179AW Integrated Natural Resources Management Plan
Mansfield Lahm ANGB

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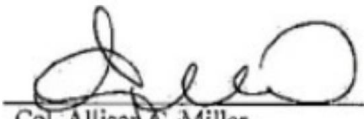
SIGNATURE PAGE

The Mansfield Lahm Air National Guard Base (hereafter Mansfield Lahm ANGB), Ohio Air National Guard (OHANG) facility, Integrated Natural Resources Management Plan (INRMP) has been prepared for the 179 Airlift Wing (179 AW) to manage significant natural resources in support of the military mission. Significant natural resources include the presence of federal and state-listed protected species, and Waters of the United States (US) including wetlands. The Mansfield Lahm ANGB INRMP meets the intent of the Sikes Act (16 US Code [USC]. § 670a–670l, 74 Stat. 1052).

To the extent that resources permit, the US Fish and Wildlife Service (USFWS), Ohio Department of Natural Resources (ODNR), and the OHANG by signature of their agency representative, do hereby enter into a cooperative agreement for the conservation, protection, and management of natural resources present on Mansfield Lahm ANGB. This agreement may be modified and amended by agreement of the authorized representatives of the 3 agencies. This 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 this agreement.

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

Approving Officials:



13 Dec 18

Col. Allison C. Miller
179 Airlift Wing Commander
Mansfield Lahm ANGB

Date

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Date: 2018.12.04 09:31:05 -05'00'

Scott Pruitt
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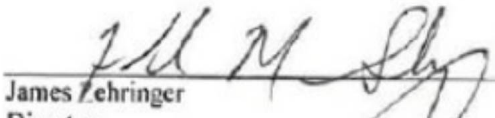
Date



12.10.18

James Zehringer
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Date

Allison Miller, Col, OANG
Installation Commander

Prelim:

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Signature Page

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Annual Review Documents

This page is used to certify annual review and coordination of this INRMP.

With the signatures below, this acknowledges that the annual review and coordination of the INRMP has occurred for the specified year.

Installation Supplement:

INRMP Annual Review.pdf

Document Control

The INRMP is updated not less than annually, or as changes to natural resource management and conservation practices occur, including those driven by changes in applicable regulations. In accordance with (IAW) the Sikes Act, AFI 32-7064, *Natural Resources Management*, and ANG procedures, the INRMP is required to be reviewed for operation and effect not less than every five years. Annual reviews and updates are accomplished by the ANG Readiness Center (ANGRC) Natural Resources Program Manager and/or the installation Natural Resources Manager (NRM). The installation shall establish and maintain regular communications with the appropriate federal and state agencies. At a minimum, the installation NRM (with assistance as appropriate from the ANGRC Natural Resources Program Manager) conducts an annual review of the INRMP in coordination with internal stakeholders and local representatives of the United States Fish and Wildlife Service (USFWS), state fish and wildlife agency, and National Oceanic and Atmospheric Administration (NOAA) Fisheries, where applicable, and accomplishes pertinent updates. Installations will document the findings of the annual review in an Annual INRMP Review Summary. By signature to the Annual INRMP Review Summary, the collaborating agency representative asserts concurrence with the findings. Any agreed updates are then made to the document, at a minimum updating the work plans.

1. Executive Summary

Installation Supplement:

The Sikes Act Improvement Act of 1997, 16 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, federal and state-listed protected species, and sustain natural resources. The Mansfield Lahm ANGB INRMP is intended to be in support of and consistent with the intent of the Sikes Act.

The Mansfield Lahm ANGB INRMP is the primary guidance document and tool of the OHANG for managing natural resources on Mansfield Lahm ANGB. Mansfield Lahm ANGB is under the command of the 179 AW and is comprised of approximately 287 acres spread out over 3 parcels, 28 acres of which is owned by the State of Ohio and 259 acres by the City of Mansfield. Mansfield Lahm ANGB's primary purpose is to support airlift operations, mobile engineering response, and military training. It contains diverse habitats and species with diverse management requirements. The natural resources management on this installation must be conducted in compliance with applicable environmental laws and regulations, and real estate leases and licenses, while providing for sustainable land use that results in no net loss in the capability to support the military mission. This INRMP provides a structure and plan to manage natural resources more effectively and ensure that OHANG facilities remain available to support the installation's military mission into the future.

Specific goals in the Mansfield Lahm ANGB INRMP are supported by its objectives and work plans, as well as management strategies and specific actions. Goals and objectives are listed in **Section 8** of this plan, and projects are summarized in **Section 9**. The Mansfield Lahm ANGB 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 use. The implementation of the Mansfield Lahm ANGB 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. It also will ensure that management efforts of the OHANG at these facilities is consistent and integrated with as little redundancy as possible.

2. Overview and Scope

This INRMP was developed to provide for effective management and protection of natural resources. It summarizes the natural resources present on the installation and outlines strategies to adequately manage those resources. Natural resources are valuable assets of ANG. They provide the natural infrastructure needed for testing weapons and technology, as well as for training military personnel for deployment. Sound management of natural resources increases the effectiveness of ANG adaptability in all environments. The ANG has stewardship responsibility over the physical lands on which installations are located to ensure all natural resources are properly conserved, protected, and used in sustainable ways. The primary objective of the ANG natural resources program is to sustain, restore and modernize natural infrastructure to ensure operational capability and no net loss in the capability of ANG lands to support the military mission of the installation. The plan outlines and assigns responsibilities for the management of natural resources, discusses related concerns, and provides program management elements that will help to maintain or improve the natural resources within the context of the installation’s mission. The INRMP is intended for use by all installation personnel. The Sikes Act is the legal driver for the INRMP.

2.1. Purpose and Scope

Installation Supplement:

This INRMP is the primary guidance document and tool for natural resource management by the OHANG at Mansfield Lahm ANGB that 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 military installation lands to support the military mission of the installation. The installation commander can use the Mansfield Lahm ANGB INRMP to manage natural resources more effectively to ensure that installation lands remain available and in good condition to support the installation's military mission over the long term.

The Mansfield Lahm ANGB INRMP is consistent with the Sikes Act as required by the DoD, the USAF, and the National Guard Bureau (NGB). It was developed as a result of the presence of federal and state-listed endangered and threatened species, and regulated water resources on Mansfield Lahm ANGB. 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.

2.2. Management Philosophy

Installation Supplement:

Natural resources at Mansfield Lahm ANGB are managed with an ecosystem management approach as directed by AFMAN 32-7003 and DoDI 4715.03. Ecosystem management is defined as the management to conserve major ecological services and restore natural resources while meeting the socioeconomic, political and cultural needs of current and future generations. The goal of ecosystem management on military lands is to ensure that military lands support present and future test and training requirements while conserving, improving, and enhancing ecosystem integrity. The ecosystem management program for Mansfield Lahm ANGB incorporates these elements, as described in **Table 1**.

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 Mansfield Lahm ANGB 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**.

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, insofar as that is consistent with the requirements of the Endangered Species Act (ESA)

2	Use an adaptive management approach to manage natural resources 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 ecological processes such as wildland 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

Figure 1. Why Conserve Biodiversity on Military Lands

**Adapted from Keystone Center, 1996.*

2.3. Authority

Installation Supplement:

2.3.1 Natural Resources Law, Regulations & Policy

The ANG, USFWS, and ODNR determined an INRMP was required for Mansfield Lahm ANGB due to the presence of significant natural resources, thereby necessitating conservation and management. 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, state fish and wildlife agency, and ANG installation for operation and effect on a regular basis, but not less often than every 5 years. Minor updates and continued implementation of an existing INRMP do not require need for public comment. Major revisions to an INRMP do require an opportunity for public review. The degree of endangered species consultation when updating or revising an INRMP depends upon specific projects identified in the INRMP and the amount of past consultation. Most updates and revisions will not require formal consultation. ESA Section 7 consultation is required for INRMPs that contain projects that may affect federally-listed species or designated critical habitat. The need for such consultation should become apparent during the review for operation and effect and implemented if necessary as part of an INRMP revision.

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 implementing and overseeing federal policies as they relate to this process. The adoption of an INRMP can be considered a major federal action as defined by Section 1508.18 of the CEQ regulations. This requires an analysis of potential environmental impacts for the implementation of an INRMP, although a complete Environmental Assessment (EA) is not necessarily required as individual actions and projects undergo their own NEPA analysis.

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, Mansfield Lahm ANGB 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. Furthermore, public participation in decision making on new proposals is 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 the Proposed Action are urged to participate.

The EIAP for the implementation of the first Mansfield Lahm ANGB INRMP was conducted for a combined INRMP including Mansfield Lahm ANGB, Camp Perry ANGS, and the former Plum Brook ANGS, and in accordance with NEPA, CEQ *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (40 Code of Federal Regulations [CFR] §1500-1508), and 32 CFR 989 (OHANG 2013). The EIAP and decision- making process for the Proposed Action (implementation of this INRMP) involved an examination of all environmental issues pertinent to the action proposed. Impact evaluations of the Mansfield Lahm, Camp Perry, and Plum Brook ANGS INRMP determined that no significant environmental impacts would result from implementation of the Proposed Action or any identified alternative (OHANG 2013). This determination was based on thorough review and analysis of existing resource information, and coordination with knowledgeable, responsible personnel from the OHANG and other relevant local, state, and federal agencies. The EIAP for the implementation of this INRMP does not include an analysis of effects for individual actions or projects. Individual actions or projects that have the potential to impact the environment will be analyzed separately in accordance with the NEPA process. A new EIAP is not required for this updated Mansfield Lahm ANGB INRMP.

If a future action or 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*". 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 and facilitates making a determination about whether an EA or an Environmental Impact Statement (EIS) might be required for a specific action. Some sections are prepared by the proponent and other sections are prepared by the Environmental Management Office (179 CES/CEV). If the action is not covered by a Categorical Exclusion (CATEX), then an EA is prepared to determine if there are potential significant impacts. If potential significant impacts are identified, either while completing USAF Form 813 or during the EA, then an EIS is prepared. The majority of natural resources management actions in this INRMP are covered by a CATEX.

2.3.1. Responsibilities

General roles and responsibilities that are necessary to implement and support the natural resources program are identified in the Installation Supplement below. Specific natural resources management-related roles and responsibilities are described in appropriate sections of this plan.

Installation Supplement:

2.3.3.1 Wing Commander – 179AW/CC

The Wing Commander of the 179AW (179AW/CC) oversees the installation and is responsible for ensuring the goals and objectives of the INRMP are implemented to the fullest extent practicable based on funding and manpower availability. The Wing Commander is the official signatory for the Mansfield Lahm ANGB INRMP.

2.3.3.2 ANG Natural Resources Program Manager – ANG NGB/A4AM

The ANG NGB/A4AM Natural Resources Program Manager (ANG NR Program Manager) is the technical point of contact on all natural resource related activities for the ANG. The ANG NR Program Manager tracks DoD and USAF policies and approves funding for projects identified as a priority in the Mansfield Lahm ANGB INRMP. The development of projects included in the INRMP and any deviations from those projects will be submitted to the ANG NR Program Manager for review. Decisions resulting from those reviews will be a cooperative effort between the ANG NR Program Manager and the EM and/or the installation's Natural Resources Manager when applicable.

2.3.3.3 Environmental Management Office – 179 CES/CEV

The Environmental Management Office plans, budgets, approves, and oversees all environmental activities performed on the installation 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. The Environmental Management Office 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, details and scheduling information available from: http://www.netc.navy.mil/centers/csfe/cecos/CourseDetail2.htm#tab25.

2.3.3.4 Environmental Manager

The EM is responsible for ensuring activities associated with the implementation of the INRMP adhere to applicable federal, state, local, and USAF environmental regulations and policies. Projects proposed in this INRMP are reviewed by the EM and the ANG NR Program Manager.

2.3.3.5 Base Civil Engineer

The Base Civil Engineer (CE) plans, budgets, approves, and oversees all maintenance and construction activities performed on the installation. All maintenance- and construction-related projects or management activities proposed in this INRMP should be approved by the Base CE to ensure that (1) funding is available and (2) these projects are complementary to the installation's comprehensive planning processes.

2.3.3.6 Legal Office

The Legal Office is responsible for ensuring the implementation of the management objectives contained within the Mansfield Lahm ANGB INRMP meet all regulatory and statutory requirements that pertain to natural resources management. The Legal Office will review any future natural resources management proposals and alert the 179 AW/CC and 179 CES/CEV 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.

2.3.3.7 Wing Safety Office (179 AW/SE)

The Wing Safety Office, is responsible for development, implementation and management of the Mansfield Lahm ANGB Bird/Wildlife Aircraft Strike Hazard (BASH) Program (IAW AFI 91-212). The 179 AW/SE, in conjunction with the EM, is responsible for coordinating all activities presented in this INRMP that are mutually supportive with the BASH Program. In addition, the 179 AW/SE participates in the Mansfield Lahm ANGB Bird Hazard Working Group (BHWG), which conducts meetings to evaluate and refine strategies for the reduction of BASH risk in and around Mansfield Lahm ANGB. The 179 AW/SE also ensures that bird/ wildlife strikes resulting from aircraft assigned at the Mansfield Lahm ANGB are accurately documented and reported to the Air Force Safety Center (AFSEC) via the Air Force Safety Automated System (AFSAS). The 179 AW/SE is responsible for coordinating with and providing required information on BASH activities, to include bird/ wildlife strikes, with the EM office.

2.3.3.8 Airfield Management

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

2.3.3.9 Civil Engineering Operations and Maintenance

Operations and management personnel are responsible for all grounds maintenance activities on Mansfield Lahm ANGB leased property. In addition, this office will ensure accomplishment of the habitat management protocols established in this INRMP to accomplish mission requirements while complying with natural resource management goals consistent with the mission and regulatory compliance requirements. The operations and management personnel will also periodically review the 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 US Department of Agriculture – Wildlife Services

US Department of Agriculture – Wildlife Services (USDA-WS) is responsible for monitoring nuisance wildlife that have the potential to create an aircraft strike hazard. USDA-WS personnel implement activities that pertain to the BASH Program and are responsible for wildlife depredation requirements within the airfield.

2.3.3.11 Pest Management Coordinator

The Installation Pest Management Coordinator (IPMC) is responsible for the protection of real estate, control of potential disease vectors or animals of other medical importance, control of undesirable 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 coordinating with USDA- WS for depredation activities, regarding required permitting, and for permit clarification when required, while keeping the INRMP support staff (see **Section 10.1**) appraised of proposed modifications or changes to permits, as they occur or are proposed.

2.3.3.12 Public Affairs Office – 179 AW/PA

The Public Affairs Office (179 AW/PA) is responsible for the coordination of public access for events at Mansfield Lahm ANGB. The Public Affairs Office serves as the point-of-contact to interface between the Wing Commander and civilian groups interested in the installation for environmental, educational, or other purposes.

2.3.3.13 US Fish and Wildlife Service

The USFWS is a signatory of this INRMP and provides input regarding natural resource projects and operational component plans. The USFWS alerts the EM and/or the ANG NR Program Manager whenever new species added to the federal threatened and endangered species lists have the potential for inhabiting Mansfield Lahm ANGB. In addition, the USFWS, when feasible, will support wildlife and vegetation surveys conducted at OHANG properties.

2.3.3.14 Ohio Department of Natural Resources

The ODNR is Ohio's fish and wildlife service and is a signatory of the INRMP, providing input regarding natural resource projects and operational component plans. The ODNR alerts the EM and/or the ANG NR Program Manager whenever new species added to the state threatened and endangered species lists have the potential for inhabiting Mansfield Lahm ANGB. In addition, the ODNR, when feasible, will support wildlife and vegetation surveys conducted at OHANG properties.

2.3.2. Training

ANG EMs and other natural resources support personnel require specific education, training, and work experience to adequately perform their jobs. Section 107 of the Sikes Act requires that professionally trained personnel perform the tasks necessary to update and carry out certain actions required within this INRMP. Specific training and certification may be necessary to maintain a level of competence in relevant areas as installation needs change, or to fulfill a permitting requirement.

Installation Supplement:

2.4. Integration with Other Plans

Installation Supplement:

By its nature, an INRMP is multidisciplinary and provides the summary for natural resources at a specific installation. As a result, information from an INRMP is incorporated into other plans and other plans are written to support the INRMP. This INRMP is integrated with a number of plans including:

- BASH Management Plan for Mansfield Lahm ANGB – provides summary of the BASH program on Mansfield Lahm ANGB, including techniques, processes, responsibilities and management recommendations (OHANG 2021).
- Wildlife Hazard Management Plan (WHMP) for Mansfield Lahm Regional Airport (MLRA), which provides a summary of wildlife hazard management (similar to BASH) program on the adjacent MLRA (OHANG 2016, *Attachment 4*).
- The terms of the Integrated Cultural Resources Management Plan (ICRMP) Waiver for 179 AW, Mansfield Lahm Regional Airport, OH (NGB 2018).
- Integrated Pest Management Plan (IPM Plan) for Mansfield Lahm ANGB which outlines the management of pest and disease vector species, including nuisance wildlife and invasive species on Mansfield Lahm ANGB in order to minimize impact to mission, military readiness, natural resources, and the environment (OHANG 2019).
- Storm Water Pollution Prevention Plan (SWPPP) for Mansfield Lahm ANGB which summarizes management of storm water and water-borne pollution (OHANG 2015).
- The Richland County Comprehensive Plan, which lays out a long-term strategy for development in Richland County, including infrastructure, housing, and land use regulation (Richland County Regional Planning Commission 2009).
- The Ohio State Wildlife Action Plan (OHSWAP; ODNR 2015) which was developed to manage and conserve Ohio's wildlife and plant species, especially those with declining populations.

3. Installation Overview

3.1. Location and Area

Installation Supplement:

Mansfield Lahm ANGB is located in Richland County, Ohio approximately 60 miles northeast of Columbus. This facility is adjacent to and contained within the Mansfield Lahm Regional Airport (MLRA) and is a joint user of their runways and Air Traffic Control (ATC) tower. This regional airport comprises approximately 2,340 acres, is owned and operated by the City of Mansfield, and has 2 runways (OHANG 2011a, Federal Aviation Administration [FAA] 2012).

Mansfield Lahm ANGB comprises approximately 287 acres in three parcels, including the Main parcel (67 acres) located within the MLRA, the Joint Use parcel (63 acres), and Drop Zone 5 (157 acres; **Figures 2-4**). All properties are leased from the City of Mansfield and the State of Ohio. The 179 AW is stationed at Mansfield Lahm ANGB and the Joint Use parcel houses components of the 200th Rapid Engineer Deployable Heavy Operational Repair Squadron Engineers Squadron (200 RHS) Detachment 1, the Ohio Army National Guard (OHARNG), and the U.S. Army Reserve.

