. Invasive species are those that, whether native or non-native, tend to become established in disturbed systems and competitively exclude native species. Invasive plant species should be eradicated to prevent further spread and infestation. Information on invasive species in New York can be found from various sources:

- NYSDEC Invasive Species Program state-noxious weed: https://www.dec.ny.gov/docs/lands_forests_pdf/isprohibitedplants2.pdf
- US Department of Agriculture's (USDA's) Introduced, Invasive, and Noxious Plants: https://plants.usda.gov/home/noxiousInvasiveSearch

The New York Invasive Species Program identifies invasive species as prohibited or regulated. Prohibited invasive species cannot be knowingly possessed with the intent to sell, import, purchase, transport or introduce. Regulated invasive species are species which cannot be knowingly introduced into a free-living state, or introduced by a means that one should have known would lead to such an introduction, although such species shall be legal to possess, sell, buy, propagate, and transport (NYSDEC 2014d).

Ten state-listed or restricted invasive plant species were observed at Hancock Field ANGB (Table 9). Most of the documented invasive plants were observed along the transition and edge of landscaped and woodland areas; however, invasive plant species were also observed within wetlands and riparian woodlands. At Hancock Field Tract III and Tract II, Canada thistle and common reed grass were the most prevalent invasive species, while black locust, garlic mustard (*Alliaria petiolata*), Japanese knotweed, Morrow's honeysuckle, multiflora rose (*Rosa multiflora*), spotted knapweed, and purple loosestrife (*Lythrum salicaria*) were observed in isolated locations. At the Radar Site, common reed grass and common buckthorn were the most common invasive species observed, while garlic mustard, Morrow's honeysuckle, and multiflora rose were documented in isolated situations. All the observed species, except black locust, are included in New York's Prohibited Category. No surveys have been conducted at this time on the EADS site.

EO 13112, *Invasive Species*, requires all federal agencies to prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause. Hancock Field ANGB's IPM Plan details the control of pest species.

Table 9. Invasive Species Observed During the Flora and Fauna Surveys

Scientific Name	Common Name	Plant Status	Habitat Type(s) Observed
Alliaria petiolata	Garlic mustard	USDA noxious weed, State Prohibited	Disturbed, Woodland
Centaurea stoebe[1]	Spotted knapweed	USDA noxious weed, State Prohibited	Woodland
Cirsium arvense[2]	Canada thistle	USDA noxious weed, State Prohibited	Disturbed, Wetland, Woodland,
Lonicera morrowii	Morrow's honeysuckle	USDA noxious weed, State Prohibited	Woodland
Lythrum salicara[2]	Purple loosestrife	USDA noxious weed, State Prohibited	Wetland
Phragmites australis	Common reed grass	State Prohibited	Riparian woodland, Wetland
Polygonum cuspidatum[2]	Japanese knotweed	USDA noxious weed, State Prohibited	Wetland
Rhamnus cathartica[3]	Common buckthorn	USDA noxious weed, State Prohibited	Woodland
Robinia pseudoacacia[2]	Black locust	State Regulated	Landscaped
Rosa multiflora	Multiflora rose	USDA noxious weed, State Prohibited	Landscaped woodland

Sources: NYSDEC 2014d; Hancock ANGB 2022
1 Found at Tract III and Tract II
2 Only found at Tract III
3 Only found at the Radar Site
USDA U.S. Department of Agriculture

Pest species are typically non-native species that have negative impacts on natural ecosystems or on human health. The goals of the IPM Plan are to establish and maintain safe, effective, and environmentally sound IPM practices to control pests that may adversely impact readiness of military operations by affecting the health of personnel or damaging structures, material, or property. Management strategies outlined for implementation of this INRMP are to ensure "no net loss" of military training capabilities.

General pest management strategies are as follows:

- Controlling invasive and exotic species and noxious weeds through early detection and isolation of infested areas.
- Establishing and maintaining systematic and pest-specific surveillance and monitoring programs (including termite inspection frequency) to determine the status of pest presence at the installation and if and when treatments are needed rather than by a predetermined schedule.
- Implementing BMPs to minimize land disturbances that favor invasion of non-native species and re-vegetating disturbed areas with native species.
- Avoiding pesticide use in and around wetlands and other surface waters.
- Avoiding use of invasive, non-native species in landscaping.
- Implementing judicious use of both non-chemical and chemical control techniques to achieve effective pest management that minimizes economic, health, and environmental risks. Emphasizing the use of mechanical, biological, and cultural control techniques; using

chemical techniques sparingly with caution. Using chemical controls only after careful consideration of alternative controls.

- Educating site users.
- Ensuring all pest management operations involving the application of pesticides on the installation are performed by DoD or state certified pesticide applicators and by licensed commercial pest management companies.
- Ensuring pesticides used at Hancock Field ANGB and the EADS site are stored in accordance with the product labels, their Safety Data Sheets, and in accordance with DoDI 4150.07, *Pest Management Program,* and federal, state, and local regulations.
- Ensuring the IPMC monitors contracts for pest management at Hancock Field ANGB and the EADS site.
- Supporting the Syracuse Hancock International Airport as needed in the management of the deer population and the impacts to the airport.

7.11.3 Stormwater Management

The state of New York has legal authority to implement and enforce the provisions of the CWA, while the USEPA retains oversight responsibilities. NYSDEC issued a Multi-Sector General Permit (Permit Number GP-0-17-004) for Hancock Field ANGB effective from March 1, 2018 through February 28, 2023. Under this permit, the 174 ATKW manages stormwater collection and discharge in accordance with a SWPPP. The SWPPP provides engineering and management strategies designed to improve the quality of stormwater runoff from the installation and thereby improve the quality of receiving waters (Hancock ANGB 2020). Construction activities which disturb one or more acres of land and have a point source discharge of stormwater to waters of the state (streams, rivers, lakes, and wetlands) are required to obtain a SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-15-002). A Notice of Intent form must be filed with NYSDEC prior to construction.

7.11.4 Bird/Wildlife Aircraft Strike Hazard

Hancock Field ANGB has a BASH plan to address potential hazards to the ANG including but not limited to resident and migratory bird species and other wildlife. Daily and seasonal bird movements create various hazardous conditions. The BASH Plan (174 ATKW 2019) establishes procedures to minimize hazards to the Hancock Field ANGB and deployed aircraft at the installation and in their operating areas. The 174 ATKW is a tenant unit at Syracuse Hancock International Airport and only has authority to conduct wildlife hazard management (habitat management, harassment, removal, etc.) on the unit's leasehold. There is a Cooperative Agreement in place between the 174 ATKW and USDA-APHIS-WS for USDA-APHIS-WS to conduct part-time wildlife control at the unit's leasehold, and limited public property surrounding the civilian airport utilizing only pyrotechnics on leasehold property for active wildlife control. However, recently limited lethal control measures by USDA-APHIS-WS were augmented to the current control practices (174 ATKW 2019).

The Syracuse Hancock International Airport has approximately 141 daily operations, which includes commercial (38 percent), air taxi service (26 percent), general aviation (23 percent), and military operations (13 percent). While 174 ATKW flight operations are extensive, the MQ-9s spend most of their flying time at operational altitudes with limited exposure at lower altitudes. From 2017-2019, only five wildlife strikes were reported (174 ATWK 2019). The low number of

reported strikes is attributed to the MQ-9 RPA operations and the relatively low number of aircraft movements on any given day. Species identified in these strikes included barn swallow (*Hirundo rustica*), bank swallow (*Riparia riparia*), bobolink (*Dolichonyx oryzivorus*), and hoary bat. Strikes occurred between May and August. In comparison, the Syracuse Hancock International Airport over the past 20 years reported 142 strikes with no strikes recorded in 2006. The month of May followed by the summer months July, September, and October show significant increases in reported strikes compared to the winter months and June (174 ATKW 2019). The data between the Hancock Field ANGB and the airport are consistent in timing and coincide with the traditional avian migration periods. The species reported in the Federal Aviation Administration dataset also reflect the more common and smaller-bodied birds common to airfields. Larger bodied species, while not commonly involved in strikes but have been reported, are of greater concern and include hawks, gulls, and geese (174 ATKW 2019).

Animal and bird populations, both migratory and resident, are controlled on the flightline area to prevent wildlife/aircraft collisions. This will be accomplished by habitat modification, fence maintenance around the flightline, noise and distress calls, and as a last resort, depredation removal by the USDA-APHIS-WS. Flightline vegetation will be maintained between 7 and 14 inches (18 and 36 centimeters) in height to discourage birds and limit the number of mowings required. The BASH Plan covers procedures and techniques for preventing bird aircraft strikes and hazards and provides a list of species that pose a risk.

7.11.5 New York State Wildlife Action Plan

During the INRMP development process, the NYANG consulted with the NYSDEC to ensure INRMP goals, objectives, and strategies are consistent with New York's overall statewide and habitat-specific plans. The 2015 SWAP provides important tools for restoring and maintaining critical habitats and populations of the state's species of conservation and management concern as well as conserving New York's wildlife diversity (NYSDEC 2015).

8.0 MANAGEMENT GOALS AND OBJECTIVES

Goals and objectives provide the framework for natural resources management programs. Goals provide a general guiding direction for each technical area and objectives are more specific actions that facilitate achieving those goals. The objectives then drive the development of specific activities and projects to achieve those objectives. Management goals and objectives for the INRMP were developed through a thorough evaluation of the natural resources present on Hancock Field ANGB and the EADS site in accordance with AFMAN 32-7003, *Environmental Conservation*, and the principles of adaptive ecosystem management by an interdisciplinary team of biologists, planners, and environmental scientists. Goals and objectives should be revised over time to reflect evolving environmental conditions, adaptive management, and the completion of tasks as the INRMP is implemented.