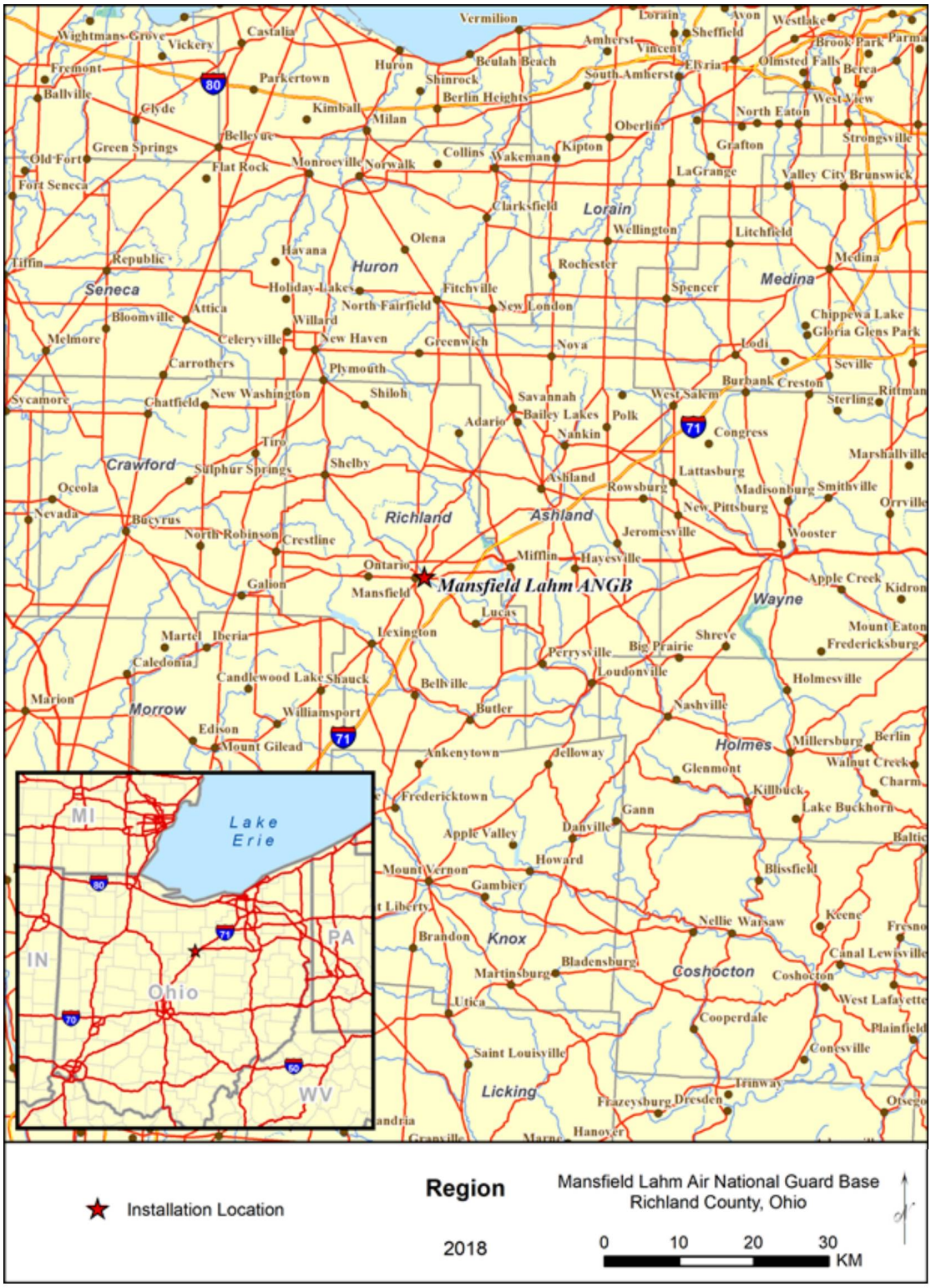


Figure 2. Mansfield Lahm ANGB Regional Map

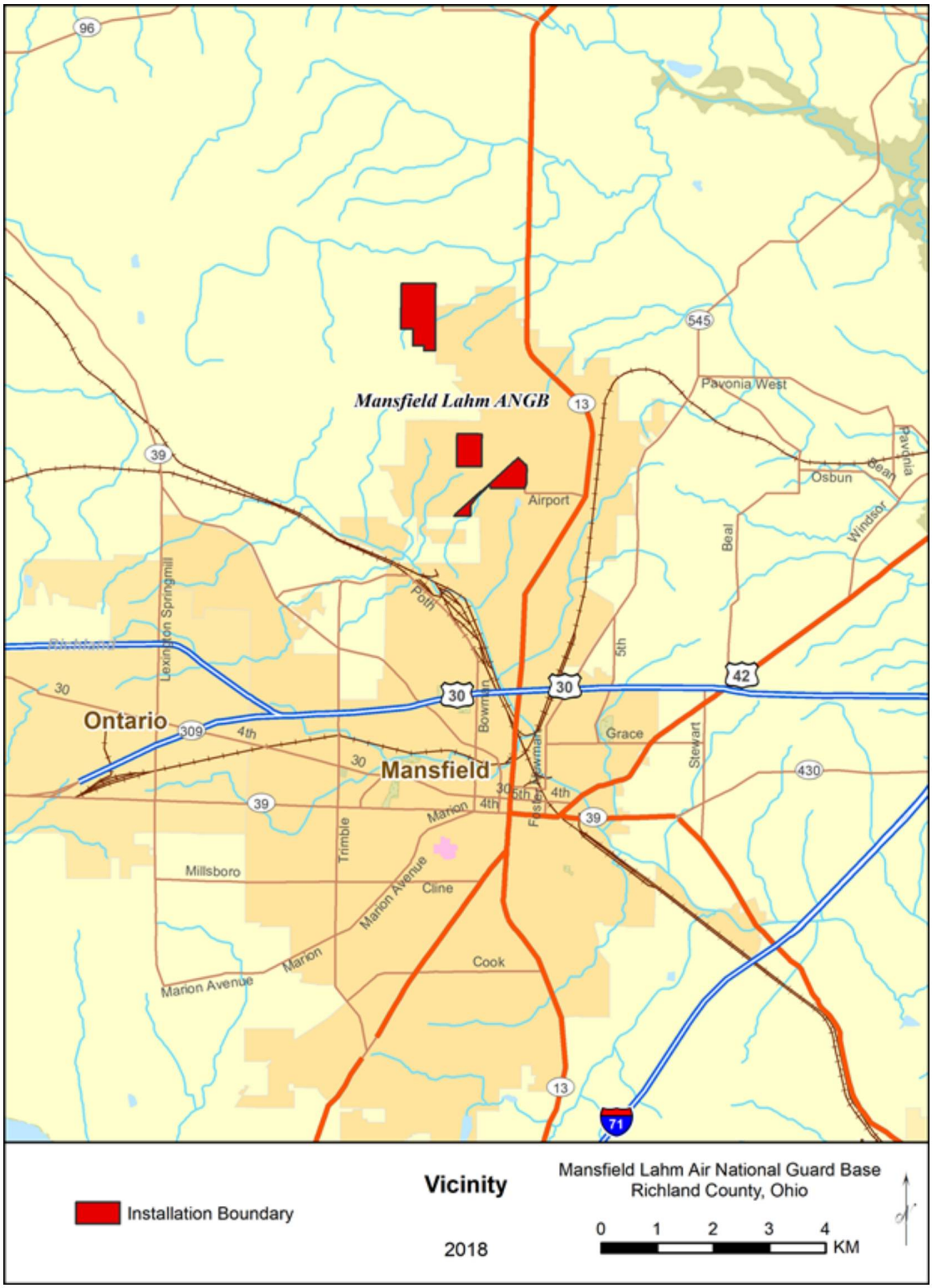


Figure 3. Mansfield Lahm ANGB Vicinity Map

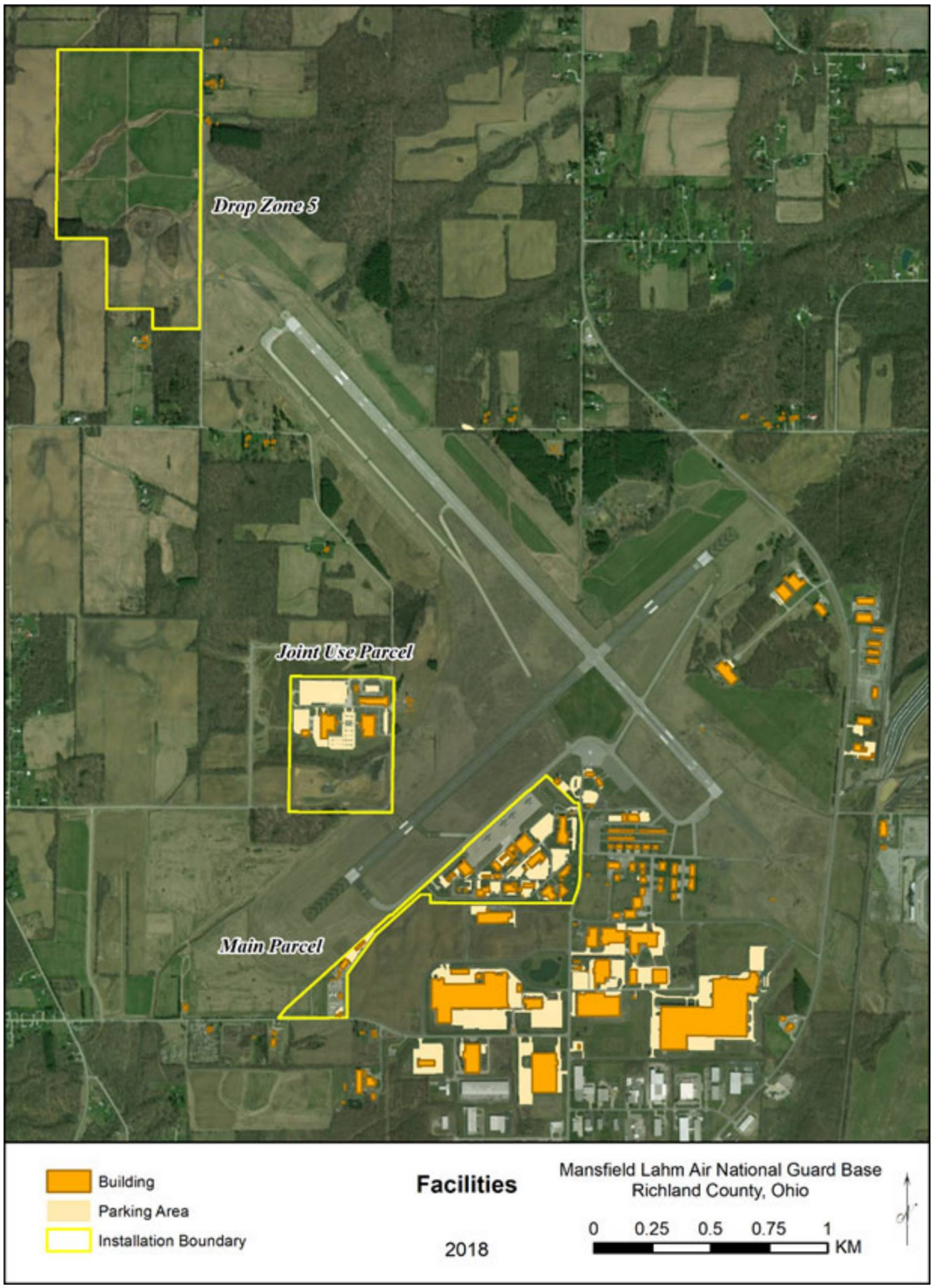


Figure 4. Mansfield Lahm ANGB Facilities Map

3.2. Installation History

Installation Supplement:

The OHANG is comprised of 4 flying units: 121 Air Refueling Wing, 178 Intelligence Surveillance and Reconnaissance Wing, 179 Airlift Wing, 180 Fighter Wing, as well as 3 subordinate geographically separated units including the 200 RHS (OHANG 2018).

Aviation units of the National Guard began operating in 1915, evolving from military pilot training programs established in 1912. The State of Ohio hosted its first aerial unit after World War I, when the 112 Observation Squadron (originally the 112 Aero Squadron) was created during a

reorganization of the military's aerial assets. The OHANG was formed when the 357 Fighter Group, a highly-decorated fighter unit in World War II, was inactivated on August 20, 1946, and its squadrons were re-designated for assignment to the OHANG (OHANG 2012a).

In 1925 community leaders encouraged Mansfield City Council to purchase 190 acres of farm land for use as an airplane landing field. This would eventually become an airport where 1,500 pilots for the armed forces were trained through the Civilian Pilot Training Corps during World War II. The airport, named for Brigadier General Frank Purdy Lahm of the US Army Air Forces, has since grown into a 2,400-acre municipal airport (City of Mansfield 2012).

In 1948 the 164 Fighter Squadron of the OHANG was formed at MLRA and the unit remains an integral part of the airport with varying designations over the years. In 1962 the unit was re-designated the 179 Tactical Fighter Group, but later closed out its fighter unit and converted to the C-130B aircraft in 1976, and later the C-130H in 1992, becoming the 179 Airlift Wing (179 AW). In 2010 the 179 AW began flying the C-27J and converted back to the C-130H in June 2013 (OHANG 2012b).

Growth of the 179 AW at MLRA has continued with the standing up of the 200 RHS Detachment in 2008. The 200 RHS Detachment consists of 200 people located on the Joint Use parcel of Mansfield Lahm ANGB under the 179 AW, with the remaining 200 personnel associated with 200 RHS Headquarters located at Camp Perry ANGS (OHANG 2012b). Mansfield Lahm ANGB continues as a joint base despite the initial 2005 base realignment and closure recommendations to dismantle 179 AW. These recommendations resulted in modification of Mansfield Lahm ANGB into a joint base, which will continue to grow as new units and missions are added at Mansfield Lahm ANGB and for 179 AW during the years to come (OHANG 2012b).

3.3. Military Missions

Installation Supplement:

The current mission of the 179 AW is to provide highly qualified airmen to engage in homeland, global, and joint missions, with the motto “Always Ready, Always There.” The 179 AW provides critical airlift resources to accomplish worldwide airlift requirements. Unit personnel provide combat airlift, combat support, and combat services support, as well as humanitarian relief. The federal mission of the OHANG is to maintain well-trained, well-equipped units available for prompt mobilization during war and to provide assistance during national emergencies. When the 179 AW is not mobilized or under federal control, they report to the Governor of Ohio and provide protection to life and property while preserving peace, order, and public safety (OHANG 2011a). In addition to the 179 AW mission, Mansfield Lahm ANGB supports the mission of the 200 RHS. The primary users of Mansfield Lahm ANGB are listed below in **Table 2**.

Table 2. Primary Users of Mansfield Lahm ANGB		
Unit	**Service**	**Mission**
179 AW	ANG	C-130 Airlift
200 RHS	ANG	Deployable Civil Engineering
5694 Engineer Detachment	OHARNG	Fire Protection
1486 Transportation Company	OHARNG	Field Maintenance
US Army Reserve	Army	Training
Source: OHANG 2017c.		

3.4. Surrounding Communities

Installation Supplement:

Land use in Richland County includes rural residential development and industrial facilities associated with agricultural operations as well as a small number of townships. Mansfield Lahm ANGB is located approximately 4 miles north of the

most densely populated area within the county, the City of Mansfield. The population of Richland County in 2020 was 124,475, representing a population increase of 0.4% since 2010 (United States Census Bureau 2020). Proposed future development in the vicinity of Mansfield Lahm ANGB is limited.

3.5. Local and Regional Natural Areas

Installation Supplement:

The numerous parks within the City of Mansfield and the Fowler Woods State Nature Preserve 10 miles northeast of the installation represent the major natural recreational areas in Richland County. Fowler Woods consists of a beech-maple forest community, grading into swamp forest at lower elevations, this nature preserve is one of the best sites in Ohio for viewing spring wildflowers and supports a variety of nesting birds including the red- headed woodpecker, ovenbird, redstart and scarlet tanager (ODNR 2012a).

4. Physical Environment

4.1. Climate

Installation Supplement:

The climate of Richland County is generally warm and humid in the summers with cold winters. Between the years 1981 and 2010 the warmest month was July, with an average maximum temperature of 81.7 degrees Fahrenheit (°F). During this same period, the month of January was the coldest with an average minimum temperature of 18.3°F. The annual average rainfall is approximately 41 inches, while the annual average snowfall is approximately 36 inches. Monthly average rainfall is consistent throughout the year; however, the vast majority of snowfall occurs during January, February, and December with no snowfall during the months between May and September (NOAA 2021; National Climatic Data Center [NCDC] 2021).

In considering future climate change scenarios at Mansfield Lahm ANGB, the climate of Ohio is predicted to grow considerably warmer and probably wetter during this century. The Nature Conservancy's ClimateWizard site (http://www.climatewizard.org) predicts an average 6 °F increase in temperature and a 5 inch increase in annual precipitation by 2050 on Mansfield Lahm ANGB. Overall, with the likely increase in rainfall and temperature, the resources most likely to be impacted by climate change are special status species, invasive species, and vegetation communities, as well as water resources.

4.2. Landforms

Installation Supplement:

Mansfield Lahm ANGB is located within the transitional area between the Glaciated Allegheny Plateaus and the Till Plains (ODNR 1998). More specifically, the installation is located on the border of the Killbuck-Glaciated Pittsburgh Plateau and the Galion Glaciated Low Plateau regions. The Killbuck- Glaciated Pittsburgh Plateau region is characterized by ridges and flat uplands covered with thin drift and dissected by steep valleys. The Galion Glaciated Low Plateau region is a rolling upland between the gently rolling Till Plain and the hilly Glaciated Allegheny Plateau sections. The topography at Mansfield Lahm ANGB ranges from approximately 1,290 to 1,310 feet above mean sea level (msl) for both the Main and Joint Use parcels, and from approximately 1,220 to 1,250 feet above msl for Drop Zone 5 (see **Figure 5**).

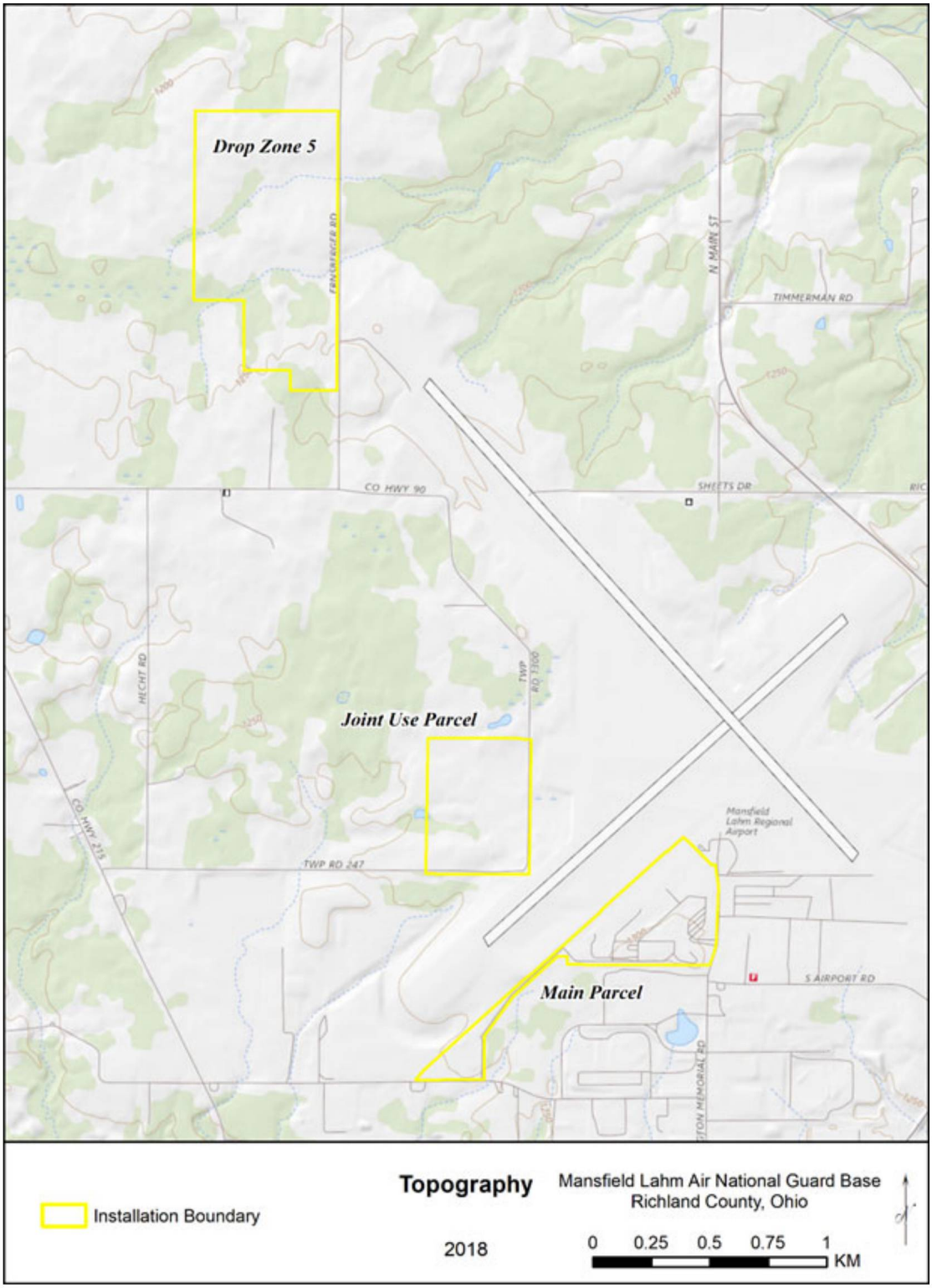


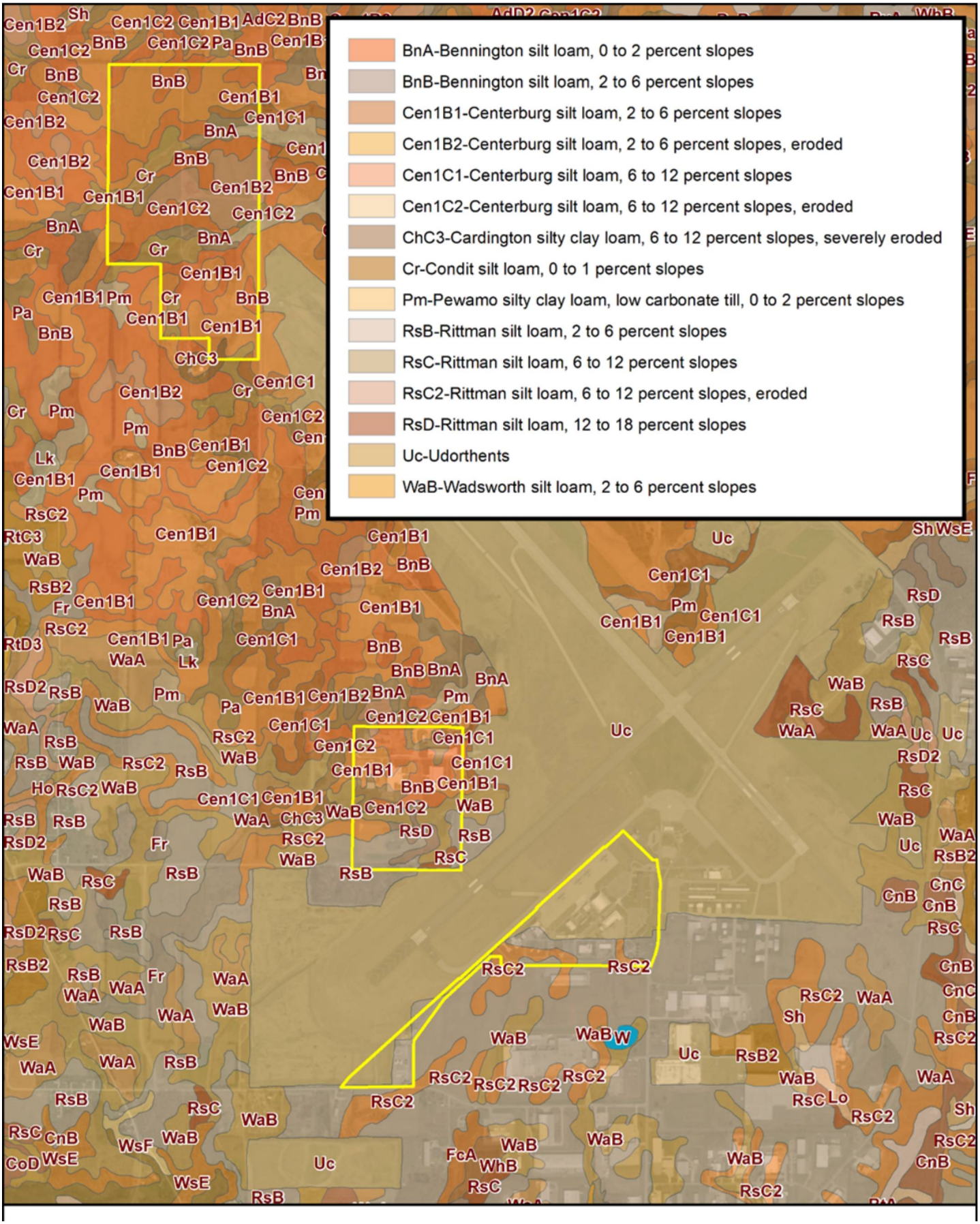
Figure 5. Mansfield Lahm ANGB Topography Map

4.3. Geology and Soils

Installation Supplement:

Mansfield Lahm ANGB is underlain by Maxville limestone which includes shale, siltstone, and interbedded sandstone. Maxville limestone is characterized by its grey color, with distinct shades of yellow to brown (United States Geological Survey [USGS] 2012a). The sandstone component is silty to granular with local stringers of quartz pebbles, while the shale component is clayey to silty and locally fossiliferous (USGS 2012a).

The installation is underlain by three primary soil series: Bennington- Cardington-Centerburg, Mahoning-Canfield-Rittman-Chili, and Condit (ODNR 1996, Natural Resources Conservation Service [NRCS] 2018, see **Figure 6**). These soil series are primarily characterized by slow permeability and poor drainage, which results in flooding.



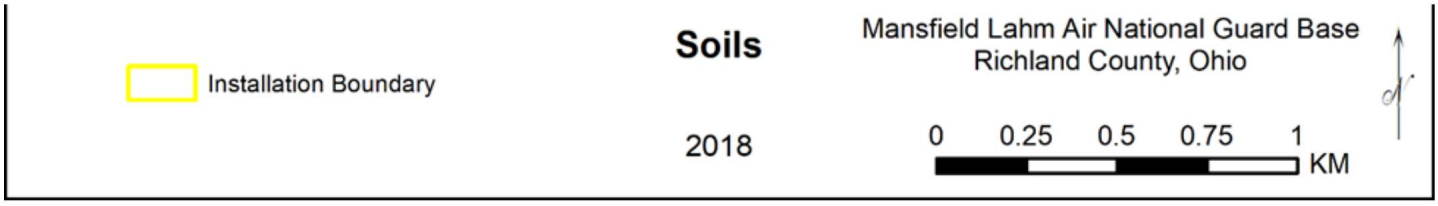


Figure 6. Mansfield Lahm ANGB Soils Map

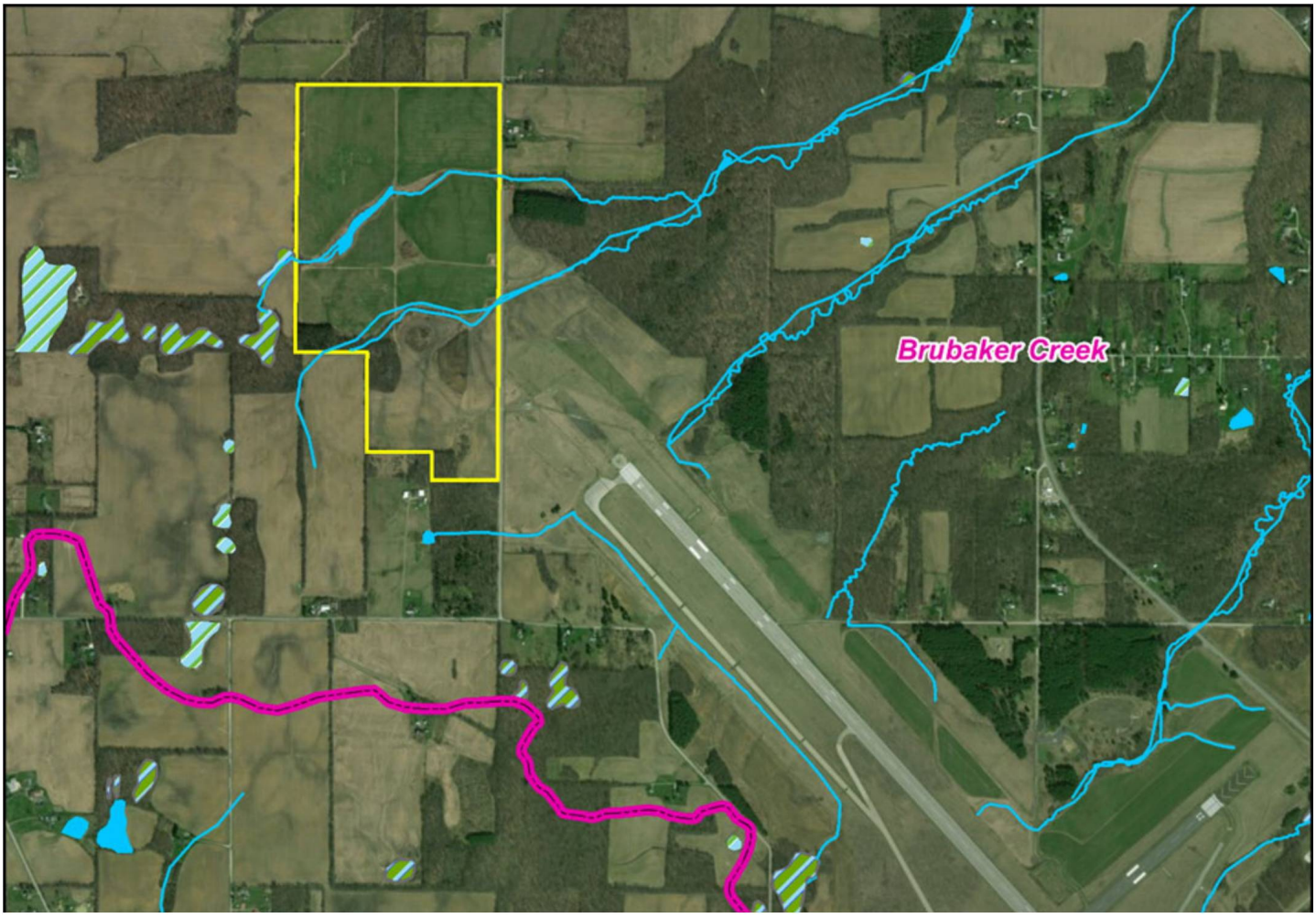
4.4. Hydrology

Installation Supplement:

Mansfield Lahm ANGB is underlain by a regional sandstone aquifer, the Cuyahoga Group, present in much of northeast Ohio. This regional aquifer is composed of alternating sandstone and shale formations and is the principal source of groundwater in this area. The MLRA purchases its water from the City of Mansfield, which obtains water from the Clear Fork Reservoir located approximately 14 miles southwest of the airport. There are 49 potable domestic wells located within approximately 1 mile of the installation, drilled to depths of 275 feet into the Cuyahoga Group (OHANG 2008a).

Mansfield Lahm ANGB straddles the Headwater Black Fork Mohican River watershed and the Rocky Fork-Black Fork Mohican River watershed, with the Main and Joint Use parcels in the Headwaters Rocky Fork sub-basin and Drop Zone 5 in the Brubaker Creek sub-basin (OEPA 2012a). This localized surface drainage divide runs in a northwesterly and southeasterly direction respectively (**Figure 7**). Mansfield Lahm ANGB is drained by the Rocky, Black, Clear, and Cedar Fork Rivers. These rivers drain south into the Mohican River, which eventually drains to the Ohio River (OHANG 2008a).

The installation contains no streams within its developed property boundaries; however, the Headwaters Rocky Fork is located just to the south and east of the installation. There is one perennial tributary of Rocky Fork on the Joint Use parcel and on the northeast side of the drainage divide there are 2 tributaries of Brubaker Creek that occur within Drop Zone 5 (**Figure 7**).



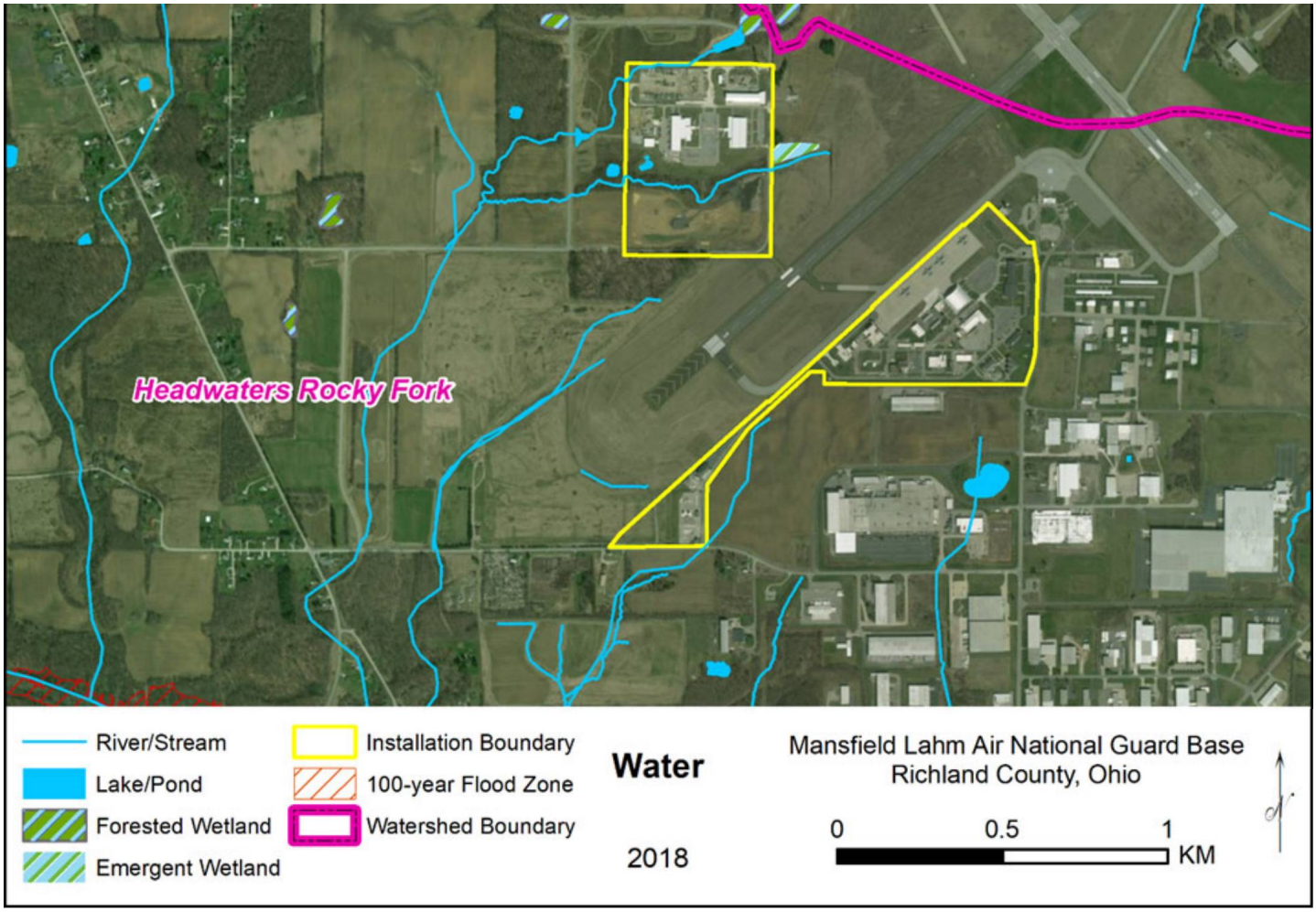


Figure 7. Mansfield Lahm ANGB Water Resources Map

5. Ecosystems and the Biotic Environment

5.1. Ecosystems Classification

Installation Supplement:

The installation occurs within the Eastern Broadleaf Forest physiographic province as described by Bailey et al. (1995) and more specifically within the Erie Drift Plain sub-region (Woods et al. 1999). The Erie Drift Plain ecoregion is dominated by broadleaf deciduous forest, primarily of the oak-hickory association. These stands are medium-tall to tall, becoming savanna-like in the region's northern reaches, where it gradually turns into prairie. These glaciated areas of Ohio feature a beech-maple forest defined by American beech and sugar maple, oak and hickory occur only on poor sites. Abundant water resources in this ecoregion include perennial streams, inland lakes, canals, reservoirs, and wetlands.

5.1.1. Vegetation

5.1.1.1. Historic Vegetative Cover

Installation Supplement:

Mansfield Lahm ANGB is located within the Erie Drift Plain Ecoregion. This area was historically covered in maple, beech, and birch forests (Taylor 2018). With increased settlement throughout the 19th and 20th century these forests were mostly cleared for agricultural production (Taylor 2018). Agriculture is now the predominant land use, with rolling to level terrain and scattered woodlands including a few remaining old-growth stands (Hix et al. 2011).

5.1.1.2. Current Vegetative Cover

Installation Supplement:

The vegetative communities on Mansfield Lahm ANGB are currently described as Developed (101 acres), Disturbed Grasslands (166 acres), Forest (6 acres), and Wetlands (16 acres; **Table 3**).

Table 3. Vegetative Communities at Mansfield Lahm ANGB			
Vegetation Description	**Approximate Site Cover* (acres)**	**Approximate Site Cover* (%)**	**Land Use Classification**
Developed Area	101.3	35%	Improved Grounds
Disturbed Grassland	165.5	57%	Semi-improved Grounds
Forest	5.6	2%	Unimproved Grounds
Wetland	15.7	5%	Unimproved Grounds
Note: *Acreages are based on 2011 GIS calculations and may not match real property documents exactly.			

Developed

The Developed areas occur on the Main parcel and the Joint Use parcel. These areas consist of numerous buildings in support of aircraft maintenance and operation as well as other functions of the OHANG (**Figure 4**). Vegetation is limited to turf and some landscaped areas which consist of common ornamental species and manicured grasses. They are classified as an "improved grounds" land use category which are typified by impervious surfaces and landscaped areas requiring intensive maintenance and upkeep.

Disturbed Grasslands

The Disturbed Grasslands on Mansfield Lahm ANGB are recovering old fields on the Joint Use parcel and Drop Zone 5 and are typified by grass, scrub, and low woody cover species. Drop Zone 5 is managed under an agricultural lease and so has vegetation typical of an active farm. Plant species found in these areas are typical of those found in recently disturbed areas in the region such as common ragweed (*Ambrosia artemisifolia*), barnyard grass (*Echinochloa crus-galli*), common teasel (*Dipsacus sylvestris*) and Queen Anne's lace (*Daucus carota*; OHANG 2011b). They are classified as a "semi-improved grounds" land use category which are typified by relatively sparse development where periodic maintenance is performed.

Forests

The Forests on Mansfield Lahm ANGB are small and scattered throughout the facility, generally with large edge areas and a typical canopy height of 50 feet. The forest canopy generally contains pin oak (*Quercus palustris*), American elm (*Ulmus americana*), black locust (*Robinia pseudoacacia*), black cherry (*Prunus serotina*) and white ash (*Fraxinus americana*). The understory generally contains gray dogwood (*Cornus racemosa*), Amur honeysuckle (*Lonicera mackii*), and staghorn sumac (*Rhus typhina*). Areas with relatively immature forest are dominated by pin oak, black willow (*Salix nigra*), and white ash. Forests are classified as an "unimproved grounds," land use category which are typified by no, or very little development or maintenance.

Wetlands

Forested wetlands and riparian areas on Mansfield Lahm ANGB are characterized by green ash (*Fraxinus pennsylvanica*), black willows, red-osier dogwood (*Cornus sericea*), poison ivy (*Toxicondendron radicans*), riverbank grape (*Vitis riparia*), jewelweed (*Impatiens capensis*), bushy aster (*Aster dumosus*), bog aster (*Aster borealis*), and arrow-leaved tearthumb (*Polygonum sagittatum*).Wetland areas occurring on the installation can be characterized as scrub-shrub, emergent, and mixed wetlands, each of which is characterized by different vegetation:

- Scrub-shrub wetlands are characterized by red- osier dogwood, black willow, sandbar willow (*Salix exigua*), boneset (*Eupatorium perfoliatum*), Joe Pyeweed (*Eupatorium maculatum*), blue vervain (*Verbena hastata*), lance-leaved goldenrod (*Euthamia graminifolia*), and softstemmed bulrush (*Scirpus validus*). They also contain broad-leaved cattail (*Typha latifolia*) in some areas.
- Emergent wetlands are characterized by narrow-leaved cattail (*Typha angustifolia*), red osier dogwood, bushy aster, poison ivy, common rush (*Juncus effusus*), field nutsedge (*Cyperus esculentus*) and other sedges (*Carex* spp.). Indian hemp (*Apocynum cannabinum*) is also present in some of these wetlands.
- Mixed wetlands (scrub-shrub/emergent) are characterized by black willow, Bebb's willow (*Salix bebbiana*), red osier dogwood, common rush, Torrey's rush (*Juncus torreyi*), field nutsedges, narrow-leaved cattail, hard-stemmed bulrush (*Schoenoplectus acutus*), boneset, lance-leaved goldenrod and other sedges.

Wetlands are also classified as an "unimproved grounds," land use category.

Plant species at Mansfield Lahm ANGB are typical for the region and the historic land use. While these parcels do have some intact native vegetation, there is a history of disturbance on all, including previous agricultural development on Drop Zone 5 (**Table 4**).