GOAL – Natural Resources Program Management (PM): Manage natural resources in a manner that is compatible with and supports the military mission while complying with applicable federal and state laws, and USAF regulations and policies.

- OBJECTIVE PM1: Ensure Environmental Management staff are trained in accordance with the requirements of AFMAN 32-7003. At a minimum, members of the Environmental Management Office must attend the CECOS Natural Resources Compliance Course as part of their training requirements for implementation of the INRMP. When feasible, members of the Environmental Management Office will attend the annual National Military Fish and Wildlife Association Training Workshop.

- OBJECTIVE PM2: Prepare a budget and identify project needs to implement the natural resources management program at Hancock Field ANGB and the EADS site. Project needs are to be submitted to the NGB/A4VN NRPM for budget and contracting.
- OBJECTIVE PM3: Conduct an annual INRMP review meeting with internal stakeholders. The Hancock Field ANGB EM will promote discussion with Installation Command, installation personnel, the IPMC, the Safety Office, and other internal stakeholders to identify operational needs relative to natural resources management. The EM will document, in writing, the discussions held and agreements made and will address the document at the annual meeting with the USFWS, state, and NGB/A4VN NRPM.
- OBJECTIVE PM4: Conduct an annual INRMP review meeting with the USFWS, the NYSDEC, the IPMC, the NGB/A4VN NRPM, USDA-APHIS-WS, and the Safety Office. The annual meeting can be conducted as an in-person meeting, via a teleconference, via Teams, or via email. The EM will present the status of the project actions taken over the previous year, any changes that occurred and identify the project actions to be undertaken over the coming year. The EM will record the discussions held and the agreements made and will provide an attendance roster for attendees to sign. The EM will submit the written record and attendance roster to the attendees and will request review and concurrence with the documents provided. Receipt of written concurrence from the USFWS and the NYSDEC will constitute conclusion of the annual meeting.

GOAL – Fish and Wildlife Monitoring (FW): Establish a general wildlife and plant population trend monitoring program as a component of long-term ecological trend monitoring.

- OBJECTIVE FW1: Based on the findings contained in the Final Flora/Fauna Report (Hancock ANGB 2022), identify any additional surveys that are deemed necessary and resource and conservation management projects to be included in the annual work plans.
- OBJECTIVE FW2: Determine the intervals, typically 3-5 years, needed to ensure populations and conditions of flora and fauna species and their habitats are thriving.
- OBJECTIVE FW3: Maintain an updated inventory of plants and animals present on Hancock Field ANGB and the EADS site.
- OBJECTIVE FW4: Work with grounds maintenance to address beaver populations that may be affecting installation roadways and buildings. Support the Civil Engineer Squadron in the development of a beaver management strategy to incorporate into the IPM Plan and methodology for removing structures to prevent flooding.
- OBJECTIVE FW5: Conduct reconnaissance flora and fauna surveys at the EADS site.
- OBJECTIVE FW6: Support USDA in their development of new methodology for reducing hazards at the airport.

GOAL – Vegetative Management (VM): Establish survey and monitoring programs to identify and address various vegetative communities on the installation.

- OBJECTIVE VM1: Based on the results of the Final Flora and Fauna Surveys (Hancock ANGB 2022) for the Hancock Field ANGB, determine the presence of key habitats identified in the SWAP, and develop conservation strategies to protect these areas.

GOAL – Invasive Species (IN): Establish survey and monitoring protocols to identify and address invasive, non-native, and noxious species. Implement an invasive and non-native species survey and plan.

- OBJECTIVE IN1: Based on the results of the Final Flora and Fauna Surveys (Hancock ANGB 2022) for the Hancock Field ANGB, determine what actions are needed to address the presence of non-native, invasive, and noxious species on the installation.
- OBJECTIVE IN2: Ensure pest management projects and invasive species projects undertaken by the Pest Management Office and the Environmental Office are coordinated and provide mutual benefit.
- OBJECTIVE IN3: Determine the distribution of invasive species on the EADS site.

GOAL – Threatened and Endangered Species (TE): Identify the presence of federally and state threatened and endangered species to include any SGCN identified in New York's SWAP.

- OBJECTIVE TE1: Using the Final Flora and Fauna Surveys (Hancock ANGB 2022) for the Hancock Field ANGB, as well as state and federal websites identifying state and federally listed species, determine what additional survey work and actions may be needed to protect and conserve onsite state and federally listed species.
- OBJECTIVE TE2: Annually review state and federal lists of endangered, threatened, and species of concern with potential to occur on the installation. Maintain current lists of federal and state species.
- OBJECTIVE TE3: Based on the Final Bat Report (Hancock Field ANGB 2021a) prepared for Hancock Field ANGB, determine the intervals at which future bat surveys need to be conducted. Ensure all bat surveys and other surveys look for all species not just threatened and endangered species. Surveys will be conducted in accordance with USFWS protocols.
- OBJECTIVE TE4: Conduct listed species surveys at the EADS site.

GOAL – Grounds Maintenance and Landscaping (GM): Manage vegetative cover, forested areas, and soil to minimize sediment loss and erosion, while protecting water quality.

- OBJECTIVE GM1: Improve effectiveness of grounds maintenance to the overall ecosystem while also supporting wildlife species.
    - Explain the need for mowing to begin at the center of an area and to move out from the center to allow wildlife to flee in all directions and not become trapped in the center or to one side.
    - Avoid removing trees from May 1 to September 30 during summer bat roosting season.
- OBJECTIVE GM2: Ensure grounds maintenance personnel are aware of where sensitive habitats are found on the installation and the locations where listed species are located to reduce impacts to those species.
- OBJECTIVE GM3: In the event of land disturbances or erosion, in cooperation with grounds maintenance personnel, develop and implement a revegetation plan, with interim

mechanisms to stabilize the soil until vegetative cover has become established, to reclaim disturbed areas following land use conversion, timber harvest, and other disturbances.

- Use appropriate native seed mixtures and flora on new landscaping projects and disturbed areas.
- Monitor revegetation efforts for effectiveness and modify as needed.

GOAL – Water Resource Protection (WA): Manage water resources to prevent potential degradation in water quality with no net loss of acreage or functions and values.

- OBJECTIVE WA1: Review all land disturbing activities proposed on the installation to ensure such work is done in accordance with applicable permits and other approvals required.
- OBJECTIVE WA2: Ensure all ground disturbance activities are conducted in accordance with state or local ESC laws and regulations to prevent erosion from disturbed areas causing sediment to enter waterways and/or wetlands.
  - Review New York's ESC program to determine feasibility of having Environmental and Grounds personnel attend ESC courses/trainings and having installation personnel become certified ESC inspectors.
  - Identify, inventory, and map areas of erosion and determine which areas pose a high risk for impacting WOTUS including wetlands, runways, roadways, and building foundations.
- OBJECTIVE WA3: Ensure ESC measures are implemented and maintained during all phases of construction and maintenance projects to prevent disturbed soils from entering streams and wetlands onsite and adjacent to the base.

GOAL – Waters of the US (WOTUS)/Wetland Management and Protection (WT): Ensure the jurisdictional determinations (JDs) for onsite WOTUS, including wetlands, remain current.

- OBJECTIVE WT1: Ensure the boundaries of WOTUS, wetlands, and floodplains identified on and adjacent to the installation are shown in a GIS data layer, all installation development and comprehensive plans, and in all educational materials developed for installation personnel, leadership, and visiting personnel.
- OBJECTIVE WT2: Educate key installation and visiting personnel when necessary on the processes for conducting the mission in and adjacent to delineated and mapped WOTUS, wetlands, and floodplains.
- OBJECTIVE WT3: Ensure the JD for the WOTUS, including wetlands, remains current. If not kept current, a new delineation and JD may be required.
- OBJECTIVE WT4: Determine if WOTUS delineation is needed at the EADS site.
- OBJECTIVE WT5: Review all land disturbing projects, including but not limited to all phases of construction, demolition, and maintenance projects to determine if the projects will impact WOTUS, including wetlands and/or floodplains.
  - If impacts will occur, identify the need for Section 404 and 401 permits and the steps needed to obtain those permits. Work with the NGB/A4VN NRPM to prepare and submit Section 404 permits and Section 401 WQCs to the USACE and NYSDEC.

9.0 ANNUAL WORK PLANS

The INRMP Annual Work Plans contain projects listed by fiscal year (FY). For each project, a specific timeframe for implementation is provided (as applicable), as well as the office of primary responsibility (OPR), funding source, and priority for implementation (Tables 10 through 14). Priorities are defined as follows:

- High: The INRMP signatories assert that if the project is not funded, the INRMP is not being implemented and the USAF is non-compliant with the Sikes Act; or that it is specifically tied to an INRMP goal and objective and is part of a "Benefit of the Species" determination necessary for ESA Sec 4(a)(3)(B)(i) critical habitat exemption.
- Medium: Project supports a specific INRMP goal and objective, and is deemed by INRMP signatories to be important for preventing non-compliance with a specific requirement within a natural resources law or EO 13112, *Invasive Species*. However, the INRMP signatories would not contend that the INRMP is not being implemented if not accomplished within the programmed year due to other priorities and/or funding shortfalls.
- Low: Project supports a specific INRMP goal and objective, enhances conservation resources or the integrity of the installation mission, and/or supports long-term compliance with specific requirements within natural resources law; but is not directly tied to specific compliance within the programmed year.