Table 4. Vascular Plant Species at the Mansfield Lahm ANGB			
Scientific Name	**Common Name**	**Scientific Name**	**Common Name**
Acer rubrum	red maple	*Carex* spp.	sedge
Rhus typhina	staghorn sumac	*Cyperus esculentus*	field nutsedge
Toxicodendron radicans	eastern poison ivy	*Schoenoplectus acutus*	hard stemmed bulrush
Daucus carota	Queen Anne's lace	*Scirpus validus*	softstem bulrush
Apocynum cannabinum	Indian hemp	*Dipsacus sylvestris*	common teasel
Achillea millefolium	common yarrow	*Robinia pseudoacacia*	black locust
Ambrosia artemisiifolia	common ragweed	*Quercus palustris*	pin oak
Ambrosia trifida	great ragweed	*Juncus effusus*	common rush
Arctium minus	lesser burdock	*Juncus torreyi*	Torrey's rush
Aster borealis	northern bog aster	*Fraxinus americana*	white ash
Aster dumosus	rice button aster	*Fraxinus pennsylvanica*	green ash
Aster novae-angliae	New England aster	*Phytolacca americana*	American pokeweed
Aster pilosus	hairy white oldfield aster	*Echinochloa crus-galli*	barnyard grass

Aster prenanthoides	crookedstem aster	*Phalaris arundinacea*	reed canarygrass
Cirsium arvense	Canada thistle	*Polygonum sagittatum*	arrow-leaved tearthumb
Cirsium vulgare	bull thistle	*Prunus serotina*	black cherry
Eupatorium maculatum	spotted joe pye weed	*Rosa multiflora*	multiflora rose
Eupatorium perfoliatum	common boneset	*Rubus* sp.	blackberry
Euthamia graminifolia	slender goldentop	*Salix bebbiana*	Bebb willow
Solidago canadensis	Canada goldenrod	*Salix exigua*	sandbar willow
Symphyotrichum dumosum	bushy aster	*Salix nigra*	black willow
Impatiens capensis	jewelweed	*Typha angustifolia*†	narrowleaf cattail
Lonicera maackii	Amur honeysuckle	*Typha latifolia*	broadleaf cattail
Cornus foemina	stiff dogwood	*Ulmus americana*	American elm
Cornus racemosa	gray dogwood	*Verbena hastate*	swamp verbena
Cornus stolonifera	red-osier dogwood	*Vitis riparia*	riverbank grape
Sources: ANG 2011, OHANG 2006			

5.1.2. Fish and Wildlife

Installation Supplement:

Mansfield Lahm ANGB contains suitable wildlife habitat on both the Joint Use parcel and Drop Zone 5, with very limited wildlife habitat within the Main parcel. Wildlife species found on the Main parcel are mostly limited to those that have adapted to high levels of human activity and disturbance (OHANG 2001, 2008a; United States Department of Agriculture [USDA] 2007, USDA-WS 2010). Some small animals such as skunks (*Mephitis mephitits*), groundhogs (*Marmota monax*), Virginia opossums (*Didelphis virginiana*), eastern cottontails (*Sylvilagus floridanus*), and squirrels (*Sciurid* spp.) are often seen within the property boundaries (OHANG 2001). Avian species that prefer large, open grassy areas are expected to utilize the manicured grassland habitat at Mansfield Lahm ANGB.

Formal wildlife surveys have been conducted on Mansfield Lahm ANGB including the 2011 bat survey (ANG 2011), and the 2017 bat survey (ANG 2018a), and as part of developing the 2008 BASH Management Plan (OHANG 2008b). Flora and fauna studies to update natural resource site information are complete and include information on threatened and endangered species as well as invasive species. Findings will be shared with agencies during annual meetings and final reports will be incorporated into the next 5-year INRMP update. The 2008, 2011, and 2017 surveys have documented a number of wildlife species on Mansfield Lahm ANGB, presented in the following tables (**Tables 5 and 6**).

No formal fish surveys have been performed at Mansfield Lahm ANGB. However, as a result of the hydrology at the installation and limited presence of perennial water, it is unlikely that any streams or wetlands support fish species on a regular basis. The stream and wetland in the Joint Use parcel would be the most likely location to support fish and other aquatic organisms requiring permanent water.

Table 5. Birds Species at Mansfield Lahm ANGB and/or MLRA			
Scientific Name	**Common Name**	**Scientific Name**	**Common Name**
Accipiter cooperii	Cooper's hawk	*Chaetura pelagica*	chimney swift
Accipiter striatus	sharp-shinned hawk	*Charadrius vociferus*	killdeer
Actitis macularia	spotted sandpiper	*Chordeiles minor*	common nighthawk

Aegolius acadicus	northern saw-whet owl	*Circus cyaneus*	northern harrier
Agelaius phoeniceus	red-winged blackbird	*Coccyzus americanus*	yellow-billed cuckoo
Aix sponsa	wood duck	*Coccyzus erythrophlamus*	black-billed cuckoo
Anas acuta	northern pintail	*Colaptes auratus*	common flicker
Anas americana	American wigeon	*Columba livia*	rock dove
Anas clypeata	northern shoveler	*Contopus virens*	eastern wood pewee
Anas crecca	green-winged teal	*Corvus brachyrhynchos*	American crow
Anas discors	blue-winged teal	*Cyanocitta cristata*	blue jay
Anas platyrhynchos	mallard	*Cygnus columbianus*	tundra swan
Anas rubripes	American black duck	*Dendroica castanea*	bay-breasted warbler
Anas strepera	gadwall	*Dendroica coronata*	yellow-rumped warbler
Anthus spinoletta	American pipit	*Dendroica fusca*	blackburnian warbler
Archilochus colubris	ruby-throated hummingbird	*Dendroica magnolia*	magnolia warbler
Ardea herodias	great blue heron	*Dendroica palmarum*	palm warbler
Aythya affinis	lesser scaup	*Dendroica pensylvanica*	chestnut-sided warbler
Aythya americana	redhead	*Dendroica petechia*	yellow warbler
Aythya collaris	ring-necked duck	*Dendroica tigrina*	Cape May warbler
Aythya valisineria	canvasback	*Dendroica virens*	black-throated green warbler
Bartramia longicauda	upland sandpiper	*Dryocopus pileatus*	pileated woodpecker
Bombycilla cedrorum	cedar waxwing	*Dumatella carolinensis*	gray catbird
Branta canadensis	Canada goose	*Empidonax flaviventris*	yellow-bellied flycatcher
Bubo virginianus	great horned owl	*Empidonax traillii*	willow flycatcher
Bucephala albeola	bufflehead	*Empidonax virescens*	Acadian flycatcher
Bucephala clangula	common goldeneye	*Eremophila alpestris*	horned lark
Buteo jamaicensis	red-tailed hawk	*Falco sparverius*	American kestrel
Buteo lineatus	red-shouldered hawk	*Fulica americana*	American coot
Buteo platypterus	broad-winged hawk	*Gallinago delicata*	Wilson's snipe
Butorides striatus	green-backed heron	*Gavia immer*	common loon
Cardinalis cardinalis	northern cardinal	*Geothlypis trichas*	common yellowthroat
Carduelis tristis	American goldfinch	*Haliaeetus leucocephalus*	bald eagle
Carpodacus mexicanus	house finch	*Hirundo pyrrhonota*	cliff swallow
Casmerodius albus	great egret	*Hirundo rustica*	barn swallow
Cathartes aura	turkey vulture	*Hylocichla mustelina*	wood thrush
Catharus fuscescens	veery	*Icterus galbula*	northern oriole
Catharus guttatus	hermit thrush	*Icterus spurius*	orchard oriole
Catharus minimus	grey-cheeked thrush	*Junco hyemalis*	dark-eyed junco
Catharus ustulatus	Swainson's thrush	*Larus argentatus*	herring gull
Certhia americana	brown creeper	*Larus delawarensis*	ring-billed gull

Ceryle alcyon	belted kingfisher	*Larus marinus*	great black-backed gull
Larus philadelphia	Bonaparte's gull	*Sayornis phoebe*	eastern phoebe
Lophodytes cucullatus	hooded merganser	*Seiurus aurocapillus*	Ovenbird
Melanerpes carolinus	red-bellied woodpecker	*Setophaga ruticilla*	American redstart
Melanerpes erythrocephalus	red-headed woodpecker	*Sialia sialis*	eastern bluebird
Meleagris gallopavo	wild turkey	*Sitta canadensis*	red-breasted nuthatch
Melospiza georgiana	swamp sparrow	*Sitta carolinensis*	white-breasted nuthatch
Melospiza melodia	song sparrow	*Sphyrapicus varius*	yellow-bellied sapsucker
Mergus merganser	common merganser	*Spiza americana*	dickcissel
Mergus serrator	red-breasted merganser	*Spizella arborea*	American tree sparrow
Mimus polyglottos	northern mockingbird	*Spizella passerina*	chipping sparrow
Mniotilta varia	black-and-white warbler	*Spizella pusilla*	field sparrow
Molothrus ater	brown-headed cowbird	*Stelgidopteryx serripennis*	northern rough-winged swallow
Myiarchus crinitus	great crested flycatcher	*Sterna caspia*	Caspian tern
Nycticorax nicticorax	black-crowned night heron	*Sterna hirundo*	common tern
Otus asio	eastern screech owl	*Sturnella magna*	eastern meadowlark
Parus bicolor	tufted titmouse	*Sturnus vulgaris*	European starling
Parus carolinensis	Carolina chickadee	*Tachycineta bicolor*	tree swallow
Passer domesticus	house sparrow	*Thryothorus ludovicianus*	Carolina wren
Passerculus sandwichensis	savannah sparrow	*Toxostoma rufum*	brown thrasher
Passerina cyanea	indigo bunting	*Tringa solitaria*	solitary sandpiper
Phalacrocorax auritis	double-crested cormorant	*Troglodytes aedon*	house wren
Pheucticus ludovicianus	rose-breasted grosbeak	*Troglodytes troglodytes*	winter wren
Picoides pubescens	downy woodpecker	*Turdus migratorius*	American robin
Picoides villosus	hairy woodpecker	*Tyrannus tyrannus*	eastern kingbird
Pipilo erythrophthalmus	rufous-sided towhee	*Vermivora peregrina*	Tennessee warbler
Piranga olivacea	scarlet tanager	*Vermivora ruficapilla*	Nashville warbler
Plectrophenax nivalis	snow bunting	*Vireo gilvus*	warbling vireo
Podiceps auritis	horned grebe	*Vireo griseus*	white-eyed vireo
Podilymbus podiceps	pied-billed grebe	*Vireo olivaceus*	red-eyed vireo
Poecile atricapillus	black-capped chickadee	*Vireo solitarius*	solitary vireo
Polioptila caerulea	blue-gray gnatcatcher	*Wilsonia canadensis*	Canada warbler
Progne subis	purple martin	*Wilsonia pusilla*	Wilson's warbler
Quiscalus quiscula	common grackle	*Zenaida macroura*	mourning dove
Regulus calendula	ruby-crowned kinglet	*Zonotrichia albicollis*	white-throated sparrow
Regulus satrapa	golden-crowned kinglet	*Zonotrichia leucophrys*	white-crowned sparrow
Riparia riparia	bank swallow		

Source: OHANG 2008b			

Table 6. Mammal Species at Mansfield Lahm ANGB and/or MLRA	
Scientific Name	**Common Name**
Blarina brevicauda	short-tailed shrews
Canis familiaris	feral dog
Didelphia virginiana	opossum
*Eptesicus fuscus**	big brown bat
Felis domestica	feral cat
*Lasionycteris noctivagans**	silver-haired bat
*Lasiurus borealis**	eastern red bat
*Lasiurus cinereus**	hoary bat
Marmota monax	woodchuck
Mephitis mephitits	striped skunk
Microtus pennsylvanicus	meadow vole
Mustela vison	mink
*Myotis lucifugus**	little brown bat
*Myotis septentrionalis**	northern long-eared bat
*Nycticeius humeralis**	evening bat
Odocoileus virginianus	white-tailed deer
Ondatra zibethica	muskrat
*Perimyotis subflavus**	tri-colored bat
Procyon lotor	raccoon
Sciurus niger	fox squirrel
Sylvilagus floridanus	eastern cottontail rabbit
Tamias sp.	chipmunk
Source: ANG 2011, USDA 2007; ANG 2018a Note: *Species netted or acoustically detected at Mansfield Lahm ANGB.	

5.1.3. Threatened and Endangered Species and Species of Concern

Installation Supplement:

Priority species were identified for this installation based on their regulatory status, known occurrence on or near the installation, or highly likely occurrence on the installation. Due to the large number of priority species and similarity in their management, state species of special concern, most of which are bat species, have not been identified as priority species

even if they have been documented on site given similarities in management with federally listed species. There are 10 priority special status species identified for Mansfield Lahm ANGB. These species include 4 bats, 1 reptile, and 5 birds (**Table 7**).

Table 7. Priority Special Status Species for Mansfield Lahm ANGB			
Scientific Name	**Common Name**	**Federal Rank**	**State Rank**
Myotis sodalis	Indiana bat	E	E
Sistrurus catenatus	eastern massasauga rattlesnake	T	E
Myotis septentrionalis	northern long-eared bat	T	E
Bartramia longicauda	upland sandpiper		E
Myotis lucifugus	Little Brown Bat		E
Perimyotis subflavus	Tri-Colored Bat		E
Circus hudsonis	Northern Harrier		E
Ixobrychus exilis	Least Bittern		T
Grus Canadensis	Sandhill Crane		T
Cygnus buccinators	Trumpeter Swan		T
Source: USFWS 2018a, ODNR 2018 *FEDERAL STATUS* E = Endangered = Danger of extinction throughout range T = Threatened = Likely to become endangered in foreseeable future throughout range C = Candidate = In process for listing or recommended for listing but currently precluded *STATE STATUS* E = Endangered = A native species/subspecies threatened with extirpation from the state T = Threatened = A species/subspecies whose survival in Ohio is not immediate jeopardy, but to which a threat exists			

The USFWS indicates 3 federally listed species are known to occur in Richland County, Ohio – the endangered Indiana bat (*Myotis sodalis*), the eastern massasauga rattlesnake (*Sistrurus catenatus*), and the northern long-eared bat (*Myotis septentrionalis*; USFWS 2018a). No critical habitat has been identified for any federally listed species on Mansfield Lahm

ANGB (USFWS 2018b). Mansfield Lahm ANGB is within the range of the Indiana bat and eastern massasauga rattlesnake and contains potential habitat; however, the species have not been detected in any wildlife surveys. In a 2011 mist net survey, 1 adult male northern long-eared bat was captured on Mansfield Lahm ANGB before becoming federally listed as threatened (ANG 2011). In 2017, a bat survey did not document the northern long-eared bat or the Indiana bat during mist netting or acoustic surveys (ANG 2018a). Limited detections of this species are likely the result of mostly unsuitable potential habitat on Mansfield Lahm ANGB (ANG 2018a). A total of 7 bats representing four species were netted in 2011 (ANG 2011), while in 2017 the same number of bats were netted from only 2 species, the big brown bat (*Epitesicus fuscus*), and the eastern red bat (*Lasiurus borealis*) neither of which is federally listed. There one record of a state endangered species on MLRA, the upland sandpiper (*Bartramia longicauda*; Grieszmer 2006). A general wildlife survey was conducted in 2017 and as survey information becomes available, these updates will be incorporated into this section.

The 2013 Mansfield Lahm, Camp Perry, and Plum Brook ANGS INRMP listed the eastern small-footed bat (*Myotis leibii*) as a priority management species for Mansfield Lahm ANGB because it was a federal species candidate under federal review (OHANG 2013). The eastern small footed bat is no longer being considered for federal listing and has not been detected on Mansfield Lahm ANGB (ANG 2018a, ANG 2011), so is not considered a priority status species in this updated Mansfield Lahm ANGB INRMP.

5.1.4. Waters of the US, Wetlands, and Floodplains

Installation Supplement:

Mansfield Lahm ANGB contains no streams within its developed property boundaries, however, an unnamed tributary to Rocky Fork is located just to the south and east of the installation. There is 1 perennial unnamed tributary of Rocky Fork on the Joint Use parcel that has delineated wetlands associated with it (OHANG 2006, 2009, 2018). Additionally, there are 2 unnamed tributaries of Brubaker Creek that occur within Drop Zone 5 (**Figure 7**).

The 179 AW maintains an individual National Pollutant Discharge Elimination System (NPDES) permit for industrial storm water runoff (Ohio Environmental Protection Agency [OEPA] 2019); and a NPDES permit for general construction on the 63-acre joint use parcel. however, the MLRA does not currently have a general NPDES permit**.** Both Brubaker Creek and Rocky Fork are included in the Section 303(d) List of Prioritized Impaired Waters (OEPA 2012a). Brubaker Creek was assessed in 2007, and listed due to biological indicators including eutrophication resulting from non-irrigated crop production (OEPA 2012a). Rocky Fork was assessed eight times between 2007 and 2009, and is listed as an impaired water due to direct habitat alteration, high flow regime, metals, eutrophication, and sedimentation. These impairments largely result from channelization as well as urban sewage and storm water runoff (OEPA 2012b).

The City of Mansfield may experience flooding, especially near large rivers during heavy rainfall. Such an event occurred in the region during August 2007 when the MLRA received 6.24 inches of rain over a 24-hour period. However, the Federal Emergency Management Agency (FEMA) has identified no 100-year or 500-year floodplains within the Mansfield Lahm ANGB property boundaries. As shown on the FEMA Flood Insurance Rate Map (FIRM) 39139C0142E and 39139C0135E, both effective 4 April 2011, the installation is located within Zone X, indicating that the area has been determined to be outside the 0.2 percent annual chance flood zone (FEMA 2011).

The Ohio Rapid Assessment Method (ORAM) for Wetlands was used to determine the appropriate wetland classification per Ohio's Water Quality Standards (WQS; ANG 2018b). Wetland delineations on Mansfield Lahm ANGB have identified 10 wetlands on Mansfield Lahm ANGB (ANG 2018b; OHANG 2006, 2009) with 2 occurring on the Joint Use parcel and 8 on Drop Zone 5 (**Table 8**). No wetlands were delineated in the Main parcel. Significant nexus analysis was performed to determine the flow characteristics of wetlands in relation to any tributaries or nearby wetlands (ANG 2018b). The most recent wetland survey (ANG 2018b) is complete and will be shared with agencies during annual meetings as needed.

Climate change is likely to increase precipitation in Ohio, under some models by a significant amount. This increase may result in the expansion of existing wetlands. If the increase in rainfall is significant enough, it may result in other changes that are more noticeable over the long term, such as creation of new wetlands or shifts in wetland type.

Table 8. Wetlands at Mansfield Lahm ANGB				
Location	**Wetland ID**	**Significant Nexus**	**ORAM Category**	**Area (acres)**

		Determination		
Joint Use	WET2	Abbutting	2	1.60
Joint Use	WET9	Abbutting	2	1.20
Drop Zone 5	WET1	Abbutting	2	3.20
Drop Zone 5	WET3	Adjacent	2	1.30
Drop Zone 5	WET4	Isolated	3	9.10
Drop Zone 5	WET5	Isolated	2	0.01
Drop Zone 5	WET6	Isolated	2	0.05
Drop Zone 5	WET7	Isolated	2	0.03
Drop Zone 5	WET8	Isolated	2	0.02
Drop Zone 5	WET10	Isolated	2	0.20
Total				**16.71**

5.1.5. Other Natural Resource Information

Installation Supplement:

EO 11989, *Off Road Vehicles on Public Lands,* outlines the use of any off-road vehicles (ORV) including mountain bikes., It allows use only after thoroughly analyzing the impact of such use on soils, archeological sites, wildlife, water quality, and other ecosystem attributes. Mansfield Lahm ANG Base has no areas designated for ORV use.

6. Mission Impacts on Natural Resources

6.1. Natural Resources Needed to Support the Military Mission

Installation Supplement:

Physical support of the mission primarily relates to the land area required for Mansfield Lahm ANGB. The OHANG requires operation areas at Mansfield Lahm ANGB to support flying and engineering operations and training, with the surrounding areas providing a buffer to reduce BASH risk and to provide support facilities and functions. Degradation of natural resources can result in unintended impacts to the military mission, impaired readiness, and funds spent on natural resources crisis management and interventions rather than on the military mission. The OHANG needs the installation lands and its natural resources to function together in a functioning ecosystem to support the military mission. Management activities in the Mansfield Lahm ANGB INRMP are designed to support the desired habitats and ecosystem functions to meet this objective.

6.2. Natural Resources Constraints to Missions and Mission Planning

Installation Supplement:

The most significant constraints on Mansfield Lahm ANGB are related to wetlands and streams, reducing BASH risk, and federally listed species. Any new activities or infrastructure could be limited in areas where listed species may be present and may require Section 7 consultation for projects which would potentially impact federally listed species.

The primary sustainability challenge on Mansfield Lahm ANGB as it is currently used and projected to be used in the near future, is the ability to maintain water quality to prevent impacts to the 303(d) listed waters and other water resources, as well as maintaining potential habitat for federal listed species.

The following natural resources management issues have been identified as having the potential to impact the military mission:

- Restrictions on upland activities in support of federal listed eastern massasauga and available permitting options due to 303(d) listed waters.
- Minimizing water use, minimizing chemical or pesticide use and minimizing disturbance in the maintenance of landscaped areas and wetlands.
- Maintaining forest quality and mature trees in support of special status and federal listed species, in particular the northern long-eared and Indiana bats.

If the mission changes significantly in the future, the sustainability challenges could increase. Additional infrastructure development or significant increase in on-the-ground training could pose challenges for the long-term sustainability of this ANGB.

6.2.1 Land Use

Mansfield Lahm ANGB consists of numerous buildings in support of aircraft maintenance and operation as well as other functions of the OHANG (**Figure 4**). The installation's functional land use generally falls into the following categories: the operations, maintenance and administrative areas (on both Main and Joint Use parcels) and open space with a few wetlands (on Joint Use parcel and Drop Zone 5).

The primary land use on the Main parcel is aircraft operations, which includes the aircraft parking apron, main hangar, and fuel/corrosion control hangar as well as various other support facilities. In addition, the 179 AW is a co-user of the MLRA runways 14-32 and 5-23 as well as the ATC tower. Maintenance facilities located throughout the developed portion of the installation serve aircraft, propulsion, support equipment, and support vehicles. Support facilities include civil engineering, base supply, mobility storage, the petroleum, oils, and lubricants (POLs) complex, and a guard kiosk. There is a county landfill adjacent to the southwest corner of the main parcel.

The primary land use on the Joint Use parcel is to provide facilities for the 200 RHS Detachment 1, OHARNG, and United States Army Reserves. In addition, the southern portion of the parcel is available for training. A stream and associated wetland is located roughly in the middle of the Joint Use parcel and is fenced off to prevent potential impacts to water resources.

Drop Zone 5 can be characterized as an old field, or recently abandoned agricultural field, with scrub and other low woody cover. It is used for military activities typical of a drop zone. Since the mission of the 179 AW includes moving cargo in and out of areas all over the globe, training for cargo drops is essential. Pallets, loaded with water-filled drums, are dropped via a parachute system onto Drop Zone 5 and then retrieved. There are some wetlands as well as a forested tree line and disturbed grassland vegetative communities. A 25 to 30 foot buffer zone is maintained to protect the scrub/shrub and forested wetland areas (Boling 2018).

6.2.2 Current Major Impacts

There are currently no major impacts to natural resources outside of those listed in this INRMP that occur from normal operations in pursuit of the military mission.

6.2.3 Potential Future Impacts

There are 3 primary areas of potential impacts to natural resources from the military mission of OHANG at Mansfield Lahm ANGB: 1) wetland management; 2) impacts to migratory birds; and 3) impacts to federal and state listed species. Impacts to migratory birds are managed through a variety of BASH-related measures (OHANG 2017c). Impacts to wetlands and state and federal listed species have the potential to occur primarily on the Joint Use parcel and Drop Zone 5 on Mansfield Lahm ANGB.

7. Natural Resources Program Management

This section describes the current status of the installation’s natural resources management program and program areas of interest. Current management practices, including common day-to-day management practices and ongoing special initiatives, are described for each applicable program area used to manage existing resources. Program elements in this outline that do not exist on the installation are identified as not applicable and include a justification, as necessary.

7.1. Fish and Wildlife Management

Installation Supplement:

Natural Resources Program Management

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

Fish and Wildlife Management

Wildlife management involves manipulating various aspects of an ecosystem to benefit chosen wildlife species. Management of habitats generally focuses on benefiting native species, particularly rare, special status, and game species. The Mansfield Lahm ANGB INRMP will manage wildlife and their habitat by implementing the following strategies:

- Limit the amount of pesticide used for invasive species control, and use mechanical methods when appropriate.
- Maintain grass heights between 7 – 14 inches in open fields on Mansfield Lahm ANGB to discourage assembly of birds.
- Provide for wildlife movement between areas where possible.
- Follow management strategies for reducing BASH risk.

Wildlife management attempts to balance the needs of wildlife with the needs of people by modifying or restoring habitat, controlling pests, or other similar types of actions using the best available science. Mansfield Lahm ANGB supports numerous native species potentially including federal and state listed species. Mission activities do not appear to be negatively affecting wildlife populations at Mansfield Lahm ANGB.

7.1.1. Federal Wildlife Policies and Regulations

Installation Supplement:

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 possession of 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).

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA; 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.

Partners in Flight

The DoD Partners in Flight (PIF) program consists of natural resources personnel from military installations across the United States working collaboratively with partners throughout the Americas to conserve migratory and resident birds and their habitats on DoD lands. PIF sustains and enhances the military mission through proactive, habitat-based conservation and management strategies that maintain healthy landscapes and training lands. Additionally, PIF works beyond installation boundaries to facilitate cooperative partnerships, determine the current status of bird populations, and prevent the listing of additional birds as threatened or endangered. DoD PIF provides a scientific basis for maximizing the effectiveness of resource management, enhancing the biological integrity of DoD lands, and ensuring continued use of these lands to fulfill military training requirements.

Pollinator Conservation

The DoD has emphasized the importance of pollinator conservation to the military services by developing partnerships to support their conservation. DoD has MOUs with Bat Conservation International (BCI) and Pollinator Partnership (P2) and has developed the USAF Pollinator Conservation Reference Guide (March 2018). The MOU with BCI "establishes a policy of cooperation and coordination between DoD and BCI to identify, document and maintain bat populations and their habitats on DoD installations" (signed Oct 2006, renewed Dec. 2011). The MOU with P2 is "to establish a framework for cooperative programs that promote the conservation and management of pollinators, their habitats and associated ecosystems" (signed February 9, 2015).The MOU states that this framework is important to "ensure that pollinator management activities are incorporated where practicable, into INRMPs and practices." Conservation of pollinators by USAF alone or in collaboration with groups such as BCI and P2 supports these DoD initiatives. Some areas of ANG installations are more suitable for pollinator habitat conservation due to current use and/or habitat condition. For example conservation on unimproved (natural) areas, buffers, recreation areas, rights-of-way, golf courses, and landscaped areas may be more compatible with mission requirements than other areas. These areas should be a priority for implementing pollinator habitat improvements and using land management practices in ways beneficial to pollinators. The USAF Pollinator Conservation Reference Guide provides specific pollinator conservation measures which can be implemented by the USAF and ANG. The USAF Pollinator Conservation Reference Guide has been finalized and is available on USFWS and Air Force Civil Engineering Center (AFCEC) eDASH Natural Resources website. The USAF Pollinator Reference Guide, developed by the USFWS, establishes guidance as a National Pollinator Conservation Strategy on lands owned by the USAF. It supplements existing policy and instructions to guide USAF actions to contribute to pollinator conservation under Presidential Memo and Federal Pollinator Health Strategy. Further, it provides Technical Guides as reference materials for pollinators of conservation concern (listed species, birds of conservation concern, bees and monarch butterflies), and native plant recommendations specific to ecoregions.

7.1.2. Nuisance Wildlife and Wildlife Diseases

Installation Supplement:

Other than those that present a BASH risk, there are few nuisance wildlife species at Mansfield Lahm ANGB. Future nuisance wildlife problems will be evaluated in conjunction with USDA-WS personnel, if appropriate. Any solutions to nuisance wildlife problems will follow the IPM and BASH Plans (OHANG 2017a; OHANG 2017c).

Diseases affecting fish and wildlife may occur on the installation. Any large-scale fish and wildlife deaths and unnatural behavior occurring on the installation will be reported, recorded, and investigated in conjunction with USFWS, USDA-WS, US Environmental Protection Agency (USEPA), and ODNR personnel, as appropriate.

7.1.3. Management of Threatened and Endangered Species and Habitats

Installation Supplement:

This section presents information about the management of priority species that are located within or with the potential to occur at Mansfield Lahm ANGB, along with requirements and strategies for their management. As additional surveys and natural resources management actions are conducted or become available, it is possible other species may be added in the future. Currently, there are 4 priority species identified for Mansfield Lahm ANGB.

7.1.3.1. Federally Special Status Wildlife Species

Installation Supplement:

The OHANG is required to manage for federally protected species. Failure to protect federally listed species could lead to an ESA violation, which could negatively impact training land availability. Three federally listed priority species have been identified for Mansfield Lahm ANGB and their management strategies are listed below.

Indiana Bat:

The Indiana bat is federally listed as endangered. The primary risks to the Indiana bat come from the destruction of hibernation habitat as well as the degradation of summer habitat, migration habitat, and swarming habitat (USFWS 2009a). Although human disturbance of hibernating

Indiana bats seldom results in direct mortality, it causes bats to arouse and use fat reserves that are essential for successful hibernation. Similarly, diseases such as white-nose syndrome (WNS) have also been shown to cause mortality in Indiana bats by disrupting their hibernation (USFWS 2009b). The first detection of WNS in Ohio was in 2011 (ANG 2018a). Mansfield Lahm ANGB contains potential roosting habitat for Indiana bats and the Main and Joint Use parcels are within 5 miles of ODNR Division of Wildlife records. Consequently, Indiana bats may pass through or forage on Mansfield Lahm ANGB. Indiana bat maternity colonies typically occupy multiple roost trees in riparian, bottomland, and upland forests during the summer. Roost trees generally have exfoliating bark and have a southeast or south-southwest solar exposure and an open canopy (Pruitt and TeWinkel 2007). Potential roosting habitat is limited to the Joint Use parcel and Drop Zone 5 on Mansfield Lahm ANGB. Given the similarity in habitat requirements, Indiana bat management strategies are listed along with those of the northern long-eared bat below.

Northern Long-Eared Bat:

The northern long-eared bat is federally listed as threatened and 1 adult male was documented on Mansfield Lahm ANGB in 2011 before the species became federally listed (ANG 2011). The 2017 bat survey (ANG 2018a), did not detect the northern long-eared bat during acoustic monitoring or mist netting. Low detection was attributed to the relatively unsuitable and small amount of potential habitat on Mansfield Lahm ANGB and not necessarily representative of declines due to WNS, the primary reason for federal listing (ANG 2018a, Turner et al. 2011). The northern long-eared bat is flexible in its roost selection choosing cavities and crevices in both live trees and snags (dead trees), as well as manmade structures such as bridges and abandoned buildings (Kentucky Working Group 2012). This species forages in the open and uncluttered forest understories of woodlands, along woodland edges, and along water, feeding on a variety of insect prey (ANG 2018a; Kentucky Bat Working Group 2012). As with the Indiana Bat, potential roosting habitat is limited primarily to the Joint Use parcel and Drop Zone 5 on Mansfield Lahm ANGB.

Given their similar life histories and habitat, and in order to maintain suitable habitat for both the Indiana bat and the northern long-eared bat, the following recommended management strategies have been combined for both species based on the guidelines from the USFWS (USFWS 2017a, USFWS 2016).

- Protect large diameter snags in early to medium stages of decay. Maintain living and dead trees in adjacent forested areas.
- Minimize use of pesticides in potential bat foraging and roosting areas. If necessary, spot treatment is preferred over aerial application.
- Maintain vegetation and reduce bank erosion to surface water features which serve as critical foraging areas.
- Do not remove trees or snags >3-inch diameter at breast height during bat's active season from 1 April through 31 October (i.e., trees may be felled from 1 November through 31 March). If trees must be cut during this period, the base shall submit a project description and determination of effects to listed bats to USFWS for concurrence, prior to cutting.
- If tree or snag removal is proposed, even outside the restricted window, then Section 7 consultation must be undertaken with USFWS.
- It is recommended to perform a bat survey for tree clearing that is scheduled to occur after 31 March 2023.
- For guidance on conducting surveys, consult the most current version of the Range-Wide Indiana Bat Summer Survey Guidelines. Link to: https://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html.
- No tree removal shall occur within 100 feet of a perennial stream or within 50 feet of an intermittent stream.
- Standing snags shall not be removed, except where they pose a serious human safety hazard (a tree with <10 percent live canopy should be considered a snag). However, snags that have no remaining bark and no visible cracks, splits, or hollows may be removed as well as any snags leaning more than 45 degree from vertical.
- Evaluate the use of outdoor lighting during the active season and, where practical, angle lights downward or take other light minimization measures.
- For guidance on replacement of non-landscaping tree species preferred by the Indiana and northern long-eared bat refer to Table 9 in the Mansfield Bat Survey Report (ANG 2018a).
- Prior to conducting activities within the forested portions of Mansfield Lahm ANGB, the OHANG will review the appropriate forest management guidelines outlined in the recommendations above to ensure no incidental take or adverse effects to Indiana or northern long-eared bats occur as a result of training or land management activities at Mansfield Lahm ANGB.

Eastern Massasauga Rattlesnake:

The eastern massasauga rattlesnake is federally listed as a threatened species. The primary threat to the eastern massasauga rattlesnake and the reason for its listing is the destruction or fragmentation of habitat from development as well as vegetative succession (USFWS 2011). The eastern massasauga rattlesnake uses a wide variety of habitat types including prairies, wetland, and woodland ecosystems. However, the species prefers wet prairies or wetlands, especially marshes and fens during spring and fall, and drier environs in the summer (ODNR 2012b). Eastern massasauga rattlesnakes hibernate in moist soil in order to avoid lethally cold temperatures while also reducing their risk of desiccation (ODNR 2012b). Mansfield Lahm ANGB is located in a county where the eastern massasauga rattlesnake has been documented and has potential habitat. However, the species has not been detected on base. The following management strategies for eastern massasauga are recommended if the species is documented on site (Johnson et al. 2000):

- Conduct presence absence/surveys if any activities are proposed within wetland habitat.
- Limit disturbance to prairie, wetland, and woodland ecosystems.
- Use combinations of pesticide application and cutting to prevent woody shrubs from succeeding wetland habitat.
- Manage fragmented populations of eastern massasauga rattlesnakes by making barriers as permeable as possible.
- Maintain water levels in wetlands during hibernation periods.

- Avoid disking or mowing during periods when eastern massasauga rattlesnakes are active (1 April – 1 November). If this cannot be avoided, raise mowers 4-6 inches above the ground surface.
- If hibernacula are found on the installation, they should be protected from disturbance or development. Unavoidable activities involving hibernacula should be scheduled to avoid the time when snakes are likely to be there.

7.1.3.2. State Special Status Species

Installation Supplement:

Ohio state law provides for the protection of native threatened and endangered species (Ohio Regulatory Code [ORC] § 1518.01-99; 1531.25; 1531.99). There is only one state listed priority wildlife species identified for Mansfield Lahm ANGB; its management strategies are listed below.

Upland Sandpiper:

Upland sandpiper is state listed as endangered primarily due to loss and fragmentation of habitat from increased urbanization, changes in farming practices, and natural forest succession (NatureServe 2011). Upland sandpiper may occur on Mansfield Lahm ANGB given their preference for grassland habitats and old fields such as the grassy expanses of airports (USGS 2006). The following management strategies for upland sandpipers are recommended if the species is documented on site (Dechant et al. 1999) and where compatible with BASH management:

- Avoid mowing, plowing, or pesticide use during the nesting season (15 April – 31 July), especially in grasslands.
- Provide display perches such as fence posts, rock piles, or tree stumps.
- If nesting is documented, prohibit all disturbance of the nest site until birds have left.
- Prevent encroachment of woody vegetation in order to preserve upland sandpiper habitat.

Least Bittern (Ixobrychus exilis):

A state threatened bird,this secretive marsh species prefers dense emergent wetlands with thick stands of cattails, sedges, sawgrass or other semiaquatic vegetation interspersed with woody vegetation and open water. If this type of habitat will be impacted, construction, mowing and other activity should be avoided in this habitat during the species' nesting period of May 1 to July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

Sandhill Crane (Grus canadensis):

A state threatened species, Sandhill cranes are primarily a wetland-dependent species. On their wintering grounds, they will utilize agricultural fields; however, they roost in shallow, standing water or moist bottomlands. On breeding grounds they require a rather large tract of wet meadow, shallow marsh, or bog for nesting. If grassland, prairie, or wetland habitat will be impacted, construction, mowing and other activity should be avoided in this habitat during the species' nesting period of April 1 to September 1.

Trumpeter Swan (Cygnus buccinator):

A state threatened bird, Trumpeter swans prefer large marshes and lakes ranging in size from 40 to 150 acres. They like shallow wetlands one to three feet deep with a diverse mix of plenty of emergent and submergent vegetation and open water. If this type of habitat will be impacted, construction, mowing and other activity should be avoided in this habitat during the species' nesting period of April 15 to June 15.

Northern Harrier (Circus hudsonis):

A state endangered bird, The DOW understands that there have been sightings of the northern harrier at Mansfield Lahm ANGB and/or MLRA. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. There is the potential for this species to utilize the airports grasslands for nesting. If this type of habitat will be impacted, construction, mowing and other activity should be avoided in this habitat during the species' nesting period of May 15 to August 1.

7.1.3.3. Management Strategies for Special Status Species

Installation Supplement:

While the priority species encompass a broad range of species and habitat requirements, forest management, woody encroachment management, and water resource management are the most important factors in management of these priority species. The following general guidelines will facilitate the military mission and natural resources management objectives while minimizing negative impacts on rare species and their habitats.

- Implement species specific management strategies.
- Continue supporting BASH program to minimize take of listed species.

- Avoid disturbance in locations where listed species are known or could potentially occur.
- Maintain vegetative buffers around water resources.
- Avoid activities within stream channels between 15 April and 30 June.
- Do not remove trees from 1 April to 31 October.

Update biological inventories as the occurrence of listed species is subject to change over time because of either recruitment, responses to management activities, identification of additional protected species, or the change in status of species currently present.

7.2. Waters and Wetland Resource Protection

Installation Supplement:

In general, water resources will be managed through conservation and impact avoidance. The following guidelines will be implemented to ensure compliance and to protect and enhance water resources at Mansfield Lahm ANGB.

- Maintain vegetation buffers around water resources, including riparian zones.
- Consult with the 179 CES/CEV prior to initiating projects with the potential to disturb water resources.
- Restrict vehicles from within 30 feet of water resources except where established crossings and roads exist.
- Manage invasive species to promote desirable native species.
- Minimize the use of pesticides and avoid the use of pesticides in and around surface waters.
- Review operations and maintenance programs that potentially affect water resources, and develop procedures and guidelines to avoid the loss of function

7.2.1. Regulatory and Permitting

Installation Supplement:

The US Army Corps of Engineers (USACE) regulates the discharge of dredged or fill material into Waters of the US, including wetlands, under Section 404 of the Clean Water Act (CWA). Even an inadvertent encroachment into Waters of the US resulting in a displacement or movement of soil or fill material has the potential to be viewed as a violation of the CWA if an appropriate permit has not been issued by the USACE. Waters of the US are defined under 33 CFR Part 328.3(a) and referred to as Jurisdictional Waters. Jurisdictional Waters may include coastal and inland waters, lakes, rivers, ponds, streams, intermittent streams, vernal pools, wetlands, and other waters, that if degraded or destroyed, could affect interstate commerce.

A jurisdictional determination is made based on multiple criteria, but the relationship of the wetland to other Waters of the US is important. Management of wetlands on federal lands and military installations is further governed by EO 11990 and DoDI 4715.03, respectively. Under those instructions, wetlands are required to be managed for no net loss on federal lands, including military installations. In support of these policies, long and short-term adverse impacts associated with the destruction or modification of wetlands and support of new construction in wetlands must be avoided to the maximum extent possible.

According to USEPA regulations issued under Section 404(b)(1) of the CWA, permitting of fill activities will not be approved unless the following conditions are met: no practicable, less environmentally damaging alternative to the action exists; the activity does not cause or contribute to violations of state water quality standards (or compliance under Section 401 of the CWA); the activity does not jeopardize listed species or sensitive cultural resources (33 CFR Part 320.3 [e] and [g]); the activity does not contribute to significant degradation of Waters of the US; and all practicable and appropriate steps have been taken to minimize potential adverse impacts to the aquatic ecosystem (40 CFR Part 230.10).

Section 401 of the CWA gives the State of Ohio the authority to regulate federally-permitted activities that may result in a discharge to water bodies, including wetlands. The state may issue certification, with or without conditions, or deny certification for activities that may result in a discharge to water bodies. The OEPA is responsible for issuing Section 401 Water Quality Certification and state isolated wetland permits.

<u>Permitting</u>

As discussed above, the USACE and OEPA have regulatory authority over Jurisdictional Waters of the United States and isolated waters. The USACE issues Nationwide Permits (NWPs) and Regional General Permits (RGPs) that cover many routine or minor projects. The USACE issues Individual Permits for larger projects, or those that do not meet the requirements of a NWP or RGP. The OEPA issues individual 401 Water Quality Certifications to cover most project activities. Several of the NWPs are pre-certified requiring no notification requirements to the USACE, while others require pre-notifications under at least some circumstances. The OEPA also administers the isolated wetlands permitting program for Ohio (see above).

As a result of a recent USEPA ruling and in compliance with the provisions of the Federal Water Pollution Control Act as amended (33 USC 1251) and the Ohio Water Pollution Control Act (Ohio Revised Code [ORC] § 6111), the OEPA has issued a new general permit through its NPDES Program. The NPDES Pesticide General Permit, effective 1 January 2017, pertains to pesticide applications on or near Waters of the State of Ohio. This newly issued permit is consistent with the USEPA pesticide general permit requirements, which are published under 40 CFR

122. It is applicable to all persons who discharge pesticides to waters of the state from the application of biological or chemical pesticides, which leave a residue of the pesticide or its degradants. More information regarding the NPDES Pesticide General Permit for Ohio can be found at http://epa.ohio.gov/dsw/permits/gp_Pesticide.aspx .