Table 10. Work Plans FY 2023

Project	Objective	Frequency	Funding Source	Priority Level
Prepare budget to implement the natural resources management program.	PM2	Annual		High
Complete annual review of the INRMP with installation stakeholders.	PM3	Annual	NGB	High
Complete annual review of the INRMP with USFWS and NYSDEC.	PM4	Annual	NGB	High
Review natural resource studies conducted at Hancock Field ANGB to identify potential project/studies to be conducted.	FW1	Ongoing		Medium
Review federal and state listings for threatened, endangered, and species of concern to maintain current lists of federal and state species.	TE2	Annual		High
EM to attend CECOS Natural Resources Compliance Course.	PM1	Once		Medium

Table 11. Work Plans FY 2024

Project	Objective	Frequency	Funding Source	Priority Level
Prepare budget to implement the natural resources management program.	PM2	Annual		High
Complete annual review of the INRMP with internal stakeholders.	PM3	Annual	NGB	High
Complete annual review of the INRMP with USFWS and NYSDEC.	PM4	Annual	NGB	High
Review federal and state listings for threatened, endangered, and species of concern to maintain current lists of federal and state species.	TE2	Annual	NGB	High
Continue to implement the educational outreach program for key installation and visiting personnel on conducting the mission in and adjacent to mapped WOTUS, wetlands, and floodplains.	WT2	Ongoing		Medium
Submit request to the NGB/A4VN NRPM to have studies/projects implemented at Hancock Field ANGB and the EADS site.	PM2	Annual		Medium
Conduct flora and fauna survey at the EADS site with a focus on invasive species.	FW3	Once		Medium

Table 12. Work Plans FY 2025

Project	Objective	Frequency	Funding Source	Priority Level
Prepare budget to implement the natural resources management program.	PM2	Annual		High
Complete annual review of the INRMP with internal stakeholders.	PM3	Annual	NGB	High
Complete annual review of the INRMP with USFWS and NYSDEC.	PM4	Annual	NGB	High
Submit request to the NGB/A4VN NRPM to have studies/projects implemented at Hancock Field ANGB and the EADS site.	PM2	Annual		Medium
Review federal and state listings for threatened, endangered, and species of concern to maintain current lists of federal and state species.	TE2	Annual		High
Support the IPM Plan.	IN2	Ongoing		High
Conduct survey of potential erosion area at the EADS site.	WA2	Ongoing		Medium
Conduct insect and habitat survey at Hancock Field ANGB.	TE1	Once		Medium

Table 13. Work Plans FY 2026

Project	Objective	Frequency	Funding Source	Priority Level
Prepare budget to implement the natural resources management program.	PM2	Annual		High
Complete annual review of the INRMP with internal stakeholders.	PM3	Annual	NGB	High
Complete annual review of the INRMP with USFWS and NYSDEC.	PM4	Annual	NGB	High
Continue to implement the educational outreach program for key installation and visiting personnel on conducting the mission in and adjacent to mapped WOTUS, wetlands, and floodplains.	WT2	Annual		Medium
Submit request to the NGB/A4VN NRPM to have studies/projects implemented at Hancock Field ANGB and the EADS site.	PM2	Annual		Medium
Review federal and state listings for threatened, endangered, and species of concern to maintain current lists of federal and state species.	TE2	Annual		High
Support the IPM Plan.	IN2	Ongoing		High
Review and develop methodology for preventing osprey from nesting on antennas.	FW1	Once		Low

Table 14. Work Plans FY 2027

Project	Objective	Frequency	Funding Source	Priority Level
Prepare budget to implement the natural resources management program.	PM2	Annual		High
Complete annual review of the INRMP with installation stakeholders.	PM3	Annual	NGB	Medium
Complete update of the INRMP with USFWS and NYSDEC.	PM4	Annual	NGB	High
Submit request to the NGB/A4VN NRPM to have studies/projects implemented at Hancock Field ANGB and the EADS site.	PM2	Annual		
Review federal and state listings for threatened, endangered, and species of concern to maintain current lists of federal and state species.	TE2	Annual		High
Review the INRMP, studies completed, and the written documents generated from the annual meetings to determine what updates and projects will be needed for the 5-year operations and effect review.	PM4	Once		Medium
Support the IPM Plan.	IN2	Ongoing		High
Conduct bat survey.	TE3	Once		Medium
Investigate the feasibility of increasing pollinator habitat away from the airfield.	TE1	Once		Low

10.0 INRMP IMPLEMENTATION, UPDATE, AND REVISION PROCESS

10.1 INRMP Implementation

In accordance with AFMAN 32-7003, *Environmental Conservation,* an INRMP is considered implemented if an installation:

- Actively requests, receives, and uses funds for "must fund" projects and activities as defined by Chapter 4 of AFI 32-7001, *Environmental Quality Programming and Budgeting*.
- Executes all "must fund" projects and activities in accordance with specific time frames identified in the INRMP.
- Prepares the INRMP in cooperation with appropriate stakeholders. Notifies stakeholders when a new or revised INRMP will be prepared, and solicits participation and input to the INRMP development and review process.
- Ensures that sufficient numbers of professionally trained natural resources management personnel are available to perform the tasks required by the INRMP.
- Ensures the INRMP has been approved in writing by the appropriate representative from each cooperating agency within the past 5 years.
- Reviews the INRMP annually and coordinates annually with cooperating agencies.
- Establishes and maintains regular communications with the appropriate federal and state agencies for the region where the installation is located.
- Documents specific INRMP action accomplishments undertaken each year.
- Ensures INRMP updates and reviews are conducted in cooperation with the USFWS, NYSDEC, and National Oceanic and Atmospheric Administration, where applicable.
- Ensures the INRMP implements ecosystem management on ANG installations by setting goals for attaining a desired land condition.

Natural resource and land use management issues are not the only factors contributing to the development and implementation of this INRMP. Facility management and other seemingly unrelated issues affect implementation. It is important to the implementation of this INRMP that personnel at Hancock Field ANGB and the EADS site take ownership of this INRMP to provide the necessary resources (e.g. personnel and equipment) and to utilize the appropriate funding allocated by the NGB/A4VN NRPM to implement the INRMP. It is extremely important that the INRMP Working Group continue to participate in the implementation of this INRMP. The INRMP Working Group is made up of key Hancock Field ANGB personnel and has an oversight role to ensure the effective implementation of this INRMP. Top and middle-level management representation, as well as representation from individuals with daily on-site experience, will provide the INRMP Working Group with the leadership and structure necessary for the successful implementation of this INRMP.

10.1.1 Monitoring INRMP Implementation

10.1.1.1 Hancock Field ANGB INRMP Implementation Analysis

Implementation of the Hancock Field ANGB INRMP will be monitored by the EM in cooperation with the NGB/A4VN NRPM for meeting the legal requirements of the Sikes Act as well as for other

mission and biological measures of effectiveness. The ultimate successful implementation of this INRMP is realized in "no net loss" in the capability of the Hancock Field ANGB training lands and the EADS site that support the military mission while at the same time providing effective natural resources management.

In order to monitor and evaluate the effectiveness of the INRMP implementation, the following will be reviewed, as applicable, and discussed within the context of the annual review and/or a formal review of operation and effect:

- Impacts to and from military mission
- Conservation program budget
- Staff requirements
- Program budget
- Compliance with regulatory requirements
- Program and project implementation
- Feedback from military trainers, the USFWS, NYSDEC, and others
- Trends in species and habitat diversity as evidenced by recurring biological surveys, land use changes, and opinions of natural resource experts

Some of these areas may not be reviewed every year due to lack of data or pertinent information. The effectiveness of this INRMP as a mission enabling conservation tool will be decided by mutual agreement of the USFWS, the NYSDEC, and the 174 ATKW during annual reviews and/or reviews for operation and effect.

10.1.1.2 USAF and DoD INRMP Implementation Monitoring

The USAF uses the Defense Environmental Programs Annual Report to Congress (DEPARC) to monitor Sikes Act compliance. DEPARC is the automated system used to collect installation environmental information for reporting to DoD and Congress. Established to fulfill an annual requirement to report the status of DoD's Environmental Quality Program to Congress, DEPARC collects information on enforcement actions, inspections, and other performance measures for high-level reports and quarterly reviews. DEPARC also helps the USAF track fulfillment of DoD Measures of Merit requirements. The Deputy under Secretary of Defense's (DUSD's) Updated Guidance for Implementation of the Sikes Act also includes an updated section, Conservation Metrics for Preparing and Implementing INRMPs. Progress toward meeting these measures of merit is reported in the annual report to Congress.

10.1.2 Priorities and Scheduling

The Office of Management and Budget considers funding for the preparation and implementation of this INRMP, as required by the Sikes Act, to be a high priority. However, the reality is that not all the projects and programs identified in this INRMP will receive immediate funding. Therefore, projects need to be funded consistent with timely execution to meet future deadlines. Projects are generally prioritized with respect to compliance. Highest priority projects are projects related to recurring or current compliance, and these are generally scheduled earliest. The prioritization of the projects is based on need, legal drivers, and ability to further implement the INRMP.