The USACE may still regulate certain isolated wetlands, however, the State of Ohio has established a permitting process for isolated wetlands in Ohio through ORC 6111.021 - .029. The isolated wetlands permitting program through OEPA was established which outlines three levels of review:

- Filling a Category 1 or 2 isolated wetland of 0.5 acre or less shall require a general state isolated wetland permit and be subject to Level 1 review;
- Filling a Category 1 or 2 isolated wetland of greater than 0.5 acre but less than or equal to 3 acres shall require an individual state isolated wetlands permit and be subject to Level 2 review; and,
- Filling a Category 2 isolated wetland of greater than 3 acres or a Category 3 wetland shall require an individual state isolated wetlands permit and be subject to Level 3 review.

The wetland anti-degradation rule, Ohio Administrative Code (OAC) 3745-1-54, places wetlands into one of 3 categories based on the wetland's relative functions and values, sensitivity to disturbance, rarity, and potential to be adequately compensated for by wetland mitigation. Categories 1, 2, and 3 wetlands demonstrate minimal, moderate, and superior wetland functions, respectively. Mitigation ratios and locations vary by category. The category of a wetland is determined using the ORAM for Wetlands Score (Version 5.0) per Ohio's WQS (Mack 2001).

If impacts to FEMA floodplains are unavoidable, then the OHANG must obtain a flood hazard area development permit. In Ohio, floodplains are regulated and permitted by the local communities (e.g., county, city, or village) through local ordinances. ODNR oversees the statewide floodplain management program; they provide technical information and guidance on flood hazards and assist the communities in establishing floodplain management programs, including the development of model regulations requiring flood protection. A list of floodplain administrators by community as well as additional information regarding development within floodplains in Ohio can be found at http://water.ohiodnr.gov/water-use-planning/floodplain-management

Permitting requirements vary depending on type, location, and extent of disturbance. Prior to initiating projects or activities (e.g., dredging, filling, work in and around a stream) occurring within or with the potential to affect a floodplain, wetland or other water body, the appropriate agencies (USACE, OEPA, ODNR or local community floodplain administrator) should be consulted to determine permitting requirements. A list of flood plain administrators can be found:
http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List_8_16.pdf

7.2.2. Coastal Management Zones

7.2.3. Vegetation Buffers

Installation Supplement:

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, and where erosion and sediment transport occur during rain events. Maintaining the forest cover around small water resources is important for preventing sedimentation and impacts to water quality.

In general, recommendations for vegetation buffers indicate they should be more than 20 or 30 feet in width to be effective. The OHANG typically maintains vegetation buffers 30 feet wide, when feasible. On the Joint-Use parcel for example, a vegetation buffer is maintained and protected by fencing installed in 2012. For streams, a buffer is at least 30 feet wide on both sides of the stream, with a total width of at least 60 feet wide. The following Ohio agencies have recommendations for vegetation buffers:

- Ohio NRCS – conservation buffers https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/home/?cid=nrcs143_023568
- Ohio NRCS – riparian forest buffers https://www.nrcs.usda.gov/wps/portal/nrcs/detail/oh/air/?cid=nrcs142p2_044362

ODNR - forest buffers https://water.ohiodnr.gov/portals/soilwater/pdf/stream/stfs13.pdf

7.3. Grounds Maintenance

Installation Supplement:

As stated in AFI 32-7064, installations will establish grounds maintenance practices which protect and enhance desirable natural and man-made features while supporting and preserving the military mission. This section reviews current grounds maintenance recommendations at Mansfield Lahm ANGB.

Mansfield Lahm ANGB has some tree cover and small wooded areas, which provide potential habitat for Indiana and northern long-eared bats, as well as other state bat species of concern, and many other plant and wildlife species. Mansfield Lahm ANGB also has wetlands and is associated with 303(d) listed waters, so maintaining vegetation buffers around water resources is essential for limiting impacts to those listed waters. The following list are recommended vegetation management practices for improved and semi-improved areas of Mansfield Lahm ANGB.

General recommendations to promote environmentally beneficial landscaping include:

- Protect biodiversity, prevent expansion of nonnative plants, provide wildlife habitat, and reduce demands for supplementary irrigation, fertilizer, and pesticides by utilizing drought-tolerant and low water use native plants for landscaping.
- Use native plant species in habitat restoration projects.
- Where feasible reuse landscape trimmings on site as appropriate (i.e., compost or leaving mow trimmings in place).
- Design landscaping to be suitable to the specific site and appropriate for the use and operation of the facility.
- Implement water-efficient practices, use efficient irrigation systems and recycled water, and use landscaping to conserve energy.
- Limit turf areas where practical to reduce water use and maintenance requirements.
- Use wood mulch instead of rock mulch, when practical.
- Use porous pavement, when possible, to support water infiltration.
- Do not use seed-bearing plants or shrubs that provide bird habitat in areas near airfields.
- Leave snags and den trees undisturbed where they do not present a safety hazard or BASH risk.
- Consult the 179 CES/CEV prior to cutting trees or snags. If a project may affect a listed species, Section 7 consultation with USFWS must be undertaken.
- Do not cut trees between 1 April and 31 October.
- Maintain existing grasslands by preventing woody encroachment.
- Leave vegetation buffers around water resources.
- Grassland areas at Mansfield Lahm ANGB should be maintained according to threatened and endangered species habitat management, where it does not conflict with BASH requirements.
- Manage invasive species when they threaten to impact special status species or water resources. Do not dig vegetation out of ponds or drain/fill wet areas in forests without identifying Section 404 CWA requirements.
- When areas are disturbed for construction or maintenance, use native plant species for replanting.

All non-native plants on the Ohio Invasive Plant Species List, including non-native grasses (except those used for turf/lawns), are not acceptable for landscape planting. A list of invasive plants can be found at: http://ohiodnr.gov/portals/0/pdfs/invasives/ohio-invasive-plants-r0400.pdf.

Additionally, in Chapter 901:5-37 *Noxious Weeds* of the OAC, a list of prohibited noxious weeds is given, available at: http://codes.ohio.gov/oac/901%3A5-37

Native species that are suitable, and native replacements for commonly used non-native landscaping species, can be found from the ODNR "Go Native!" program. Plants are organized by habitat, available at: http://ohiodnr.gov/gonative

Rain Gardens

Rain gardens are a particularly effective landscape element for providing both native landscaping features and benefits to storm water management. There are multiple sources of information about designing and implementing rain gardens in Ohio, including the following:

- Central Ohio Rain Garden Initiative http://www.centralohioraingardens.org/
- Rain Garden Manual for Homeowners from the Geauga Soil and Water Conservation District and the Ohio Department of Natural Resources: https://www.ohioprairienursery.com/resources/rain-garden-manual
- A Homeowner's How-To Guide Rain Gardens for Northwest Ohio http://toledolakeerie.clearchoicescleanwater.org/uploads/95/docs/8434NW-Ohio-Manual-2.pdf

Agricultural Outleasing

There is currently an agricultural outlease on Mansfield Lahm ANGB at Drop Zone 5. The City of Mansfield, Ohio has sublet the drop zone to a private farmer. The installation is working with the city to end this practice via renegotiation of the land lease agreement.

Soil Conservation and Sediment Management

Two main types of soil erosion exist: wind erosion and water erosion. Several factors affect water erosion, which 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. Any change in vegetation cover or land management that increases the risk of water erosion could impact water quality downstream of Mansfield Lahm ANGB.

Storm water runoff is produced when rainfall during a storm exceeds the infiltration capacity of the soil or encounters an impervious surface. Storm water runoff can be a significant source of pollutants as well as sediments to surface waters, especially in areas with impervious surface cover or where groundcover has been disturbed. Water quality also may be negatively impacted by disturbances causing increased sedimentation to wetlands and stream channels. Sources of storm water runoff and pollution could originate from operational, maintenance, and/or administrative areas. Storm water runoff from impervious surfaces has a high potential to carry pollutants into wetlands, surface waters, and groundwater. Impervious surfaces at Mansfield Lahm ANGB include roads, parking lots, taxiways, and buildings.

Climate change is likely to increase precipitation in Ohio, under some models by a significant amount. This increase may result in increased runoff and erosion, which may negatively affect 303(d) listed streams such as Headwaters Rocky Fork, located in the vicinity of Mansfield Lahm ANGB. The OEPA (2012a) lists sedimentation as a major cause of impairment for these streams. Additional sedimentation as a result of climate change is likely to further compound negative impacts to both of these streams. The most cost effective way to minimize sediment loss is to maintain vegetative cover. Success in revegetating disturbed sites depends on the chemical and physical properties of the soil. Revegetation procedures should include soil analysis to determine proper nutrient application levels. Other factors to consider are soil moisture, weather patterns, and proper species selection for any re-seeding project.

7.4. Forest Management

Installation Supplement:

There is no income-generating forestry program at Mansfield Lahm ANGB, and there is limited forested land on the installation. Forests on Mansfield Lahm ANGB are small wooded areas which comprise approximately 2% of the installation. In Drop Zone 5 for instance, tree cover is primarily present along the parcel border. Urban forest management or tree management has been included as part of threatened and endangered species management or grounds maintenance, presented in **Section 7.2 and 7.4** respectively. All references to forests in this document refer to these small wooded areas or urban forest management.

7.5. Outdoor Recreation, Public Access, and Public Outreach

Installation Supplement:

Public access is limited. There is currently no natural resource law enforcement program on Mansfield Lahm ANGB and security is managed by the OHANG. Given the security and safety measures that would be required to facilitate public access, while still accomplishing the OHANG military mission on Mansfield Lahm ANGB in a fiscally sound manner, there is no unsupervised public access or individual public access programs**.**

7.6. Conservation Law Enforcement

7.7. Geographic Information Systems (GIS)

Installation Supplement:

Geographic Information Systems (GIS) are 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 GIS data to the management of watersheds, wetlands, wildlife, and various other natural resource applications. GIS needs and requirements will be addressed through the ANG GeoBase Program.

7.8. Other Plans

7.8.1. Integrated Pest Management Plan

Installation Supplement:

Mansfield Lahm ANGB has an IPM Plan implemented by the 179 AW (OHANG 2017a). IPM is the use of multiple techniques in a compatible manner to avoid damage and minimize adverse environmental affects while obtaining control of target pests. The goal of IPM is to utilize both

non-chemical and chemical procedures to control pests, including invasive and exotic plant and animal species. Typically a combination of the following IPM techniques is required to resolve a problem on a sustained basis:

- Mechanical control, traps or pest removal (i.e., glue boards and live-traps) from where they are not wanted, or excluding pests from where they are not wanted (i.e., screening).
- Cultural control, manipulates environmental conditions to suppress or eliminate pests (i.e., removal of food scraps or spreading manure on fields).
- Biological control, uses predators, parasites, or disease organisms to control pests.
- Chemical control, relies on pesticides to kill pest and/or undesirable species of plants.

The Mansfield Lahm ANGB IPM Plan lays out the OHANG strategy for achieving pest management objectives and includes pest identification, management requirements, outlines the resources necessary for surveillance and control, and describes the administrative, safety, and environmental requirements of the program. This plan serves as a tool to reduce pesticide use, enhance environmental protection, and maximize the use of IPM techniques.

Additional information on IPM techniques can be found at https://www.acq.osd.mil/eie/afpmb/.

7.8.2. Invasive Species

Installation Supplement:

Invasive, non-native species, and noxious weeds have the capability to significantly impact native vegetation and the military mission. The task of controlling invasive, exotic species and noxious weeds is often expensive, lengthy, and risky because total eradication is required to prevent reestablishment. However, in accordance with laws and regulations pertaining to the management of these species, the OHANG will work to prevent the introduction of these species and take measures to control them in an economically and environmentally sound manner. The objectives of the Mansfield Lahm ANGB IPM Plan are as follows:

- Provide guidance for operating and maintaining an effective IPM program by the 179AW.
- Ensure that pest management issues do not adversely impact military readiness and mission.
- Comply with pertinent laws and regulations.
- Meet or exceed DoD pest management measures of merit.
- Identify and implement strategies for managing specific pests on the installation.
- Implement judicious use of both non-chemical and chemical control techniques to achieve effective pest management that minimizes economic, health, and environmental risks.
- Emphasize the use of mechanical, biological, and cultural control techniques, using chemical techniques sparingly with caution. Use chemical controls only after careful consideration of alternative controls and after consideration of potential unintended impacts to non-target species.
- Emphasize use of pest monitoring to determine if and when treatments are needed rather than by a predetermined schedule.
- Document coordination with other organizations and agencies.

The use of chemicals to control invasive and exotic species can hinder an installation's efforts to reduce usage of pesticides. Therefore, it is important to prevent the initial spread of invasive and exotic species and address the spread of such species as early as possible to reduce the amount of required pesticide applications. The 179 AW CES/CEV should evaluate the threat of invasive species as well as the impacts to the environment and permitting requirements of pesticide usage (if applicable) prior to implementing any eradication and/or control program. A list of priority non-native plant and animal species, and diseases in Ohio along with nearest documentation is provided in **Table 9.**

Table 9. Priority Non-Native Species in the State of Ohio			
Scientific name	**Common name**	**Status**	**Documentation**
Plants			
Agropyron repens	quack grass	OE	Ohio
Ailanthus altissima	tree-of-heaven	OE	Ohio
Alliaria petiolata	garlic mustard	OT	Richland County
Ampleopsis brevipedunculata	porcelain-berry	OW	Adjacent County
Bassia scoparia	burningbush	PNW	Adjacent County

Berberis thunbergii	Japanese barberry	OE	Ohio
Bromus inermis	smooth brome	OE	Ohio
Butomus umbellatus	flowering-rush	OE	Ohio
Carduus nutans	nodding thistle	PNW, OW	Adjacent County
Celastrus orbiculatus	Asian bittersweet	OE	Ohio
Centaurea maculosa	spotted knapweed	OW	Richland County
Cirsium arvense	Canada thistle	PNW, OE	Mansfield Lahm ANGB
Conium maculatum	poison hemlock	PNW, OE	Richland County
Convolvulus arvensis	field bindweed	OE	Richland County
Coronilla varia	crown-vetch	OE	Adjacent County
Daucus carota	Queen Anne's lace	PNW, OE	Mansfield Lahm ANGB
Dioscorea batatas	air-potato	OE	Ohio
Dipsacus fullonum	common teasel	OE	Richland County
Dipsacus laciniatus	cut-leaved teasel	OE	Adjacent County
Elaeagnus angustifolia	Russian-olive	OE	Ohio
Elaegnus umbellata	autumn-olive	OT	Adjacent County
Epilobium hirsutum	hairy willow-herb	OE	Ohio
Epilobium parviflorum	small-flowered hairy willow herb	OE	Ohio
Euonymus alatus	winged euonymus	OE	Adjacent County
Euonymus fortunei	wintercreeper	OE	Ohio
Euphorbia esula	leafy spurge	OW	Richland County
Festuca pratensis	meadow fescue	OE	Ohio
Hemerocallis fulva	day-lily	OE	Ohio
Heracleum mantegazzianum	giant hogweed	FNW, PNW	Ohio
Hesperis matronalis	Dame's rocket	OE	Richland County
Iris pseudacorus	yellow flag	OE	Ohio
Leucanthemum vulgare	oxeye daisy	PNW	Richland County
Ligustrum obtusifolium	border privet	OW	Ohio
Ligustrum vulgare	common privet	OE	Adjacent County
Lonicera japonica	Japanese honeysuckle	OT	Richland County
Lonicera maackii	Amur honeysuckle	OT	Mansfield Lahm ANGB
Lonicera morrowii	Morrow honeysuckle	OT	Adjacent County
Lonicera tatarica	Tatarian honeysuckle	OT	Richland County
Lonicera x bella	showy pink honeysuckle	OW	Ohio
Lysimachia nummularia	moneywort	OE	Richland County
Lythrum salicaria	purple loosestrife	PNW, OT	Adjacent County

Melilotus alba	white sweet-clover	OE	Richland County
Melilotus officinalis	yellow sweet-clover	OE	Richland County
Microstegium vimineum	Nepalgass	OW	Ohio
Miscanthus sinensis	Chinese silvergrass	OW	Ohio
Myriophyllum spicatum	Eurasian water-milfoil	OE	Richland County
Najas minor	lesser naiad	OE	Ohio
Nicandra physalodes	apple of Peru	PNW	Ohio
Onithogalum umbellatum	star-of-Bethlehem	OW	Ohio
Pastinaca sativa	wild parsnip	PNW	Richland County
Phalaris arundinacea	reed canary grass	OT	Mansfield Lahm ANGB
Phragmites australis	common reed grass	OT	Mansfield Lahm ANGB
Polygonum cuspidatum	Japanese knotweed	PNW, OT	Richland County
Polygonum perfoliatum	mile-a-minute vine	PNW, OW	Adjacent County
Polygonum sachalinense	giant knotwood	OW	Ohio
Potamogeton crispus	curly pondweed	OE	Ohio
Pueraria lobata	kudzu	PNW, OW	Ohio
Ranunculus ficaria	lesser celandine	OE	Adjacent County
Rhamnus cathartica	common buckthorn	OT	Adjacent County
Rhamnus frangula	glossy buckthorn	OT	Richland County
Rorippa nasturtium- aquaticum	water-cress	OE	Ohio
Rosa canina	dog rose	OW	Adjacent County
Rosa multiflora	multiflora rose	OT	Mansfield Lahm ANGB
Salsola tragus	Russian thistle	PNW	Richland County
Saponaria officinalis	bouncing bet	OE	Richland County
Sinapis arvensis	wild mustard	PNW	Richland County
Sorghum bicolor	shatter cane	PNW	Richland County
Sorghum halepense	Johnson grass	PNW, OE	Ohio
Typha angustifolia	narrow-leaved cattail	OE	Mansfield Lahm ANGB
Typha x glauca	cattail, hybrid	OE	Richland County
Viburnum opulus var. opulus	European cranberry-bush	OE	Adjacent County
Vinca minor	periwinkle or myrtle	OE	Richland County
Vincetoxicum nigrum	black swallow-wort	OW	Ohio
Animals			
Lymantria dispar	*Lymantria dispar*		*Ohio*
Agrilus planipennis	*emerald ash borer*		*Ohio*
Tomicus piniperda	*pine shoot beetle*	*Q*	*Ohio*
Adelges tsugae	*hemlock wooly adelgid*	*Q*	*Ohio*

Anoplophora glabripennis	*Asian longhorned beetle*	*Q*	*Ohio*
Halyomorpha halys	*brown marmorated stink bug*		*Adjacent County*
Harmonia axyridis	*multi-colored Asian lady beetle*		*Richland County*
Bithynia tentaculata	*faucet snail*		*Ohio*
Cipangopaludina chinensis malleata	*Chinese mysterysnail*		*Ohio*
Dreissena polymorpha	*zebra mussel*		*Ohio*
Dreissena bugensis	*quagga mussel*		*Ohio*
Craspedacusta sowerbyi	*freshwater jellyfish*		*Ohio*
Neogobius melanostomus	*round goby*		*Ohio*
Bythotrephes longimanus	*spiny waterflea*		*Ohio*
Cygnus olor	*mute swan*		*Richland County*
Passer domesticus	*house sparrow*		*Richland County*
Sturnus vulgaris	*European starling*		*Richland County*
Sus scrofa	*feral hogs*		*Ohio*
Diseases			
Ribes nigrum (European black currant) prohibited by OHA 901:5-43	white pine blister rust disease		
Source: OHANG 2006; ANG 2011; USDA 2018 *State of Ohio Noxious Weed List* http://codes.ohio.gov/oac/901%3A5-37 PNW = Prohibited Noxious Weed (only those that are non-native are listed here) FNW = Federal Noxious Weed *OHIO'S Invasive Plant Species* http://ohiodnr.gov/portals/0/pdfs/invasives/ohio-invasive-plants-r0400.pdf OT = Ohio Top Priority, Targeted Species OE = Ohio Well-Established Species OW = Ohio Watch List Species Q = Quarantine associated with species in Ohio (may or may not currently apply to OHANG facilities) Aquatic animal county records from Nonindigenous Aquatic Species USGS. Insect and plant county records from http://pest.ceris.purdue.edu/pests.php.			

7.8.3. Stormwater Management

Installation Supplement:

Mansfield Lahm ANGB discharges storm water associated with industrial activity and holds an Ohio EPA NPDES individual permit to discharge to the Rocky Fork of the Mohican River (OEPA 2014). Additionally, construction activities for training are accomplished at the 63-acre joint use site that are covered under a NPDES general construction permit. As a condition of these permits, Mansfield Lahm ANGB has prepared and implements two SWPPPs (OHANG 2017b). The Mansfield Lahm ANGB SWPPPs describe the programs, Best Management Practices (BMPs), sources of storm water discharge and pollution, monitoring, team organization, and other measures used to manage storm water and erosion on Mansfield Lahm ANGB.