Current compliance includes projects and activities needed because an installation is currently or will be out of compliance if projects or activities are not implemented in the current program year. Examples include:

- Environmental analyses, monitoring, and studies required to assess and mitigate potential effects of the military mission on conservation resources
- Planning documents
- Baseline inventories and surveys of natural resources (historical and archaeological sites)
- Biological assessments (BAs), surveys, or habitat protection for a specific listed species
- Mitigation to meet existing regulatory permit conditions or written agreements
- Wetland delineations in support of subsequent JDs
- Efforts to achieve compliance with requirements that have deadlines that have already passed

Maintenance requirements include those projects needed that are not currently out of compliance but shall be out of compliance if projects are not implemented in time to meet an established deadline beyond the current program year. Examples include:

- Compliance with future requirements that have deadlines
- Conservation and GIS mapping to be in compliance
- Efforts undertaken in accordance with non-deadline specific compliance requirements of leadership initiatives
- Wetlands enhancement, in order to achieve the executive order for “no net loss” or to achieve enhancement of existing degraded wetlands
- Public education programs that explain the importance of protecting natural resources

Lower priority projects include those that enhance conservation resources of the installation mission, or are needed to address overall environmental goals and objectives, but are not specifically required under regulation or executive order, and are not of an immediate nature. These projects are generally funded after those of higher priority are funded. Examples include:

- Community outreach activities such as Earth Day and Historic Preservation Week activities
- Educational and public awareness projects such as interpretive displays, nature trails, wildlife checklists, and conservation teaching materials
- BAs, biological surveys, or habitat protection for a non-listed species
- Restoration or enhancement of natural resources when no specific compliance requirement dictates a course or timing of action
- Management and execution of volunteer and partnership programs

10.1.3 Funding

Implementation of this INRMP is subject to the availability of annual funding. Funding for specific projects can be grouped into three main categories by source: federal ANG or NGB funds, other

federal funds, and non-federal funds. When projects identified in the plan are not implemented due to lack of funding, or other compelling circumstances, the installation will review the goals and objectives of this INRMP to determine whether adjustments are necessary. Funding options include:

- The Legacy Resource Management Program provides financial assistance to DoD efforts to conserve natural and cultural resources on federal lands. Legacy projects could include regional ecosystem management initiatives, habitat preservation efforts, archeological investigations, invasive species control, and/or flora or fauna surveys. Project proposals are submitted to the Legacy program during their annual funding cycle (https://www.denix.osd.mil/legacy/home).
- Grant and assistance programs are administered by other federal agencies that could be accessed for natural resources management at Hancock Field ANGB and the EADS site. Examples include funds associated with the CWA and endangered species.
- Other non-federal funding sources that could be considered include The Public Lands Day Program, which coordinates volunteers to improve the public lands they use for recreation, education, and enjoyment, and the National Environmental Education and Training Foundation, which manages, coordinates, and generates financial support for the program (https://www.neefusa.org/npld).
- The 174 ATKW may also consider entering into cooperative or mutual aid agreements with states, local governments, non-governmental organizations, and other individuals.

10.1.4 Cooperative Agreements

The DoD and subcommand entities have MOUs, Memorandums of Agreement (MOAs), and other cooperative agreements with other federal agencies, conservation and special interest groups, and various state agencies in order to provide assistance with natural resources management at installations across the United States. Generally, these agreements allow installations and agencies, or conservation and special interest groups to obtain mutual conservation objectives. The DoD agreements applicable to Hancock Field ANGB and the EADS site include:

- MOU between the DoD and USFWS/International Fund for Animal Welfare (IFAW) to promote the conservation of migratory birds (2011).
- MOU between the DoD and USFWS/IFAW for a Cooperative Integrated Natural Resource Program associated with the ecosystem-based management of fish, wildlife, and plant resources on military lands (2006).
- MOU between the DoD and USEPA to form a working partnership to promote environmental stewardship by adopting IPM strategies to reduce the potential risks to human health and the environment associated with pesticides (2012).
- MOA for federal Neotropical Migratory Bird Conservation Program and addendum (Partners in Flight-Aves De Las Americas) among DoD, through each of the Military Services, and over 110 other federal and state agencies and non-governmental organizations (1991).
- MOU between the DoD and Ducks Unlimited, Inc. to provide a foundation for cooperative development of selected wetlands and associated uplands in order to maintain and increase waterfowl populations and to fulfill the objectives of the North American Waterfowl Management Plan, within the context of DoD's environmental security and military missions (2006).

- MOU between the DoD and Natural Resources Conservation Service to promote cooperative conservation, where appropriate (2006).
- MOU with Watchable Wildlife Incorporated (2002).
- MOU between the DoD and Bat Conservation International to identify, document, and maintain bat populations and habitats on DoD installations (2011).
- MOA between the Federal Aviation Administration, USAF, US Army, USEPA, USFWS, and USDA to address aircraft-wildlife strikes (2003).

10.1.5 Consultation Requirements

The Hancock Field ANGB and the EADS site have multiple natural resources consultation requirements in addition to the INRMP development and review requirements as identified in the Sikes Act. Federally listed species management requires ESA Section 7 consultation with the USFWS. State-listed species management, as well as game species management, requires consultation with the NYSDEC. Actions that fall under the jurisdiction of Section 401 and 404 of the CWA necessitate permitting from the NYSDEC.

The USFWS has updated the way federal agencies may consult on the effects of their actions on the NLEB. In 2016, the USFWS developed the optional streamlined Section 7 consultation framework for the NLEB. The framework was part of the USFWS' January 5, 2016 biological opinion on their issuance of a 4(d) rule for the species (USFWS 2016b). Agencies can use the online determination key available through the USFWS Information for Planning and Consultation website (https://ecos.fws.gov/ipac/).

10.2 Annual INRMP Review and Coordination Requirements

Per DoD policy, the EM of the Hancock Field ANGB will review the INRMP annually, prior to September 30, in cooperation with the USFWS and NYSDEC to ensure the goals and objectives of the INRMP remain current. The standards used for this evaluation are set forth in DoDI 4715.03, *Natural Resources Conservation Program*, Enclosure 5. The installation's natural resources management progress will be determined based on information obtained annually that supports the focus areas in the DoDI 4715.03 through the USAF/NGB biannual environmental quality data calls. Prior to the annual meeting with the USFWS and the NYSDEC, the EM will schedule an internal stakeholders meeting with the Safety Office, IPMC, and tenant organizations to obtain feedback on how implementation of the INRMP affected or did not affect their programs and to obtain any comments and recommendations they may have. Following the internal stakeholders meeting, the EM will prepare a summary of the actions taken in support of the INRMP over the past year, what actions were not completed with an explanation of why they were not implemented, and the actions planned for the coming year. The EM will send out invitations with the written summary to the USFWS, NYSDEC, NGB/A4VN NRPM, Safety Office, USDA-APHIS-WS, IPMC, and other entities deemed necessary to participate in an annual meeting held in-person, via a conference call, or via a Teams meeting to discuss the written review summary, to address any questions regarding implementation of the INRMP over the past year, and to discuss the proposed actions for the coming year. The EM will document the meeting with the invitation, an agenda, meeting minutes, and a sign-in roster of attendees. Following the meeting, the Hancock Field ANGB EM will submit the documentation to the USFWS and the NYSDEC for their review and comment and for concurrence that the documentation reflects the discussions held and the agreements made during the annual meeting.

At this annual meeting the need for updates or revisions will be discussed. If updates are needed, the 174 ATKW will initiate the updates and, after agreement of all parties, they will be incorporated in the INRMP. If it is determined that major changes are needed, all three parties will provide input and an INRMP revision will be initiated with the 174 ATKW acting as the lead coordinating agency. The annual meeting will be used to expedite the more formal review for operation and effect and, if all parties agree and document their mutual agreement, it can fulfill the requirement to review the INRMP for operation and effect.

If not already determined in previous annual meetings, by the fourth-year annual review a determination will be made jointly to continue implementation of the existing INRMP with updates or to proceed with a revision. If the parties feel that the annual reviews have not been sufficient to evaluate operation and effect and they cannot determine if the INRMP implementation should continue or be revised, a formal review for operation and effect will be initiated. The determination on how to proceed with INRMP implementation or revision will be made after the parties have had time to complete this review.

As part of the annual review, 174 ATKW will specifically:

- Invite feedback from USFWS and NYSDEC on the effectiveness of the INRMP.
- Inform USFWS and NYSDEC which INRMP projects are required to meet current natural resources compliance needs.
- Document specific INRMP action accomplishments from the previous year.

10.3 INRMP Update and Revision Process

10.3.1 Review for Operation and Effect

Not less than every 5 years, the INRMP will be reviewed for operation and effect to determine if the INRMP is being implemented as required by the Sikes Act and contributing to the management of natural resources at Hancock Field ANGB and the EADS site. The review will be conducted by the three cooperating parties to include the Installation Commanders responsible for the INRMP, the Supervisor of the USFWS New York Field Office, and the Region 7 Natural Resources Supervisor of the NYSDEC. While these are the responsible parties, technical representatives generally are the personnel who conduct the review.

The review for operation and effect will either conclude that the INRMP is meeting the intent of the Sikes Act and only needs an update and implementation can continue; or that it is not effective in meeting the intent of the Sikes Act and it must be revised. The conclusion of the review will be documented in a jointly executed memorandum, meeting minutes, or in some way that reflects mutual agreement.

If only updates are needed, they will be completed in a manner agreed to by all parties. The updated INRMP will be reviewed by the local USFWS New York Field Office and NYSDEC. Once concurrence letters or signatures are received from the Supervisor of the USFWS New York Field Office and the NYSDEC Region 7 Natural Resources Supervisor, the update of the INRMP will be complete and implementation will continue. Generally, the environmental impact analysis will continue to be applicable to updated INRMPs, and a new analysis will not be required.

If a review of operation and effect concludes that an INRMP must be revised, there is no set time to complete the revision. The existing INRMP remains in effect until the revision is complete and USFWS and NYSDEC concurrence on the revised INRMP is received. The 174 ATKW will endeavor to complete such revisions within 18 months, depending upon funding availability.

Revisions to the INRMP will go through a detailed review process similar to development of the initial INRMP to ensure military mission, USFWS, and NYSDEC concerns are adequately addressed, and the INRMP meets the intent of the Sikes Act.

11.0 ENVIRONMENTAL ASSESSMENT

11.1 Introduction

As discussed in Section 2.3.2, the adoption of this INRMP requires an EIAP in accordance with the NEPA, CEQ Regulations (40 CFR §1500-1508), and 32 CFR Part 989. The activities addressed within this document may constitute a federal action and therefore must be assessed in accordance with NEPA. To comply with NEPA, as well as other pertinent environmental requirements, the decision-making process for the Proposed Action includes the development of this EA to address the environmental issues related to the implementation of the INRMP. The individual projects described in Section 8 that have the potential to impact the environment may require additional environmental impact analysis to ensure NEPA compliance.

This INRMP is a living document that provides a framework for natural resources management into the future and is reviewed annually. Management practices included in the plan have been developed without compromising long-range goals and objectives. As the plan is implemented and updated, additional environmental analyses might be required as new management activities are developed and specific projects are implemented.

The following sections provide a description of the Proposed Action and alternatives considered, an assessment of the environmental consequences associated with each alternative, and an analysis of potential cumulative effects.

11.2 Purpose and Need

The NYANG at the Hancock Field ANGB and the EADS site is proposing the implementation of this INRMP, to support the management of natural resources as prescribed by the Plan itself and to comply with the Sikes Act. The purpose of the Proposed Action is to carry out the set of recommended resource-specific management strategies developed in the INRMP, which would enable the NYANG to manage effectively the use and condition of natural resources on the Hancock ANGB and the EADS site. The INRMP is a long-term plan and is intended to be a management framework with goals, objectives, and projects that support natural resource management at the installations and that may change annually as some goals and objectives are completed or as these goals and objectives are modified to coincide with changing mission requirements or environmental conditions at the installations. Implementation of the Proposed Action would support the NYANG's need to fulfill mission requirements while complying with environmental regulations and policies.

The need for this INRMP is to provide a means to guide NYANG at the Hancock Field ANGB and the EADS site in maintaining and improving the sustainability and biological diversity of the ecosystems present at the installations, while supporting military readiness.

11.3 Proposed Action

The Proposed Action is to implement the INRMP, which supports an ecosystem approach and includes natural resources management measures to be undertaken on Hancock Field ANGB and the EADS site. The Proposed Action focuses on a 5-year planning period, which is consistent with the timeframe for the management measures described in the INRMP.

11.4 No Action Alternative

The No Action Alternative is a continuation of operations as currently conducted. Current management efforts are limited to BASH and pest management. Species-specific management, habitat management including wetland protection, and population trends through species surveys are not conducted. Existing conditions and management practices would continue, and no new initiatives would be established. The No Action Alternative is used as a baseline against which the action alternative may be compared. Inclusion of a No Action Alternative is required and will be carried forward for further analysis.

11.5 Scope of Analysis

The potential environmental effects associated with the Proposed Action are required to be assessed in compliance with NEPA, CEQ regulations, 32 CFR Part 989, AFI 32-7061, *The Environmental Impact Analysis Process,* and AFMAN 32-7003, *Environmental Conservation*. This EA analyzes potential environmental effects associated with implementation of the Proposed Action and the No Action Alternative in the geographical area of Hancock Field ANGB and the EADS site. The INRMP describes impacts of the military missions upon natural resources and means to mitigate these impacts. However, this INRMP does not evaluate NYANG's military mission, nor does it replace any requirement for environmental documentation of the military mission at Hancock Field ANGB and the EADS site. This INRMP presents information on the management of natural resources on Hancock Field ANGB and the EADS site. It also discusses the setting; identifies known natural resources; describes the human environment that affects natural resources; and describes how the 174 ATKW would manage resources to provide sustained military use, sustain ecological functions, and protect listed and other sensitive plant and wildlife species. Major emphasis would be placed on proactive management to reduce the potential for negative environmental impacts due to the installation military mission.

The Hancock Field ANGB INRMP is a "living" document that focuses on a 5-year planning period based on past and present actions. Short-term management practices included in the plan have been developed without compromising long-range goals and objectives. Because the plan will be modified over time, additional environmental analyses could be required as new management measures are developed for the long-term (i.e., beyond 5 years).

11.6 Environmental Consequences

This section presents an evaluation of the environmental impacts that could potentially result from implementation of the Proposed Action and the No Action Alternative. Potential impacts are addressed in the context of the scope of the Proposed Action as described in the INRMP. The extent to which an action might affect an environmental resource depends on many factors. Environmental resources can be affected directly, indirectly, or not at all, and effects could occur in the short or long term. Environmental resources could also be affected in terms of context and intensity.

Per NEPA regulation (40 CFR 1501.9(f)(1)), and CEQ guidance, only those resources that have the potential to be impacted by the implementation of the Proposed Action or alternatives were carried through the EA for detailed evaluation. No impacts, positive or negative, are anticipated as a result of the Proposed Action or the No Action Alternative to geology; floodplains; cultural resources; air quality; climate change; visual resources; noise; utilities and infrastructure; hazardous materials; socioeconomics, environmental justice, and protection of children; human health and safety; and airspace management. Potential environmental consequences associated with the Proposed Action and No Action Alternative for soils, water resources, vegetation, wildlife, special status species, and

land use are provided below. A tabular summary of these potential environmental impacts is also presented in Table 15.

11.6.1 Soils

Proposed Action

Sediment resulting from erosion affects surface water quality and aquatic organisms. Soil types with high susceptibility for soil erosion on Hancock Field ANGB include Niagara silt loam and Collamer silt loam. Niagara silt loam and Windsor loamy fine sand at the EADS site are also susceptible. NYANG would take a proactive approach to minimize and prevent soil erosion and compaction through implementation of revegetation plans, including interim mechanisms to stabilize the soil until vegetative cover has become established, and implementation of BMPs. The Proposed Action would minimize impacts on soils associated with erosion and sedimentation resulting in long-term beneficial effects to the resource.

No Action

Under the No Action Alternative, minor adverse effects are expected. Revegetation plans and other actions to prevent or minimize potential soil problems related to erosion and sedimentation would not be implemented. By failing to implement a revegetation plan and other activities, impacts on soils associated with erosion and sedimentation on Hancock Field ANGB and the EADS site would be expected to continue and, perhaps, increase.

11.6.2 Water Resources- Surface Water and Waters of the US

Proposed Action

A total of 34.42 acres (13.92 hectares) of wetlands and 3,851 linear feet (1,174 linear meters) of stream were delineated within the Hancock Field ANGB. Implementation of the INRMP is expected to result in beneficial impacts to surface water and WOTUS. The Proposed Action offers more effective protection and mitigation for damages incurred to water resources due to the NYANG mission than does the No Action Alternative. The INRMP describes management activities and projects to prevent potential degradation in water quality and reduce sedimentation from erosion by conducting routine screening of watersheds to evaluate the potential for adverse impacts and educating the installation personnel on the WOTUS. Monitoring high risk erosion areas, monitoring re-vegetation efforts, implementing BMPs, and planning and constructing activities in areas that are less likely to impact wetlands would also provide beneficial effects. Before commencing construction activity, if construction would involve soil disturbance of one or more acres, a Notice of Intent would be filed with the NYSDEC to obtain coverage under the General Permit for Stormwater Discharges from Construction Activity (GP-0-17-004). Efforts to limit impacts in riparian/wetland areas on the installations and ensure vegetation buffers around these areas would reduce the potential for water quality degradation both in and downstream of the installations. Implementation of the Proposed Action would not affect groundwater.

No Action

Under the No Action Alternative, the Hancock Field ANGB and the EADS site would not benefit from management measures associated with implementing the INRMP. The water resources are vulnerable to degradation without the implementation of a formal management plan of action that includes watershed protection measures, erosion control, and a monitoring program designed to identify water quality problems at their onset. Minor, short-term, adverse effects would be expected. As with the Proposed Action, before commencing construction activity, if construction would involve soil disturbance of one or more acres, a Notice of Intent would be filed with the NYSDEC

to obtain coverage under the General Permit for Stormwater Discharges from Construction Activity (GP-0-17-004).

11.6.3 Vegetation

Proposed Action

The Proposed Action would provide management of vegetative resources at the Hancock Field ANGB and the EADS site on an integrated basis. The INRMP uses an ecosystem management strategy to achieve biological diversity conservation, in accordance with the DoD Biodiversity Initiative and emphasizes the use of native species. The Proposed Action includes specific actions to manage installation ecosystems, including wildlife habitat surveys, protection of sensitive ecological areas, and invasive species surveys. Invasive species are managed through an IPM Plan. Maintaining, protecting, and enhancing habitat would benefit listed species as well as native wildlife. Establishment of long-term surveying and monitoring programs under the Proposed Action would provide long-term benefits to the native vegetation on the installations.

No Action

Implementation of the No Action Alternative could result in direct, long-term, adverse effects to native vegetation communities as a result of habitat degradation. The IPM Plan would still be implemented. However, in the absence of an INRMP and specific management objectives and practices, the No Action Alterative would likely emphasize reaction to problems rather than a proactive approach to natural resources management.