Other sources of general storm water BMPs are the Rainwater and Land Development: Ohio's Standards for Storm Water Management, Land Development and Urban Stream Protection (ODNR 2006) and Ohio Storm Water Control Guidebook (ODNR 1980). A source of information on low impact development/green infrastructure techniques in Ohio is the Low Impact Development Manual for the Lower Maumee and Ottawa River Watersheds (American Rivers 2010). In addition to complying with the existing SWPPP requirements and activities, construction or other land-disturbing activity that creates a minimum of 1-acre of soil disturbance must be permitted by the OEPA under the NPDES permit program. The NPDES permit establishes the required standards.

To protect water quality, the OHANG will continue to implement the following strategies:

- Implement the Mansfield Lahm ANGB SWPPPs (OHANG 2017b).
- Maintain vegetation buffers around water resources.
- Adhere to BMPs for construction activities.
- Minimize the amount of impervious surfaces in newly developed areas.
- Minimize the use of pesticides.
- Revegetate barren ground.
- Monitor surface water quality.
- Prevent surface water pollution by following environmental plans.

7.8.4. Bird/Wildlife Aircraft Strike Hazard (BASH)

Installation Supplement:

As users of the MLRA runways, the 179 AW implements a BASH Management Plan (OHANG 2017c) and supports implementation of the MLRA's Wildlife Hazard Management Plan (OHANG 2016, *Attachment 4*) The BASH Management Plan has established specific procedures intended to reduce known and future hazards from birds, including the development of a Bird Hazard Working Group (BHWG). The BHWG is chaired by the 179 AW/SE Wing Safety Office and is responsible for developing, implementing, and updating the BASH Plan and reviewing BASH incidents. For more information and additional guidance on BASH management refer to AFI 91-212.

The 179 AW has reported 186 strikes between Fiscal Year (FY) 01 and FY20 with an average of 9 strikes per FY. In that time frame the most common type of birds reported struck were killdeer (17), warblers (16), larks (9), sparrows (14), swallows (13), swifts (8), and bats (16), with the remaining bird types having been struck less than 6 times or unidentified.

As directed by AFI 91-202 sec 7.3.1.5.7, bird activity at MLRA is split into 2 time periods. Phase I represents baseline or reduced bird activity in and around MLRA, and Phase II represents heavy/ increased bird activity. Phase II occurs during the months of March-May and August-November during which more aggressive bird control measures and habitat controls may be implemented.

Birds can be encountered up to altitudes of 30,000 feet and higher. However, most birds fly close to ground level, and approximately 75 percent of all civil bird-aircraft strikes occur within 10,000 feet of the airfield where arriving and departing aircraft typically operate below 500 feet above ground level (AGL). Strike rates rise significantly as altitude decreases, which is partly due to the greater number of low-altitude missions, but mostly because birds are commonly active close to the ground. Any gain in altitude represents a substantially reduced threat of a bird-aircraft strike. The potential exists for future bird strikes necessitating the continued implementation of the Mansfield Lahm ANGB BASH Plan management strategies and protocols.

Wildlife management and control measures available to the OHANG and airport personnel include active harassment and dispersal, rodent control, as well as depredation and controlled hunting on an as-needed basis. Active harassment activities include a combination of frightening devices, which are used whenever birds are present on the airfield or in the surrounding area. Vegetation and other habitat management strategies can also be used to reduce the attractiveness of the airfield to nuisance wildlife.

In previous years, the MLRA did not have sufficient wildlife fencing so that deer and coyotes were routinely reported on or near airfield surfaces, representing a significant flight hazard. Since a new fence was installed in 2011-2012, only 1 incident of large wildlife on the airfield has been reported.

For Mansfield Lahm ANGB, it is essential that natural resources management be in accordance with the Wildlife Habitat Management Plan (WMHP) for the adjacent MLRA, in addition to the BASH Management Plan (OHANG 2016, *Attachment 4*). All of the OHANG INRMP goals, objectives, and strategies were created to be consistent with the MLRA WMHP and Mansfield Lahm ANGB will continue to coordinate natural resource management with MLRA (OHANG 2016, *Attachment 4*).

For the Main parcel, Mansfield Lahm ANGB personnel have to coordinate closely with MLRA to ensure the 179 AW BASH program is coordinated with the MLRA WHMP program and resources are shared efficiently. For Drop Zone 5, Mansfield Lahm ANGB personnel have to coordinate with the City of Mansfield and the MLRA to ensure management does not interfere with the military mission and that the following management strategies are implemented.

- Mowing is authorized on the site, and conducted 1-2 times per season except in the forested wetlands or within riparian buffers.
- Vegetation buffers are maintained around water resources to protect water quality.

Ohio state law provides for the protection of native threatened and endangered species (Ohio Statute [OH ST] § 1518.01-99; 1531.25; 1531.99). It allows the chief of the Division of Wildlife to adopt rules restricting the taking or possession of native wildlife threatened with statewide extirpation and to develop and periodically update a list of endangered species (OH ST § 1531.25). To reduce further listing of threatened or endangered species in Ohio, the ODNR also identifies species of special concern (SC) and species of special interest (SI). SC includes species or subspecies that might become threatened in Ohio under continued or increased stress, while SI species include species that occur periodically and are capable of breeding in Ohio. However, neither SC nor SI species are afforded protection under Ohio state law.

The OHSWAP (ODNR 2015) was developed to maintain this information and manage public and private lands in the best way possible to benefit all Ohio's wildlife, specifically those with declining populations. Implementation of the Mansfield Lahm ANGB INRMP goals, objectives and strategies support and contribute to the OHSWAP by providing management strategies for significant natural resources identified at Mansfield Lahm ANGB. The current OHSWAP covers the period from its publication to 2025.

The Richland County Comprehensive Plan has been the primary planning document of the Richland County Regional Planning Commission (RCRPC) since its formation in 1959 and is updated periodically. It outlines the regulations, actions, and recommendations of the RCRPC for regional planning and development including land use regulation and natural resource management. The Mansfield Lahm ANGB INRMP supports the Richland County Comprehensive plan by providing a framework for natural resources management at this ANGB (Richland County Regional Planning Commission 2006).

8. Management Goals and Objectives

The installation establishes long term, expansive objectives, and supporting targets to manage and protect natural resources while supporting the military mission. Objectives express a vision for a desired condition for the installation's natural resources and are the primary focal points for INRMP implementation. Targets indicate a management initiative or strategy for specific long or medium range outcomes and are supported by targets. Tasks are specific actions that can be accomplished within a single year. Also, in cases where off-installation land uses may jeopardize ANG missions, this section may list specific tasks aimed at eliminating, reducing or mitigating the effects of encroachment on military missions. The installation's objectives and targets are displayed in the widget below. These objectives and targets are key elements of the annual work plans and are programmed into the conservation budget, as applicable.

Using the objectives and targets below, annual and yearly work plans are developed. Specific methods and procedures that will be used (i.e., scopes of work) to implement each INRMP project have been, or will be, developed as site-specific management plans are developed and incorporated into appropriate contracts and base work requisitions. INRMP Annual Work Plan projects are listed in the Installation Supplement below, including the current year and four succeeding years. For each project, a project number, description, timeframe for implementation, and lead organization are identified. The work plans provide all the necessary information for building a budget within the ANG framework.

Installation Supplement:

Goals and objectives provide the framework for natural resources management programs. Goals provide a general guiding direction for each technical area, while objectives are more specific actions that facilitate achieving those goals. The objectives drive the development of projects to achieve those objectives. Management goals and objectives for the Mansfield Lahm ANGB INRMP were developed through a thorough evaluation of the natural resources present on Mansfield Lahm ANGB in accordance with AFI 32-7064 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 Mansfield Lahm ANGB INRMP is implemented.

GOAL - Natural Resources Project 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: Initiate and/or continue programs and projects that enhance the military use, result in no net loss of land availability, and are compatible with MLRA land use.

OBJECTIVE PM2: Use adaptive, ecosystem management as the primary natural resources management paradigm.

OBJECTIVE PM3: Continue internal environmental awareness activities to minimize impacts to natural resources from OHANG and visiting personnel.

OBJECTIVE PM4: Conduct public outreach activities in coordination with other regional entities as appropriate.

OBJECTIVE PM5: Continue to cooperate with other agencies and local landowners on regional land and natural resources management efforts.

OBJECTIVE PM6: Maintain and improve GIS data and access to that data by OHANG personnel.

GOAL - Soil Conservation and Sediment (SO): Manage soil to minimize sediment loss and erosion, while protecting water quality.

OBJECTIVE SO1: Manage the maintenance of roads and parking areas to minimize the potential for erosion and sedimentation and to minimize establishment of invasive species.

OBJECTIVE SO2: Maintain vegetation buffers around water resources to prevent erosion and sediment loss.

OBJECTIVE SO3: Minimize nutrient and sediment inputs and implement BMPs as needed to protect water quality.

GOAL - Water Resource Protection (WA): Maintain water resources so they remain resilient and with no net loss of acreage or functions and values.

OBJECTIVE WA1: Minimize impacts to water resources and comply with all laws and regulations pertaining to wetlands, streams, floodplains, coastal zones, and regulated water bodies.

OBJECTIVE WA2: Maintain or enhance vegetation buffers around wetlands to reduce runoff and improve water quality.

OBJECTIVE WA3: Implement green infrastructure techniques, including rain gardens, as appropriate, in developed areas to improve water quality.

GOAL - Vegetation Management (VE): Manage vegetation to promote native species using cost effective and sustainable methods.

OBJECTIVE VE1: Maintain intact, healthy habitat and enhance or restore degraded habitat, without increasing BASH risk.

OBJECTIVE VE2: Maximize native plants and avoid invasive non-native plants in landscaping and other areas, including rain gardens.

OBJECTIVE VE3: Maintain vegetation buffers around water resources to protect water quality, rare plants, and wildlife.

OBJECTIVE VE4: Ensure vegetation management does not conflict with USFWS and ODNR requirements for the Indiana bat, or the northern long-eared bat.

OBJECTIVE VE5: Maintain grasslands by limiting summer mowing and managing woody encroachment to provide rare species habitat and protect migratory birds.

GOAL - Fish and Wildlife Management (FW): Maintain fish and wildlife populations while minimizing potential impacts to the military mission.

OBJECTIVE FW1: Support the Wing Safety Office in addressing BASH hazard and reducing risk.

OBJECTIVE FW2: Maintain populations of wildlife by minimizing impacts and by providing healthy, diverse habitat types and corridors for movement between those habitats.

GOAL - Threatened and Endangered Species (TE): Manage rare species using an ecosystem approach, while maintaining the military mission.

OBJECTIVE TE1: Maintain potential habitat and survey for the Indiana bat, northern long-eared bat, and the eastern massasauga rattlesnake.

OBJECTIVE TE2: Maintain forests to support rare bird and bat species, both federal species of concern and state listed species.

OBJECTIVE TE3: Determine strategies for the management of grasslands on Drop Zone 5 in addressing woody encroachment, invasive species, and as potential habitat for the eastern massasauga and rare birds, both federal and state listed species.

OBJECTIVE TE4: Maintain water resources and associated vegetation buffers to benefit rare animals and plants, both federal and state listed species.

GOAL - Integrated Pest Management Goals (IN): Minimize impacts of invasive and pest species, while minimizing use of chemicals to manage those species, utilizing an IPM approach.

OBJECTIVE IN1: Support the IPMC in implementing the IPM Plan on Mansfield Lahm ANGB.

Table 11. Work Plans FY 2021			
Projects	**OPR**	**Funding Source**	**Priority Level**
Complete annual review of Mansfield Lahm ANGB INRMP	Killian		High
Prepare budget to implement the natural resources management program	Killian		High
Conduct wildlife and plant surveys, including for any federal and state listed species, every 5 years or if projects or activities are proposed that may impact special status species.	ANGRC		High
Monitor changes to federal and state species listings	Killian		High
Review activities for potential to impact Waters of the US	Killian		High

including wetlands.			
If an activity will impact a Waters of the US/wetlands work with the EM and the ANG NR Program Manager to identify permitting and mitigation requirements.	Killian		High
Monitor construction sites to ensure erosion and sediment control measures are effective	Killian		High
Continue implementing SWPPP to maintain water quality	Boling		High
Maintain vegetation buffers around Waters of the US of at least 30 feet	Killian		High
Conduct tree management in accordance with USFWS and ODNR guidelines for special status species	Killian		High
Evaluate management study findings for Drop Zone 5 and Joint use parcels as they become available and determine required actions	Killian		High
Evaluate federally listed species habitat suitability study findings as they become available and determine required actions	Killian		High
Revegetate exposed soils with native species to reduce erosion	Vipperman		High
Use native plant species and materials for landscaping activities	Vipperman		High
Support the 179 AW BASH Management Plan and BASH risk reduction measures as needed for Mansfield Lahm ANGB while complying with all associated laws and regulations	Killian		High
Support the IPMC in management and implementation of the IPM Plan.	Killian		High
Develop environmental awareness materials for environmental programs, including natural resources	Killian		Medium

9. INRMP Implementation, Update, and Revision Process

9.1. Natural Resources Management Staffing and Implementation

Installation Supplement:

In accordance with AFI 32-7064, an INRMP is considered implemented if an installation:

- Actively requests, receives, and uses funds for "must fund" projects as defined by Chapter 4 of AFI 32-7001 (Environmental Quality Programming and Budgeting).
- Executes all "must fund" projects 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 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.
- Establish and maintain 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, ODNR, and NOAA, 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 OHANG personnel take ownership of the INRMP to provide the necessary resources (i.e., personnel and equipment), and to utilize the appropriate funding allocated by the ANG NGB/A4AM to enact the INRMP. It is extremely important that the INRMP support staff continue to participate in the implementation of this INRMP. The INRMP support staff are made up of the key Mansfield Lahm ANGB personnel who are responsible for the implementation of the INRMP. This group of personnel have an oversight role to ensure the effective implementation of this INRMP. Top and middle-level management representation, as well as representation from several individuals with day-to-day on-site experience will provide the INRMP support staff with the leadership and structure necessary for the successful implementation of this INRMP.

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 of 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 this INRMP.

Current compliance includes projects 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 and cultural 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 jurisdictional determinations;
- Efforts to achieve compliance with requirements that have deadlines that have already passed; and,
- Initial documenting and cataloging of archaeological materials.

Maintenance requirements include those projects needed that are not currently out of compliance but shall be out of compliance if projects or activities 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; and,
- Public education programs that educate the public on 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 EO 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, oral histories, nature trails, wildlife checklists, and conservation teaching materials;
- BAs, biological surveys, or habitat protection for a non-listed species;
- Restoration or enhancement of cultural or natural resources when no specific compliance requirement dictates a course or timing of action; and
- Management and execution of volunteer and partnership programs.

Implementation of this INRMP is subject to the availability of annual funding. Funding sources for specific projects can be grouped into three main categories by source: federal ANG 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.dodlegacy.org/Legacy/index.aspx).
- There are also grant and assistance programs administered by other federal agencies that could be accessed for natural resources management at Mansfield Lahm ANGB. 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).
- Mansfield Lahm ANGB may consider entering into cooperative or mutual aid agreements with states, local governments, non-governmental organizations, and other individuals.

Projects, activities, new development and mission changes are typically reviewed by multiple entities within the OHANG, 179 AW, including the 179 CES/CEV. New construction projects are reviewed by the 179 AW Facilities Review Board for Mansfield Lahm ANGB projects. At Mansfield Lahm ANGB, a Work Order Review Meeting is conducted weekly to review facility management activities with the potential to impact the environment.

The DoD and subcommand entities have MOU, Memorandums of Agreement (MOA), 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 US. Generally, these agreements allow installations and agencies or conservation and special interest groups to obtain mutual conservation objectives. The DoD agreements applicable to Mansfield Lahm ANGB include:

- MOU between DoD and USFWS/IFWA 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 DoD and USFWS/International Fund for Animal Welfare (IFAW) to promote the conservation of migratory birds (2011).
- MOU between the DoD and USEPA to form a working partnership to promote environmental stewardship by adopting integrated pest management 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 DoD and NRCS to promote cooperative conservation where appropriate (2006).
- MOU with Watchable Wildlife Incorporated (2002).
- MOU between the DoD and BCI to identify, document and maintain bat populations and habitats on DoD installations (2011).
- Cooperative Agreement between DoD and The Nature Conservancy to work cooperatively in areas of mutual interest (2010).
- Interagency Agreement (2010) and MOU (2009) between USAF and US Forest Service (USFS) to enhance cooperation and improve public service, and management of natural and cultural resources on lands managed by the USAF and the USFS.
- MOA (2003) between FAA, USAF, US Army, US EPA, USFWS, and USDA to address aircraft-wildlife strikes, available at https://www.faa.gov/airports/environmental/media/wildlife-hazard-mou-2003.pdf.
- MOU (2010) with the Ohio Historical Society, the Air National Guard Readiness Center, and Mansfield Lahm Air National Guard Base.

For a further list of cooperative agreements and MOUs please visit http://www.denix.osd.mil/nr/legislationandpolicy/mousandmoas/

https://www.denix.osd.mil/announcements/unassigned/sikes-tripartite-mou/

https://www.denix.osd.mil/arc/derpfy2002/unassigned/appendix-d-interagency-agreements-dsmoas-atsdr-and-cooperative-agreements-derp-fy02/

The OHANG has 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 ODNR. Actions that fall under the jurisdiction of Section 404 or 401 of the CWA necessitate permitting from the USACE and the OEPA. In addition to natural resources consultation requirements, Section 106 consultation is required under the terms of the 2016 ICRMP Waiver (NGB 2016).

9.2. Monitoring INRMP Implementation

Installation Supplement:

The Mansfield Lahm ANGB INRMP implementation will be monitored 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 OHANG training lands to 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/from the military mission;
- Conservation program budget;
- Staff requirements;
- Program and project implementation;
- Trends in species and habitat diversity as evidenced by recurring biological surveys, land use changes, and opinions of natural resource experts;
- Compliance with regulatory requirements; and,
- Feedback from military trainers, the USFWS, the ODNR, and others.

Some of these areas may not be looked at every year due to lack of data or pertinent information. The effectiveness of Mansfield Lahm ANGB as a mission enabling conservation tool will be decided by mutual agreement of the USFWS, the ODNR, and the OHANG during annual reviews and/or reviews for operation and effect.

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) Updated Guidance for Implementation of the Sikes Act also includes an updated Conservation Metrics for Preparing and Implementing INRMPs section. Progress toward meeting these measures of merit is reported in the annual report to Congress.

9.3. Annual INRMP Review and Update Requirements

Installation Supplement:

Not less than every five years, this 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 Mansfield Lahm ANGB. The review will be conducted by the three cooperating parties to include the Commander responsible for the INRMP, the Director of the USFWS Ohio Field Office, and Director of the ODNR. While these are the responsible parties, technical representatives generally are the personnel who actually 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 Ohio USFWS Field Office and ODNR. Once concurrence letters or signatures are received from the Director of the USFWS Ohio Field Office and the ODNR Director., 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 ODNR concurrence on the revised INRMP is received. The OHANG 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 OHANG military mission, USFWS, and ODNR concerns are adequately addressed, and the INRMP meets the intent of the Sikes Act.