11.6.4 Wildlife

Proposed Action

Projects listed in the INRMP and management recommendations would provide beneficial effects to wildlife under the Proposed Action. As part of the Proposed Action, wildlife resources at the Hancock Field ANGB and the EADS site would be periodically quantified and evaluated. Assessment of populations would provide information on conditions and trends, which would allow management practices to be applied where and when needed. Wildlife surveys and support of the New York SWAP would provide beneficial effects to regional biodiversity. Management actions such as migratory bird surveys, implementation of the BASH program, and habitat management would ensure that impacts on wildlife that may be caused by daily operations of the installations would be minimized. Short-term, minor, adverse impacts on wildlife habitat could occur with the habitat improvement activities; however, these projects would benefit wildlife species occupying those areas in the long term. Implementation of certain projects described in the INRMP (e.g., invasive species control) could result in minor, but temporary, disturbance to vegetation. In the long term, however, implementation of the INRMP would result in improved habitat conditions.

No Action

Under the No Action Alternative, implementation of the BASH Plan would continue to occur; however, management activities designated to support wildlife conservation projects in cooperation with the goals and objectives of the SWAP would not be implemented. Consistent and long-term wildlife and ecological monitoring would not occur to track wildlife populations. In the absence of population monitoring to identify population trends, particularly for sensitive species, and the implementation of conservation projects, long-term adverse impacts to regional biodiversity and populations may occur.

11.6.5 Special Status Species

Proposed Action

Long-term, beneficial impacts on all special status species, including state and federally listed species, and SGCN, at the Hancock Field ANGB and the EADS site would be expected with implementation of the Proposed Action. Implementation of routine assessment and monitoring for these special status species provides a method for protecting them and provides baseline data that could be used to prioritize projects and identify the most efficient allocation of resources.

No Action

Special status species, except when listed under the ESA, would not be afforded protection under the No Action Alternative. The implementation of the No Action Alternative could result in long-term, adverse effects to state-listed species, SGCN, and biodiversity.

11.6.6 Land Use

Proposed Action

Implementation of the INRMP would have long-term, beneficial effects on the natural environment within the installations and, over time, ensure the sustainability of NYANG lands to support training activities and mission requirements (i.e., “no net loss” in training land). Due to the integration of mission requirements in the creation of this INRMP, no negative impacts to mission activities would be anticipated and the Proposed Action provides specific guidance on the conservation of ecosystem function in support of the mission.

No Action

Under the No Action Alternative, the INRMP would not be implemented and the existing level of natural resources management would continue. This could cause undeveloped training lands and existing natural resources to degrade over time. The No Action Alternative does not accommodate land use sustainability necessitated by needs of mission requirements, and therefore, could result in long-term impacts to the mission.

11.6.7 Summary of Environmental Consequences

Compared to the No Action Alternative, environmental conditions at Hancock Field ANGB and the EADS site would be conserved or improved, potential impacts to special status species would be reduced, and additional support of the BASH program would reduce impacts to migratory birds as a result of implementing the proposed INRMP. Therefore, implementing the INRMP (i.e., the Proposed Action) is the Preferred Alternative.

Table 15. Summary of Potential Environmental Consequences

Resource Area	Environmental Consequence*	
	No Action Alternative	Preferred Alternative
Geology (Section 4.2)	No effect	No effect
Soils (Section 4.3)	Short-term adverse impact	Beneficial
Water Resources (Section 4.4)	Short-term adverse impact	Beneficial
Floodplain (Section 5.5.2)	No effect	No effect
Air Quality	No effect	No effect
Noise Environment	No effect	No effect
Climate (Section 4.1 and 7.2.3.3)	No effect	No effect
Vegetation (Section 5.2)	Long-term adverse impact	Beneficial
Fish and Wildlife (Section 5.3)	Long-term adverse impact	Beneficial
Special Status Species (Section 5.4 and 7.2.3)	Long-term adverse impact	Beneficial
Utilities and Infrastructure	No effect	No effect
Cultural Resources	No effect	No effect
Hazardous Materials	No effect	No effect
Socioeconomic Environment	No effect	No effect
Environmental Justice	No effect	No effect
Protection of Children	No effect	No effect
Human Health	No effect	No effect
Airspace Management and BASH (Section 7.11.4)	No effect	No effect
Cumulative Impacts	Long-term adverse impact	Beneficial

*Short- and long-term adverse impacts are expected to be less than significant

11.7 Cumulative Effects

A cumulative effect is defined as an effect on the environment that results from the incremental effect of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place locally or regionally over a period of time.

Implementation of the INRMP would result in a comprehensive natural resources management strategy for Hancock Field ANGB and the EADS site that includes compliance, restoration, prevention, and conservation; improves the existing management approach for natural resources; and meets legal and policy requirements consistent with national natural resources management philosophies. Implementation of the INRMP would have long-term beneficial effects on the natural environment. Over time, adoption of the Proposed Action would enable the NYANG to achieve their goal of maintaining ecosystem viability and ensuring sustainability of desired military mission conditions.

This INRMP was developed to be consistent with regional goals and objectives in the New York SWAP. As development continues in areas adjacent to Hancock Field ANGB and the EADS site, protection and conservation of natural resources within the boundaries of the installations will become more important. Measures enacted on Hancock Field ANGB and the EADS site to prevent runoff, soil erosion, and degradation of wetlands will provide beneficial effects to the overall health of the Oswego River/Finger Lakes watershed. As such, a long-term, positive cumulative effect

would be expected to natural resources as a result of this INRMP and other natural resources management activities occurring within the region.

11.8 Conclusion

The Proposed Action to implement the INRMP for Hancock Field ANGB and the EADS site was analyzed by comparing potential environmental consequences against existing conditions. Findings indicate that, under the Proposed Action, potential consequences would result in either no effects or beneficial effects on each resource area. The affected environment would not be significantly or adversely impacted by proceeding with the Preferred Alternative (Proposed Action). Additionally, no significant adverse cumulative effects are expected.

Based on this EA, implementation of the Preferred Alternative (full implementation of this INRMP) would have no significant adverse environmental or socioeconomic effects. Because no significant adverse effects would result from implementation of the Preferred Alternative, the preparation of an EIS is not required, and the preparation of a Finding of No Significant Impact (FONSI) is appropriate.

APPENDIX A. REFERENCES

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APPENDIX B. LAWS, REGULATIONS, POLICIES, AND EXECUTIVE ORDERS

Federal Laws

American Indian Religious Freedom Act of 1978 (Public Law 95-341; 42 USC §1196) – requires the United States, where appropriate, to protect and preserve religious rights of the American Indian, Eskimo, Aleut, and Native Hawaiians, including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites.

Animal Damage Control Act of 1931 (7 USC §426 et seq.) – provides broad authority for investigation, demonstrations, and control of mammalian predators, rodents, and birds.

Anti-Deficiency Act of 1982 (31 USC §1341 et seq.) – provides that no federal official or employee may obligate the government for the expenditure of funds before funds have been authorized and appropriated by Congress for that purpose.

American Antiquities Act of 1906 (Public Law 59-209; 16 USC §431-433) – authorizes the President to designate historic and natural resources of national significance, located on federal lands, as National Monuments for the purpose of protecting items of archeological significance.

Archeological and Historical Preservation Act of 1974 (Public Law 95-96; 16 USC §469 et seq.) – provides for the preservation of historical and archeological data, including relics and specimens, threatened by federally funded or assisted construction projects.

Archeological Resources Protection Act of 1979 (16 USC §470 et seq.) – prohibits the excavation or removal from federal or Indian lands any archeological resources without a permit.

Bald Eagle Protection Act of 1940 (Public Law 87-884; 16 USC §668a-d) – prohibits the taking or harming (i.e. harassment, sale, or transportation) of bald eagles or golden eagles, including their eggs, nests, or young, without appropriate permit.

Clean Air Act of 1970 (42 USC §7401 et seq.) – regulates air emissions from stationary, area, and mobile sources. This law authorizes the USEPA to establish National Ambient Air Quality Standards (NAAQS) to protect public health and the environment.

Clean Water Act of 1972 (Public Law 92-500; 33 USC §1251 et seq.) – aims to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Under Section 401, states have authority to review federal permits that may result in a discharge to wetlands or water bodies under state jurisdiction. Under Section 404, a program is established to regulate the discharge of dredged or fill material into the Nation's waters, including wetlands.

Coastal Zone Management Act of 1972 (Public Law 92-583; 16 USC §1451 et seq.) – provides incentives for coastal states to develop coastal zone management programs. Federal actions that impact the coastal zone must be consistent to the maximum extent practicable with the state program.

Conservation and Rehabilitation Program on Military and Public Lands (Public Law 93-452; 16 USC §670 et seq.) – provides for fish and wildlife habitat improvements, range rehabilitation, and control of off-road vehicles on federal lands.

Conservation Programs on Military Reservations (Public Law 90-465; 16 USC §670 et seq.) – requires each military department to manage natural resources and to ensure that services are provided which are necessary for management of fish and wildlife resources on each installation; to provide their personnel with professional training in fish and wildlife management; and to give priority to contracting work with federal and state agencies that have responsibility for conservation or management of fish and wildlife. In addition it authorizes cooperative agreements (with states, local governments, non-governmental organizations, and individuals) which call for each party to provide matching funds or services to carry out natural resources projects or initiatives.