A. Acronyms and References

Acronyms

AF	Air Force
AFI	Air Force Instruction
ANG	Air National Guard
ANGRC	Air National Guard Readiness Center
DoD	Department of Defense
DoDI	Department of Defense Instruction
EM	Environmental Manager
IAW	In accordance with
INRMP	Integrated Natural Resources Management Plan
NRM	Natural Resource Manager
NOAA	National Oceanic and Atmospheric Administration
POC	Point of Contact
USFWS	United States Fish and Wildlife Service

References

- AFI 32-7001, Environmental Management
- AFI 32-7064, Integrated Natural Resources Management
- Sikes Act
- VEMO Natural Resources Program Page

Installation Supplement:

ACRONYMS

° F degrees Fahrenheit

179 AW 179 Airlift Wing

200 RHS 200 RED HORSE Squadron

AFCEC Air Force Civil Engineering Center

AFMAN Air Force Manual

AFSEC Air Force Safety Center

AFSAS Air Force Safety Automated System

AGL Above Ground Level

ANG NGB/A4AM ANG NR Program Manager

ANGB Air National Guard Base

ANGS Air National Guard Station

ATC Air Traffic Control

BA Biological Assessment

BASH	Bird/Wildlife Aircraft Strike Hazard
BCI	Bat Conservation International
BGEPA	Bald and Golden Eagle Protection Act
BHWG	Bird Hazard Working Group
BMP	Best Management Practice
CATEX	Categorical Exclusion
CECOS	Civil Engineer Corps Officers School
CEQ	Council on Environmental Quality
CWA	Clean Water Act
DEPARC	Defense Environmental Programs Annual Report to Congress
DoDM	Department of Defense Manual
DUSD	Deputy Under Secretary of Defense
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Endangered Species Act
CFR	Code of Federal Regulations
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FIRM	Federal Insurance Rate Map
FY	Fiscal Year
GIS	Geographic Information System
ICRMP	Integrated Cultural Resources Management Plan
IFAW	International Fund for Animal Welfare
IICEP	Interagency and Intergovernmental Coordination for Environmental Planning
IPM	Integrated Pest Management
IPMC	Installation Pest Management Coordinator
MBTA	Migratory Bird Treaty Act
MLRA	Mansfield Lahm Regional Airport
MOA	Memorandums of Agreement
MOU	Memorandums of Understanding
msl	mean sea level
NAAQS	National Ambient Air Quality Standards
NCDC	National Climatic Data Center
NEPA	National Environmental Policy Act
NGB	National Guard Bureau
NMFS	National Marine Fisheries Service

NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NVCS	National Vegetation Classification Standard
NWP	Nationwide Permit
OAC	Ohio Administrative Code
ODNR	Ohio Department of Natural Resources
OEPA	Ohio Environmental Protection Agency
OHANG	Ohio Air National Guard
OHARNG	Ohio Army National Guard
OH ST	Ohio Statute
OPR	Office of Primary Responsibility
ORAM	Ohio Rapid Assessment Method
ORC	Ohio Revised Code
ORV	off-road vehicle
OHSWAP	Ohio State Wildlife Action Plan
P2	Pollinator Partnership
PIF	Partners in Flight
PEM	Palustrine Emergent
PFO	Palustrine Forested
POLs	Petroleum, oils, and lubricants
RCRPC	Richland County Regional Planning Commission
RGP	Regional General Permit
SC	Special Concern
SDSFIE	Spatial Data Standards for Facilities, Infrastructure, and the Environment
SI	Special Interest
SWPPP	Storm Water Pollution Prevention Plan
US	United States
USACE	United States Army Corps of Engineers
USAF	United States Air Force
USC	United States Code
USDA	United States Department of Agriculture
USDA-WS	United States Department of Agriculture – Wildlife Services
USEPA	United States Environmental Protection Agency
USFS	United States Department of Agriculture Forest Service
USGS	United States Geological Survey
WHMP	Wildlife Hazard Management Plan
WNS	White-Nose Syndrome
WQS	Water Quality Standards

Additional References:

AFMAN 32-7003 "Environmental Conservation" 20 April 2020

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B. Annotated Summary of Key Legislation Related to Design and Implementation of INRMP

Federal Public Laws and Executive Orders	
National Defense Authorization Act of 1989, Public Law (P.L.) 101-189; Volunteer Partnership Cost-Share Program	Amends two Acts and establishes volunteer and partnership programs for natural and cultural resources management on DoD lands.
Defense Appropriations Act of 1991, P.L. 101-511; Legacy Resource Management Program	Establishes the "Legacy Resource Management Program" for natural and cultural resources. Program emphasis is on inventory and stewardship responsibilities of biological, geophysical, cultural, and historic resources on DoD lands, including restoration of degraded or altered habitats.
Executive Order (EO) 11514, Protection and Enhancement of Environmental Quality	Federal agencies shall initiate measures needed to direct their policies, plans, and programs to meet national environmental goals. They shall monitor, evaluate, and control agency activities to protect and enhance the quality of the environment.
EO 11593, Protection and Enhancement of the Cultural Environment	All Federal agencies are required to locate, identify, and record all cultural resources. Cultural resources include sites of archaeological, historical, or architectural significance.
EO 11987, Exotic Organisms	Agencies shall restrict the introduction of exotic species into the natural ecosystems on lands and waters which they administer.
EO 11988, Floodplain Management	Provides direction regarding actions of Federal agencies in floodplains, and requires permits from state, territory and Federal review agencies for any construction within a 100-year floodplain and to restore and preserve the natural and beneficial values served by floodplains in carrying out its responsibilities for acquiring, managing and disposing of Federal lands and facilities.
EO 11989, Off-Road vehicles on Public Lands	Installations permitting off-road vehicles to designate and mark specific areas/trails to minimize damage and conflicts, publish information including maps, and monitor the effects of their use. Installations may close areas if adverse effects on natural, cultural, or historic resources are observed.
EO 11990, Protection of Wetlands	Requires Federal agencies to avoid undertaking or providing assistance for new construction in wetlands unless there is no practicable alternative, and all practicable measures to minimize harm to wetlands have been implemented and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities for (1) acquiring, managing, and disposing of Federal lands and facilities; and (2) providing Federally undertaken, financed, or assisted construction and improvements; and (3) conducting Federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulating, and licensing activities.
EO 12088, Federal Compliance With Pollution Control Standards	This EO delegates responsibility to the head of each executive agency for ensuring all necessary actions are taken for the prevention, control, and abatement of environmental pollution. This order gives the EPA authority to conduct reviews and inspections to monitor Federal facility compliance with pollution control standards.

EO 12898, Environmental Justice	This EO requires certain federal agencies, including the DoD, to the greatest extent practicable permitted by law, to make environmental justice part of their missions by identifying and addressing disproportionately high and adverse health or environmental effects on minority and low-income populations.
EO 13112, Exotic and Invasive Species	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.
EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds	The USFWS has the responsibility to administer, oversee, and enforce the conservation provisions of the Migratory Bird Treaty Act, which includes responsibility for population management (e.g., monitoring), habitat protection (e.g., acquisition, enhancement, and modification), international coordination, and regulations development and enforcement.
	United States Code
Animal Damage Control Act (7 U.S.C. § 426-426b, 47 Stat. 1468)	Provides authority to the Secretary of Agriculture for investigation and control of mammalian predators, rodents, and birds. DoD installations may enter into cooperative agreements to conduct animal control projects.
Bald and Golden Eagle Protection Act of 1940, as amended; 16 U.S.C. 668-668c	This law provides for the protection of the bald eagle (the national emblem) and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession and commerce of such birds. The 1972 amendments increased penalties for violating provisions of the Act or regulations issued pursuant thereto and strengthened other enforcement measures. Rewards are provided for information leading to arrest and conviction for violation of the Act.
Clean Air Act, (42 U.S.C. § 7401– 7671q, July 14, 1955, as amended)	This Act, as amended, is known as the Clean Air Act of 1970. The amendments made in 1970 established the core of the clean air program. The primary objective is to establish Federal standards for air pollutants. It is designed to improve air quality in areas of the country which do not meet Federal standards and to prevent significant deterioration in areas where air quality exceeds those standards.
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (Superfund) (26 U.S.C. § 4611–4682, P.L. 96-510, 94 Stat. 2797), as amended	Authorizes and administers a program to assess damage, respond to releases of hazardous substances, fund cleanup, establish clean-up standards, assign liability, and other efforts to address environmental contaminants. Installation Restoration Program guides cleanups at DoD installations.
Endangered Species Act (ESA) of 1973, as amended; P.L. 93-205, 16 U.S.C. § 1531 et seq.	Protects threatened, endangered, and candidate species of fish, wildlife, and plants and their designated critical habitats. Under this law, no Federal action is allowed to jeopardize the continued existence of an endangered or threatened species. The ESA requires consultation with the USFWS and the NOAA Fisheries (National Marine Fisheries Service) and the preparation of a biological evaluation or a biological assessment may be required when such species are present in an area affected by government activities.
Federal Aid in Wildlife Restoration Act of 1937 (16 U.S.C. § 669–669i; 50 Stat. 917) (Pittman-Robertson Act)	Provides Federal aid to states and territories for management and restoration of wildlife. Fund derives from sports tax on arms and ammunition. Projects include acquisition of wildlife habitat, wildlife research surveys, development of access facilities, and hunter education.
Federal Environmental Pesticide Act of 1972	Requires installations to ensure pesticides are used only in accordance with their

	label registrations and restricted-use pesticides are applied only by certified applicators.
Federal Land Use Policy and Management Act, 43 U.S.C. § 1701–1782	Requires management of public lands to protect the quality of scientific, scenic, historical, ecological, environmental, and archaeological resources and values; as well as to preserve and protect certain lands in their natural condition for fish and wildlife habitat. This Act also requires consideration of commodity production such as timbering.
Federal Noxious Weed Act of 1974, 7 U.S.C. § 2801–2814	The Act provides for the control and management of non-indigenous weeds that injure or have the potential to injure the interests of agriculture and commerce, wildlife resources, or the public health.
Federal Water Pollution Control Act (Clean Water Act [CWA]), 33 U.S.C. §1251–1387	The CWA is a comprehensive statute aimed at restoring and maintaining the chemical, physical, and biological integrity of the nation's waters. Primary authority for the implementation and enforcement rests with the EPA.
Fish and Wildlife Conservation Act (16 U.S.C. § 2901–2911; 94 Stat. 1322, PL 96-366)	Installations encouraged to use their authority to conserve and promote conservation of nongame fish and wildlife in their habitats.
Fish and Wildlife Coordination Act (16 U.S.C. § 661 et seq.)	Directs installations to consult with the USFWS, or state or territorial agencies to ascertain means to protect fish and wildlife resources related to actions resulting in the control or structural modification of any natural stream or body of water. Includes provisions for mitigation and reporting.
Lacey Act of 1900 (16 U.S.C. § 701, 702, 32 Stat. 187, 32 Stat. 285)	Prohibits the importation of wild animals or birds or parts thereof, taken, possessed, or exported in violation of the laws of the country or territory of origin. Provides enforcement and penalties for violation of wildlife related Acts or regulations.
Leases: Non-excess Property of Military Departments, 10 U.S.C. § 2667, as amended	Authorizes DoD to lease to commercial enterprises Federal land not currently needed for public use. Covers agricultural outleasing program.
Migratory Bird Treaty Act 16 U.S.C. § 703–712	The Act implements various treaties for the protection of migratory birds. Under the Act, taking, killing, or possessing migratory birds is unlawful without a valid permit.
National Environmental Policy Act of 1969 (NEPA), as amended; P.L. 91-190, 42 U.S.C. § 4321 et seq.	Requires Federal agencies to utilize a systematic approach when assessing environmental impacts of government activities. Establishes the use of environmental impact statements. NEPA proposes an interdisciplinary approach in a decision-making process designed to identify unacceptable or unnecessary impacts on the environment. The Council of Environmental Quality (CEQ) created Regulations for Implementing the National Environmental Policy Act [40 Code of Federal Regulations (CFR) Parts 1500– 1508], which provide regulations applicable to and binding on all Federal agencies for implementing the procedural provisions of NEPA, as amended.
National Historic Preservation Act, 16 U.S.C. § 470 et seq.	Requires Federal agencies to take account of the effect of any federally assisted undertaking or licensing on any district, site, building, structure, or object included in or eligible for inclusion in the National Register of Historic Places (NRHP). Provides for the nomination, identification (through listing on the NRHP), and protection of historical and cultural properties of significance.

National Trails Systems Act (16 U.S.C. § 1241–1249)	Provides for the establishment of recreation and scenic trails.
National Wildlife Refuge Acts	Provides for establishment of National Wildlife Refuges through purchase, land transfer, donation, cooperative agreements, and other means.
National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. § 668dd–668ee)	Provides guidelines and instructions for the administration of Wildlife Refuges and other conservation areas.
Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. § 3001–13; 104 Stat. 3042), as amended	Established requirements for the treatment of Native American human remains and sacred or cultural objects found on Federal lands. Includes requirements on inventory, and notification.
Rivers and Harbors Act of 1899 (33 U.S.C. § 401 et seq.)	Makes it unlawful for the USAF to conduct any work or activity in navigable waters of the United States without a Federal Permit. Installations should coordinate with the United States Army Corps of Engineers (USACE) to obtain permits for the discharge of refuse affecting navigable waters under National Pollutant Discharge Elimination System (NPDES) and should coordinate with the USFWS to review effects on fish and wildlife of work and activities to be undertaken as permitted by the USACE.
Sale of certain interests in land, 10 U.S.C. § 2665	Authorizes sale of forest products and reimbursement of the costs of management of forest resources.
Soil and Water Conservation Act (16 U.S.C. § 2001, P.L. 95-193)	Installations shall coordinate with the Secretary of Agriculture to appraise, on a continual basis, soil/water-related resources. Installations will develop and update a program for furthering the conservation, protection, and enhancement of these resources consistent with other Federal and local programs.
Sikes Act (16 U.S.C. § 670a–670l, 74 Stat. 1052), as amended	Provides for the cooperation of DoD, the Departments of the Interior (e.g., USFWS), and the State Fish and Game Department in planning, developing, and maintaining fish and wildlife resources on a military installation. Requires development of an INRMP and public access to natural resources, and allows collection of nominal hunting and fishing fees. NOTE: AFI 32-7064 sec 3.9. Staffing. As defined in DoDI 4715.03, use professionally trained natural resources management personnel with a degree in the natural sciences to develop and implement the installation INRMP. (T-0). 3.9.1. Outsourcing Natural Resources Management. As stipulated in the Sikes Act, 16 U.S.C. § 670 et. seq., the Office of Management and Budget Circular No. A-76, Performance of Commercial Activities, August 4, 1983 (Revised May 29, 2003) does not apply to the development, implementation and enforcement of INRMPs. Activities that require the exercise of discretion in making decisions regarding the management and disposition of government owned natural resources are inherently governmental. When it is not practicable to utilize DoD personnel to perform inherently governmental natural resources management duties, obtain these services from federal agencies having responsibilities for the conservation and management of natural resources.
DoD Policy, Directives, and Instructions	
DoD Instruction 4150.07 DoD Pest Management Program dated 29 May 2008	Implements policy, assigns responsibilities, and prescribes procedures for the DoD Integrated Pest Management Program.
DoD Instruction 4715.1, Environmental Security	Establishes policy for protecting, preserving, and (when required) restoring and

	enhancing the quality of the environment. This instruction also ensures environmental factors are integrated into DoD decision-making processes that could impact the environment, and are given appropriate consideration along with other relevant factors.
DoD Instruction (DODI) 4715.03, Natural Resources Conservation Program	Implements policy, assigns responsibility, and prescribes procedures under DoDI 4715.1 for the integrated management of natural and cultural resources on property under DoD control.
OSD Policy Memorandum – 17 May 2005 – Implementation of Sikes Act Improvement Amendments: Supplemental Guidance Concerning Leased Lands	Provides supplemental guidance for implementing the requirements of the Sikes Act in a consistent manner throughout DoD. The guidance covers lands occupied by tenants or lessees or being used by others pursuant to a permit, license, right of way, or any other form of permission. INRMPs must address the resource management on all lands for which the subject installation has real property accountability, including leased lands. Installation commanders may require tenants to accept responsibility for performing appropriate natural resource management actions as a condition of their occupancy or use, but this does not preclude the requirement to address the natural resource management needs of these lands in the installation INRMP.
OSD Policy Memorandum – 1 November 2004 – Implementation of Sikes Act Improvement Act Amendments: Supplemental Guidance Concerning INRMP Reviews	Emphasizes implementing and improving the overall INRMP coordination process. Provides policy on scope of INRMP review, and public comment on INRMP review.
OSD Policy Memorandum – 10 October 2002 – Implementation of Sikes Act Improvement Act: Updated Guidance	Provides guidance for implementing the requirements of the Sikes Act in a consistent manner throughout DoD and replaces the 21 September 1998 guidance Implementation of the Sikes Act Improvement Amendments. Emphasizes implementing and improving the overall INRMP coordination process and focuses on coordinating with stakeholders, reporting requirements and metrics, budgeting for INRMP projects, using the INRMP as a substitute for critical habitat designation, supporting military training and testing needs, and facilitating the INRMP review process.
Air Force Instructions and Directives	
32 CFR Part 989, as amended, and AFI 32-7061, Environmental Impact Analysis Process	Provides guidance and responsibilities in the EIAP for implementing INRMPs. Implementation of an INRMP constitutes a major federal action and therefore is subject to evaluation through an Environmental Assessment or an Environmental Impact Statement.
AFI 32-7062, Air Force Comprehensive Planning	Provides guidance and responsibilities related to the USAF comprehensive planning process on all USAF-controlled lands.
AFI 32-7064, Integrated Natural Resources Management	Implements AFPD 32-70, Environmental Quality; DODI 4715.03, Natural Resources Conservation Program; and DODI 7310.5, Accounting for Sale of Forest Products. It explains how to manage natural resources on USAF property in compliance with Federal, state, territorial, and local standards.
AFI 32-7065, Cultural Resources Management	This instruction implements AFPD 32-70 and DoDI 4710.1, Archaeological and Historic Resources Management. It explains how to manage cultural resources on USAF property in compliance with Federal, state, territorial, and local standards.

AFPD 32-70, Environmental Quality	Outlines the USAF mission to achieve and maintain environmental quality on all USAF lands by cleaning up environmental damage resulting from past activities, meeting all environmental standards applicable to present operations, planning its future activities to minimize environmental impacts, managing responsibly the irreplaceable natural and cultural resources it holds in public trust and eliminating pollution from its activities wherever possible. AFPD 32-70 also establishes policies to carry out these objectives.
Policy Memo for Implementation of Sikes Act Improvement Amendments, HQ USAF Environmental Office USAF/ILEV) on January 29, 1999	Outlines the USAF interpretation and explanation of the Sikes Act and Improvement Act of 1997.

Installation Supplement:

Memoranda

Memorandum, Assistant Deputy Under Secretary of Defense (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 Deputy Under Secretary of Defense (Environment, Safety and Occupational Health), 14 Aug 06, Subject: *Integrated Natural Resource Management Plan (INRMP) Template*

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

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

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

Memorandum, Assistant Deputy Under Secretary of Defense (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

The ORC and the OAC provide rules and regulations related to natural resources and environmental protection. The relevant laws are listed and described below. The complete ORC as well as details regarding the provisions within each Section can be found at: http://codes.ohio.gov/.

Noxious Weeds (OAC § 901:5-9) – Lists the plant species that are designated as "prohibited noxious weeds" throughout the State of Ohio.

Prohibited Noxious Weeds (OAC § 901:5-37-01) – Provides a list of prohibited noxious weeds for Ohio.

Sport Fishing (OAC § 1501:31-13-01) – This regulation allows fish to be taken in any number and of any size unless otherwise restricted by the Ohio Revised Code or other rules of the wildlife division.

Hunting and Trapping (OAC § 1501:31-15) – This regulation pertains to game hours and bag limits, nuisance wild animals, and general hunting and trapping provisions.

Migratory Game Birds (OAC § 1501:31-7) – These provisions pertain to migratory game bird possession limits, purposes for possessing them, and seasons and limits.

Ohio Coastal Management (ORC § 1506) – This act is the primary vehicle for coastal zone preservation, protection and enhancement of the Lake Erie coast. It deals with submerged land preserves, the Lake Erie Commission, and erosion permits, for example.

Endangered Species (ORC § 1518) – Pertains to rules for identifying endangered plant species, the use of them commercially, and the violations and penalties associated with injuring and removing them.

Floodplain Management Activities (ORC § 1521.13) – Establishes criteria for construction and development in a 100-year floodplain area and that flood water conveyance must be maintained in accordance with standards established under the national flood insurance program. This division does not preclude a state agency or political subdivision from establishing flood protection standards that are more restrictive than this division.

Protection of Species Threatened with Statewide Extinction (ORC § 1531.25) – Pertains to restrictions on taking or possessing native wildlife, or any eggs or offspring thereof that are considered threatened with statewide extinction. This includes all species on the list of endangered fish and wildlife that are native to the state, or that might migrate or are otherwise reasonably likely to occur within the state. The rules shall provide for the taking of species threatened with statewide extinction, for zoological, educational, and scientific purposes, and for propagation in captivity to preserve the species, underwritten permits from the chief of wildlife.

Fish and Hunting (ORC § 1533) – This regulation pertains to fishing and trapping districts, seasons, licenses, restrictions on taking, possessing or selling wildlife. Protection of nongame birds from hunting or harm is addressed. Guidelines for scientific permits and permit holders are covered under this regulation as well.

Ohio's Water Quality Standards (OAC § 3745-1) – This rule addresses beneficial use designations, water quality criteria and values, and anti-degradation provisions for surface waters. Many of the provisions that apply to surface water bodies also apply to wetlands.

Notice to Destroy Weeds (ORC § 5579.05) – Provides a mechanism under for noxious weeds identified on state land to be addressed.

Ohio Water Pollution Control Act (OAC § 6111) – This act establishes the regulatory basis for water protection in Ohio and provides that discharge of pollutants to waters of the state from any point source is unlawful, unless the discharge is in compliance with a permit.

C. Document Change Log

Year of Review	Summary of Changes	POC
2019	Updated atatus of farmed area on DZ#5. Completed annual checklist.	Stuart C. Killian Federal Environmental Manager
2020	Added new State of Ohio T&E Species. Updated atatus of farmed area on DZ#5. Completed annual checklist.	Stuart C. Killian Federal Environmental Manager
2021	Updated climate data. Completed annual checklist.	Stuart C. Killian Federal Environmental manager