Endangered Species Act of 1973, as amended (16 USC §1531 et seq.) – provides for the identification and protection of threatened and endangered plants and animals, including their critical habitats. Requires federal agencies to conserve threatened and endangered species and cooperate with state and local authorities to resolve water resources issues in concert with the conservation of threatened and endangered species. This law establishes a consultation process involving federal agencies to facilitate avoidance of agency action that would adversely affect species or habitat. Further, it prohibits all persons subject to US jurisdiction from taking, including any harm or harassment, endangered species.

Federal Insecticide, Fungicide, and Rodenticide Act of 1947 (Public Law 92-516; 7 USC §136 et seq.) – governs the use and application of pesticides in natural resource management programs. This law provides the principal means for preventing environmental pollution from pesticides through product registration and applicator certification.

Federal Land Policy and Management Act of 1976 (43 USC §1701) – establishes public land policy and guidelines for its administration and provides for the management, protection, development, and enhancement of the public lands.

Federal Noxious Weed Act of 1974 (Public Law 93-629; 7 USC §2801) – provides for the control and eradication of noxious weeds and their regulation in interstate and foreign commerce.

Fish and Wildlife Conservation Act of 1980 (Public Law 96-366; 16 USC §2901 et seq.) – encourages management of non-game species and provides for conservation, protection, restoration, and propagation of certain species, including migratory birds threatened with extinction.

Fish and Wildlife Coordination Act of 1934 (16 USC §661 et seq.) – provides a mechanism for wildlife conservation to receive equal consideration and coordinate with water-resource development programs.

Land and Water Conservation Act of 1965 (16 USC §4601 et seq.) – assists in preserving developing, and assuring accessibility to outdoor recreation resources.

Migratory Bird Conservation Act of 1929 (16 USC §715 et seq.) – establishes a Migratory Bird Conservation Commission to approve areas recommended by the Secretary of the Interior for acquisition with Migratory Bird Conservation Funds.

Migratory Bird Treaty Act of 1918 (Public Law 65-186; 16 USC §703 et seq.) – provides for regulations to control taking of migratory birds, their nests, eggs, parts, or products without the appropriate permit and provides enforcement authority and penalties for violations.

National Environmental Policy Act of 1969 (Public Law 91-190; 42 USC §4321 et seq.) – mandates federal agencies to consider and document environmental impacts of proposed actions and legislation. In addition, it mandates preparation of comprehensive environmental impact statements where proposed action is “major” and significantly affects the quality of the human environment.

Native American Graves Protection and Repatriation Act of 1990 (Public Law 101-601; 25 USC §§3001-3013) – addresses the recovery, treatment, and repatriation of Native American and Native Hawaiian cultural items by federal agencies and museums. It includes provisions for data gathering, reporting, consultation, and issuance of permits.

Resource Conservation and Recovery Act of 1976 (42 USC §6901 e 1860 t seq.) – establishes a comprehensive program which manages solid and hazardous waste. Subtitle C, Hazardous Waste Management, sets up a framework for managing hazardous waste from its initial generation to its final disposal. Waste pesticides and equipment/containers contaminated by pesticides are included under hazardous waste management requirements.

Sikes Act Improvement Act of 1997 (Public Law 105-85; 16 USC §670a et seq.) – amends the Sikes Act of 1960 to mandate the development of an INRMP through cooperation with the Department of the Interior (through the USFWS), DoD, and each state fish and wildlife agency for each military installation supporting natural resources.

Soil Conservation Act of 1935 (16 USC §590a et seq.) – provides for soil conservation practices on federal lands.

Federal Regulations

40 CFR 1500-1508 – CEQ Regulations on Implementing NEPA Procedures
40 CFR 6 – USEPA Regulations on Implementation of NEPA Procedures
40 CFR § 122.26(b)(16) and 122.32(a)(1) – Stormwater Discharge
40 CFR 162 – USEPA Regulations on Insecticide, Fungicide, and Rodenticide Use
15 CFR 930 – Federal Consistency with Approved Coastal Management Programs
50 CFR 17 – USFWS List of Endangered and Threatened Wildlife
50 CFR 10.13 – List of Migratory Birds
32 CFR 190 – Natural Resources Management Program

Federal Executive Orders (EOs)

Energy Efficiencies and Water Conservation at Federal Facilities (EO 12902) – directs federal agency use of energy and water resources towards the goals of increased conservation and efficiency.

Environmental Safeguard for Activities for Animal Damage Control on Federal Lands (EO 11870) – restricts the use of chemical toxicants for mammal and bird control.

Exotic Organisms (EO 11987) – restricts federal agencies in the use of exotic plant species in any landscape and erosion control measures.

Energy Efficiencies and Water Conservation at Federal Facilities (EO 12902) – directs federal agency use of energy and water resources towards the goals of increased conservation and efficiency.

Floodplain Management (EO 11988) – specifies that agencies shall encourage and provide appropriate guidance to applicant to evaluate the effects of their proposals in floodplains prior to submitting applications. This includes wetlands that are within the 100-year floodplain and especially discourages filling.

Indian Sacred Sites (EO 13007) – provides for the protection of and access to Indian sacred sites.

Intergovernmental Review of Federal Programs (EO 12372) – structures the federal government's system of consultation with state and local governments on its decisions involving grants, other forms of financial assistance, and direct development.

Invasive Species (EO 13112) – directs federal agencies to prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause.

Off-Road Vehicles on Public Lands (EO 11989) – specifies that the respective agency shall determine if the use of off-road vehicles will cause or is causing considerable adverse effects on the soil, vegetation, wildlife, wildlife habitat or cultural or historic resources of particular areas or trails of the public lands, and immediately close such areas or trails to the type of off-road vehicle causing such effects, until such time as it determines that such adverse effects have been eliminated and that measures have been implemented to prevent future recurrence.

Protection and Enhancement of Environmental Quality (EO 11514) – provides for environmental protection of federal lands and enforces requirements of NEPA.

Protection of Wetlands (EO 11990) – directs all federal agencies to take action to minimize the destruction loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands. This applies to the acquisition, management, and disposal of federal lands and facilities; to construction or improvements undertaken, financed, or assisted by the federal government; and to the conduct of federal activities and programs which affect land use.

Responsibilities of Federal Entities to Protect Migratory Birds (EO 13186) – directs all federal agencies taking actions that have a potential to negatively affect migratory bird populations to develop and implement a MOU with the USFWS by January 2003 that shall promote the conservation of migratory bird populations.

DoDI, AFI, AFMAN, & Air Force Pamphlets (PAM)
DoDI 4715.03 – Natural Resources Conservation Program
DoDI 4165.57 – Air Installations Compatible Use Zones
DoDI 4150.07 – Pest Management Program
DoDI 6055.06 – Fire and Emergency Services Program
DoDI 4150.03 – Integrated Pest Management Program
DoDM 4715.03 – INRMP Implementation Manual
DoDM 4150.07 – DoD Pest Management Program Manual Volumes 1-3
AFMAN 32-1053 – DoD Pest Management Program
AFI 32-7001 – Environmental Quality Programming and Budgeting
AFI 32-7060 – IICEP
AFI 32-7061 – The Environmental Impact Analysis Process
AFI 32-7062 – Air Force Comprehensive Planning
AFMAN 32-7003 – Environmental Conservation
AFPAM 91-212 – BASH Techniques

Department of Defense Memoranda
Memorandum, Assistant DUSD (Environment, Safety and Occupational Health), 20 Sept 11, Subject: *Interim Policy on Management of White Nose Syndrome in Bats.*

Memorandum, Assistant DUSD (Environment, Safety and Occupational Health), 3 Apr 07, Subject: *Guidance to Implement the Memorandum of Understanding to Promote the Conservation of Migratory Birds.*

Memorandum, Assistant DUSD (Environment, Safety and Occupational Health), 14 Aug 06, Subject: *Integrated Natural Resource Management Plan (INRMP) Template*

Memorandum, Assistant DUSD (Environment, Safety and Occupational Health), 17 May 05, Subject: *Implementation of Sikes Act Improvement Amendments: Supplemental Guidance concerning Leased Lands*

Memorandum, Assistant DUSD (Environment, Safety and Occupational Health), 1 Nov 04, Subject: *Implementation of Sikes Act Improvement Amendments: Supplemental Guidance concerning INRMP Reviews*

Memorandum, DUSD (Installations and Environment), 10 Oct 02, Subject: *Implementation of Sikes Act Improvement Act: Updated Guidance*

Memorandum, Assistant DUSD (Environment), 5 Aug 02, Subject: *Access to Outdoor Recreation Programs on Military Installations for Persons with Disabilities*.

Memorandum, Assistant Secretary of Army (Environment, Safety and Occupational Health), Deputy Assistant Secretary of the Navy (Environment), Deputy Assistant Secretary of the Air Force (Environment, Safety and Occupational Health), 20 Sep 11, Subject: *Interim Policy on Management of White Nose Syndrome in Bats.*

State and Local Statutes

NYSDEC. Title 6 New York State Code (NYCRR) Environmental Conservation Law, Part 182.1 - .16- Endangered and Threatened Species of Fish and Wildlife; Species of Special Concern; Incidental Take Permits

NYSDEC. Title 6 NYCRR Environmental Conservation Law, Part 193.3 Protected Native Plants

NYSDEC. Title 6 NYCRR Environmental Conservation Law, Part 575 Invasive Species Regulations

NYSDEC. Environmental Conservation Law, Article 24, Title 23 of Article 71 of the Freshwater Wetlands Act

NYSDEC. Article 17 Title 8, Environmental Conservation Law Implementing Regulations – 6 NYCRR Part 750

ADDENDUM

INDIANA BAT PROTOCOL PROVIDED BY THE U.S. FISH AND WILDLIFE SERVICE

Indiana Bat Project Review Fact Sheet
New York Field Office

The following fact sheet is intended to provide information to assist project sponsors, as well as any involved Federal and State agencies, with the review of activities that occur within the likely range of the Indiana bat (*Myotis sodalis*) within the State of New York. This fact sheet can be used to assist with compliance with the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq*.). **PLEASE NOTE - this fact sheet does not apply to wind development projects as they involve many unique considerations.** Contact the U.S. Fish and Wildlife Service (Service) directly for technical assistance for wind projects. In addition, information on evaluating impacts from wind projects on Indiana bats can be found at http://www.fws.gov/midwest/endangered/mammals/inba/WindEnergyGuidance.html.

Background

The Indiana bat is federally- and New York State-listed as an endangered species with a range that extends from the Midwest to northeastern and southeastern parts of the United States. Additional information on Indiana bat occurrences can be found at http://ecos.fws.gov and https://www.fws.gov/northeast/nyfo/es/NYSpecies.htm.

The Indiana bat typically hibernates in caves/mines in the winter and roosts under bark or in tree crevices in the spring, summer, and fall. Suitable potential summer roosting habitat is characterized by trees (dead, dying, or alive) or snags with exfoliating bark, or containing cracks or crevices that could potentially be used by Indiana bats as a roost. The minimum size roost tree observed to date is 2.5 inches diameter breast height (d.b.h.) for males and 4.3 inches d.b.h. for females. However, maternity colonies generally use trees greater than or equal to 9 inches d.b.h. Overall, roost tree structure appears to be more important to Indiana bats than a particular tree species or habitat type. Females appear to be more habitat specific than males presumably because of the warmer temperature requirements associated with gestation and rearing of young. As a result, they are generally found at lower elevations than males may be found. Roosts are warmed by direct exposure to solar radiation, thus trees exposed to extended periods of direct sunlight are preferred over those in shaded areas. However, shaded roosts may be preferred in very hot conditions. As larger trees afford a greater thermal mass for heat retention, they appear to be preferred over smaller trees. Additional information on potentially suitable summer habitat can be found in the Draft Indiana Bat Recovery Plan (Service 2007) at http://www.fws.gov/northeast/nyfo/es/IndianaBatapr07.pdf and at http://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html

Streams associated with floodplain forests, and impounded water bodies (ponds, wetlands, reservoirs, etc.) where abundant supplies of flying insects are likely found, provide preferred foraging habitat for Indiana bats, some of which may fly up to 2-5 miles from upland roosts on a regular basis. Indiana bats also forage within the canopy of upland forests, over clearings with early successional vegetation (*e.g.,* old fields), along the borders of croplands, along wooded fencerows, and over farm ponds in pastures (Service 2007). While Indiana bats appear to forage in a wide variety of habitats, they seem to tend to stay fairly close to tree cover.

Threats include disease (white-nose syndrome), habitat loss or degradation, human disturbance, contaminants, and collision with wind turbines.

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New York Field Office

Evaluation of Presence or Probable Absence

To determine whether the proposed project site may be occupied by the Indiana bat, the Service recommends the following analytical approach[1]:

Step 1. Is the proposed project within an area[2] identified by the Service as known or likely to contain Indiana bats?
- No: No further coordination regarding the Indiana bat is necessary at this time.
- Yes: Proceed to Step 2.

Step 2. Is there existing information regarding probable presence/absence of Indiana bats (*e.g.,* proximity to hibernacula, prior summer netting/acoustics)[3]?
- No: Proceed to Step 3.
- Yes: Document existing information and coordinate with the Service.

Step 3. Is there any suitable Indiana bat habitat[4] present within the proposed action project area?
- No: No further coordination regarding the Indiana bat is necessary at this time.
- Yes: Determine whether the proposed project involves any effects to Indiana bats.

Determination of Effects

Determine for each project whether effects to Indiana bats or their habitat are expected. If there are impacts to habitat while bats are not present, assess the scale and scope of those impacts to determine whether bats returning in the spring may be affected.

For example, consider whether a project may result in temporary or permanent increases in noise, vibration, dust, chemical use, lighting, vehicle use, and general levels of human activity. Also, consider whether a project may result in temporary or permanent loss, degradation, and/or fragmentation of roosting, foraging, swarming, commuting, or wintering habitat.

Certain transportation projects have already been evaluated and processes developed in accordance with a Rangewide Consultation and Conservation Strategy: https://www.fws.gov/Midwest/endangered/section7/fhwa/

Surveys for Indiana Bats

Should suitable Indiana bat habitat be present and should the proposed project have the potential for impacting Indiana bats, coordinate with the Service to determine whether 1) assuming presence or 2) conducting surveys[5] is the best approach. Due to the limited time frame when bat surveys can be completed and in order to avoid project delays, it is strongly recommended that the project sponsor (or involved Federal agency) contact the Service as early as possible during

[1] This reflects our current understanding but future studies may require a revision to this guidance.
[2] https://ecos.fws.gov/ipac/
[3] http://www.fws.gov/northeast/nyfo/es/NYSpecies.htm and http://www.dec.ny.gov/animals/38801.html
[4] http://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html
[5] http://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html

project planning to determine if surveys or additional avoidance and/or minimization measures are appropriate. Should Indiana bat presence be detected, the Service should be contacted immediately for further assistance in determining whether your action may impact Indiana bats. If no bats are detected after protocol surveys, submit the results as soon as possible for our review in accordance with the timeframes agreed upon during the review of the survey scope of work.

Conservation Measures

Conservation measures are designed to minimize the likelihood of adverse impacts or result in beneficial effects to Indiana bats from projects. The following guidance represents general recommendations that may be incorporated into the proposed project design as appropriate.

Project Siting

- Avoid removing or damaging documented roosts or trees surrounding roosts.
- Avoid impacts to forest patches with documented roosts/foraging use (*e.g.,* forest within 0.25 mile of known roosts).
- Minimize impacts to all forest patches.
- Maintain forest patches and forested connections (*e.g.,* hedgerows, riparian corridors) between patches.
- Maintain natural vegetation between forest patches/connections and developed areas.
- Maintain at least 35%[6] of forest habitat within maternity colony home range[7].
- Restore and/or protect on- and off-site habitat.
- Avoid impacting potential roost trees to the greatest extent practicable
    - Retain standing live trees that have exfoliating (separated from cambium) bark.
    - Retain black locust, shellbark, shagbark, and bitternut hickories as possible, regardless of size or condition (live, dead, or dying).
    - Retain standing snags as much as possible regardless of species.

Project Construction

- When >10 miles from a P3 or P4 hibernaculum or >20 miles from a P1 or P2 hibernaculum[8], but within the summer range of the Indiana bat, the clearing of potential roost trees, generally ≥4 inches should occur from October 1 through March 31[9].
- When <10 miles from a P3 or P4 hibernaculum or <20 miles from a P1 or P2 hibernaculum, clearing should be conducted from October 31 to March 31.
- Use bright flagging/fencing to demarcate trees to be cleared.

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[6] Minimum % forest cover within Indiana bat maternity colony home range (NYSDEC unpublished data)

[7] For explanation of how to delineate Indiana bat maternity colony home range, please see the Indiana Bat Section 7 and Section 10 Guidance for Wind Energy Projects document located at http://www.fws.gov/midwest/Endangered/mammals/inba/index.html

[8] See Service 2007 for definitions of Priority 1-4 hibernacula. Contact the NYFO for information regarding the closest hibernaculum to your project

[9] Site specific information may allow for deviations from the listed dates. Also, there may be cases (*e.g.*, very small number of trees) when we believe the likelihood of impacts is low regardless of when tree removal occurs.

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New York Field Office

Project Operations/Maintenance

- Minimize lighting impacts (*e.g.,* limit number of lights, direct lights downward, fully shield lights, use motion sensors or timers).
- Conduct activities in a manner that will minimize impacts to potential drinking water sources for bats.

As we better understand a given proposed project, including any proposed conservation measures for Indiana bats, we may have additional recommendations. Project sponsors should seek assistance from the Service to develop these measures.

Information to Provide to the Service

The project's environmental documents should identify project activities that might result in impacts to the Indiana bat or their habitat. Information on any potential impacts and the results of any recommended habitat analyses or surveys for the Indiana bat should be provided to the New York Field Office and will be used to evaluate potential impacts to the Indiana bat and/or their habitat, and to determine the need for further coordination or consultation pursuant to the ESA. We encourage the project sponsor to submit these materials as early in the planning process as possible to all appropriate parties (e.g., involved Federal/State agencies, the New York State Department of Environmental Conservation, Service).

Specifically, the following information should be provided:

- whether a Federal agency is involved or not;
- a detailed project description;
- a map of the proposed project area with coarse vegetation cover types (*e.g.*, emergent wetland, open field) in acres;
- a summary table of current vs. proposed future acreage of each cover type;
- provide number or acreage of trees proposed for removal and timing of removal;
- an overlay of the project on the vegetation map;
- a description of the forested area onsite, including the type of forest (*e.g.*, oak-hickory), approximate stand age, and presence of dead or live trees with split branches or trunks or exfoliating bark;
- photographs representative of all cover types on the site and encompassing views of the entire site;
- a topographic map with the project area identified; and
- a summary of proposed conservation measures.

References:

U.S. Fish and Wildlife Service. 2007. Indiana Bat (*Myotis sodalis*) Draft Recovery Plan: First Revision. U.S. Fish and Wildlife Service, Fort Snelling, MN. 258 pp.